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Meeting of the MAP Focal Points

Athens, Greece, 16-19 September 2025

Agenda Items 3 and 4: Progress Report on Activities Carried Out during the 2024-2025 Biennium and Financial Implementation Report for 2022-2023 and 2024-2025

Agenda Item 5: Specific Matters for Consideration and Action by the Meeting, including Draft Decisions

Reports and Conclusions of the MAP Components' Focal Points Meetings (May – June 2025)

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UNEP/MAP
Athens, 2025

Fourth INFO/RAC National Focal Points Meeting

Palermo (Italy), 20-21 May 2025

Meeting Report

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Palermo, Italy 20-21 May 2025

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Report of the fourth meeting of INFO/RAC National Focal Points Palermo, Italy 20-21 May 2025

Introduction

1. The 4th INFO/RAC NFPs Meeting was held in person, on 20-21 May 2025 in Palermo, Italy.
2. The 4th National Focal Point Meeting aimed to present the progress report on the status of implementation of the Programme of Work 2024-2025 on Knowledge Management, Information and Communication, in particular the upgrade of the Information System of UNEP/MAP (InfoMAP) platform, the Barcelona Convention Reporting System dataflow, the improved National Baseline Budget (NBB), InfoMAPNode and IMAP Info System with new standards. The main elements of the MAP Knowledge Management Strategy, the MAP Data Policy, the updated MAP Operational Communication Strategy, and the prototype of KMaP and the IMAP Geoviewer were also presented.
3. The presentation of the draft Programme of Work 2026-2027 has focused on the MTS programme and outcomes, in particular governance, monitoring and communication.

Participation

4. The meeting was attended by the INFO/RAC National Focal Points from Bosnia and Herzegovina; Croatia; Cyprus; Egypt; Greece; Italy; Lebanon; Malta; Morocco; Slovenia; Tunisia and Türkiye. The NFPs from Albania; Algeria; European Union; France; Israel; Libya; Monaco; Montenegro; Spain and Syria were absent.
5. INFO/RAC was represented by its Director Ms. Lorenza Babbini and its Deputy Director Mr. Arthur Pasquale.
6. The full list of participants is attached as Annex I to the present report.

Agenda item 1 - Opening of the meeting

7. The meeting was opened on Tuesday, 20 May 2025 at 9.30 a.m. by the INFO/RAC Director who welcomed the National Focal Points.

Agenda item 2 - Organizational issues

2.1. Rules of Procedure

8. The Rules of Procedure for meetings and conferences of the Contracting Parties to the Convention for the protection of the Mediterranean Sea against pollution and its protocols (UNEP/IG.43/6, Appendix XI) applied *mutatis mutandis* to this meeting.

2.2. Election of officers

9. The meeting unanimously elected the following officers:
Chairperson: Ms. Valentina Mauriello (Italy)

Vice-Chairpersons: Mr. Konstantinos Antoniadis (Cyprus)
Mr. Adel Radhouani (Tunisia)
Ms. Zeyneb Zişa Gökce (Turkey)

Rapporteur: Ms. Helena Caserman (Slovenia)

The chairperson welcomed all participants who attended the meeting.

2.3. Adoption of the agenda

10. The Chairperson introduced the provisional annotated Agenda, which had been distributed as document UNEP/MED WG.623/2.
11. After reviewing the document, the Meeting approved the Agenda and the proposed timetable. The Agenda of the meeting is included as Annex II to this report.

2.4. Organization of work

12. The Chairperson proposed that the meeting be held in daily sessions from 9:30 a.m. to 1 p.m. and from 2.30 p.m. to 5.00 p.m. on the first day and from 9:00 a.m. to 12 a.m. on the second day, subject to adjustments as necessary.
13. The working languages of the meeting were English and French. Simultaneous interpretation was available for all the plenary sessions.

Agenda Item 3 - Progress Report on the Status of Implementation of the Programme of Work on Knowledge Management, Information and Communication 2024-2025

14. The 2024-2025 Work Program progress report (UNEP/MED WG.623/3) allowed a panoramic and exhaustive view of the implemented or ongoing activities. Director Lorenza Babbini began by introducing part I on the Environmental Information and Knowledge System, setting the stage for a comprehensive discussion on its objectives and mission. The focus was on a) implementing the MAP data policy and effectively disseminating data flow annexes to ensure seamless information sharing, b) the upgrades of the InfoMap platform, highlighting the contributions from Plan Bleu, REMPEC, and SPS/RAC e Medwaves, c) the improvement of BCRS templates, d) the improvements to the National Baseline Budget (NBB) to support better tracking of the strategic action program, e) the implementation in the IMAP Info System of 18 new common indicators with new standards introduced for several of them. Regarding the second part, Director Lorenza Babbini talked about communication, education, and outreach. She focused mainly on f) the reinforcement of the MAP advocacy, g) the improvements of the Knowledge Management Platform (KMaP) and IMAP Geoviewer, h) the promotion of initiatives like the Istanbul Environment-Friendly City Award (IEFCA), the UNEP MAP 50th anniversary, and the publication of the 2023 MED-Q quality status report, i) the revitalized INFO/RAC presence on Socials, j) the MAP Newsletter, the new INFO/RAC website, the upgrade of the MED-Learn platform, the PCTO, and the new partnership and networking with Organizations and NGOs. In her final remarks, Director Babbini emphasized the importance of digital transformation in completing the Program of Work and the preparations for COP2025, underscoring the need for continued innovation and collaboration.
15. The Meeting appreciated the clarity of the presentations regarding the various systems implemented by INFO/RAC and their functionalities and also the work done so far by INFO/RAC for data reporting in the Mediterranean Sea.
16. The Chair acknowledged that the work of INFO/RAC is challenging to understand at all levels, particularly in terms of information gathering. Despite this, the Chair appreciated the work done so far, there is still much to be accomplished. Countries face numerous difficulties with reporting, yet it is crucial that all nations participate in this process as it is essential for assessment. Reporting is vital for the global system, with all processes necessitating it. Maintaining coherence at the global reporting level is of utmost importance. The efforts put into developing the management strategy are highly significant. Additionally, the connection from the regional to the global level is crucial. Italy will take part in the side event where INFO/RAC will have the chance to demonstrate the progress of their work and address questions regarding its direction. Congratulations on the progress made with the Pelagos - ACCOBAMS school process program. The Chair commends the initiative involving the youth who have begun the program in Italy for logistical reasons and encourages all countries to contribute. It is essential that all levels receive proper training. As stated in the COP 2023 Portorož declaration, collaboration with the youth is extremely important.
17. The representative from Croatia commented that during a meeting in 2018, there was a strong emphasis on the importance of advancing beyond technical backgrounds. The European Environment Agency (EEA) called for policy changes in collaboration with regional conventions. As a result, members of the WG DIKE decided to reestablish collaboration with the European Commission (EC) and the EEA. Croatia also said that there was a call for the widespread adoption of the unique UT8 character system for local stations.
18. The Director of INFO/RAC stated that the future work and strategy platform will be introduced in June at the Ocean Conference in Nice. During this meeting, the system will be presented in detail, including an exploration of the challenges faced. It is essential to attempt and report on these issues, emphasizing the quality of the reporting.

19. The Deputy Director of INFO/RAC explained that currently the Marine Strategy and IMAP are not universally standardized, but efforts are being made to unify them into a single, cohesive framework. This framework operates on three levels: data, information, and use. It involves managing large datasets and metadata in compliance with INSPIRE and ISO regulations, with a focus on in-depth methodologies for reuse and common distribution. The vision for the Mediterranean Sea is to recognize it as a unique, semi-enclosed basin, despite its political diversity. The goal is to establish a measurable vision for the Mediterranean within the next four years. This includes embracing digital transformation, transitioning from analog to digital systems, and adopting a practical and useful mindset. The data policy emphasizes data quality processes and control, with key actions aimed at preventing data duplication, recording data as a public resource, and ensuring interoperability. The effectiveness of this data policy relies on robust implementation tools and extensive outreach.
20. The Croatian representative responded that while having a management strategy is beneficial, the two most critical aspects are the environment and enabling users to view the status of parameters and trends for each station. Although reports are useful, the priority should be on status and trends. Additionally, it is important to have metadata about the individuals who provide data, particularly those in the scientific community involved in monitoring programs. Their contributions are typically measured by scientific papers. However, there is a concern about data theft and a lack of time to publish papers, which can hinder their ability to share their work effectively.
21. The INFO/RAC representative replied that INFO/RAC is aware of the second issue and is working towards making data open access in accordance with our data policy. This policy includes an option to place an embargo on data to prevent its release until the associated paper is published. Additionally, it is possible to include metadata statements specifying the data owner and indicating if a paper is in progress. Another platform based in Geneva offers the possibility of a free trial, providing various methods to prevent data theft. The primary focus is on the users, who are also decision-makers. Our goal is to facilitate the transition from data to visual representations such as graphs and tables.
22. According to Cyprus, the question pertains to whether the database for Plan B under the Barcelona Convention includes the Programs of Work (PoW) of Contracting Parties (CP). Specifically, it asks if every measure or action taken by the CPs will contribute to this database, particularly in areas such as transboundary issues, aquaculture, pollution, and transboundary impacts. The inquiry is whether these Programs of Work are incorporated into the database.
23. The Chairperson replied that in this platform, the integration of the Programs of Work (PoW) of Contracting Parties (CP) into the database for Plan B under the Barcelona Convention is not yet implemented. However, there is potential for future implementation, given the availability of a substantial repository that could facilitate this process. This repository could be utilized to include every measure or action taken by the CPs, addressing areas such as transboundary issues, aquaculture, pollution, and transboundary impacts.
24. The INFO/RAC representative stated that the concept of transboundary data collection is deeply rooted in the experiences documented within the Quality Status Reports (QSR). While there is an abundance of data layers specific to individual countries, the importance of transboundary data cannot be overstated. This type of data collection transcends national borders, providing a more comprehensive and integrated understanding of environmental issues that affect multiple regions. By focusing on transboundary data, we can address challenges that are not confined within the boundaries of a single country, thereby fostering a collaborative approach to environmental management and policy-making. This holistic perspective is crucial for tackling issues that require coordinated efforts and shared responsibilities among neighboring countries.
25. After the comment session on the Progress Report, INFO/RAC dedicated a practical lesson on the Knowledge Management System (KMS). INFO/RAC stated that the Knowledge Management System and its associated Knowledge Management Areas (KMAs) are designed with a clear

objective: to raise public awareness, promote scientific understanding, and create interoperable tools that facilitate the sharing and utilization of knowledge. This comprehensive system is structured into three main components: the Data Hub, the Knowledge Hub, and the Knowledge Exchange Hub, all operating within an open-source framework. The KMaP, or Knowledge Management and Assessment Platform, is built on insights gathered from surveys and is equipped with a variety of features tailored to meet the needs of its users. Among its key products are layers and maps, geostories, and dashboards, which provide visual and interactive ways to explore data. Additionally, the platform offers a "chat with graphs" feature, allowing decision-makers to engage with data dynamically and gain insights into ongoing trends and issues. The KMaP also serves as a repository for documents, offering links to a wide range of sources and libraries. Users can access presentations, datasets, and other resources, making it a valuable tool for research and analysis. Remote services are another critical aspect of the KMaP, accessible through the Data Hub and various links. These services include Web Map Services (WMS) and Web Feature Services (WFS), which enable users to integrate data into desktop GIS applications and exploit UNEP MAP data for their projects. The effectiveness of the KMaP will be assessed over the next two years, with a focus on its ability to facilitate cooperative knowledge sharing. This collaborative framework is essential for the success of the MED Programme and UNEP initiatives, ensuring that knowledge is shared efficiently and effectively across different platforms and stakeholders. By fostering a cooperative environment, the KMaP aims to enhance the collective understanding and management of environmental data, ultimately contributing to more informed decision-making and policy development.

26. The Chairperson stated that Italy faces challenges in achieving interoperability from the regional to the global level, finding itself somewhat constrained in this endeavor.
27. The representative from Malte informed that the handling of non-disclosable and personal data is governed by specific guidelines and fundamental instruments. These instruments are primarily aimed at collaborators rather than the public. They are designed to maintain the integrity and confidentiality of public information while specifying the protocols for data dissemination. The intended use of these guidelines is particularly geared towards consultants, ensuring that they have clear directives on how to manage and utilize data responsibly and effectively.
28. The Deputy Director emphasized the use of data by MAP consultants, clarifying that if there is no obligation to share, the data remains non-public. MAP consultants, being external parties, can utilize this data under specific conditions. Aggregated data is permissible for dissemination, while other possibilities are agreed upon at various levels. Regarding confidential data, particularly sensitive data whether personal or environmental, the approach is evaluated on a case-by-case basis. Generally, sensitive data is not frequently encountered. Personal data is governed by GDPR regulations, while non-personal data collections may also contain sensitive information that cannot be shared due to country-specific dependencies. If data is deemed sensitive at a general level, it will not be published. There is an option to request an embargo on certain data, ensuring that it is not published. For instance, Croatia may have sensitive species data or military-sensitive information that will be excluded from publication. Comments can be included in the shared data to provide context or explanations. Ultimately, each country is responsible for determining which data will be shared, ensuring that all sensitive information is appropriately managed and protected.
29. The representative from Morocco inquired about data sources, and the representative from INFO/RAC, confirmed that data can indeed be uploaded from all Mediterranean (MED) countries. She explained that users have the flexibility to upload any data they choose. Additionally, there is a provision for exporting data, with the caveat that each country retains the authority to decide whether its data can be downloaded. Annalisa also mentioned that with credentials provided by INFO/RAC, users are empowered to upload all necessary data and configure the permissions as they see fit. This setup ensures that countries maintain control over their data, determining the extent of accessibility and usage rights.
30. The representative from Tunisia expressed gratitude for the presentation and emphasized the

importance of focusing on the logic presented, as it greatly aids in understanding how to guide the work effectively. At the culmination of the process, the information flow is meticulously organized. For instance, the language used must be accessible to students, requiring scientists to communicate in a manner that is comprehensible to them. Similarly, decision-makers need to develop tools that are student-friendly. The question was raised whether this same logical approach could be applied universally.

31. The representative from INFO/RAC, responded affirmatively, finding the approach very interesting and fully compromising with the idea. She explained that map profiles would be designed to cater to scientists, with a section dedicated to Google Scholar scores. This represents one of the primary macro categories for users. Through surveys and role-playing scenarios, different products have been created for various user groups. While these products are not fully customizable, they offer a general framework with elements that can be personalized to some extent. This approach ensures that the tools and information are adaptable and relevant to a wide range of users, enhancing their overall utility and effectiveness.
32. The representative from Morocco discussed the integration of data in various ways through a survey. In response, the representative from INFO/RAC, Annalisa Minelli, explained that the capabilities depend on specific requirements, such as using dashboards and manipulating tables. She mentioned that users can create personalized dashboards for more advanced data manipulation. However, when it comes to conducting statistical analysis, she noted that this feature is currently in the process phase. Efforts are underway to connect two platforms to enhance functionality and provide more comprehensive data analysis tools.
33. The Chairperson posed a question from Croatia regarding the relevance for scientists in sharing data and how the process would function.
34. The representative from INFO/RAC, responded by explaining that scientists have the option to place an embargo on their data within the platform. This feature allows scientists to control who can view or verify the data. Essentially, no one can access or manipulate the data until the scientist decides to make it available, typically after publishing their paper. This customization ensures that scientists retain full control over their data's visibility and usage. Addressing the potential concern about restricting data access, Annalisa highlighted the advantages for scientists. By having control over data representation, scientists can ensure that the data aligns with what they intend to publish in their papers. This capability not only protects the scientists' work but also fosters collaboration, as they can choose to share data with specific collaborators while maintaining overall control.
35. The Deputy Director of INFO/RAC clarified that initially, the data is visible only to INFO/RAC. However, after a certain period, the data can be made visible to all users. This approach allows for an initial review or embargo period, after which the data can be disseminated more widely, ensuring both control and eventual transparency.
36. After the comment session relative to the practical lesson, INFO/RAC performed the PANGAEA test dataset. INFO/RAC explained that in preparing data for entry into the InfoMap system, such as the PANGAEA test dataset, it is essential to follow a series of processing steps to ensure compatibility and accuracy: a) **Data Formatting**: Begin by replacing all commas in the CSV file with periods or semicolons. This adjustment helps prevent formatting issues that commas might cause during data import; b) **Cleaning Names**: Remove any special characters and spaces from the names within the dataset. This step is crucial for maintaining consistency and avoiding errors during data processing; c) **Coordinate System**: Ensure that all datasets are placed in the correct coordinate system. Accurate geospatial data relies on proper coordinate referencing, which facilitates precise mapping and analysis; d) **Decimal Limits**: Check and standardize the decimal limits within the dataset. Consistency in decimal places helps maintain data integrity and ensures uniformity across the dataset; e) **Exporting Data**: Finally, export the processed data as a GeoPackage. This standard format is widely recognized and can be easily read by various platforms, ensuring seamless integration into the Info Map system. By following these steps, you can effectively prepare your data for entry into the Info Map system, ensuring that it is accurately represented and readily accessible for further analysis and visualization.

37. The representative from Egypt expressed admiration for the impressive work presented and emphasized the need to utilize this presentation for domestic purposes. She highlighted the importance of further education on INFO/RAC matters, suggesting the organization of more online workshops and exchanges to facilitate learning and collaboration.
38. The Deputy Director of INFO/RAC acknowledged the request and confirmed that there are plans to conduct in-depth online training sessions. These sessions will be tailored to meet the specific needs of INFO/RAC in each country. The Deputy Director emphasized that this initiative is just the beginning and expressed a commitment to further develop and expand these educational efforts to ensure comprehensive coverage and effectiveness.
39. The representatives from Egypt and Lebanon both contributed to the suggestion, indicating a shared interest and collaborative effort in the proposed initiative. Their combined input highlights the importance of the topic and the potential benefits of the suggested actions for both countries.
40. The Chairperson emphasized the necessity for practical, hands-on training and collaborative group work, whether conducted online or in-person. The goal is not only to familiarize participants with the system but also to provide comprehensive support for all its components. This approach ensures that users gain a thorough understanding and can effectively utilize the system in its entirety.
41. The Deputy Director explained that the aim of the strategy is part of a broader, more comprehensive process. Initially, the plan was to present this strategy at the next Conference of the Parties (COP). However, given the ambitious nature of the strategy, more time is required for its development. Additionally, there is a need for more feedback from users to refine and enhance the strategy. Artur emphasized the importance of gathering diverse visions and insights about the strategy to ensure its effectiveness and relevance.
42. The representative from Croatia made a concise comment regarding the limitation of layers in GIS. He pointed out that it is not necessary to switch tabs to a comma when managing these layers. This observation suggests a streamlined approach to handling GIS data, potentially simplifying the user experience.

Agenda item 4. Data management and data flows implemented for UNEP/MAP reporting towards an integration into the Knowledge Management Platform.

43. Referring to document UNEP/MED WG.623/4, INFO/RAC presented the main elements of the MAP Knowledge Management Strategy, a document that will be submitted for decision to COP25. This aims to capitalize on the next biennium to integrate the vision of the Contracting Parties and fully test the Knowledge Management platform.
44. INFO/RAC discussed the importance of practical workshops, emphasizing the need for a strategic approach due to the overwhelming influx of information from various sources such as satellites. This strategy is essential for effectively managing and cross-referencing vast amounts of data, utilizing AI to process big data efficiently. Referring to document UNEP/MED WG.623/Inf. 5, INFO/RAC highlighted that during the training session on the BCRS reporting system, all INFO/RAC Focal Points would gain access to and learn the basic elements of navigating the system. The session aims to provide a comprehensive overview of the implementation status of the reporting, facilitating discussions on obstacles, data gaps, data policy implementation, and the frequency of reporting.
45. INFO/RAC presented an insightful overview of the IMAP Info System through a detailed PowerPoint presentation. INFO/RAC began by emphasizing that the IMAP Info System stands as the sole official platform, with its primary content accessible to the public. This system serves as a comprehensive repository where users can explore all the data uploaded by Contracting Parties (CPs) up to the present day. The data encompasses a wide range of information, including published datasets, geographical data, interactive dashboards, and various utility tools. Additionally, the system provides a detailed list of IMAP users associated with each CP, fostering

transparency and collaboration. The presentation delved into the various resources available within the system. The ongoing upgrades and the focus on user feedback are expected to enhance the system's capabilities, ensuring it remains a robust and responsive platform for environmental data management.

46. The Meeting acknowledged INFO/RAC and appreciated the clarity of the presentations.
47. The representative from Croatia highlighted significant concerns regarding biological data, noting that the current state is inadequate, with only metadata available. To address this issue, they suggested that sending official letters could be beneficial. Additionally, they proposed that monitoring programs should include a mandate to ensure comprehensive data collection and integration. It was pointed out that there might be existing data that has not been incorporated into the national database. Furthermore, the representative remarked that the page displaying the old certificate is not functional, indicating a need for updates or corrections to ensure all information is current and accessible.
48. The Deputy Director mentioned that they are currently in the process of developing a new certificate to replace the old, non-functional one. This update is expected to address the issues and ensure that all information is accurate and accessible.
49. The Deputy Director provided a comprehensive overview during the meeting, emphasizing the importance of understanding how different countries have reported their data. A critical goal of the meeting was to identify sources of information regarding specific data that are missing. The focus was not on creating a report but on making a concerted effort to determine the frequency of monitoring. Historically, deadlines for data submission have not been consistently met, leading to gaps in the data. The Deputy Director stressed the need to understand the reasons behind these gaps, which could range from insufficient human resources to a lack of adherence to monitoring protocols. To address these issues, it was proposed that each country designate a contact person who is well-versed in the data transfer process and can provide insights into where problems may arise. The structure of this initiative includes creating a list of elements to examine the situation and offer assistance through online groups. A special group dedicated to data issues was proposed, with the suggestion that Focal Points (FPs) from each country attend to help resolve these problems. Each country would be required to send a representative to this group.
50. The Chair added that Focal Points are not always fully understood or supported by their respective governments, highlighting the need for INFO/RAC to take a more proactive role in facilitating communication and support. This proactive approach is essential for ensuring that data transfer processes are smooth and that any issues are promptly addressed.
51. INFO/RAC emphasized the goal of increasing its proactive role. INFO/RAC suggested that an effective step towards this would be for INFO/RAC to send official letters to the countries, inquiring about the specific problems they are facing. The aim of these letters would be to identify and understand the root causes of these issues, thereby enabling INFO/RAC to address them more effectively and ensure smoother data reporting and management processes.
52. The representative from Bosnia and Herzegovina stated that the data they have reported is all the data currently available to them. They highlighted that there are no additional data or monitoring efforts beyond what has already been reported, indicating a potential gap in data collection and monitoring infrastructure.
53. The Deputy Director specified that the comment should be submitted by the end of the next biennium. This timeline provides a clear deadline for feedback and ensures that there is ample time for thorough consideration and input from all relevant parties.
54. After the comment session INFO/RAC delved into the principles that govern data prescriptions, with a particular focus on the concepts of restriction and embargo within the framework of the Integrated Monitoring and Assessment Programme (IMAP) data policy implementation. INFO/RAC began by explaining the principle of restriction, which involves setting limits on access to certain data. This measure is crucial for maintaining confidentiality, ensuring security, and complying with legal and

regulatory standards. Access restrictions can be tailored based on various factors, including the sensitivity of the data, its intended use, and the credentials of the users seeking access. By implementing these restrictions, organizations can safeguard sensitive information while still providing access to authorized individuals. INFO/RAC then transitioned to the concept of an embargo, which entails a temporary prohibition on the dissemination or access to data. This principle is often applied to delay the release of data until specific conditions are met, such as the completion of a research project, the publication of findings, or the expiration of a predetermined period. Embargoes play a vital role in maintaining the integrity and exclusivity of data, ensuring that it is not disclosed prematurely. Throughout its presentation, INFO/RAC emphasized the importance of these principles in the effective implementation of data policies within the IMAP framework. By adhering to restriction and embargo policies, organizations can strike a balance between the need for data accessibility and the necessity of protecting sensitive information and maintaining data integrity. This approach ensures that data is managed responsibly and securely, fostering trust and compliance among all stakeholders involved.

55. The Representative from Lebanon raised an important question about the utilization of data for calculating indicators, particularly for common indicators. They suggested that examining the results from all countries could provide valuable insights, even if not all the data points are punctual or precise. According to the Representative, while the data might lack exactness, it could still offer general information that could be beneficial for broader assessments and decision-making processes. This approach could help in understanding trends and patterns across different regions, despite the limitations in data precision.
56. INFO/RAC explained that efforts are underway to collaborate with specific other Regional Activity Centers (RACs) to include their work in the next Quality Status Report (QSR). INFO/RAC noted that for the previous QSR, only official data was utilized. However, for the upcoming QSR, the plan is to incorporate data that has been uploaded to the IMAP (Integrated Monitoring and Assessment Programme) system. This approach aims to broaden the data sources and enhance the comprehensiveness and accuracy of the report.
57. The Deputy Director discussed several key points regarding training and assessment within the organization. They emphasized that the assessments are comprehensive, covering all necessary aspects. For training, the Deputy Director highlighted the need for a more systematic approach to illustrate the functions effectively. They noted that training sessions would generally be conducted in person to ensure better understanding and engagement. Specifically, they mentioned the ECAP PLUS MED PROJECT, which is scheduled for November and will involve back-to-basics training sessions in Egypt, Libya, and Lebanon. This project aims to strengthen foundational knowledge and skills among participants. Additionally, the Deputy Director touched on the IMAP user network, emphasizing the importance of user profiles within this network. These profiles help in understanding the diverse needs and capabilities of users, thereby enabling more targeted and effective training and support.
58. After the comment session, INFO/RAC presented the National Baseline Budget (NBB), which is one of the key systems used for mandatory reporting. This system requires an inventory to be reported every five years, with the last reporting cycle recently completed. INFO/RAC explained that Representatives from the Contracting Parties would be invited to provide their comments and inputs on the documents provided. They are also expected to supplement these documents with local information regarding the status of reporting in their respective countries. This process ensures efficient cooperation with the Integrated Monitoring and Assessment Programme (IMAP), the Barcelona Convention Reporting System (BCRS), and NBB users, as necessary. INFO/RAC highlighted that the NBB is strictly aligned with EU regulations. Specifically, the Pollutant Release and Transfer Register (PRTR) system is aligned with the NBB. This alignment means that if reporting has already been completed in the PRTR system, there is no need to duplicate the effort in the NBB reporting. However, users must select the appropriate system from a drop-down menu to ensure proper alignment and reporting compliance.
59. The Chair acknowledged that while the system currently lacks sufficient data, like the Integrated Monitoring and Assessment Programme (IMAP), it is fully prepared and available to provide

assistance. This indicates a readiness to support and improve data collection and management efforts despite the existing gaps.

60. During the training session on the NBB reporting system, all the INFO/RAC Focal Points were given access and equipped with the basic elements to navigate the system. A comprehensive overview of the implementation status of the reporting was provided. This session aimed to discuss obstacles, address the lack of data, examine data policy implementation, and consider the frequency of reporting.
61. The Deputy Chair discussed the availability of online video tutorials for the National Baseline Budget (NBB), emphasizing that these tutorials are designed to be simple and straightforward. They pointed out that the challenges in reporting are not due to the platform itself but rather stem from the individuals responsible for reporting. The Deputy Chair also mentioned that the reporting process, which occurs every two years, is not directly linked to the protocols if those protocols are under revision. They noted that almost all the reports are text-based and suggested the importance of linking the textual parts of the reports to the actual data. This linkage would help ensure that the information is more coherent and easier to navigate, ultimately improving the overall reporting process.
62. The INFO/RAC Director emphasized the importance of an official and legally binding system for reporting. She explained that the compliance committee is responsible for creating reports and will directly engage with countries to gather necessary information. The INFO/RAC Director underscored that reporting is crucial, as it enables the assessment of the convention and allows the compliance committee to perform its duties effectively with the required information.

Agenda item 5: MAP Operational Communication Strategy 2026-2027: communication activities post-MAP 50 Anniversary

63. INFO/RAC presented the update of the MAP Operational Strategy for the biennium 2026-27. The focus was on the activities planned for the MAP 50 anniversary and the follow-up related to the next Program of Work (PoW). INFO/RAC particularly focused on the Odyssey Reloaded initiative that commemorates a significant milestone: the 50th anniversary of the Mediterranean Action Plan (MAP), with the aim to familiarize the audience with the tools and resources available on the website, highlighting how they can be utilized for effective information management and knowledge sharing.
64. The representative from Bosnia and Herzegovina (B&H) inquired about obtaining the promotional video known as the "Odyssey video." Their intention is to distribute this video to schools, likely as part of an educational or awareness-raising initiative.
65. The Deputy Director confirmed that the promotional "Odyssey video" would indeed be made available soon. This response suggests that efforts are underway to finalize and distribute the video, allowing it to be shared with schools and other interested parties promptly.
66. The representative from Bosnia and Herzegovina (B&H) expressed strong interest in implementing the program and initiating a replication project for schools in B&H. They suggested focusing on an environmental school in Mostar or a coastal city to facilitate the dissemination of the project.
67. The Tunisian representative asked INFO/RAC for key messages or interviews that could be translated into the local language to engage young people and carry forward the project. They mentioned that they often pose many questions to the youth to gauge their understanding and involvement.
68. INFO/RAC responded by explaining that the training course was initially targeted at secondary school students, primarily addressing school avoidance. She noted that the program could be adapted to different educational levels. INFO/RAC offered assistance to Tunisia in starting this initiative, mentioning that they have prepared explanatory sheets and notes. She emphasized that for students

aged 11 to 16, the materials and programs would need to be adapted to suit their learning levels.

69. The representative from Cyprus shared that they have been running a school business environment program in secondary schools, including a Life project funded by the EU, which has been well-received.
70. The Deputy Director highlighted the importance of integrating this training into the regular school hours of different countries. They emphasized the need to study how to effectively implement this initiative in each country's educational system.
71. INFO/RAC added that the PCTO in Italy followed a legislative initiative applied by the Italian school system. INFO/RAC suggested that this model could be adapted to other systems, with material conception notes and guidelines tailored to each country. INFO/RAC expressed its willingness to progress with all necessary materials and steps.
72. Finally, INFO/RAC expressed its pleasure to Morocco, noting that the initiative had exceeded expectations. INFO/RAC requested the name of the Moroccan organization involved so that they could establish contact and continue collaboration.

Agenda item 6: Draft of the UNEP/MAP Programme of Work 2026-2027: activities related to Knowledge Management, Information and Communication

73. The Deputy Director presented the Program of Work (PoW) for the upcoming biennium, emphasizing that this period is crucial as it marks the final phase to complete all planned activities. He highlighted the importance of securing additional funds for the budget to ensure the successful execution of these activities. The goal is to have a PoW that is integrated across all Regional Activity Centers (RACs), ensuring a cohesive and comprehensive approach.
74. The Chair added that there was a request to agree on a proposal to increase the budget. They clarified that this request is made with a forward-looking perspective and without prejudice to the ongoing work. The Chair assured that the budget increase would not adversely affect current activities but is specifically aimed at the renewal and upgrade of software and hardware. The proposal on the table is to seek consensus on increasing the budget to facilitate these essential upgrades to the system.
75. The representative from Croatia highlighted the extensive efforts of the Regional Activity Center (RAC) to achieve independence from commercial companies. They expressed a preference for open-source solutions, which provide greater control over systems without relying on commercial entities.
76. The Director noted that while cloud services are currently prevalent, there is a preference for using their own machines and human resources. The Croatian representative countered that the cost of paying for cloud services is comparable to maintaining their own infrastructure and personnel.
77. The Director emphasized that these systems are intended for all Contracting Parties (CPs). The Deputy Director added that, although discussing the budget is not typically their responsibility, it is important to highlight budgetary considerations for these initiatives.
78. The representative from Cyprus raised a question about procedures, specifically regarding the newly established Climate Change Regional Activity Center (CC RAC). They mentioned not having received the relevant documents and noted that the mandate for the center has not yet been established but is expected to be approved at the Conference of the Parties (COP), which will address necessary changes.
79. The Director clarified that while the CC RAC has been established, it is not yet operational and thus could not provide an answer to the question. The Chair mentioned that this issue would be handled at the MAP Focal Points meeting in September.
80. The representative from Lebanon inquired about having a learning space to explore and train on the system, requesting a demo user account. They also asked if it would be possible to change the username or password and implement a double security check. The Director acknowledged these

points and took them into consideration.

Agenda item 8: Any other matters

81. The Meeting did not raise any other matters requiring particular attention.

Agenda item 9: Conclusions and Recommendations

82. The meeting reviewed the conclusions and recommendations prepared by the Secretariat and endorsed them as set out in Annex III.

Agenda item 10: Closure of the meeting

83. After the customary exchange of courtesies, the meeting closed on Wednesday 21 May 2025 at 12 am.

Annex I



**UNITED
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EP

UNEP/MED WG.623/Inf.1



**UNITED NATIONS
ENVIRONMENT PROGRAMME
MEDITERRANEAN ACTION PLAN**

12 May 2025
Original: English

Fourth Meeting of INFO/RAC National Focal Points / Quatrième Réunion des Points Focaux Nationaux du CAR/INFO

Palermo, 20-21 May 2025 / Palermo, 20-21 Mai 2025

Provisional List of participants / Liste provisoire des participants

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UNEP/MAP
INFO/RAC - Rome, 2025

PROVISIONAL LIST OF PARTICIPANTS/ LISTE PROVISOIRE DES PARTICIPANTS

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UNEP/MAP and RACs/ PNUE/PAM et CARs

UNEP/MAP	No representatives
RACs	No representatives

INFO/RAC Staff / Personnel du CAR/INFO

Ms. Lorenza BABBINI	Director / Directrice
Mr. Arthur PASQUALE	Deputy Director / Directeur Adjoint
Ms. Francesca CATINI	NBB & IMAP Officer / Chargée de programme “NBB et IMAP”
Mr. Alessandro LOTTI	InfoMAPNode & IMAP Officer / Chargé de la Plateforme InfoMAPNode et du programme “IMAP”
Ms. Annalisa MINELLI	Digital transformation & Knowledge Management Officer / Chargée de la transformation numérique et de la gestion des connaissances
Ms. Céline NDONG	Training Programme Officer / Chargée de programme “Formation”
Ms. Silvia SBORDONI	

Annex II
Agenda of the meeting



**UNITED
NATIONS**

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UNEP/MED WG.623/2



**UNITED NATIONS
ENVIRONMENT PROGRAMME
MEDITERRANEAN ACTION PLAN**

15 April 2025
Original: English

Meeting of INFO/RAC National Focal Points

Palermo, Italy, 20-21 May 2025

Agenda item 2: Organizational matters

Provisional Annotated Agenda

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UNEP/MAP
INFO/RAC - Rome, 2025

Provisional Annotated Agenda

Introduction

1. The following annotations to the provisional agenda have been prepared by the Secretariat to assist the meeting with its deliberations.

Agenda item 1 Opening of the meeting

2. The meeting will be opened on Tuesday, 20 May 2025 at 09.30 a.m. by the representatives of the Host Country and INFO/RAC.
3. All the INFO/RAC Focal Points have been invited to attend the meeting or to designate their representatives.

Information document(s) of special relevance for this agenda item	
UNEP/MED WG.623/Inf. 1	<i>Provisional List of Participants</i>

Agenda item 2 Organizational matters

2.1. Rules of procedure

4. The Rules of Procedure for meetings and conferences of the Contracting Parties to the Convention for the protection of the Mediterranean Sea against pollution and its protocols (UNEP/IG.43/6, Appendix XI) will apply *mutatis mutandis* to this meeting.

2.2. Election of officers

5. While observing the principle of equitable geographical distribution, the meeting will elect from amongst the representatives of the Contracting Parties, a chairperson, two vice-chairpersons and a rapporteur.

2.3. Adoption of the agenda

6. The *Provisional Agenda* issued as document UNEP/MED WG.623/1 and annotated in this document, will be proposed for adoption by the meeting. The meeting will be also invited to review and adopt the timetable proposed at the end of this document.

2.4. Organization of work

7. It is proposed that the meeting be held in daily sessions from 09:30 a.m. to 1 p.m. and from 2.30 p.m. to 5:00 p.m., subject to adjustments as necessary.
8. It is expected that the meeting addresses all items of the agenda within the allotted

sessions.

9. The working languages of the meeting will be English and French. Simultaneous interpretation will be available for all the plenary sessions.

Working document(s) of special relevance for this agenda item	
UNEP/MED WG.623/1	<i>Provisional Agenda</i>
UNEP/MED WG.623/2	<i>Provisional Annotated Agenda</i>
Information document(s) of special relevance for this agenda item	
UNEP/MED WG.623/Inf.2	<i>Provisional List of Documents</i>

Agenda item 3. Programme of Work on Knowledge Management, Information and Communication 2024-2025: Status of implementation

10. Referring mainly to document UNEP/MED IG.26/22 (Decision IG. 26/14), INFO/RAC will present the status of implementation of the activities carried out during the past year highlighting the main achievements and challenges met during the implementation of 2024-2025 UNEP/MAP Programme of Work.
11. Participants are expected to comment on and take note of the progress achieved on the implementation of the activities carried out and provide advice in accordance with the Terms of Reference for INFO/RAC Focal Points.

Working document(s) of special relevance for this agenda item	
UNEP/MED WG.623/3	<i>Progress Report on the Status of Implementation of the Programme of Work on Knowledge Management, Information and Communication 2024-2025</i>
Information document(s) of special relevance for this agenda item	
UNEP/MED WG.623/Inf. 3	<i>Decision IG.26/14 - Programme of Work and Budget for 2024-2025</i>

Agenda item 4. Data management and data flows implemented for UNEP/MAP reporting towards an integration into the Knowledge Management Platform.

12. Making reference to document UNEP/MED WG.623/4, INFO/RAC will present the main elements of the MAP Knowledge Management Strategy, document that will be submitted as decision to COP25, capitalizing the next biennium to integrate Contracting Parties vision and fully test the Knowledge Management Platform.
13. Making reference to document UNEP/MED WG.623/Inf. 5, during the training session on BCRS reporting system that will allow all the INFO/RAC FPs to access and have the basic element to navigate into the system, a full picture of the implementation status of the reporting will be provided to discuss obstacles, lack of data, data policy implementation and frequency of reporting.
14. Making reference to document UNEP/MED WG.623/Inf. 6, during the training session on IMAP Info System that will allow all the INFO/RAC FPs to access and have the basic element to navigate into the system, a full picture of the implementation status of the reporting will be provided to

discuss obstacles, lack of data, data policy implementation and frequency of reporting.

15. Making reference to document UNEP/MED WG.623/Inf. 7, during the training session on NBB reporting system that will allow all the INFO/RAC FPs to access and have the basic element to navigate into the system, a full picture of the implementation status of the reporting will be provided to discuss obstacles, lack of data, data policy implementation and frequency of reporting.
16. The Contracting Parties representatives will be invited to provide their comments and inputs on the provided documents and complement them with local information about the status of reporting in their country ensuring an efficient cooperation with IMAP, BCRS and NBB Users where necessary.

Working document(s) of special relevance for this agenda item	
UNEP/MED WG.623/4	<i>MAP Knowledge Management Strategy for the Mediterranean Sea</i>
Information document(s) of special relevance for this agenda item	
UNEP/MED WG.623/Inf. 4	<i>Barcelona Convention Reporting System (BCRS): reporting implementation status and next steps</i>
UNEP/MED WG.623/Inf. 5	<i>Integrated Monitoring and Assessment Programme (IMAP) Info System: reporting implementation status</i>
UNEP/MED WG.623/Inf. 6	<i>National Budget Baseline Reporting System (NBB): reporting implementation status and next steps</i>
UNEP/MED WG.623/Inf. 7	<i>Lessons Learnt and Gained Experience from the Use of IMAP InfoSystem Data Standards (DSs) and Data Dictionaries (DDs) for IMAP EO10 (Marine Litter) for the Needs of Preparation of the 2023 MED QSR</i>
UNEP/MED WG.623/Inf. 8	<i>Way forward to update of the Data Dictionaries and Data Standards (CI 1, 2 related to Benthic Habitats, CI 3, 4 and 5 related to Marine Mammals, Marine Turtles and Sea Birds, CI 24 related to Marine litter).</i>
UNEP/MED WG.623/Inf. 9	<i>Way forward to fine tune the Data Dictionaries and Data Standards related to Eutrophication and Pollution IMAP Common Indicators</i>
UNEP/MED WG.623/Inf. 10	<i>Way forward to fine tune the Data Dictionaries and Data Standards related to Marine Litter IMAP Common Indicators</i>
UNEP/MED WG.623/Inf. 11	<i>Way forward to fine tune the Data Dictionaries and Data Standards related to Coast and Hydrography IMAP Common Indicators</i>

Agenda item 5.

MAP Operational Communication Strategy 2026-2027: communication activities post-MAP 50 Anniversary

14. Referring mainly to documents UNEP/MED WG.623/Inf.11, INFO/RAC will present the update of the MAP Operational Strategy for the biennium 2026-27, focusing on the activities for the MAP50 anniversary and the follow up related to next PoW.
15. The Contracting Parties representatives will be invited to provide their comments and inputs on the document and complement it, where necessary.

Information document(s) of special relevance for this agenda item	
UNEP/MED WG.623/Inf.12	<i>UNEP/MAP Operational Communication Strategy: update for the biennium 2026-27</i>

Agenda item 6. Draft of the UNEP/MAP Programme of Work 2026-2027: activities related to Knowledge Management, Information and Communication

18. Under this agenda item, the Secretariat will introduce document UNEP/MED WG. 623/11 *Draft of the Programme of Work 2026/2027 on Knowledge Management, Information and Communication*.
19. The Contracting Parties representatives will be invited to provide their comments and inputs on the document and complement it, where necessary. Based on the comments and recommendations of the meeting, the Secretariat will elaborate a new version of the document after the meeting, that will serve as basis for the INFO/RAC activities to be integrated in the overall UNEP/MAP Programme of Work for 2024-2025 that will be submitted to the meeting of MAP Focal Points and COP 23 for adoption as appropriate.

Working document(s) of special relevance for this agenda item	
UNEP/MED WG.623/5	<i>Draft of the Programme of Work 2026/2027 on Knowledge Management, Information and Communication.</i>

Agenda item 8. Any other matters

20. Under this agenda item, the meeting will be invited to raise and discuss other matters that may require attention, as agreed during the adoption of the Provisional Agenda.

Agenda item 9. Conclusions and recommendations

21. The meeting will be invited to review and adopt the conclusions and recommendations prepared by the Secretariat and submitted by the Rapporteur.

Agenda item 10. Closure of the meeting

22. The meeting is expected to be closed on 21 May 2025, at 13:00 a.m.

PROPOSED TIMETABLE

DAY 1: Tuesday 20 May 2025

09.00 – 9.30	<i>Welcoming of the participants and registration</i>
09.30 – 10.00	Agenda item 1. Opening of the meeting Agenda item 2. Organizational matters
10.00 – 10.30	Agenda item 3. <i>Progress Report on the Status of Implementation of the Programme of Work on Knowledge Management, Information and Communication 2024-2025</i>
10.30 – 10.45	<i>Coffee break</i>
10.45 – 13.00	Agenda item 4. <i>Data management and data flows implemented for UNEP/MAP reporting towards an integration into the Knowledge Management Platform</i>
13.00 – 14.30	<i>Lunch</i>
14.30 – 15.45	Agenda item 4. <i>Data management and data flows implemented for UNEP/MAP reporting towards an integration into the Knowledge Management Platform</i>
15.45 – 16.00	<i>Coffee break</i>
16.00 – 17.00	Agenda item 5. <i>MAP Communication Operational Strategy 2026-2027: communication activities post-MAP 50 Anniversary</i>

DAY 2: Wednesday 21 May 2025

09:00 – 10.30	Agenda item 6. <i>Draft of the UNEP/MAP Programme of Work 2026/2027: activities related to Knowledge Management, Information and Communication</i>
10.30 – 11.00	<i>Coffee break</i>
11.00 – 12.00	Agenda item 7. Any other matters Agenda item 8. Conclusions and recommendations Agenda item 9. Closure of the meeting

Annex III
Conclusions and Recommendations

4th Meeting of INFO/RAC National Focal Points

Palermo, Italy, 20-21 May 2025

Conclusions and recommendations

Following the review and discussions of all agenda items, the Meeting of INFO/RAC National Focal Points (“the Meeting”), held on 20-21 May 2025, agreed on the following conclusions and recommendations:

Agenda item 3. Programme of Work on Knowledge Management, Information and Communication 2024-2025: Status of implementation

1. The Meeting welcomed the work carried out by INFO/RAC in implementing the approved Programme of Work for the current biennium and encouraged INFO/RAC to continue its efforts to fully implement all agreed activities.
2. The Meeting acknowledged the strong commitment demonstrated in the implementation and enhancement of the InfoMAP platform and its various modules. It also expressed appreciation for having received formal access to all relevant databases, enabling an operational interface with the national reporting users’ network.
3. The Meeting welcomed the signing of the Memorandum of Understanding with ACCOBAMS and the Pelagos Agreement, recognizing it as a positive step towards enhanced cooperation on joint activities.

Agenda item 4. Data management and data flows implemented for UNEP/MAP reporting towards an integration into the Knowledge Management Platform.

4. The Meeting endorsed the Knowledge Management Strategy, acknowledging the significant effort invested in defining its guiding principles and key actions. It also recognized the MAP Data Policy and the Knowledge Management Platform as essential tools for its implementation.
5. The Meeting encouraged the active involvement of Contracting Parties in testing the Knowledge Management Platform, with the aim of aligning functionalities with user needs, collecting feedback, and establishing a dialogue to refine the strategy over time.
6. The Meeting emphasized the importance of metadata for data sources and recommended including the data collection method in all MAP data flow reports, considering it a valuable addition even if not required by most standard metadata frameworks.
7. The Meeting welcomed the strategic document and expressed appreciation for the implementation of the prototype Knowledge Management Platform. It also suggested additional relevant uses for the platform beyond those discussed during the meeting, viewing digital transformation as a proactive step toward improving knowledge and data sharing within the MAP system.
8. The Meeting endorsed the establishment of the Data Submission Online Task Force (DSTF) to monitor the status of reporting implementation, with no additional costs. Coordinated by INFO/RAC, the Task Force will include all INFO/RAC Focal Points that will be formally appointed to meet periodically in a virtual format. Additional country representatives may be invited depending on the meeting agenda.

9. The Meeting agreed on strengthening the strategic role of INFO/RAC Focal Points as coordinators of national data flows, to facilitate reporting at the national level and ensure regular updates on planning and progress.
10. The Meeting agreed to organize ad hoc virtual meetings dedicated to INFO/RAC Focal Points training on access and use of all the UNEP/MAP reporting systems with the aim to be prepared to guide and support country users in reporting activities.
11. The Meeting acknowledged that the reporting rates for BCRS, IMAP and NBB are currently below the minimum expected levels. It called for urgent action by Contracting Parties to meet reporting deadlines and provide timely updates on the status of national reporting, also through coordination with INFO/RAC Focal Points, when needed.
12. The Meeting welcomed the involvement of INFO/RAC Focal Points in the revision and updating of the Barcelona Convention Reporting System and the National Budget Baseline, with a focus on simplifying and harmonizing Contracting Party reporting requirements.
13. The Meeting supported the starting of the fine-tuning process for Data Standards related to IMAP Common Indicators, aiming to ensure full alignment with national monitoring plans, protocols, methodologies, and scientific developments.
14. The Meeting appreciated the establishment of the Online Working Group on Biodiversity and Fisheries Data Standards, endorsed by CORMON on Biodiversity and Fisheries (7–8 April 2025, Athens), and welcomed the proposal to establish similar groups for other clusters (Pollution, Marine Litter, and Coast & Hydrography), where appropriate.
15. The Meeting valued the development of additional user guides and video tutorials to support the reporting of monitoring data into the IMAP Info System, alongside with the ongoing support provided by the helpdesk and regular training and assistance meetings.
16. The Meeting agreed to schedule a calendar of upcoming IMAP training and assistance meetings, ensuring the inclusion of all Contracting Parties, with special attention to the beneficiary countries involved in the EcAp MED Plus project.
17. The Meeting agreed on the need to strengthen the role of INFO/RAC National Focal Points (NFPs) in monitoring the publication of data in accordance with the implementation of the MAP Data Policy, as well as in facilitating data sharing and reducing legal barriers.
18. The Meeting noted that further bilateral consultations with Contracting Parties are necessary to clarify the operational aspects and national-level implications of implementing the Data Policy.
19. The Meeting acknowledged that monitoring data reported by Contracting Parties are protected under appropriate licensing, in line with the applicable Data Policy. It was also noted that, where justified, a temporary embargo may be applied to specific datasets to support the publication of scientific results.

Agenda item 5. MAP Operational Communication Strategy 2026-2027: communication activities post-MAP 50 Anniversary

20. The Meeting expressed its appreciation for the work carried out by INFO/RAC, in close collaboration with other MAP Components and the Coordinating Unit (CU), in implementing the MAP Operational Strategy. It encouraged the continuation of these efforts in the upcoming

biennium.

21. The Meeting welcomed the “Odyssey Reloaded” initiative, launched to celebrate the 50th Anniversary of UNEP/MAP and committed to supporting its dissemination.
22. The Meeting welcomed the strengthening of networking and partnerships among MAP Components and Contracting Parties to foster a community around education and training initiatives in the Mediterranean region. It also welcomed the proposal to replicate PTCO activities across the region and expressed the interest in exploring the way forward applicable in country specific contexts.
23. The Meeting commended the harmonization of communication and dissemination activities within the MAP–Barcelona Convention system and encouraged MAP Components to submit the full package of implemented activities to the INFO/RAC Focal Points.
24. The Meeting acknowledged and appreciated the visibility given by INFO/RAC, in collaboration with the CU and other partners, to the “Istanbul Environment Friendly City Award” initiative.
25. The Meeting invited INFO/RAC to further enhance the visibility of MAP, including at the international level, through various dissemination channels in the context of major environmental events.

Agenda item 6. Draft of the UNEP/MAP Programme of Work 2026-2027: activities related to Knowledge Management, Information and Communication

26. The Meeting welcomed the proposed plan of activities outlined in the 2026–2027 Programme of Work, recognizing it as a reflection of the significant progress made by INFO/RAC during the previous biennium. The Meeting encouraged INFO/RAC to continue promoting the planned activities and their corresponding deliverables within the broader MAP Programme of Work.
27. The Meeting highlighted the importance of enhancing synergies with relevant regional and international organizations, to prevent duplication of efforts, streamline reporting processes, and ensure coherence in the assessment of environmental status.
28. The Meeting strongly emphasized the need to prioritize the development of capacity-building activities at the national level, particularly in relation to national environmental information systems, and to facilitate the effective use of the InfoMAP System and its associated modules.
29. The Meeting welcomed INFO/RAC’s proposed cross-cutting engagement in the Programme of Work and its collaboration with other MAP components, in support of a systemic approach to the sustainable development of the Mediterranean region.
30. The Meeting acknowledged the need to upgrade the hardware infrastructure due to the natural obsolescence of existing systems and endorsed INFO/RAC’s request for dedicated MTF funding to support this renewal, in addition to the funding to be proposed for activities included in the Programme of Work 2026-2027.



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UNEP/MED WG.627/12



**Mediterranean
Action Plan**
Barcelona
Convention

19 august 2025
Original: English only

Meeting of the MED POL Focal Points

Athens, Greece, 17 – 19 June 2025

Report of the Meeting

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UNEP/MAP
Athens, 2025

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Introduction

1. In accordance with the United Nations Environment Programme/Mediterranean Action Plan (UNEP/MAP), Programme of Work 2024-2025 adopted by the 23rd Ordinary Meeting of the Contracting Parties to the Barcelona Convention and its Protocols (Portoroz, Slovenia, 5-8 December 2023), the UNEP/MAP Secretariat (MED POL Programme) organized a three day “Meeting of MED POL Focal Points”, on 17 -19 June 2025, in Athens, Greece.

2. The main objectives of the Meeting were to:

- Review the progress made in implementing the activities executed by MED POL during 2024-2025 biennium and the proposed activities for the 2026-2027 biennium.
- Present the changes introduced to the reporting format of the Barcelona Convention Reporting System (BCRS) for the implementation of the Land-Based Sources Protocol.
- Review and endorse the proposed enhancement of the EcAp Roadmap and IMAP with regard to pollution (EOs 5, 9), marine litter (EO 10) and noise (EO 11).
- Address a number of emerging issues resulting from recent and global regulatory and policy developments relevant to UNEP/MAP in the field of pollution prevention and control.
- Present the draft National Action Plans / Programmes of Measures (NAPs/PoMs) by all Contracting Parties.

Participation

3. The meeting was attended by representatives of the following Contracting Parties: Albania, Bosnia and Herzegovina, Cyprus, European Union, Egypt, France, Greece, Lebanon, Malta, Montenegro, Morocco, Spain, State of Libya, Tunisia, and Türkiye.

4. The United Nations Environment Programme (UNEP), including the Secretariat of the Barcelona Convention was represented by the Programme for the Assessment and Control of Marine Pollution in the Mediterranean (MED POL).

5. The full list of participants is attached as Annex I to the present report.

Agenda Item 1: Opening of the meeting

6. The Meeting was opened at 9:30 AM on Tuesday, June 17, 2025, by the MAP Coordinator of the UNEP/MAP Barcelona Convention, Ms. Tatjana Hema.

7. The Coordinator welcomed participants to the MED POL Focal Points Meeting and emphasized its importance as a key formal event within the MAP biennial cycle. She noted that the meeting provides an essential platform to assess progress, review key documents, and align efforts under the MAP Programme of Work.

8. The Coordinator highlighted the strategic value of holding this year’s meeting in conjunction with discussions on the National Action Plans (NAPs), positioning it within the broader roadmap leading up to COP 24 in December 2024.

9. The Coordinator referred to the ongoing revision of the Mediterranean Strategy for Sustainable Development (MSSD), describing it as a strengthened and forward-looking document, enriched by inputs from Contracting Parties and civil society through the MCSD. She underscored the enhanced focus on pollution control, the circular economy, and the achievement of Good Environmental Status (GES) and urged participants to support the inclusion of NAP implementation as a flagship initiative within the revised strategy, highlighting its direct contribution to Objective 1 on the sustainable use of marine and coastal resources.

10. The Coordinator also reported on progress in updating the Ecosystem Approach (EcAp) Roadmap, noting that while revisions are modest, they reflect key developments since its original adoption in 2008. This work was closely tied to the ongoing revision of the Integrated Monitoring and Assessment Programme (IMAP), particularly in the area of pollution monitoring.

11. Regarding the proposed MED POL activities under the MAP Programme of Work 2026–2027, the Coordinator highlighted that they were based on a gap analysis comparing the objectives of the mid-term strategy with current progress. She acknowledged existing financial limitations, noting that although the activity planning was ambitious, budget constraints may affect implementation. Therefore, she called on focal points to critically assess the relevance and completeness of the proposed activities and to put forward any final recommendations, as this would be the last opportunity before finalization.

12. In closing, the Coordinator reiterated the importance of finalizing the NAPs. Referring to discussions held in Loutraki (, she confirmed the Secretariat’s intention to bring a decision to COP 24 endorsing the NAPs and calling for their implementation, with the support of Contracting Parties, donors, and other partners.

Agenda Item 2: Organizational matters

a) Rules of Procedure for the Meeting

13. The Rules of Procedure for Meetings and Conferences of the Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean and its Protocols were applied mutatis mutandis to the present Meeting (UNEP/IG.43/6, Annex XI).

b) Election of Officer

14. Subject to Rule 20 of the rules of procedure mentioned in para. 2(a) for meetings and conferences of the Contracting Parties, the Meeting elected one (1) Chair, two (2) Vice Chairs, and one (1) Rapporteur from among the participants, as follows:

Chair:	Malta, Ms. Annabelle Hamer
First Vice Chair:	Morocco, Mr. Mohammed EL Bouch
Second Vice Chair:	Greece, Ms. Ms. Kalliopi Pagkou
Rapporteur:	Montenegro, Ms. Ivana Mitrovic

c) Adoption of the Provisional Agenda

15. Subject to Rule 14 of the Rules of Procedure mentioned in para. 2(a), the proposed agenda appearing in document UNEP/MED WG.627/1 and annotated in document UNEP/MED WG.627/2/Rev.1 were reviewed and accepted. The Annotated Agenda was adopted by the Meeting as appended in Annex II to the present document.

d) Organization of Work

16. The discussions were held in two plenary sessions, from 9:30 to 12:30 and from 14:30 to 17:30.

17. Simultaneous interpretation in English and French was available for all sessions.

18. The Meeting addressed all agenda items during the three-day meeting. The Meeting closed on 19 June 2025 at 17:30 pm after the adoption of the Conclusions and Recommendations as appended in Annex III to this present document.

Agenda Item 3: Updated National Action Plans / Programmes of Measures 2025-2035

19. Under this agenda item, the representatives of Contracting Parties to the Barcelona Convention were invited, by alphabetical order, to present their respective draft National Action Plans/Programmes of Measures (NAPs/PoMs).

20. The representative of Albania, Ms. Elvana Ramaj, presented the three national strategies developed following the adoption of the 2015 NAP, along with the gaps identified in the implementation of its measures. She also outlined the legally binding commitments stemming from the six newly adopted regional plans, reflecting updates in Albania's legal framework. Furthermore, Ms. Ramaj highlighted ten identified pollution hotspots located mainly in coastal areas and described the national measures addressing Ecological Objectives EO5, EO9, and EO10. She concluded by emphasizing the main challenges faced by Albania, particularly in financial, institutional, and technical areas.

21. The representative of Bosnia and Herzegovina, Ms. Selma Čengić, presented the current status of the country regarding improvements in regulatory, planning, and strategic aspects of water and environmental management. She highlighted the gaps identified in the implementation of the measures from the previous NAP (2015), as well as those derived from the six newly adopted regional plans under the framework of the LBS Protocol. She also presented the two identified hotspots in the country, along with the list of national measures under each of the Ecological Objectives (EO5, EO9, and EO10). Finally, Ms. Čengić highlighted the challenges Bosnia and Herzegovina is facing in the preparation of the new NAP, particularly those related to legal, institutional, and human resource capacities.

22. The representative of Cyprus, Mr. Konstantinos Antoniadis, presented the country's current status concerning the assessment of hotspots and sensitive areas conducted in 2025. He noted that a previously identified hotspot is no longer classified as such, although continuous monitoring of the area will be maintained. He also outlined the existing gaps and corresponding measures related to Ecological Objectives (EOs) 5, 9, and 10, noting that the assessment of Cyprus's marine waters under EO5 and EO9 indicated Good Environmental Status. Additionally, he presented the main challenges faced, particularly in the areas of human resources, control and enforcement, and coordination.

23. The representative of France, Ms. Alexane Lovat, explained that France has chosen to base the update of its National Action Plan (2025–2035) on programmes of measures developed at the national level and/or within the framework of European Union legislation, aimed at addressing land-based pollution in the Mediterranean. In this context, she referred to key planning documents, including the Strategic Façade Document (DSF) and the Water Development and Management Master Plans (SDAGE). She also highlighted the legal texts underpinning the measures adopted in France, particularly those addressing the regional plans adopted under the LBS Protocol. Additionally, she presented examples of measures under the Mediterranean Marine Strategy Framework Directive (MSFD) related to Ecological Objectives (EOs) 5, 9, and 10.

24. The representative of Greece, Ms. Kalliopi Pagkou, presented the reporting status of Greece under the MSFD and highlighted that the second update of the Greek Programme of Measures (GR-PoMs) will be initiated in 2025 and completed by 2027. She shared the list of existing and new measures under Descriptors 5, 9, 10, and 11, which correspond to Eutrophication, Contaminants, Marine Litter, and Underwater Noise, respectively. She also outlined the challenges faced in the implementation of the MSFD.

25. On behalf of Israel, the Secretariat – MED POL presented the progress made in Israel in reducing major pollutants and decreasing the number of hotspots identified in the 2015 NAP, noting that only one hotspot remains and is considered for the new NAP. The presentation also provided an update on the national status concerning the implementation of the newly adopted Regional Plans under the framework of the LBS Protocol. Key national challenges were also outlined, including

limited inter-ministerial coordination, insufficient funding, the high costs associated with expanding inland monitoring, and political barriers to enforcing a ban on single-use plastics.

26. On behalf of Italy, the Secretariat – MED POL presented the status of measures in Italy, in particular the status of urban wastewater collection and treatment across Italian territory, measures related to urban stormwater management, relevant EU policies and indicators for agricultural management, and key measures pertaining to aquaculture management. The presentation also covered the new measures identified by the country for the implementation of the MSFD.

27. The representative of Lebanon, Ms. Celine Mahfouz, presented the status of implementation of the previous National Action Plan (NAP 2015) and the obstacles encountered in its implementation. For the update of NAP, she provided the list of the hotspots identified at the national level, along with the measures outlined under Ecological Objectives (EOs) 5, 9, and 10, and the corresponding implementation timeline. Additionally, she highlighted the challenges faced in updating the NAP.

28. The representative of Libya, Mr. Ahmed Abugdera, presented the draft National Action Plan (NAP), highlighting that Libya has not previously prepared a NAP report. He shared key findings related to Ecological Objectives EO5, EO9, and EO10, based on national assessments. He also presented a list of identified hotspots, acknowledging that it was developed using limited available data. Furthermore, he outlined the proposed measures addressing the three pollution- and marine litter-related Ecological Objectives along with the implementation timeframe. Mr. Abugdera also highlighted the main challenges encountered in developing the NAP, particularly those concerning institutional, legal and policy frameworks, as well as technical and financial constraints.

29. The representative of Malta, Mrs. Annabelle Haber, emphasized that the country's Programme of Measures is designed to achieve Good Environmental Status. She noted that Malta's measures, developed under the EU Water Framework Directive (WFD) and Marine Strategy Framework Directive (MSFD), are aligned with and build upon the regional measures, including those adopted under the Barcelona Convention. Mrs. Haber presented national measures addressing pollution and marine litter-related Ecological Objectives, as well as relevant cross-cutting actions. She also highlighted key challenges faced in Malta, including limited resources, coordination among institutions, and the need for regular updates and follow-up.

30. The representative of Montenegro, Ms. Marina Markovic, presented the process followed and the key plans and strategies considered for updating the NAP. She also presented the finding of gap analysis performed in terms of implementation of NAP 2015 and the new six adopted regional plans. She highlighted the hotspots identified and presented the NAP 2025-2035 implementation plan including the national measures for EOs 5, 9 and 10, including respective timelines and indicators. She also highlighted key implementation challenges regarding capacity constraints (financial, human), plans vs. actual implementation, and competing priorities.

31. The representative of Morocco, Mr. Mohamad El Bouch, presented the key steps taken in updating the NAP, the scope of the report, and the evaluation of progress in implementing the previous NAP. He also presented the measures and projects from the previous NAP that were not implemented, the evaluation and identification of hotspots, the selection and prioritization of measures for the updated NAP, the associated Implementation Plan and monitoring indicators, as well as the priority projects.

32. On behalf of Palestine, the Secretariat – MED POL presented the progress made in preparing the 2025–2035 NAP, highlighting the list of hotspots, the identified gaps related to pollution and Marine Litter Operational Objectives, and the proposed measures. The presentation also addressed the challenges faced in Palestine, particularly those of a political, institutional, technical, and financial nature.

33. On behalf of Spain, the Secretariat – MED POL presented a comparison between the NAP development process and marine strategies, along with the three cycles for the preparation of

Programmes of Measures (PoMs) for 2012–2018, 2018–2024, and 2024–2027. It was noted that the second cycle corresponds to the NAPs for 2015–2025 and 2025–2035. The presentation highlighted the hotspots identified under Ecological Objectives (EOs) 5, 9, and 10, as well as the measures implemented to eliminate these hotspots and fulfill national and regional obligations, including those under the regional plans adopted within the framework of the Barcelona Convention. Additionally, it outlined the challenges faced and lessons learned during the preparation and implementation of the PoMs.

34. The representative of Tunisia, Mr. Yassine Marzougui, provided an overview of the methodology and timeline to be followed for the preparation of the updated National Action Plan (NAP). He detailed the current status of progress in addressing the pollution hotspots that were identified in the 2015 NAP, outlining the efforts made to mitigate their impact. Mr. Marzougui also presented the implementation status of the measures included in the 2015 NAP and in the new adopted regional plans, highlighting both completed actions and those still in progress.

35. The representative of Türkiye, Mr. Mehmet Tamer Çobanoğlu, presented the methodology and key steps undertaken to update the 2015 National Action Plan (NAP). This included a series of stakeholder's meetings and thematic workshops aimed at assessing the status, conducting a gap analysis, defining applicable targets, prioritizing potential measures, and updating information on pollution hotspots and vulnerable areas. He emphasized the various related projects and programs that supported the assessment process. Additionally, Mr. Çobanoğlu presented the operational targets, the outcomes of the gap analysis, and the proposed potential measures, with a particular focus on addressing pollution from urban, industrial, and agricultural sectors.

36. Several Contracting Parties raised questions regarding the use of socioeconomic analysis for the prioritization of measures, specifically whether the cost-benefit analysis tool presented by PB/RAC during the Loutraki meeting is mandatory or optional. In response, the Coordinator clarified that the methodology presented is based on Annex C of the NAP Guidelines and represents a simplified, more targeted approach. She emphasized that the purpose was to assist CPs in conducting practical socioeconomic assessments, particularly in situations where data availability was limited. She further explained that countries are free to use alternative methodologies if these are more appropriate or already in use, noting that the overall objective is to ensure a sound and evidence-based process for the selection of priority measures.

37. One Contracting Party raised a question regarding the comparability of identified pollution hotspots among countries, particularly in relation to their associated levels of risk and pollution impact. In response, the Coordinator explained that the updated hotspot identification methodology emphasizes the use of quantifiable data, with each country responsible for applying the methodology to determine its own hotspots. It was further clarified that the methodology was not intended to support cross-country comparisons of hotspot, as the criteria applies to national data. While countries may report a similar number of hotspots or assign them to the same risk category (e.g., Category A), this does not imply equivalence in scale or impact. The agreed categorization is intended to be applied within each national context.

38. At the end of this agenda item, the Meeting acknowledged and appreciated the progress made by the Contracting Parties in the preparation/update of their National Action Plans (NAPs), particularly in developing the Programmes of Measures. It emphasized the importance of this process and urged the Contracting Parties to finalize their NAPs. Additionally, it called on Contracting Parties that are also EU Member States to submit their Programmes of Measures instead of the NAP as appropriate prior to the MAP Focal Points meeting (16-19 September 2025).

Agenda Item 4: Status of implementation of MED POL activities during 2024-2025 biennium, including related Projects (MedProgramme, ML MED PLUS Project, and EcAp MED PLUS Project)

39. Under this agenda item, Ms. Jelena Knežević, Monitoring and Assessment Officer, and Mr. Erol Cavus, Pollution Officer at UNEP/MAP – MED POL, presented document UNEP/MED WG.627/3, titled “*Progress Achieved in the Implementation of the 2024–2025 Programme of Work, Including the MedProgramme and Other Projects (ML MED PLUS and EcAp MED PLUS Projects)*”, summarizing the progress made on the implementation of the main activities carried out by MED POL, in accordance with the Programme of Work 2024-2025 and the MAP Mid-Term Strategy (2022-2027) Programme 1 “Pollution and Litter Free Mediterranean Programme”, Programme 5 “Governance”, and Programme 6 “Shared Vision of the Mediterranean Programme”.

40. The Secretariat – MED POL presented the main achievements under the 2024-2025 PoW and budget, with a particular focus on the development of the lists of potential measures by Contracting Parties for integration into the consolidated National Action Plans/Programmes of Measures; the proposed revisions of EcAp and IMAP related to Pollution and Marine Litter, as mandated by Decision IG.26/3; including update of Operational Objectives, Good Environmental Status (GES) definitions, and Targets, as well as revision of IMAP Common Indicators related Ecological Objectives 5, 9, and 11; the proposal for the development of new IMAP EO10 Common Indicators 22 and 23; and the proposal to establish Threshold Values for IMAP Common Indicator 24.

41. The Secretariat – MED POL also presented its contribution to pilot actions to prevent, eliminate and dispose of obsolete chemicals under Child Project 1.1 of the GEF-funded MedProgramme, the implementation of EU-funded Marine Litter MED PLUS Project, as well as support to implementation of ongoing EU-funded EcAp MED PLUS Project.

42. One Contracting Party expressed that for the upcoming cycle, the Contracting Parties (CPs) should be given the opportunity to update the GES (Good Environmental Status) assessment methodologies, even if these have been previously approved and applied. This should also include key assessment elements—for example, for nutrients—allowing Parties to contribute data they have and the threshold values they use. This approach would help ensure that national assessments are not limited or rendered incompatible with regional assessments. In the case of Spain, for instance, instead of Total Phosphorus, the focus is on Dissolved Phosphorus, which is used by phytoplankton and is also reported under the MSFD. Spain also confirmed the participation of its representative in the OWG on Eutrophication upon its establishment.

43. Another Contracting Party highlighted the need to build capacity for sampling and analysis in the monitoring of Common Indicators 13, 14, and 17, pointing out, for example, the lack of laboratory capacity to apply methods for Chlorophyll *a* other than the classical one. Regarding microplastics, he provided information on national efforts to integrate microplastics into national monitoring activities. In this regard, he requested support for organizing proficiency testing on microplastics, which will strengthen national capacities through inter-comparison exercises and the exchange of experiences. He also emphasized the need to ensure integration of indicator-based monitoring—specifically referring to the possible integration of Common Indicators 24 (EO10) and 1 (EO1), both having marine turtles in the frontline.

44. One Contracting Party congratulated MED POL on the progress achieved and extended congratulations on the occasion of MAP’s 50th anniversary. Regarding microplastics (and microliter), he noted that within the EU, a substantial volume of data has been collected—stemming from more than 2,800 surveys. However, he acknowledged the challenges related to data quality. To address this, a new initiative has been launched to refine requirements that will improve data quality, including the use of appropriate reference materials in proficiency testing. It was proposed to establish strong link with the expected intercalibration exercise planned under UNEP/MAP (pending approval of the 2026-2027 Programme of Work). He thanked MED POL for its participation in TGML and extended an

invitation to individual countries to cooperate in establishing optimal control over microplastic/microliter data.

45. Another Contracting Party highlighted the importance of ensuring coherence between national and regional assessments, particularly in relation to assessment methodologies established under the MSFD and national regulations.

46. In its response, the Secretariat – MED POL recalled the discussion during the Meeting of the Joint CorMons, emphasizing that the work on assessment criteria is ongoing and progresses depending on the quantity and quality of the data reported. It was further noted that national, sub-regional, and regional values are expected to differ. However, setting sub-regional BAC values allows for a more accurate reflection of ecosystem characteristics. As outlined in the introduction, the development of EACs still needs to be initiated, as even the current regional values do not adequately reflect the ecotoxicological status in the Mediterranean. The Secretariat reiterated the invitation to countries to actively participate in the OWGs once established, as ecotoxicity data must be sourced from the scientific literature, given that such data are not subject to mandatory reporting under the IMAP Info System. In response to the query on capacity building for monitoring Common Indicators 13, 14, and 17, The Secretariat – MED POL – recalled the expanded scope of collaboration with IAEA-MESL during the current biennium and expressed its expectation that this will help address existing knowledge gaps. This now includes proficiency testing and training courses related to contaminants in seafood, chlorophyll-a, and nutrients in both low- and high-salinity waters, in addition to existing activities on contaminants in sediments and biota relevant to Common Indicator 17.

47. The Meeting's final conclusions related to this agenda item are presented in Annex III of this report.

Agenda Item 5: a) Enhanced EcAp Policy and its implementation (GES, Targets, Governance)

48. The Monitoring and Assessment Officer, presented Working document UNEP/MED WG.627/4/Rev.1 titled “Enhanced EcAp Policy and its Implementation” She explained that, in line with Decision IG.26/14 (COP 23, 2023) and the mandate on the EcAp Roadmap and IMAP revision, the Secretariat - MED POL prepared a draft to update Operational Objectives, IMAP Common Indicators, GES definitions, and Targets for EO 5 (Eutrophication) and EO 9 (Pollution). The proposal was first presented at the CorMon Pollution online meeting on 30 January 2025, where the establishment of an Online Working Group was agreed. Following a careful review of the agreed document by the Online Working Group, the Secretariat identified minor adjustments needed to align fully with relevant decisions, especially regarding certain GES targets.

49. After the introductory remarks, she presented the proposed revisions to the targets for IMAP Common Indicators 13 and 14 (EO 5 – Eutrophication), IMAP Common Indicators 17, 18, 20, and 21 (EO 9 – Contaminants), and IMAP Candidate Common Indicators 26 and 27 (EO 11 – Underwater Noise), as reviewed and agreed by the Joint Meeting of the Ecosystem Approach Correspondence Groups on Pollution and Marine Litter Monitoring (Anavyssos, Greece, 27 -28 May 2025). Emphasis was given on the key achievements from 2019–2023, setting the ground for the revised targets in order to ensure their alignment with GES/non-GES classifications used in the 2023 Mediterranean Quality Status Report (2023 MED QSR). She informed that the Joint Meeting did not support the proposed upgrading of Candidate Common Indicators 26 and 27 to IMAP Common Indicators, reflecting major progress in underwater noise assessment.

50. Mr. Christos Ioakeimidis, QSR Programme Management Officer c, proceeded to introduce the updated version for IMAP Ecological Objective 10 (Marine Litter). He provided detailed explanation on the proposed revisions under IMAP EO10, including the new indicator on riverine litter and the upgrade of Candidate Indicator 24 to Common Indicator, both reviewed and agreed by the CORMON Marine Meeting in January 2025 and the Joint CORMON Meeting in May 2025. Detailed information

was provided with regards to the updates/revisions introduced during the Joint CORMON Meeting on the Indicator definition, GES definition and target for Common Indicator 24, along with minor edits on the GES definition and target for the new Common Indicator 28.

51. One Contracting Party explained that the current candidate status of indicators 26 and 27 reflects their transitional nature, adding that detailed technical comments had been presently submitted to the Secretariat in writing. She also referred to the issue of the Joint Meeting not being organized in a hybrid format, which would have enabled broader participation by national experts.

52. The Secretariat – MED POL provided a procedural explanation, noting that all proposals must be shared with the Meeting and are subject for consideration by its participants. It was further clarified that the Joint Meeting was mandated to be held in person only. The responsibility for reviewing substantive—technically and scientifically based—issues lie with the Correspondence Groups on Monitoring (CorMons), while the present meeting may consider the outcomes of CorMon’s work in terms of implications for programming and governance. Any technical errors identified should be brought to the attention of the current meeting; however, this should not involve questioning substantive aspects already discussed and agreed upon by national experts within the CorMon’s mandate.

53. Following this explanation, one Contracting Party requested clarification on the thresholds applied and proposed amending the target for the Candidate Common Indicator 26 by adding the phrase “for a limited amount of time”, in light of ongoing work under the Technical Group on Noise of the MSFD (TG Noise). Another participant emphasized the importance of regular participation of UNEP/MAP – MED POL representatives in the EU-MSFD TG Noise meetings.

54. The proposal to amend the target of the Candidate Common Indicator 26 was agreed upon by the Meeting, following additional consultations conducted by one representative with his national expert team. Following this amendment, Working document UNEP/MED WG.627/4/Rev.1, as reflected in Appendix 1 and Appendix 2 of the Conclusions and Recommendations, was endorsed for submission to the 12th Meeting of the Ecosystem Approach Coordination Group (EcAp CG) (15 September 2025).

55. The Secretariat presented the “Terms of Reference and Flow of Interaction for the Correspondence Groups on Monitoring and Online Working Groups”, with an emphasis on the sections relevant to the CORMONs and Focal Points mandate, as reflected in Working Document UNEP/MED WG.627/4/Rev.1.

56. A number of representatives of Contracting Parties took the floor, welcomed and endorsed the possible products and proposed interaction between EcAp governing bodies, in particular for aspects relevant to the CORMONs and Focal Points.

57. The Meeting endorsed the submission of Terms of Reference and Flow of Interaction to the 12th Meeting Ecosystem Approach Coordination Group (EcAp CG) for further integration in the draft Decision on EcAp matters, to be subsequently submitted to the Meeting of the MAP Focal Points (16-19 Sept. 2025) and COP 24 (2-5 Dec. 2025).

**Agenda Item 5: b) Enhanced Integrated Monitoring and Assessment Programme (IMAP)
(Pollution and Marine Litter cluster, Common Indicators updated fact
sheets, assessment criteria/thresholds)**

58. The Secretariat proceeded by introducing Working document UNEP/MED WG.627/5/Rev.1 titled “Revised IMAP: Pollution, Litter and Noise Clusters”, explaining that it updates the *Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria (IMAP)*, originally adopted by Decision IG.22/7 of COP 19. The updates reflect developments within the UNEP/MAP Barcelona Convention framework since 2016 and focus on the Pollution and Litter components—Ecological Objectives (EO) 5, 9, 10, and 11. An initial revision effort appeared in Document UNEP/MED WG.595/Inf.4, prepared for the 11th Meeting of the Ecosystem Approach Coordination Group (EcAp CG), held online on 2 October 2024. The current updates incorporate

decisions made by the Contracting Parties (via EcAp CG, MAP, and COP) on methodologies and assessment criteria, which were applied during the preparation of the 2023 Mediterranean Quality Status Report (2023 MED QSR).

59. Referring to the on-screen document (UNEP/MED WG.627/5/Rev/1), the Secretariat – MED POL presented the IMAP updates for EO 5, 9, 10 and 11, including the relevant assessment criteria as reflected in Appendix III of this document, as reviewed and agreed by the Joint Meeting of the Ecosystem Approach Correspondence Groups on Pollution and Marine Litter Monitoring, highlighting also their alignment with revised targets for eutrophication, contaminants, marine litter and noise, as outlined in Working Document UNEP/MED WG.627/4/Rev.1.

60. One Contracting Party informed the Meeting about the ongoing evaluation of the applicability of previously adopted reference and boundary values for Ecological Objective 5, particularly in relation to Chlorophyll *a* in Type III-E. She explained that the current intercalibration process under the EU Water Framework Directive may lead to discrepancies between national and IMAP threshold values. Regarding the new Common Indicator 28, she emphasized the need to account for differences in riverine sources across Contracting Parties, particularly when applying methodologies for determining marine litter inputs from rivers. She noted that her country's water courses consist mainly of small streams. In response, the Secretariat noted that the region-wide guidelines take into consideration the region's differences varying from steady river flows to seasons current and flows.

61. On the qualitative assessment, it was stressed that it should be accompanied by a quantitative assessment to ensure a realistic understanding on the level of pressures. In this context, she questioned whether the assessment of marine litter ingestion should be expanded to include a more detailed evaluation of species' health, and whether threshold values should reflect even minimal impacts on turtles.

62. Representatives from Contracting Parties took the floor and stressed the importance of establishing threshold values for Common Indicator 24, for ingestion and entanglement, as well as to agree and establish a methodology, while noting that data for entanglement require for additional support and enhanced data management. Concern was also raised with regard to the data deriving from by-catch, referring to difficulty in linking fishing activity. In response, the Secretariat confirmed that by-catch was taken into consideration while elaborating the proposed TV for Common Indicator 24.

63. In response, the Secretariat invited national representatives to actively participate in the Online Working Group on Eutrophication once it commences, thereby contributing to the further alignment of regional and national threshold values.

64. Further to the consent of the Joint Meeting of the Correspondence Groups on Pollution and Marine Litter Monitoring (CorMons) regarding the potential elevation of Candidate Indicators 26 and 27 on noise to Common Indicator status, the Coordinator invited the Meeting to reconsider their inclusion in the regular monitoring framework, highlighting that after eight years of maintaining these indicators in candidate status—despite the inherent challenges associated with noise monitoring—it is important to ensure balanced efforts are undertaken across the region in this domain. While there is expressed support from the MED POL Focal Points, their endorsement does not precede the decision-making role of the MAP Focal Points.

65. In support of the Coordinator's proposal, one Contracting Party noted that substantial region-based information is available, including continuous ship traffic noise modelling. Another Contracting Party supported the transition from candidate to common status, citing significant progress made over the past few years. Echoing this view, a third Contracting Party acknowledged that while challenges remain—particularly in terms of methodologies for monitoring and assessment—the inclusion of noise indicators is justified. Another Contracting Party, supported by two others, advocated for the integration of noise indicators into national monitoring programmes while continuing to strengthen national capacities.

66. However, one Contracting Party questioned how the status of these indicators could be changed without establishing mandatory monitoring obligations. Another Contracting Party emphasized that the decision on noise indicators should rest with the MAP Focal Points. This view included a recommendation to continue engagement with ACCOBAMS for technical support to countries. A third Contracting Party supported this position, noting that underwater noise monitoring could overlap with certain national security concerns, and thus more time is required before assigning mandatory status to these indicators.

67. The Coordinator further clarified that retaining these indicators in candidate status may not send the right message regarding regional commitment. To address the varying views expressed by countries, the Coordinator reiterated that meaningful progress cannot be achieved if noise indicators remain outside national monitoring programmes. However, there is no expectation for immediate implementation at the national level, especially in light of broader issues that extend beyond the environmental scope. Without their inclusion in regular monitoring programmes, it is difficult for the Secretariat to mobilize or outsource technical assistance in support of national efforts. The revised IMAP will be approved by COP decision, which may highlight the need for dedicated financial and technical support for implementing noise monitoring.

68. In light of existing constraints, and the need for further national consultations, the Coordinator proposed that the Meeting defer a final decision at this stage and invite the EcAp Coordination Group to determine whether Candidate Indicators 26 and 27 can be upgraded to Common Indicators at its 12th Meeting, scheduled for 15 September 2025.

69. Following the amendment of paragraph 38 and the Meeting's decision to defer the final decision on noise monitoring to the Ecosystem Approach Coordination Group, the Working Document UNEP/MED WG.627/5/Rev.1 — as reflected in Appendix III of the Conclusions and Recommendations — was endorsed for submission to the 12th Meeting of the Ecosystem Approach Coordination Group (EcAp CG), scheduled for 15 September 2025.

70. The Secretariat – MED POL presented Working Document UNEP/MED WG.627/7/Rev.1 on the updated Guidance Factsheets for IMAP Common Indicators 13, 14, 17, 18, 20, and 21. She recalled that, in alignment with IMAP, initial Guidance Factsheets for Pollution Common Indicators were developed, reviewed, and endorsed in 2016 and 2017, following Decisions IG.22/7 (COP 19, 2016) and IG.23/6 (COP 20, 2017). In 2019, these Factsheets were updated for Indicators 13, 14, 17, 18, 20, and 21. Pursuant to Decision IG.24/4 on Assessment Studies, monitoring and assessment tools, practices, and standards were developed, as outlined in the 2023 MED QSR report and needs assessment. Building on progress since 2019, the 2023 MED QSR was adopted by Decision IG.26/3 (COP 23, 2023). Additionally, Decision IG.26/14 (COP 23, 2023) on the Programme of Work and Budget for 2024–2025 mandated MED POL to deliver “e) IMAP pollution and marine Cluster CIs Guidance” under activity 6.2.2.

71. Referring to Working Document UNEP/MED WG.627/7/Rev.1, the Secretariat – MED POL presented one by one the updates for Common Indicators 13, 14, 17, 18, 20, and 21, providing explanations based on the achievements reviewed and agreed upon for the preparation of the 2023 MED QSR. She also provided a debrief on the revision points discussed and agreed upon during the Joint Meeting of the Correspondence Groups on Pollution and Marine Litter Monitoring (CorMons), held on 27–28 April in Anavyssos, Greece.

72. Referring to the Guidance Fact Sheets for IMAP Common Indicators 13 and 14, one Contracting Party emphasized the need to consult national and regional experts in the development of assessment methodologies. He explained that current national conditions in his country permit monitoring of only three parameters, and there is no established water classification system. He also noted that the methodologies used in the 2023 MED QSR are overly tailored to the Adriatic Sea sub-

region. He recommended drawing on additional experiences, such as those of IFREMER, to ensure broader regional relevance.

73. A subsequent intervention of another Contracting Party underscored the need to explore new assessment methodologies, particularly those that do not rely on the total nitrogen to total phosphorus (TN:TP) ratio in assessing eutrophication and ecosystem productivity.

74. Another Contracting Party proposed strengthening collaboration with the COPERNICUS service to investigate the potential of developing new satellite-derived products to meet Mediterranean assessment needs. However, he cautioned that using satellite-derived data can be complex and should be approached carefully.

75. Responding to the comments, the Secretariat – MED POL recalled that the consultation process on assessment methodologies for the 2023 MED QSR was initiated during the 2020 CorMon Pollution Meeting. This included proposals for various methodologies, such as those based on the JRC Best Practice Guide, as well as the FAN (Phosphate-Ammonium-Nitrite) and FLU (FLUviality) methods. These methodologies aimed to assess the physicochemical state of coastal waters and support GES determination in Spanish waters (UNEP/MED WG.492/Inf.12). However, national experts at that time indicated that these methods were yet not applicable within their national contexts. Consequently, the Secretariat explored alternative approaches, leading to the methodologies applied in the 2023 MED QSR. These included adaptations of methodologies successfully used in the HELCOM region, such as the Ecological Quality Ratio (EQR), and its adjusted use in a format of the Simplified EQR, and the Simplified Good/Moderate (G/M) comparison method for the 2023 MED QSR. These were selected primarily due to the limited availability of *in situ* data across most sub-regions—data was available only for the Adriatic and Tyrrhenian Seas. The NEAT methodology, developed with EC support, was used where sufficient data (e.g., on Chlorophyll-*a*, total phosphorus, and dissolved inorganic nitrogen) were available, which was the case only in the Adriatic Sea sub-region. It was clarified that none of the applied methodologies were specifically developed for the Adriatic Sea; rather, they were chosen based on data availability.

76. In response to one of the Contracting Party's concerns about the continued use of total phosphorus in assessments, the Secretariat - MED POL emphasized that total phosphorus was included in IMAP in 2016, based on scientific consensus at the EU level within the frameworks of the WFD and MSFD. Unless a Contracting Party can provide a sound scientific rationale to exclude this parameter, supported by elaboration and discussion through the Online Working Group on Eutrophication, no changes can be presently made regarding the use of TN:TP as a fundamental indicator of eutrophication.

77. The Coordinator clarified that the current Meeting was intended to consider the proposed Guidance Fact Sheets under the "no objection" procedure. If any changes to already agreed elements are needed, they must be approached with caution to avoid deferring unresolved issues to the EcAp CG Meeting scheduled for 15 September. It was further clarified that IMAP Guidance Fact Sheets are considered evolving documents and are not subject to formal adoption at the forthcoming COP.

78. Although the use of total phosphorus had been discussed extensively during the Joint Meeting of CorMons and was included in the meeting report as an issue for the next biennia, one Contracting Party requested additional consultations with her national experts aimed at amending the Guidance Fact Sheets. Following the discussion, the two following additions were proposed and, with the agreement of the Meeting, included in the Guidance Fact Sheet for IMAP Common Indicator 13: i) Indicator Definition: *"Further actions should include scientific elaboration on the adjusted use of the total nitrogen to total phosphorus ratio in assessing eutrophication and ecosystem productivity in relevant Mediterranean sub-regions or sub-divisions, taking into account local ecosystem specificities."*; and ii) Assessment Criteria: *"Future efforts should also address the need to establish assessment criteria for phosphate."*

79. Following the Meeting's agreement on the proposed amendments, the IMAP Guidance Fact Sheets for Common Indicators 13 and 14 were endorsed, under the No Objection Procedure.

80. Regarding Indicators 17 and 18, one Contracting Party suggested conducting both target and non-target analyses using advanced technology capable of detecting the presence of thousands of substances. As this approach significantly reduces monitoring costs, it was recommended to organize joint monitoring cruises.

81. Regarding bathing water quality, one Contracting Party suggested the harmonization of monitoring parameters set in Bathing Water Directive and IMAP. Specifically, it was proposed that monitoring both traditional *Escherichia coli* and *intestinal enterococci* in marine waters should be mandatory within IMAP, to ensure consistency in status classification.

82. In response, the Secretariat – MED POL explained that the implementation of bathing water quality monitoring had demonstrated that *intestinal enterococci* is more appropriate than *Escherichia coli* as an indicator of fecal pollution in marine waters. Therefore, for IMAP Common Indicator 21, the monitoring of *intestinal enterococci* has been set as mandatory in 2012 (Decision IG.20/9 on *Criteria and standards for Bathing Water Quality* (COP 7, Paris 2012)). This decision was also guided by the need to reduce monitoring costs and align monitoring efforts with available national resources. A similar approach was adopted for eutrophication monitoring, which under IMAP includes physico-chemical parameters but not biological parameters, as are included under the MSFD. Furthermore, by applying the "one-out, all-out" assessment approach, potential bias is avoided when comparing EEA assessments (which are based on both parameters) with IMAP assessments (which are based on concentration categories of *intestinal enterococci*, as outlined in Decision IG.20/9 on *Criteria and Standards for Bathing Water Quality*, adopted under Article 7 of the LBS Protocol at COP 17, Paris, 2012). Any change to these substantive elements, which are grounded in the use of available scientific evidence, must be supported by relevant scientific justification. Additional progress can be achieved by ensuring that all countries report data to the IMAP Information System. This would eliminate the need to rely on external assessment findings, including those of the EEA, for bathing water quality.

83. In conclusion, the Coordinator highlighted the evolving nature of IMAP Guidance Fact Sheets and confirmed that the proposal related to bathing water quality would be reflected in the meeting report to support any future consideration within the CorMon framework.

84. Following the amendment IMAP Guidance Fact Sheet related to eutrophication, the Working Document UNEP/MED WG.627/7/Rev.1 — as reflected in Appendix IV of the Conclusions and Recommendations — was endorsed for submission to the 12th Meeting of the Ecosystem Approach Coordination Group (EcAp CG), scheduled for 15 September 2025.

85. The Secretariat - MED POL presented Working Document WG.627/8/Rev.1, which includes the updated Guidance Factsheets for IMAP Candidate Common Indicators 26 and 27.

86. Referring to this document, the Secretariat - MED POL outlined the updates for both indicators, explaining each revision in detail based on the achievements reviewed and agreed upon during the preparation of the 2023 MED QSR. She also provided a summary of the key revision points discussed and agreed upon at the Joint Meeting of the Correspondence Groups on Pollution and Marine Litter Monitoring (CorMons).

87. One Contracting Party suggested that further modifications be made to the IMAP Guidance Factsheets for Candidate Common Indicators 26 and 27. This proposal was based on a technical review of the document conducted by a national expert who is a member of the TG Noise. As this expert was unable to attend the Joint CorMons Meeting, the proposal was submitted in writing to the Secretariat during the current meeting.

88. In response, the Secretariat – MED POL clarified that all proposals must be shared with all Contracting Parties during the meeting. Consequently, the comments were briefly introduced by the country's representative.

89. To allow for proper consideration of the submission of this Contracting Party, the following two additions—aimed at addressing identified technical omissions—were proposed and subsequently agreed upon by the Meeting:

- Candidate Common Indicator 26, Targets: “Upon building the register, which includes information on the number of impulsive noise events associated with activity – for example, in the case of pile driving - the number of strikes performed daily, or in the case of explosions – the number of explosions occurring daily,”
- Candidate Common Indicator 27, Justification: “underwater explosions, geophysical surveys with the use of air guns, sonar or acoustic deterrents, pile driving”.

90. To align the present document with the revised GES target for Candidate Common Indicator 26, as outlined in UNEP/MED WG.627/4/Rev.1, the same addition, “for a limited amount of time”, was included in the Guidance Fact Sheet for Candidate Common Indicator 26.

91. In line with the Coordinator's position on the need to respect the communication flow between the MED POL Focal Points and the CORMONs, the Meeting agreed to share the *Updated Guidance Factsheets for IMAP Common Indicators 13, 14, 17, 18, 20, and 21* and the *Updated Guidance Factsheets for IMAP Candidate Common Indicators 26 and 27* with the participants of the Joint Meeting of the Ecosystem Approach Correspondence Groups on Pollution and Marine Litter Monitoring (Anavyssos, Greece, 27–28 May 2025). This is to ensure there are no objections regarding the minor modifications introduced in the Guidance Factsheets for Common Indicator 13 and Candidate Common Indicators 26 and 27.

92. Following the amendments to the IMAP Guidance Fact Sheets for Candidate Common Indicators 26 and 27 — and reaffirming the decision to defer the elevation of these candidate indicators to common noise indicators to the Ecosystem Approach Coordination Group — the Working Document WG.627/8/Rev.1, as presented in Appendix IV of the Conclusions and Recommendations, was endorsed for submission to the 12th Meeting of the Ecosystem Approach Coordination Group (EcAp CG), scheduled for 15 September 2025.

Agenda Item 6: Reporting Format on the Land Based Sources (LBS) Protocol Implementation

93. Under this agenda item, the Secretariat – MED POL introduced Working Document UNEP/MED WG.627/6, entitled “Revised Reporting Format of the Land-Based Sources (LBS) Protocol”, by outlining proposed changes to it.

94. The Secretariat – MED POL further clarified changes made to the reporting tables, specifically highlighting the proposed modifications to Table III regarding the six regional plans, as well as the introduction of a new Table IV (bis) on NAPs, which replaces the previous Table (IV). It was emphasized that the reporting format is shifting toward the collection of more quantitative data, rather than qualitative data, in line with the improving data collection capacity of the Contracting Parties and, consequently, of the region.

95. One Contracting Party highlighted the need to develop a glossary of reporting terminology to support more efficient and harmonized reporting by the CPs.

96. The Secretariat – MED POL highlighted the growing number of “reporting entries,” referring to obligations stemming from specific articles of various decisions and regional plans.

97. The Coordinator emphasized that, while reporting requirements have expanded with the adoption of new plans, there is also a pressing need to systematically review older regional plans and to seek guidance from Contracting Parties on whether the reporting obligations under these older plans should be maintained or revised.

98. The Meeting approved the proposed reporting format and requested the Secretariat – MED POL to prepare a glossary of reporting terminology, and to evaluate the submitted reports related to old regional plans, with a view to seeking guidance from the Contracting Parties on the future of the reporting obligations stemming from these plans.

Agenda Item 7: Emerging issues: Marine renewable Energies

99. Under this agenda item, the Secretariat – MED POL presented Working Document UNEP/MED WG.627/9, titled “Analysis of Existing Regulatory Measures and Impacts on the Marine and Coastal Environment from Marine Renewable Energies”, in particular, the detailed assessment of existing legal frameworks at both national and regional levels, the potential environmental impacts associated with the development of Marine Renewable Energy (MRE), and the proposed measures to mitigate these impacts.

100. The representative of the European Union, Mr. Georg Hanke, referred to the report titled “Cumulative Impacts of Offshore Wind Farm Expansions: Consequences & Solutions for Achieving GES across European Marine Waters”, noting that while the report has not yet been published, the final draft has recently been released for public consultation. He invited the Secretariat – MED POL and meeting participants to review and provide feedback through the open public consultation process.

101. Some Contracting Parties proposed revisions to the text, specifically to incorporate recent developments in national legal frameworks, strategies, and plans, and to remove any references pertaining to areas outside the Mediterranean region. At the end of this agenda item, the meeting took note of the document “Analysis on existing regulatory measures and impacts on marine and coastal environment from Marine Renewable Energies” (UNEP/MED WG.627/9) and endorsed the proposed recommendations. It was also agreed to provide the Contracting Parties, which would wish to do so, sufficient time for any additional comment to the document but not later than 4 July 2025.

Agenda Item 8: Recent developments in pollution control and future measures

102. Under this agenda item, the Secretariat - MED POL presented Working Document UNEP/MED WG.627/10 “Analysis of Global and Regional Policies relevant to the LBS Protocol, including emerging issues” and outlined additional measures and emerging issues that the Contracting Parties could consider when identifying priority measures for reduction and control during the preparation/update of NAPs, particularly those stemming from legally binding global resolutions, including those adopted by UNEA. The Secretariat – MED POL further explained the methodology used to identify gaps and how the proposed measures were developed.

103. The representative of the EU welcomed the findings of the document, particularly emphasizing the importance of further addressing the issue of lead in paints. He also highlighted the ongoing efforts at the EU level regarding the regulation of lead in hunting ammunition and suggested aligning this initiative with regional actions to ensure coherence and effectiveness.

104. The Meeting acknowledged the identified gaps and findings, approved the recommendations presented in the document, and requested the Secretariat to consider these recommendations during the preparation of the new Medium-Term Strategy (MTS) to ensure their integration at the regional level.

Agenda Item 9: Proposed MED POL Activities 2026-2027

105. Under this Agenda item, the Secretariat presented Working Document UNEP/MED WG.627/11 “*Proposed MED POL Activities for MAP Programme of Work 2026-2027*”, which lists and details the activities proposed by MED POL for inclusion to the UNEP/MAP Programme of Work for the biennium 2026-2027. The Secretariat – MEDPOL explained the rationale for developing the Programme of Work, its targets and key activities, and presented each output/deliverable planned under Programmes – 1 on “Pollution”, 4 on “Towards the Sustainable Use of Coastal and Marine Resources Including Circular and Blue Economy”, 5 on “Governance”, and 6 on “Towards Monitoring, Assessment, Knowledge and Vision of the Mediterranean Sea and Coast for Informed Decision-Making” of the MAP Mid-Term Strategy (2022-2027).

106. Reference to Activity 1.2.3 of the proposed MED POL activities under the MAP Programme of Work 2026–2027, the representative of Malta, reminded the Meeting on the ongoing bilateral discussion with the Secretariat - MED POL and expressed their interest to host in 2026 a meeting on desalination (tbc), including a possible visit to a desalination plant.

107. One Contracting Party emphasized the importance of providing assistance and capacity–building support to CPs for IMAP Pollution and Marine Litter (ML) monitoring. The Secretariat – MED POL noted that this is a core component of the Programme of Work 2026–2027, which includes activities for Contracting Parties under Programme 6.

108. The Secretariat – MED POL outlined planned support for Contracting Parties under the proposed Programme of Work, highlighting assistance to seven countries for implementing IMAP indicators related to eutrophication (EO5), contaminants (EO9), and marine litter (EO10), as well as support to four countries on riverine marine litter. The assistance will include the training courses which will be organized in collaboration with the IAEA– MESL to provide hands–on training on data collection and analytical determination of heavy metals and organic compounds (Common Indicator 17), heavy metals, organic compounds, and dioxins in seafood (Common Indicator 20), and eutrophication parameters such as nutrients and chlorophyll-a in high and low salinity waters (Common Indicators 13 and 14). The knowledge transfer to IMAP competent laboratories is foreseen also within these activities.

109. The Coordinator highlighted that this biennium marks the final phase of the Mid-Term Strategy (MTS), with activities focused on building upon past achievements and addressing gaps. The MED POL Programme has strengthened its capacity through new staff recruitments, and despite limited MTF resources, MED POL remains committed to providing technical assistance and capacity-building to Contracting Parties. Additional funding, including through a new GEF project, will be pursued. The Coordinator encouraged Southern Mediterranean countries to explore EU and donor partnerships and reaffirmed the Secretariat’s support for NAPs implementation, monitoring, and preparing the next Quality Status Report (QSR).

110. At the conclusion of this agenda item, the Meeting approved the MED POL activities for the 2026–2027 biennium, as presented in Appendix VI of the Conclusions and Recommendations, and endorsed their inclusion in the MAP Programme of Work. The Meeting also emphasized the importance of securing adequate financial resources to ensure the effective implementation of the activities which are essential for fulfilling key commitments.

Agenda Item 10: Conclusions and Recommendations

111. The Meeting reviewed, the draft Conclusions and Recommendations presented on the screen during the plenary and consequently approved with some modifications as presented as in Annex III of this report.

Agenda Item 11: Any Other Business

112. Under this agenda item, the representative of the European Union, Mr. Georg Hanke, delivered a presentation titled “Global Monitoring of Plastic/Marine Litter: A Plea”. The presentation emphasized the various types of monitoring required to effectively support plastic and marine litter mitigation efforts. He also referenced available guidelines for monitoring coastline macro litter, floating macro litter at sea and on rivers, as well as seabed macro litter. Mr. Hanke additionally suggested several follow-up considerations for further action at regional level.

Agenda Item 12: Closure of the Meeting

113. After expressing the usual courtesies, the Chair declared the Meeting closed at 17:30 on Wednesday, 19 June 2025.

Annex I

List of Participants

**REPRESENTATIVES OF THE CONTRACTING PARTIES / REPRESENTANTS DES
PARTIES CONTRACTANTES**

ALBANIA / ALBANIE	Ms Elvana Ramaj Director of Circular Economy Ministry of Tourism and Environment Ms Shpesa Domi Head of Sector for Foreign Assistance Ministry of Tourism and Environment, Albania
BOSNIA AND ERZEGOVINA / BOSNIE ET HERZEGOVINE	Ms Selma Čengić Deputy Director Hydro Engineering Institute Sarajevo Ms. Dalila Jabucar Hydro Engineering Institute Sarajevo
CYPRUS / CHYPRE	Mr. Konstantinos Antoniadis Officer of Fisheries and Marine Research
EUROPEAN COMMISSION / COMMISSION EUROPÉENNE	Mr. Georg Hanke Policy Officer European Commission Joint Research Centre
EGYPT / EGYPTÉ	Mr. Sameh Ayoub MEDPOL Focal Point Head of the Egyptian Environmental Affairs Agency Alexandria Region
FRANCE / FRANCE	Ms. Alexane Lovat French Ministry for the Ecological Transition, Biodiversity, Forests, Marine Affairs, and Fisheries
GREECE / GRECE	Ms. Kalliopi Pagkou Research Director at the Institute of Oceanography Hellenic Centre for Marine Research
LEBANON / LIBAN	Mr. Bassam Sabbagh Head of Urban Environment Service - MEDPOL focal point Ministry of Environment Ms. Celine Mahfouz Researcher National Council for Scientific Research Lebanon (CNRS-L)
MALTA / MALTE	Ms. Annabelle Haber Environment & Resources Authority Ms. Juliane Baldacchino Assistant Environment Protection Officer

MONTENEGRO / MONTENEGRO	Ms. Ivana Mitrovic Advisor - Department of Nature Protection, Monitoring, Analysis and Reporting Environmental Protection Agency Ms. Marina Markovic NAP Consultant
MOROCCO / MAROC	Mr. Mohammed EL Bouch Directeur Laboratoire National des Etudes et de Surveillance de la Pollution
STATE OF LIBYA / ETAT DE LIBYE	Mr. Salih Diryaq Director of Environmental Affairs Monitoring in Sirte Ministry of Environment Mr. Ahmed Abugdera NAP Consultant Ministry of Environment
TUNISIA / TUNISIE	Mr. Yassine Marzougui Point Focal MED POL Agence Nationale de Protection de l'Environnement
TURKIYE / TURKIYE	Mr. Mehmet Tamer Çobanoğlu Expert Ministry of Environment, Urbanization and Climate change

COMPONENTS OF THE MEDITERRANEAN ACTION PLAN
PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT - UNITÉ DE
COORDINATION ET COMPOSANTES DU PLAN D'ACTION POUR LA MÉDITERRANÉE

UNEP/MAP COORDINATING UNIT PNUE/PAM UNITÉ DE COORDINATION	Ms. Tatjana Hema Coordinator E-mail: tatjana.Hema@un.org Mr. Erol Cavus Pollution Officer E-mail: erol.cavus@un.org Ms. Jelena Knezevic Monitoring and Assessment Officer E-mail: jelena.knezevic@un.org Mr. Christos Ioakeimidis Quality Status Report (QSR) Programme Management Officer E-mail: christos.ioakeimidis@un.org Mr. Mohamad Kayyal MedProgramme Programme Management Officer E-mail : mohamad.kayyal@un.org Experts : Mr. Dimitrios Fragkiskos Lekkas Consultant Ms Magali Outters Consultant
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Annex II

Agenda of the Meeting

Agenda

- Agenda item 1:** Opening of the Meeting.
- Agenda item 2:** Organizational Matters.
- Agenda item 3:** Updated National Action Plans /Programmes of Measures 2025-2035
- Agenda item 4:** Status of implementation of MED POL activities during 2024-2025 biennium, including related Projects (MedProgramme, ML MED PLUS Project, and EcAp MED PLUS Project)
- Agenda item 5:** a) Enhanced EcAp Policy and its implementation (GES, Targets, Governance)
- b) Enhanced Integrated Monitoring and Assessment Programme (IMAP) (Pollution and Marine Litter cluster, Common Indicators updated fact sheets, assessment criteria/thresholds)
- Agenda item 6:** Reporting Format on the Land Based Sources (LBS) Protocol Implementation
- Agenda item 7:** Emerging issues: Marine renewable Energies
- Agenda item 8:** Recent developments in pollution control and future measures.
- Agenda item 9:** Proposed MED POL Activities 2026-2027
- Agenda item 10:** Any other Business
- Agenda item 11:** Conclusions and Recommendations
- Agenda item 12:** Closure of the Meeting

Annex III

Conclusions and Recommendations

Conclusions et recommandations

Conclusions and Recommendations

On 17-19 June 2025, the MED POL Focal Points Meeting was held in Athens, Greece. The Meeting was organized by UNEP/MAP Secretariat (MED POL Programme). Further to its deliberations, the Meeting reached the following conclusions:

Agenda Item 3: Updated National Action Plans /Programmes of Measures 2025-2035

1. The meeting acknowledged and appreciated the progress made by the Contracting Parties in the preparation of their National Action Plans (NAPs), particularly in developing the Programmes of Measures. It emphasized the importance of this process and urged the Contracting Parties to finalize their NAPs. Additionally, it called on Contracting Parties that are also EU Member States to submit their Programmes of Measures instead of the NAP as appropriate prior to the MAP Focal Points meeting (16-19 September 2025).
2. The meeting requested the Secretariat to continue its support to the Contracting Parties including joint national meetings, where possible to ensure NAPs' finalization.

Agenda Item 4: Status of implementation of MED POL activities during 2024-2025 biennium, including related Projects (MedProgramme, ML MED PLUS Project, and EcAp MED PLUS Project)

3. Following the presentation by the Secretariat of Working document UNEP/MED WG.627/3: *"Progress achieved regarding implementation of the Programme of Work 2024-2025, including MedProgramme and other Projects (ML MED PLUS Project and EcAp MED PLUS Project)"* the Meeting acknowledged the progress achieved and expressed its appreciation for the efforts of the Secretariat - MED POL and the Contracting Parties in delivering the planned outputs mandated by the Programme of Work for the 2024–2025 biennium.

Agenda Item 5: a) Enhanced EcAp Policy and its implementation (GES, Targets, Governance)

4. Following the presentation by the Secretariat of Working Document UNEP/MED WG.627/4/Rev.1 *"Enhanced EcAp Policy and its Implementation"*, the Meeting reviewed and endorsed the revised Operational Objectives, IMAP Common Indicators, definitions of Good Environmental Status (GES), and associated Targets for Ecological Objectives 5 (Eutrophication), 9 (Pollution), 10 (Marine Litter), and 11 (Noise) as set out in Appendix I to the conclusions and recommendations. The Meeting also endorsed the terms of Reference (TORs) for Ecosystem Approach Correspondence Groups on Monitoring (CORMONs), and Online Working Groups (OWGs), and Flow of Work as set out in Appendix II to the conclusions and recommendations. The meeting agreed to submit them to the MAP Focal Points Meeting, (on 16-19 September 2025) through the 12th Meeting of the Ecosystem Approach Coordination Group (EcAp CG) scheduled to be held on 15 September 2025.
5. The Meeting reviewed Working Document UNEP/MED WG.627/5/Rev.1, *"Revised IMAP: Pollution, Litter and Noise Cluster"*. It considered the updated elements related to the respective Common [and Candidate] Indicators IMAP Ecological Objectives EO5, EO9, EO10, and EO11, including related assessment criteria acknowledging their evolving nature. It was highlighted that the quantitative assessment based on the application of assessment criteria should be accompanied by qualitative assessment of the actual impacts, so that a realistic assessment of the level of the pressures can be provided. The meeting:

- a) Agreed on the changes proposed for paragraph 51 addressing Common Indicator 23 (seafloor marine litter) given that the proposed additional elements/clarifications were already included in the respective guidance factsheets approved by the CORMON meetings; and
- b) Acknowledged the significant impact of noise on biodiversity but considering existing technical and financial constraints, and the need for further consultation at the national level invites the EcAp Coordination Group to take the final decision whether Candidate Indicators 26 and 27 can be upgraded as Common Indicators in their meeting to be held on 15 September 2025.

6. The Meeting endorsed the proposed updated sections of IMAP for Pollution, Litter and Noise related (EOs 5, 9, 10 and 11), as set out in Appendix III to the conclusions and recommendations, and its subsequent submission to the MAP Focal Points Meeting (on 16-19 September 2025), through the 12th Meeting of the Ecosystem Approach Coordination Group (EcAp CG) scheduled to be held on 15 September 2025.

Agenda Item 5: b) Enhanced Integrated Monitoring and Assessment Programme (IMAP) (Pollution and Marine Litter cluster, Common Indicators updated fact sheets, assessment criteria/thresholds)

7. Following the presentation of the “*Updated Guidance Factsheets for IMAP Common Indicators 13, 14, 17, 18, 20, and 21*” (UNEP/MED WG.627/7/Rev.1) and the “*Updated Guidance Factsheets for IMAP Candidate Common Indicators 26 and 27*” (UNEP/MED WG.627/8/Rev.1), the Meeting through the No Objection Procedure recommended their submission, as set out in Appendix IV to the conclusions and recommendations, for approval by the 12th EcAp Coordination Group in September 2025.

8. The Meeting acknowledged the need for national experts contributing to the Ecosystem Approach Coordination Group on Pollution Monitoring, and the Secretariat – MED POL, to address the following priorities in order to enhance the accuracy and consistency of the future Good Environmental Status (GES) assessments in the Mediterranean:

- Scientifically elaborate on the adjusted use of the total nitrogen to total phosphorus ratio in assessing eutrophication and ecosystem productivity in relevant Mediterranean sub-regions or sub-divisions, taking into account local ecosystem specificities;
- Investigate potential discrepancies in assessments that may arise from the use of *Intestinal enterococci* as specified in IMAP Common Indicator 21, compared to the combined use of *Intestinal enterococci* and *Escherichia coli* as outlined in Directive 2006/7/EC on Bathing Water Quality;
- Ensure optimal harmonization of future work on noise monitoring and assessment with the activities of the MSFD Technical Group on Noise;
- Explore new assessment methodologies to further enhance harmonized GES assessment across Mediterranean sub-regions for the third iteration of the MED QSR, building upon the methodologies applied in the preparation of the 2023 MED QSR.

9. In order to respect the communication and flow of work between MED POL FPs meeting and CORMONs, the Meeting agreed with the Secretariat proposal to share the “*Updated Guidance Factsheets for IMAP Common Indicators 13, 14, 17, 18, 20, and 21*” and the “*Updated Guidance Factsheets for IMAP Candidate Common Indicators 26 and 27*”, to the participants of the Joint Meeting of the Ecosystem Approach Correspondence Groups on Pollution and Marine Litter Monitoring (Anavyssos, Greece, 27 -28 May 2025), to ensure that there is no objection in relation to a few modifications introduced in the Guidance Factsheets for Common Indicator 13, and candidate Common Indicators 26 and 27.

Agenda Item 6: Reporting Format on the Land Based Sources (LBS) Protocol Implementation

10. The Meeting agreed on the Reporting Format as proposed by the Secretariat and set out in Appendix V to the conclusions and recommendations for submission to the MAP Focal Points for their consideration. With regards to Table IV on NAP indicators, the Meeting highlighted the need for applying a certain level of flexibility on reporting frequency due to the challenges associated with data collection.

11. The Meeting requested the Secretariat to examine in collaboration with the Contracting Parties the status of the implementation of the Regional Plans adopted between 2009 and 2013, considering that most of the timeframes for the implementation of the measures provided in these Plans were until 2025 at the latest and report to the next MED POL FP meeting in 2027 together with the proposal for keeping or removing as appropriate this section from the Barcelona Convention Reporting System.

12. The Meeting requested the Secretariat to update/prepare a glossary or a guidance document, in order to support and guide the Contracting Parties for the preparations of the reports in the next reporting cycle.

Agenda Item 7: Emerging issues: Marine renewable Energies

13. The meeting took note of the document “*Analysis on existing regulatory measures and impacts on marine and coastal environment from Marine Renewable Energies*” (UNEP/MED WG.627/9) and endorsed the proposed recommendations. It was also agreed to provide the Contracting Parties, which would wish to do so, sufficient time for any additional comment to the document but not later than 4 July 2025.

14. The meeting requested the Secretariat to consider the issue of Marine Renewable Energy (MRE) as one of the issues to be addressed in the new MTS in long term, acknowledging that there is a proposal to prepare guidelines to promote sustainable MRE in the PoW for the 2026–2027 biennium.

Agenda Item 8: Recent developments in pollution control and future measures.

15. The meeting took note of the document, namely “*Global and Regional Policies relevant to LBS Protocol, including New Emerging Issues*” (UNEP/MED WG.627/10). It acknowledged the efforts of Contracting Parties to include the identified measures, where appropriate, for complementing their NAPs, in order to facilitate potential synergies with other relevant global obligations.

Agenda Item 9: Proposed MED POL Activities 2026-2027.

16. The Meeting took note of the MED POL activities included in the Programme of Work for the upcoming biennium (2026–2027) as set out in Appendix VI and endorsed their integration into the MAP Programme of Work. Several participants highlighted the importance of ensuring continued support to countries in strengthening the monitoring and assessment of pollution and marine litter, including riverine litter, and implementation of the National Action Plans.

17. The Meeting also underscored the need for adequate financial resources to enable the effective implementation of these priority activities, which are essential for fulfilling key commitments.

Conclusions et recommandations

Du 17 au 19 juin 2023, la Réunion des Points Focaux MED POL s'est tenue à Athènes, Grèce. La réunion a été organisée par le Secrétariat du PNUE/PAM (Programme MED POL). À l'issue de ses délibérations, la réunion est parvenue aux conclusions suivantes :

Point 3 de l'ordre du jour : Plans d'action nationaux / Programmes de mesures actualisés 2025-2035

1. La réunion a reconnu les progrès accomplis par les Parties Contractantes dans la préparation des Plans d'Action Nationaux (PAN), en particulier les programmes de mesures, et a souligné l'importance de ce processus et a exhorté les Parties Contractantes à finaliser leurs PAN. Elle a également demandé aux Parties Contractantes également membres de l'UE de soumettre leur programme de mesures avant la réunion des Points focaux du PAM.
2. La réunion a demandé au Secrétariat de poursuivre son soutien complet aux Parties Contractantes, y compris par l'organisation de réunions nationales conjointes, lorsque cela est possible, afin d'assurer leur finalisation.

Point 4 de l'ordre du jour : Etat d'avancement de la mise en œuvre des activités de MED POL durant le biennium 2024-2025, y compris les projets associés (MedProgramme, projet ML MED PLUS et projet EcAp MED PLUS)

3. À la suite de la présentation par le Secrétariat du document de travail UNEP/MED WG.627/3 « *Progrès réalisés dans la mise en œuvre du Programme de travail 2024-2025, y compris le MedProgramme et d'autres projets (projet ML MED PLUS et projet EcAp MED PLUS)* », la réunion a pris acte des progrès réalisés et a salué le travail accompli par MED POL et les Parties Contractantes pour atteindre les résultats prévus conformément au programme de travail du biennium 2024-2025.

Point 5a de l'ordre du jour : a) En Renforcement de la politique EcAp et de sa mise en œuvre (BEE, objectifs, gouvernance)

4. À la suite de la présentation par le Secrétariat du document de travail UNEP/MED WG.627/4/Rev.1 « *Politique renforcée d'EcAp et sa mise en œuvre* », la réunion a examiné et approuvé les objectifs opérationnels révisés, les indicateurs communs IMAP, les définitions du Bon État Environnemental (BEE) ainsi que les cibles associées aux objectifs écologiques 5 (Eutrophisation), 9 (Pollution), 10 (Déchets marins) et 11 (Bruit), tels qu'exposés en Annexe I aux conclusions et recommandations. La réunion a également approuvé les termes de référence (TdR) des groupes de correspondance de l'approche écosystémique sur le suivi (CORMON), des groupes de travail en ligne (GTL) et du déroulement des travaux, tels qu'indiqués en Annexe II aux conclusions et recommandations. La réunion a convenu de les soumettre à la réunion des points focaux de la PAM, par l'intermédiaire de la 12^e réunion du groupe de coordination de l'approche écosystémique (EcAp CG) prévue les 15 et 16–19 septembre 2025.
5. La Réunion a examiné le document de travail UNEP/MED WG.627/5/Rev.1, intitulé « *IMAP révisé : Groupe Pollution, Déchets et Bruit* ». Elle a étudié les éléments mis à jour relatifs aux Indicateurs Communs [et Candidats] respectifs des Objectifs Écologiques IMAP OE5, OE9, OE10 et OE11, y compris les critères d'évaluation associés, en reconnaissant leur nature évolutive. Il a été souligné que l'évaluation quantitative fondée sur l'application des critères d'évaluation devrait être accompagnée d'une évaluation qualitative des impacts réels, afin de fournir une évaluation réaliste du niveau des pressions. La réunion:

- a) A approuvé les modifications proposées au paragraphe 51 concernant l'Indicateur Commun 23 (déchets marins sur le fond marin), étant donné que les éléments/clarifications supplémentaires proposés étaient déjà inclus dans les fiches techniques d'orientation respectives approuvées par les réunions CORMON ; et
- b) A reconnu l'impact significatif du bruit sur la biodiversité, mais, compte tenu des contraintes techniques et financières existantes et de la nécessité de consultations supplémentaires au niveau national, invite le Groupe de coordination EcAp à prendre une décision finale quant à la possibilité de reclasser les Indicateurs Candidats 26 et 27 en tant qu'Indicateurs Communs lors de sa réunion prévue le 15 septembre 2025.

6. La réunion a approuvé les sections mises à jour proposées de l'IMAP concernant la pollution, les déchets et le bruit (objectifs écologiques 5, 9, 10 et 11), telles qu'exposées en Annexe III aux conclusions et recommandations, ainsi que leur soumission ultérieure à la réunion des Points focaux du PAM (les 16–19 septembre 2025.), via la 12^e réunion du groupe de coordination de l'approche écosystémique (EcAp CG) prévue le 15 septembre 2025.

Point 5b de l'ordre du jour : Programme intégré renforcé de surveillance et d'évaluation (IMAP) (Pollution et déchets marins, fiches mises à jour des indicateurs communs, critères et seuils d'évaluation)

7. A la suite de la présentation des « *Fiches techniques d'orientation mises à jour pour les indicateurs communs de l'IMAP 13, 14, 17, 18, 20 et 21* » (UNEP/MED WG.627/7/Rev.1) et des « *Fiches techniques d'orientation mises à jour pour les indicateurs communs candidats de l'IMAP 26 et 27* » (UNEP/MED WG.627/8/Rev.1), la Réunion a recommandé, par procédure d'absence d'objection, leur soumission, telle qu'énoncée à l'annexe IV des conclusions et recommandations, pour approbation par la 12^e Réunion du Groupe de coordination de l'Approche Écosystémique (EcAp) en septembre 2025.

8. La Réunion a reconnu la nécessité, pour les experts nationaux contribuant au Groupe de coordination de l'Approche Écosystémique sur le suivi de la pollution, ainsi que pour le Secrétariat – MED POL, de traiter les priorités suivantes afin d'améliorer la précision et la cohérence des futures évaluations du Bon État Écologique (BEE) en Méditerranée :

- Élaborer scientifiquement sur l'utilisation ajustée du rapport azote total / phosphore total dans l'évaluation de l'eutrophisation et de la productivité des écosystèmes dans les sous-régions ou subdivisions méditerranéennes pertinentes, en tenant compte des spécificités locales des écosystèmes ;
- Examiner les éventuelles divergences dans les évaluations pouvant découler de l'utilisation des entérocoques intestinaux telle que spécifiée dans l'Indicateur Commun IMAP 21, par rapport à l'utilisation combinée des entérocoques intestinaux et d'*Escherichia coli* telle que définie dans la Directive 2006/7/CE relative à la qualité des eaux de baignade ;
- Garantir une harmonisation optimale des travaux futurs sur la surveillance et l'évaluation du bruit avec les activités du Groupe technique sur le bruit de la Directive cadre stratégie pour le milieu marin (DCSMM) ;
- Explorer de nouvelles méthodologies d'évaluation afin de soutenir une évaluation harmonisée du Bon État Écologique (BEE) à travers les sous-régions méditerranéennes pour la troisième itération du Rapport d'État de l'Environnement Marin en Méditerranée (MED QSR), en s'appuyant sur les méthodologies appliquées lors de la préparation du MED QSR 2023.

9. Afin de respecter la communication et le déroulement des travaux entre la réunion des points focaux MED POL et les CORMON, la réunion a accepté la proposition du Secrétariat de partager les « *Fiches d'orientation mises à jour pour les indicateurs communs IMAP 13, 14, 17, 18, 20 et 21* » ainsi que les « *Fiches d'orientation mises à jour pour les indicateurs communs candidats IMAP 26 et 27* »

avec les participants à la réunion conjointe des groupes de correspondance de l'approche écosystémique sur le suivi de la pollution et des déchets marins (Anavyssos, Grèce, 27-28 mai 2025), afin de garantir qu'aucune objection ne soit soulevée concernant quelques modifications introduites dans les fiches d'orientation des indicateurs communs 13, ainsi que des indicateurs communs candidats 26 et 27.

Point de l'ordre du jour 6 : Format de rapport sur la mise en œuvre du Protocole relatif à la protection de la mer Méditerranée contre la pollution d'origine tellurique (LBS)

10. La réunion a adopté le format de rapport proposé par le Secrétariat, tel que présenté en Annexe V aux conclusions et recommandations, en vue de sa soumission aux points focaux de la PAM pour examen. Concernant le tableau IV sur les indicateurs des plans d'action nationaux (PAN), la réunion a souligné la nécessité d'appliquer un certain niveau de flexibilité quant à la fréquence des rapports, en raison des difficultés liées à la collecte des données.

11. La réunion a demandé au Secrétariat d'examiner l'évaluation finale des anciens Plans régionaux afin d'analyser leur niveau de mise en œuvre dans les délais impartis et de formuler des recommandations sur la possibilité de leur exclusion, si nécessaire, du Système de rapport de la Convention de Barcelone pour la prochaine réunion des Points focaux MED POL.

12. La réunion a demandé au Secrétariat de mettre à jour ou de préparer un glossaire pour le format de rapport, qui guidera et facilitera les Parties Contractantes lors de leurs rapports pour le prochain cycle de rapport.

Point de l'ordre du jour 7 : Secteurs émergents : Énergies marines renouvelables

13. La réunion a pris note du document « *Analyse des mesures réglementaires existantes et de leurs impacts sur le milieu marin et côtier liés aux énergies marines renouvelables* » (UNEP/MED WG.627/9) et a approuvé les recommandations proposées. Il a également été convenu de laisser aux Parties Contractantes qui le souhaitent un délai suffisant pour formuler des commentaires supplémentaires sur le document, délai qui ne devra pas dépasser le 4 juillet 2025.

14. La réunion a demandé au Secrétariat de prendre en considération la question des énergies marines renouvelables (EMR) comme l'un des sujets à aborder dans le nouveau SMT à long terme, en reconnaissant qu'une proposition existe pour préparer des lignes directrices visant à promouvoir les EMR durables dans le programme de travail pour le biennium 2026–2027.

Point de l'ordre du jour 8 : Développements récents dans le contrôle de la pollution et mesures futures

15. La réunion a pris note du document intitulé « *Politiques globales et régionales pertinentes au Protocole sur les apports de polluants par les sources terrestres (LBS), y compris les nouveaux enjeux émergents* » (UNEP/MED WG.627/10). Elle a reconnu les efforts des Parties Contractantes pour inclure, lorsque cela est approprié, les mesures identifiées afin de compléter leurs plans d'action nationaux (PAN), dans le but de faciliter les synergies potentielles avec d'autres obligations mondiales pertinentes.

Point 9 de l'ordre du jour : Activités MED POL proposées pour 2026–2027

16. La réunion a pris note des activités de MED POL incluses dans le programme de travail pour le prochain biennium (2026–2027) telles qu'énoncées à l'annexe VI des Conclusions et Recommandations, et a approuvé leur intégration dans le programme de travail de la PAM. Plusieurs participants ont souligné l'importance d'assurer un soutien continu aux pays pour renforcer le

surveillance et l'évaluation de la pollution et des déchets marins, y compris les déchets fluviaux, ainsi que la mise en œuvre des plans d'action nationaux

17. . La réunion a également insisté sur la nécessité de disposer de ressources financières adéquates afin de permettre la mise en œuvre effective de ces activités prioritaires, essentielles à l'accomplissement des engagements clés.



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Meeting of PAP/RAC National Focal Points

Athens, Greece, 6-7 May 2025

Report of the Meeting

For environmental and cost-saving reasons, this document is printed in a limited number. Delegates are kindly requested to bring their copies to meetings and not to request additional copies.

UNEP/MAP PAP/RAC
Split, 2025

REPORT of the Meeting of PAP/RAC Focal Points 6-7 May 2025

Venue, participation and objectives

1. The PAP/RAC Focal Points (FPs) meeting was held in Athens, Greece, on 6-7 May 2025. Representatives of the following 17 Contracting Parties (CPs) attended the meeting: Albania, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Italy, Lebanon, Libya, Malta, Montenegro, Morocco, Slovenia, Türkiye and Tunisia, with online participation of the Israeli representative. In addition, the UNEP/MAP Coordination Unit and the CC/RAC representatives attended the meeting. A complete list of participants is attached as Annexe I of this Report.
2. The main objective of the meeting was to present and discuss the status of the implementation of PAP/RAC activities in the current biennium and to get the first feedback on the proposal of the PAP/RAC work plan for 2026-2027.

Agenda 1: Opening of the meeting

3. Ms. Daria Povh Škugor, PAP/RAC Director, welcomed the participants and expressed appreciation for their attendance, with a special acknowledgement to those joining the meeting for the first time. She introduced herself as the newly appointed Director of PAP/RAC, highlighting her longstanding dedication to the PAP/RAC and UNEP/MAP's mission and objectives. She emphasised the vital role of the network of national focal points, describing them as the backbone of the UNEP MAP system's shared efforts. She then outlined the objectives of the meeting and invited the representative of UNEP/MAP to take the floor.

Ms. Tatjana Hema greeted the participants on behalf of the UNEP/MAP Coordinating Unit and congratulated PAP/RAC for organising this important meeting. She congratulated Daria Povh Škugor for her nomination as PAP/RAC Director, following Željka Škaricic, former Director, who significantly contributed to the UNEP MAP system for numerous years. She highlighted the importance of this meeting as an essential element on the path towards CoP 24 in December 2025. She highlighted several major topics UNEP/MAP is currently involved with and will trace the path of MAP in the future such as the revised (Mediterranean Strategy on Sustainable Development (MSSD), Regional Climate Change Adaptation Framework (RCCAF), and revised ecosystem approach (EcAp) roadmap and Integrated Monitoring and Assessment Programme (IMAP). Also, she highlighted the important role of the Working Group for MSP, established following the MSP Decision, based on which the TOR is being prepared, as well as a document indicating the MSP direction of MAP in the upcoming period.

4. Appreciating the UNEP/MAP representative's information, the PAP/RAC Director provided technical information about the meeting, introduced the Rules of Procedure and suggested the Bureau members.
5. The following Bureau members were unanimously elected:
 - Chair: Ms. Heba Sharawy, Egypt
 - Vice-chair: Mr. Adel Yacoub, Lebanon
 - Vice-chair: Ms. Emmanuelle Thiesse, France

- Rapporteur: Ms. Yiota Lazarou, Cyprus

6. The Chair introduced the meeting agenda, which the participants unanimously adopted. The agenda is enclosed in Annexe II of this report.

Agenda item 2: Progress Report for the period 2024-2025

7. The Director of PAP/RAC presented the Centre's Progress for the biennium 2024-2025, emphasising that all implemented activities were aligned with the UNEP/MAP Medium-Term Strategy (MTS) 2022-2027, the UNEP/MAP Programme of Work (PoW) for 2024-2025, and the Action Plan of the Common Regional Framework (CRF) for ICZM (2020-2027) adopted at COP 21 (Naples, Italy, December 2019). She provided a thematic overview of the main activities and achievements, structured around five PoW themes (3) Climate resilient Mediterranean, (4) Sustainable Use of Coastal and Marine resources, (5) Governance, (6) Shared Vision and (7) Advocacy, Awareness, Education & Communication.

Under Theme 3, the Director reported completing the GEF SCCF project and launching activities under the EU Horizon 2020 DesirMed project. Several follow-up actions were undertaken within the framework of the PAP/RAC's Nature-Based Solutions (NbS) initiative.

For theme 4, she presented activities implemented under GEF MedProgramme CP 2.1 and MTF financing. These included Coastal plans in Montenegro and Morocco; a National Strategy for Lebanon and the Integrated Management Plan for Damour river; finalisation of the Coastal Area Management Programme (CAMP) in Israel and preparatory activities for CAMP Malta and CAMP Türkiye, and governance-enhancing initiatives in Tunisia. Additionally, several actions were undertaken in Marine Spatial Planning (MSP), such as assisting Contracting Parties (CPs) in implementing MSP; creating a community of practice, delivering training and implementing the MSP4BIO project under Horizon 2020. She announced that the Guidelines for Coastal plans are currently under development and informed the meeting about PAP/RAC's contribution to the ongoing revision of the Mediterranean Strategy for Sustainable Development (MSSD) and the Regional Climate Change Adaptation Framework (RCCAF). She concluded this section by reporting on the integration of transboundary EIA/SEA into the Barcelona Convention framework.

Under Theme 5, the Director provided updates on the recommendations related to the coastal legislation, advancements related to the Inter-Ministerial Coordination, and the new EcAp MEP PLUS project. She also mentioned several capacity-building efforts, including the MedOpen virtual training course on ICZM, the MSP Workspace, PAP/RAC's contribution to the Syrian Virtual University, and participation in a new Erasmus+ project.

In the context of Theme 6, she highlighted activities supporting the Integrated Monitoring and Assessment Programme (IMAP) and its associated CORMONs, including the GEF-funded methodological update for the Candidate Common Indicator on land cover change and the completion of seven baseline assessments. She also shared the contribution of the Regional Centre for Remote Sensing of North African States – the first assessment of coastal zones for 9 Arab countries.

Under Theme 7, she reported on the celebration of the 2024 Mediterranean Coast Day in Algeria and online. Finally, she acknowledged the active participation of PAP/RAC staff in numerous international conferences, workshops and webinars, where they contributed as speakers, lecturers and experts on topics related to integrated coastal management, marine spatial planning and adaptation of our coasts

to the impacts of climate change. A more detailed overview of PAP/RAC's activities and achievements is available in the accompanying PowerPoint presentation and the Progress Report.

8. Several FPs took the floor to congratulate PAP/RAC for the work done and results achieved in this biennium, as well as Daria Povh Skugor for her new function of Director. They emphasised how resilient PAP/RAC was and expressed their satisfaction in working with such an efficient Centre. It was proposed to include the Executive Summary and the Contents in the Progress Report.

Agenda item 3: Presentation of the main activities

9. The presentation by Marko Prem, Deputy Director PAP/RAC, focused on implementing the Integrated Monitoring and Assessment Programme (IMAP) and its contribution to the Ecosystem Approach (EcAp) Coordination Group. He highlighted key environmental objectives (EO7 and EO8) and indicators related to hydrography, coastline, and land cover change. As the main conclusions of the EcAp Coordination Group, some minor changes in indicator titles, proposals for climate-related indicators, and interaction between EcAp governance bodies have been presented. Proposals for the climate - related new indicators include for EO7: Large-scale changes in circulation patterns, wave height, temperature, pH, salinity distribution, and long-term sea level changes; and for the coastal ecosystems and landscapes (EO8) the following three new indicators are proposed namely, restoration of degraded coastal wetlands, extent and frequency of coastal flooding, and changes in burnt forest areas. He finally thanked all the countries that participated in the status report. The meeting took note of the interaction and responsibilities involved in clarifying roles between EcAp governance bodies, Component/Thematic Focal Points, MAP Focal Points, and CoP. In conclusion, he invited PAP/RAC NFPs to nominate participants to the CORMON coast and hydrography meeting on 15-16 July 2025 in Rome.
10. Ms. Daria Povh Škugor, PAP/RAC Director, presented the GEF MedProgramme Child Project 2.1 and the SCCF projects as two of the eight Child Projects of GEF MedProgramme. She gave an overview of PAP/RAC's activities, namely: activities related to the support of the ratification/implementation of the ICZM Protocol; an update of the methodology for the candidate Common Indicator 25 (CCI 25) with the addition of the elevation layer; the status of the national assessments on land cover change (in 7 countries of the Programme); recommendations for coastal legislation inspired by the results of the analysis of the coastal legislation in 5 project countries; national strategy of Lebanon; coastal management plans in Montenegro and Morocco; integrated management plan of the Damour river basin in Lebanon; vulnerability assessments in Algeria; training events (MedOpen); and awareness-raising events (covering three Mediterranean Coast Day events). She announced the Mediterranean Coast Day event in 2025 with a special theme on the importance of institutions. She invited representatives of the relevant Ministries and Agencies to join PAP/RAC in building awareness on the essential role of institutions in achieving the resilience and sustainability of our coasts.
11. The Coastal Plan for the Boka Kotorska Bay was presented by Ms. Đurđina Bulatović, from the Ministry of Ecology, Spatial Planning and Urbanism. The Coastal Management Plan for Boka Kotorska Bay was developed under the GEF MedProgramme's Child Project 2.1 and its SCCF climate adaptation component. Building upon its ratification of the Barcelona Convention (2007) and ICZM Protocol (2012), Montenegro adopted a National ICZM Strategy in 2015. The Boka Kotorska Bay plan addresses the

area's high vulnerability to coastal flooding, extreme weather, and pressures from high population density. A participatory methodology, Climagine—developed by Plan Bleu RAC—was applied through four stakeholder workshops engaging local municipalities (Kotor, Tivat, Herceg Novi) and focusing on priority themes such as spatial planning, water and waste management, sustainable tourism, and marine protection. The process included extensive diagnostics, stakeholder analysis, and iterative development of recommendations, with final draft consultations held throughout 2023–2024. Importantly, all three municipalities agreed to cooperate on implementing the plan. The draft was presented to the National Working Group on ICZM in July 2024, followed by a final conference in December 2024. Next steps include formal endorsement by the National Committee for Sustainable Development and integration into national and local spatial planning frameworks. The short video on the Coastal Management Plan for Boka Kotorska Bay has been shown to the participants.

12. The Albanian representative shortly presented relevant activities in Albania. Albania has recently adopted Law 15/2024 on Marine Environment Protection, partially transposing the Marine Strategy Framework Directive (MSFD), and is now focused on developing the necessary structures and methodologies for implementation. The country currently lacks a fully operational marine monitoring programme and Maritime Spatial Plan (MSP). However, Albania is undertaking the first steps to initiate the MSP process. Also, it is requesting support from PAP/RAC to develop an overall MSP strategy. This includes capacity building at national and local levels and support for integrating MSP into the blue economy strategies. Also, it would be important to have pilot initiatives, particularly in strategic coastal areas like Vlora Bay, the Vjosa Delta, or along the Ionian coast. Finally, Albania sees the MSP WG, coordinated by PAP/RAC, as a valuable framework for accelerating MSP efforts in the Western Balkans. Albania is ready to engage, learn, and contribute.

13. Ms. Malika El Bayoudi from the Ministry of Energy Transition and Sustainable Development presented the Regional Coastal Scheme (SRL) project for the Tanger-Tetouan-Al Hoceima (TTA) region — a regulatory planning instrument established under Law 81-12 on the coastline. Designed with a 20-year horizon, the SRL adopts an integrated and participatory approach to ensure the sustainable use of coastal and marine resources. Its main objectives are to identify regional potentials and challenges, establish a shared strategic vision, address gaps in existing plans, and implement coordination mechanisms supported by monitoring and reporting systems. The SRL integrates climate change considerations and applies the Integrated Coastal Zone Management (ICZM) approach to balance conservation, development, and sustainable coastal use. The planning process includes detailed spatial delimitation, regulatory zoning, and comprehensive diagnostics covering natural and cultural resources, demographic trends, infrastructure, economic sectors, and environmental pressures. Geographic Information Systems (GIS) were extensively used to support the analysis. The methodology involved stakeholder consultation through the Climagine process and a DPSIR (Drivers, Pressures, State, Impact, Responses) framework. Operational objectives and priority projects focus on ecosystem protection, land-use regulation, and sustainable valorization, supported by governance, awareness-raising, and research components. Although the SRL document is comprehensive, Morocco has requested additional financial support to address remaining gaps and fully align with national legal requirements for coastal planning.

14. The National ICZM Strategy for Lebanon and the Integrated Management Plan for Damour were presented by Mr. Adel Yacoub, PAP/RAC NFP, representative of the Ministry of Environment of Lebanon, both activities implemented under the GEF MedProgramme's Child Project 2.1. Lebanon's coastal zone, representing only 8% of the country's area yet hosting over half of the population and industrial activity, faces acute environmental degradation, regulatory fragmentation, and governance challenges. The government ratified the ICZM Protocol in 2017 and has since worked to align legal and institutional frameworks with its principles. The current initiative focuses on updating the 2015 National ICZM Strategy and drafting the ICZM Law, with progress including completing a diagnostic analysis, stakeholder interviews, and the first drafts of the strategy and law updates. An interdisciplinary team is leading this process, emphasising climate resilience, spatial planning, biodiversity protection, and participatory governance. A dedicated coastal platform (<https://lebanoncp.com/>) supports transparency and data sharing. The parallel development of the Damour IMP integrates water resource management and stakeholder input, with a joint workshop scheduled in July 2025. The finalisation of the strategy and law is expected by Q3 2025, with associated workshops planned. Despite significant national constraints, Lebanon's effort illustrates a structured, multi-layered approach to coastal governance.

15. The Coastal Area Management Programme (CAMP) for Israel was presented online by the Israeli FP, Ms. Yehudit Moseri, due to health reasons, which stopped her from attending the meeting at the last moment. The CAMP is implemented in cooperation with PAP/RAC and the Ministry of Environmental Protection. The initiative, launched following a 2021 agreement, covers the full length of the Israeli coastline and engages all 21 coastal authorities. Its overarching objective is to establish mechanisms and build capacity for implementing ICZM at the local level. A range of national policies supports the effort, including a National Outline Plan for the coastal zone and a Marine Spatial Policy. Key components include a comprehensive ICZM capacity-building course, the development of a practical planning and management guide based on ICZM principles, and tools to address climate change. The programme introduced a climate adaptation workshop series and published a dedicated booklet with recommendations for both local and national authorities. Notably, a national contest on sustainable beach amenities fostered innovation aligned with coastal resilience goals. Further actions addressed sustainable tourism, including guidelines for marine sports and lighting design in coastal areas. Additionally, Israel contributed to the regional effort to monitor land cover change using the CCI25 indicator. The CAMP Israel experience demonstrates a multi-level, stakeholder-inclusive approach with replicable ICZM capacity development and implementation models.

16. Ms. Michelle Borg, PAP/RAC FP for Malta from the Planning Authority, presented the preparatory activities for the CAMP Malta. Following Malta's formal request for assistance during COP 23 in Portorož (2023), and its inclusion in the meeting's decision, preliminary activities commenced in 2024 with coordination between PAP/RAC and national stakeholders. The National Focal Point (NFP) consulted with key government entities, including the Planning Authority, the Ministry for Gozo and Planning, the Environment and Resources Authority, and the Ministry for Environment, Energy and Cleansing. A public call for tenders in June 2024 resulted in selecting AIS Environment to develop the draft Feasibility Study. Extensive communication between the consultants, NFP, and national authorities was undertaken to align project objectives and address identified challenges. The study links CAMP Malta's scope with the country's escalating coastal pressures, driven by a 20% population increase over the last decade and record tourism arrivals exceeding 3.6 million in 2024. Climate change risks and imbalances in coastal access and use were also highlighted. The finalisation of the Feasibility

Study is expected in 2025, with project objectives, activities, and budget to be submitted for approval via the UNEP/MAP system at COP 25. Implementation is planned for 2026–2027.

17. Mr. Emrah Söylemez, National Focal Point from Türkiye, presented the CAMP İzmir Project Feasibility Study. He first introduced the pre-CAMP activities, namely the Maritime Spatial Planning (MSP) training. He continued presenting the project area (i.e. the Izmir Province), rationale and objectives, and the main issues and challenges. Among the proposed activities and expected outcomes he introduced the following: Marine and Land-Use Conflicts: Spatial zoning, GIS-based conflict resolution; Climate Adaptation and Resilience: Identifying vulnerable zones, restoring natural barriers, vulnerability assessment, adaptation strategies; Public Awareness and Community Engagement: Education programs, capacity building; Monitoring and Evaluation: Indicator-based monitoring, GIS and remote sensing tools; and establishment of the stakeholders and governance mechanism. He concluded with the timeline that envisages the signing of the CAMP Agreement in early 2026 and its implementation during 2026-2027.
18. Proposals for the governance framework in Tunisia were presented by Ms. Raja Abdelmalek, representative of the APAL from Tunisia, aiming to establish a national coordination mechanism for the implementation of ICZM, aligning with its 2020–2025 national ICZM strategy. With 70% of the population, 76% of tourism, and 87% of industrial activity concentrated along the coast, the need for an integrated, multi-sectoral governance framework is critical. The strategy's four axes focus on legal development (notably, Tunisia ratified the ICZM Protocol in November 2022), governance platform establishment, capacity building, and monitoring mechanisms. Comparative analysis with other ICZM Protocol signatories informed the institutional design. Two main options were proposed: (1) a subcommittee under the existing National Commission for Sustainable Development (CNDD), and (2) a newly established high-level ICZM authority under the Presidency. The preferred option is the creation of a “National ICZM Committee” within the CNDD, with broadened membership beyond ministries to include local authorities, national agencies, and civil society. A consultative council is also proposed to support coordination, knowledge exchange, and progress tracking. This structure aims to enhance intersectoral integration, foster ecosystem-based planning, and improve land-sea interaction management. The proposal reflects a strategic, participatory, and legally grounded approach to institutionalising ICZM in Tunisia.
19. The legal and governance frameworks for ICZM in France were presented by Ms. Emmanuelle Thiesse, from the Directorate-General for Spatial Planning, Housing and Nature (France). She outlined the evolution of the legal and governance framework for ICZM, emphasizing the shift from policy to practical implementation. Following the 2021 Climate and Resilience Law, the country has strengthened its strategic and legal tools, such as national and local coastal retreat maps, the update of the national strategy for integrated coastal zone management, and a “toolbox” of legal, planning, and financial instruments to support spatial reconfiguration. The French coastline, characterized by a diversity of coastal types and significant socio-economic pressures, is increasingly exposed to risks such as erosion, sea-level rise, and overdevelopment. The revised national strategy for coastal zone management (2025–2030), which is expected to be adopted by decree in summer 2025, sets out five strategic priorities: Deepening and sharing knowledge, engaging territories in an adaptation pathway, mobilizing adaptation tools, involving and raising awareness among stakeholders, financing coastal adaptation. France promotes participatory governance and nature-based solutions through

mechanisms such as the national shoreline observatories network, project-based partnerships, and locally adapted coastal strategies tailored to regional and local contexts. The *Basse Vallée de la Saône 2050* project in Normandy illustrates integrated planning by combining ecological restoration, infrastructure relocation, and stakeholder engagement. This approach highlights spatial adaptation as a response to climate challenges and underscores the importance of local leadership, coordinated financing, and legal innovation for resilient coastal management.

20. Mr. Marko Prem, Deputy Director and Ms. Marina Marković, Senior Programme Officer at PAP/RAC, presented the integration of TB EIA/SEA within the Barcelona Convention (BC) framework. They highlighted the importance of environmental assessments for protection and outlined PAP/RAC's activities related to this topic, including drafting guidelines, conducting feasibility studies, preparation of the legal study and in particular conclusions from the regional consultation meeting (6 February 2025), i.e. a two-step approach involving guidelines preparation and potential legally binding instruments. Strengthening CPs' capacities in dealing with such assessments was underlined, including, among other activities, to enhance capacity in synergy with global and regional mechanisms, involving national experts and authorities, information sharing, training programs, regional events, knowledge sharing portals and pilot assessments.
21. The meeting congratulated PAP/RAC on these studies and the implemented process. Countries mentioned they were willing to build capacity in this field, but nothing should be legally binding. The Italian Focal Point expressed gratitude and satisfaction with the outcomes of this activity, which they consider highly important and are supporting through financial contributions. He emphasised the significance of these processes and tools, highlighting their fundamental role in supporting other key frameworks, such as Marine Spatial Planning (MSP). The Libyan Focal Point highlighted the complex technical challenges encountered while attempting to follow the ESPOO procedure. He therefore emphasised the critical importance of capacity-building support to ensure effective implementation. The Israeli Focal Point stressed that, in the absence of specific SEA legislation in Israel, it is essential to maintain the non-binding nature of the activity. She underlined the importance of capacity building and exchanging experiences among countries.
22. Marine Spatial Planning (MSP) related activities were presented by Ms. Marina Marković, PAP/RAC Senior Programme Officer. She provided an overview of recent regional developments in MSP under the Barcelona Convention framework, following the adoption of Decision IG.26/10 at the 23rd Meeting of the Contracting Parties (2023). This decision endorsed a Conceptual Framework for MSP in the Mediterranean and called for its implementation through a dedicated MSP workspace, capacity-building efforts, and a regional MSP Working Group (WG). Following its adoption, the group was convened, comprising national representatives with technical expertise. Four meetings have been convened to date—two in person and two online—with the initial sessions contributing directly to the MSSD update and the latest focusing on a position paper for advancing MSP in the framework of the Barcelona Convention as well as terms of reference for the WG. The position paper outlines the current MSP landscape, including the achievements, challenges and gaps, highlights regional mechanisms (e.g. WestMED, UfM, EUSAIR), and identifies governance and practical implementation priorities. Recommendations include strengthening regional dialogue, capacity building, advancing tools and methodologies, information sharing, supporting national MSP processes, and implementing pilot activities. The presentation also highlighted the relevant regional projects addressing mainstreaming

biodiversity and climate goals into MSP and supporting a sustainable blue economy through MSP. National activities in Albania and Türkiye were also referenced, showcasing how regional and national efforts are increasingly aligned to advance sustainable blue economy and ecosystem-based marine planning and management. She concluded her presentation by soliciting PAP/RAC focal points to assist MAP in nominating pending representatives for the MSP group.

23. Awareness Raising Activities implemented under the Mediterranean Coast Day campaign were presented by Ms. Veronique Evers, PAP/RAC Programme Officer. She reminded the meeting that there were two components to the celebration: the first one being the live event, which this year will be organised in Tunisia, and the second being the online campaign, to which all countries are invited to contribute to promote their Ministries and institutions in charge of coastal management. For this purpose, PAP/RAC will send a questionnaire to the focal points. Based on the inputs that will be provided, short texts will be elaborated by the communication team.
24. Following the presentation of Mrs Evers, Mrs Raja Abdelmalek, Tunisian representative, confirmed that Tunisia was happy to organise the event this year. At this occasion, the preliminary results of an MSP pilot activity starting in May 2025 in the island of Djerba with a local NGO would be presented. She told the meeting that Coast Day was only one of the numerous activities the country was implementing this year. A pilot project will be launched in the Sagia coastal region to conduct a participatory assessment of the area, including zoning of vulnerable zones and maritime uses. It will involve experts, a local NGO, and community members through workshops and school educational activities. A seagrass restoration action may also be undertaken. Also, a strategic effort will be initiated to define the main directions of the ICZM Strategy for 2026–2030. This will include an evaluation of the current strategy, the integration of MSP consideration in the ICZM Strategy, an update of the stakeholder analysis, and the proposal of an integrated governance model. The Tunisian representative also asked PAP/RAC to support elaborating a new ICZM strategy for 2026 – 2030.
25. In the discussion that followed, a question was raised on the procedure for the nomination of the International Coast Day. Mr. Mavroeidis explained that the process is complex, but a decision should first be taken at the COP level, and then one country should take the lead and propose it at the UN assembly. Drawing a relevant conclusion from this meeting related to Coast Day was proposed. Another clarification was asked on the definition of 'institution' as this year's Coast Day topic. Ms. Evers provided clarification that, in addition to the ministries and national level administration, NGOs and other institutions (academia, research, etc), which contribute significantly to coastal zone management, can be involved.
26. Ms. Veronique Evers introduced capacity-building activities. She outlined PAP/RAC's strategic approach to capacity building as an essential contribution to the sustainable management of coastal zones in the Mediterranean. Given the increasing complexity of tools such as ICZM, Marine Spatial Planning (MSP), and IMAF indicators, PAP/RAC has expanded its training offer, combining online courses (notably via the MedOpen platform) with in-person and hybrid formats tailored to national needs. Specialised courses, including recent ones on MSP and the CCI 25 indicator, have already trained numerous experts. The initiative also includes collaboration with academic institutions, such as the Virtual University of Syria, and national workshops in countries like Lebanon, Montenegro, and Tunisia.

The dual objective is to harmonise regional practices and strengthen local expertise, building more resilient and inclusive coastal governance across the Mediterranean.

27. A question was raised in the discussion related to the formal recognition of the MedOpen course for the students. Ms. Evers explained that PAP/RAC has signed MoUs with two universities (Morocco and Algeria), where the course is recognised as official.
28. The conference on Nature-based Solutions for Coastal Protection and Resilience was presented by Ms. Yiota Lazarou, PAP/RAC FP from the Republic of Cyprus. She said that the preparation of this capacity-building event was inspired by the "Workshop on the draft Guidelines on NbS for adaptation to climate change in different coastal typologies" organised by PAP/RAC in Rome, Italy, in March 2024. She stated that her country is currently focused on hard infrastructure for coastal protection and the need for soft measures that could stop the destruction of valuable coastal areas. The conference's objectives were to inform stakeholders about the importance of NbS for coastal protection and resilience and to emphasise the implementation of the ICZM Protocol, which has not yet been ratified in Cyprus, but efforts are being made towards ratification. The conference was organised through the Pandoteira project. Among the main keynote speeches, she mentioned presentations on the ICZM Protocol, guidelines on NbS, examples of coastal adaptation measures, and challenges for Cyprus' coastal infrastructure. There was very positive feedback from the participants, but she regretted that coastal municipalities had not attended this event. She informed the meeting that the NbS Guidelines document is being translated from English to Greek and that her country plans to organise a beach clean-up and information day event for the Coast Day in September 2025.
29. Capacity-building activities, including the one in Cyprus, where several diverse stakeholders participated, were very much welcomed. The problem of no participation by the municipalities where the major works occur raised some questions and proposals on how to get them involved (e.g., lobbying). Also, one representative elaborated on the issue of the decision makers' long-term and short-term processes and objectives. However, he believes it would be a good solution if the responsibility of not taking action for challenges today had financial implications. Another comment related to the NbS was that NbS is not a miracle and that such solutions must be combined with other options for long-term stability and resilience of coastal areas. The DesirMED project, which focuses on governance and financing, was mentioned, where the experience of establishing a partnership and advisory committees for implementation purposes may secure better integration. Through coastal plans, such coordination and governance mechanisms can be established to ensure the long-term continuity, despite the short-term cycles of elected policymakers.
30. MSP training in Türkiye, Ankara, June 2024 was presented by Mr. Emrah Söylemez, PAP/RAC FP for Türkiye, who introduced an overview of national efforts to strengthen MSP capacities, highlighting a structured training initiative developed under the coordination of the Ministry of Environment, Urbanisation and Climate Change. Recognising the strategic importance of MSP for sustainable marine and coastal governance, the training programme targeted 37 national and local experts from 20 institutions. The initiative aimed to raise awareness, build technical capacity, and support the practical implementation of MSP principles in line with international frameworks, including the ICZM Protocol. The presentation outlined the key training modules addressing governance, ecosystem approach, data management, land-sea interactions, climate change integration, and funding opportunities. Presented case studies from Mediterranean and Black Sea countries, lively discussions, and a practical MSP

challenge exercise were utilised to ensure effective learning. This workshop enhanced the technical and strategic understanding of MSP in Türkiye, created a foundation for regional cooperation and opened dialogue on institutional integration of MSP and ICZM, sectoral coordination under a sustainability framework and application of international best practices in Türkiye's coastal and marine planning. The presentation underscored the relevance of ongoing capacity-building as a cornerstone for informed marine governance and cross-sectoral collaboration.

31. Participants congratulated Türkiye on the successful and well-focused training initiative, expressing interest in how the knowledge gained from such events can be effectively applied in practice. Mr. Söylemez affirmed his confidence that participants have brought valuable insights from the training back to their institutions, which he believes will positively contribute to the ongoing preparation and implementation of MSPs in Türkiye. The Lebanese Focal Point expressed a strong interest in organising a similar training programme in Lebanon, recognising its potential to enhance national capacity in MSP.

Agenda item 4: Programme of Work for the biennium 2026-2027

32. The PAP/RAC Director briefly introduced the procedure for finalising the PAP/RAC PoW and its adoption as a part of the consolidated UNEP/MAP PoW. She presented the proposed 2026-2027 PoW structured according to the UNEP/MAP MTS 2022-2027 and considered the Action Plan adopted within the Common Regional Framework for ICZM by COP 21 (Naples, Italy, December 2019). The proposed PoW contributes to six MTS programmes, namely: P2 – Towards healthy Mediterranean ecosystems and enhanced biodiversity; P3 - Towards a climate resilient Mediterranean; P4 - Towards sustainable use of coastal and marine resources including circular and blue economy; P5 - Governance; P6 - Towards monitoring, assessment, knowledge and vision of the Mediterranean Sea and coast for informed decision-making; and P7 - For informed and consistent advocacy, awareness, education, and communication. The PowerPoint presentation is available [here](#).
33. Participants agreed that the PoW is ambitious, which is positive as it reflects a clear vision. It was reminded to secure support for the countries that haven't ratified the ICZM Protocol yet. PAP/RAC PoWs have always been ambitious and have consistently delivered results. Therefore, participants strongly supported the PoW and expressed the need to increase the budget necessary for its successful implementation.

Agenda item 5: Conclusions and recommendations of the meeting

34. The conclusions and recommendations, as drafted by the secretariat of the meeting and adopted by the participants, are given in Annexe III to this report.

Agenda item 6: Closure of the meeting

35. The Chair thanked PAP/RAC for organising the meeting and the participants for contributing to the deliberations.

36. The Director of PAP/RAC expressed her gratitude to all participants for their active engagement and valuable contributions, which were instrumental to the success of the meeting. She emphasised that PAP/RAC would continue to seek their views and input, as the Centre's effectiveness and productivity rely on its partners' ongoing collaboration and support. She also thanked the PAP/RAC team for their dedication and the interpreters and technical staff for their efficient and professional assistance.
37. The Chair declared the meeting closed on 7 May 2025 at 13:30 hours.

ANNEXE I

List of participants

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ANNEXE II

Agenda

Tuesday, 6 May 2025

9:00 – 09:30 ¹	Registration of participants.
09:30 – 09:45	Agenda item 1: Opening and organisational matters Opening of the meeting: welcome addresses, objectives and programme, organisational matters, Provisional agenda (by Tatjana Hema, UNEP/MAP and Daria Povh Škugor, PAP/RAC).
09:45 – 10:30	Agenda item 2: Progress Report for the period 2024-2025 (20' presentation by Daria Povh Škugor, PAP/RAC). Discussion.
10:30 – 11:15	Agenda item 3: Presentation of the main activities - IMAP implementation: CORMON Coast and Hydrography and contribution for EcAp Coordination Group (15' by Marko Prem, PAP/RAC); - GEF MedProgramme Child Project 2.1 and SCCF (15' by Daria Povh Škugor, PAP/RAC). Discussion.
11:15 – 11:30	Coffee break.
11:30 – 13:00	Presentation of the main activities (cont.): National Coastal Strategies, Plans and Programmes: - Coastal Plan for the Boka Kotorska Bay, Montenegro (15' by PAP/RAC FP for Montenegro); - Coastal Plan for the Tanger-Tetouan-Al Hoceima Region, Morocco (15' by Farah Abdelilah / Naoual Zoubair, PAP/RAC FP for Morocco); - National ICZM Strategy for Lebanon and Integrated Management Plan for Damour (20' by Adel Yacoub, PAP/RAC FP for Lebanon); Discussion.
13:00 – 14:00	Lunch break.
14:00 – 15:00	Presentation of the main activities (cont.): CAMP results: - CAMP Israel (15' by Yehudit Mosseri, PAP/RAC FP for Israel). CAMP preparatory activities: - CAMP Malta (15' by Michelle Borg, PAP/RAC FP for Malta); - CAMP Türkiye (15' by Emrah Söylemez, PAP/RAC FP for Türkiye). Discussion.

¹ EET (Eastern European Time) UTC/GMT +2 hours.

15:00 – 15:45	Governance, Legal and Institutional Frameworks - Proposal for governance framework in Tunisia (15' by Raja ABDELMALEK, APAL, Tunisia); - From Policy to Practice: Legal and Governance Frameworks for ICZM in France (15' by Emmanuelle Thiesse, General Directorate of Planning, Housing, and Nature, France). Discussion.
15:45 – 16:00	Coffee break.
16:00 – 16:30	Integration of Transboundary EIA/SEA in the context of the BC and its Protocols. (15' by Marko Prem & Marina Marković, PAP/RAC). Discussion.
16:30 – 17:00	Marine Spatial Planning related activities (15' introduction by Marina Marković, PAP/RAC). Discussion.

Wednesday, 7 May 2025

9:00 – 09:30	Awareness Raising – Mediterranean Coast Day (15' introduction by Veronique Evers). Discussion.
09:30 – 10:00	Capacity Building activities (10' introduction by Veronique Evers). - Conference on Nature-based Solutions for coastal protection and resilience, Cyprus, October 2024 (10' by Yiota Lazarou, PAP/RAC FP for Cyprus); - MSP training in Türkiye, Ankara, June 2024 (10' by Emrah Söylemez, PAP/RAC FP for Türkiye). Discussion.
10:00 – 11:30	Agenda item 4: Programme of Work for the biennium 2026-2027 (15' introduction by Daria Povh Škugor, PAP/RAC). Discussion.
11:30 – 12:00	Coffee break.
12:00 - 12:30	Agenda item 5: Any other matters
12:30 - 13:30	Agenda item 6: Conclusions and recommendations Introduction by PAP/RAC, discussion and adoption.
13:30	Closure of the meeting.

ANNEXE III

Conclusions and recommendations

1. The meeting takes note of the progress achieved in implementing the PAP/RAC Programme of Work (PoW) in the current biennium, acknowledging the quality and variety of activities implemented, which are all in line with the UNEP/MAP Medium-Term Strategy (MTS) for 2022-2027 adopted by COP 22 (Antalya, Türkiye, December 2021) as well as with the Action Plan for the implementation of the ICZM Protocol in 2020-2027 adopted by COP 21 (Naples, Italy, December 2019).
2. The meeting takes note of the slow ratification process for the ICZM Protocol in several Contracting Parties (CPs) and invites all other CPs that have not yet started the process of ratification to start the ratification procedure.
3. The meeting finds very useful and interesting the presentations of both region-wide initiatives (e.g., GEF MedProgramme, EcAp/IMAP, MSP Working Group, EU HORIZON projects) and national-level activities (e.g. CAMPs, coastal plans, national ICZM strategy, capacity building initiatives, etc.), the modality of work and results of which can serve as an inspiration for future similar activities around the Mediterranean region. Presentations of the projects implemented by the beneficiary countries are particularly welcome.
4. The meeting appreciates the efficient use and combination of several funding sources complementing the MTF funding for implementing ICZM, such as GEF MedProgramme, EU funding instruments and voluntary contributions by some CPs.
5. The meeting welcomes the work carried out within the GEF MedProgramme, highlighting the importance of the Guidelines for Coastal Plans to be finalised.
6. The meeting appreciates the work carried out on the contribution of the Coast and Hydrography Cluster to the EcAp/IMAP revision process. It specifically recommends including Candidate Common Indicator (CCI) 25 on land cover change in the list of IMAP Common Indicators (CIs) and further simplifying the guidance factsheet for CI 15 on hydrography. The meeting also supports the inclusion of the proposed climate-related indicators as candidate indicators in the IMAP indicator list, as well as the proposed role of PAP/RAC Focal Points in the implementation of the IMAP/EcAp policy, as it helps clarify the workflow between CORMONs and other MAP decision-making bodies.
7. The meeting welcomes the progress made in implementing the Decision on applying MSP in the Mediterranean. In particular, it acknowledges the establishment of the Working Group on MSP. It recognises the group's significant achievements, notably its support to the MSSD process and its contribution to preparing the Position Paper for Advancing MSP in the Mediterranean. The meeting encourages the continued work of the MSP Working Group and expresses its commitment to supporting the nomination process for the remaining members. It also acknowledges the MSP-related activities undertaken at the national level and encourages further efforts in this regard. Albania and Lebanon expressed interest in this activity, particularly for capacity building.
8. The meeting recognises the particular importance of environmental assessment, especially in a transboundary context of the Mediterranean. It therefore appreciates the activities carried out by the Centre during the current biennium and supports the proposed steps to advance

transboundary EIA/SEA further, as concluded at the regional consultation meeting held in Athens on 6 February 2025, to be reflected in the relevant decision at the next COP. The meeting also encourages the CPs to participate in this process actively.

9. The meeting supports the presented Programme of Work (PoW) as being positively ambitious, highlighting the importance of PAP/RAC's role in future actions, especially having in mind the need to steer the ICZM process from planning, through monitoring, towards designing and implementation. Therefore, the meeting endorses the inclusion of the activities proposed by PAP/RAC in the consolidated UNEP/MAP PoW for the biennium 2026-2027 and recommends them for endorsement by the meeting of MAP NFPs.
10. The meeting recommends enhancing PAP/RAC in terms of human and financial resources, from MTF and other financial sources, particularly to strengthen activities related to implementing the ICZM Protocol, MSP and coastal resilience through climate change adaptation.
11. The meeting encourages PAP/RAC to present its activities at the UNOC, COPs and all other relevant international events.
12. The meeting invites countries to send proposals for hosting the Coast Day in the next biennium.
13. The meeting proposes to the MAP Focal Points and subsequently to the COP to initiate the procedure for nominating the Coast Day as the UN Observance Day.



**Mediterranean
Action Plan**
Barcelona
Convention



28 May 2025
Original: English
UNEP/MED WG.612

Plan Bleu RAC's National Focal Points Meeting

Hybrid (virtual and face-to-face), 27-28 May 2025 - Marseille (France)

Recommendations and conclusions

1. Following the review and discussions of all agenda items, the Meeting of Plan Bleu / RAC National Focal Points ("the Meeting"), held on 27th and 28th May 2025, agreed on the following conclusions and recommendations:

Agenda Item 3: Presentation of Plan Bleu's strategic vision for the coming years including communication means

2. The meeting welcomes the clear presentation on Plan Bleu's strategic vision, which was structured around Plan Bleu's historical themes (water, foresight, indicators, etc.), the Mediterranean Strategy for Sustainable Development (MSSD), and the UNEP/MAP Medium-Term Strategy (2022-2027).
3. The meeting takes note with appreciation of the efforts made by Plan Bleu/RAC's on fundraising, particularly through the European Commission's Interreg Euro-Med cooperation program, to strengthen funding from the Mediterranean Trust Fund, enabling the smooth implementation of the activities included in the program of work and the implementation of Plan Bleu/RAC's general mandates.
4. The meeting welcomes Plan Bleu/RAC's implementation of the UNEP/MAP joint operational communication strategy and Plan Bleu/RAC's own communication activities, with particular mention of the successful use of social media, innovative communication tools such as podcasts, short videos, the "Rendez-vous du Plan Bleu" conference format, and the "Zoom on" publication format. The meeting welcomes the media impact of Plan Bleu/RAC's activities on television, radio, and in the local and international press and encourages Plan Bleu/RAC to continue its communication efforts.
5. The meeting takes note with appreciation of Plan Bleu/RAC's efforts to pay attention to the use of languages other than French and English in its messages. The meeting welcomes Plan Bleu/RAC's efforts to publish several deliverables in Arabic, such as the Med2050 flyer, some publications, and a series of posts on Twitter and LinkedIn. The meeting also recognizes the usefulness of the Med2050 flyers in Greek, Spanish, and Italian.
6. The meeting congratulates Plan Bleu / RAC for its relevant publications during this biennium.

Agenda Item 4: Overview of Plan Bleu's activities 2024 - 2025 alongside with presentation and discussion of proposed activities for 2026 - 2027, per cluster of activities

7. The meeting welcomes the important work carried out on the quantitative assessment of the MSSD based on the 28 indicators to monitor its implementation during the period 2016-2025 and the importance of prioritizing Goal 4, "adaptation to climate change," as Goal 1. This work contributes to the entire revision of the MSSD, which will be submitted for approval at COP 24 (Cairo, Egypt).
8. The meeting takes note with appreciation of the great progress made in monitoring the MSSD dashboard, particularly the further work to improve communication on the state of the environment and development through the 10 core sustainable indicators including the demography evolution appearing as a key driver at the regional level.
9. The meeting emphasizes the need for more cooperation with other RACs, especially INFO/RAC for simplifying the monitoring of the state of the environment and development. The meeting also emphasizes the need for more synergies with existing regional monitoring programmes, such as IMAP as well as the need for more synergies between executing partners (RACs) in joint activities in the UNPE/MAP Programme of work.
10. The meeting encourages Plan Bleu/RAC to continue supporting the Contracting Parties in developing MSSD indicators to monitor complementary topics such as water resources, air pollution, harmful subsidies, fisheries and food security index as well as plastic pollution in collaboration with MedWAVES-SCP/RAC and MedPOL; and to visualize the information on Plan Bleu regional observatory. The meeting emphasizes the need for approval the calculation methodologies used for the

selected indicators, particularly concerning the plastic topic. The meeting encourages Plan Bleu to develop a nexus approach to address complex and crosscutting issues.

11. The meeting takes note with appreciation of the progress made in further developing the Mediterranean Environment and Development Observatory hosted on UNEP's platform (the World Environment Situation Room - WESR), and the accessibility of information through the MapX's interactive features to visualize information and data (geospatial and statistical).
12. The meeting requests Plan Bleu/RAC to strengthen its observatory by organizing capacity-building workshops to train country representatives (GIS specialists) on MapX as well as capacity-building workshops on the use of MapX functionalities. The meeting also requests Plan Bleu/RAC to broader communicate the deliverable from its Observatory and methods used.
13. The meeting congratulates Plan Bleu/RAC for its ongoing efforts to integrate data and information (maps and statistics) from various Plan Bleu projects into the regional observatory.
14. The meeting takes note with appreciation of the important foresight exercise carried out under the leadership of Plan Bleu/RAC within the framework of MED 2050 and encourages Plan Bleu/RAC to organize workshops for the dissemination and replication of MED 2050 results at the regional and national levels on specific themes, particularly water resources.
15. The meeting emphasizes the particular relevance of MED 2050 results (such as adaptation to climate change, cooperation among countries and need for financial resources) for the revision of the MSSD 2016-2025.
16. The meeting welcomes the Plan Bleu/RAC's work on climate and environmental change and the related science-policy interface, and highlights the particular importance of food and water security for future work. The meeting also notes with appreciation of Plan Bleu/RAC's work on territorial climate change adaptation activities through participatory foresight in several Mediterranean countries and encourages its continuation and replication.
17. The meeting notes with satisfaction the renewal of MedECC governance and the launching of MAR2.
18. The meeting supports Plan Bleu/RAC's continued efforts to fund the MedECC Secretariat since January 2021 and encourages Plan Bleu/RAC to continue its efforts to host the MedECC Secretariat and mobilize funds to ensure the continuity of this important science-policy interface, through the UNEP/MAP system. The meeting takes note with appreciation of the ongoing support provided by the Contracting Parties and further encourages other partners to contribute to the work of MedECC, including through funding.
19. The meeting appreciates the quality of the work carried out by Plan Bleu/RAC on water, a vital resource heavily impacted by climate change and uses. The meeting encourages Plan Bleu/RAC to expand its work on the "great" and "small" water cycles (in implementing study of investment gaps, indicators, and territorial foresight).
20. The meeting welcomes the publications of Plan Bleu/RAC on biodiversity protection, developed in partnership with MAP components and partners, and further encourages Plan Bleu/RAC to organize workshops to share best practices.
21. The meeting welcomes Plan Bleu/RAC's activities on integrating nature-based solutions into regional policy implementation, including for climate change adaptation and mitigation; and further encourages Plan Bleu/RAC to continue its work on governance and advocacy for ecosystem restoration, Posidonia, and nature.
22. The meeting recommends the Secretariat to ensure close coordination of all activities among the relevant RACs, particularly regarding work on nature-based solutions, ensuring the involvement and complementarity of the RACs, according to their respective mandates and expertise, for effective action and efficient implementation of activities. In this regard, the meeting encourages Plan Bleu/RAC

to further develop its related contributions in the areas of capitalization, governance, and socio-economic aspects.

23. The meeting encourages Plan Bleu/RAC to continue its work on sustainable forest management in conjunction with integrated water resource management. The meeting takes note with appreciation of Plan Bleu's proposals to organize a possible SIMPEER exercise for voluntary Contracting Parties.
24. The meeting takes note with appreciation of Plan Bleu/RAC's work at the pilot destination level to strengthen the sustainability of the tourism sector in the Mediterranean, the world's leading tourism destination. The meeting also requests Plan Bleu/RAC to consider the role of small and medium-sized enterprises (SMEs) and local communities to contribute to more sustainable tourism-related activities.
25. The meeting requests Plan Bleu/RAC to launch a study on tourism-related activities' impacts on the environment such as water consumption, waste generation, use of renewable energy, food withdrawal, coastal erosion.
26. The meeting takes note with appreciation of Plan Bleu's planned activities on sustainable and climate-resilient cities, including the role of Nature-Based Solutions (NBS) as well as Culture-Based Solutions (CBS) in making cities and communities more resilient in a context of climate change.
27. The meeting takes notes with appreciation of Plan Bleu/RAC's implementation of activities and numerous results related to sustainable finance, including Act 1 on the identification (and progressively phasing out) of environmentally harmful subsidies and Act 2 on virtuous/green economic tools. The meeting further encourages Plan Bleu/RAC to continue its work in this topic, particularly towards Act 3 on blended finance and Corporate Social Responsibility, and finally Act 4 on common guidelines to lay the ground for national taxonomies on sustainable finance.
28. The meeting encourages Plan Bleu/RAC to include the development of sustainable finance indicators in the UNEP/MAP 2026-2027 work programme and to formally identify the Mediterranean region as a pilot region on this topic.
29. The meeting requests Plan Bleu/RAC to involve more frequently National Focal Points (in person and remotely) in contributing to Plan Bleu's Programme of work implementation.

Agenda Item 5: Other elements of the proposed Programme of Work 2026 - 2027, in particular new topics proposed

30. The meeting appreciates Plan Bleu/RAC's efforts to include new topics in its programme of work, particularly around the "One Health" approach, and further encourages Plan Bleu/RAC to continue identifying emerging topics to be integrated into future programmes of work as a regional "think tank".
31. The meeting requests the Secretariat and Plan Bleu/RAC to continue their fundraising efforts to ensure a full implementation of the proposed activities as approved by the upcoming MAP Focal Points Meeting and COP24.

Agenda Item 8: Concluding session

32. The meeting welcomes Plan Bleu/RAC's proposal for cross-cutting involvement in the seven programs of the proposed 2026-2027 Program of work and the 2022-2027 Medium-Term Strategy, in line with Plan Bleu/RAC's cross-cutting mandate and in cooperation with other MAP components and partners.
33. The meeting agreed to include the proposed activities in the UNEP/MAP 2026-2027 programme of work, with a view to its finalization and submission to the MAP focal points.

**MEDITERRANEAN ACTION PLAN (MAP)
REGIONAL MARINE POLLUTION EMERGENCY RESPONSE CENTRE FOR THE
MEDITERRANEAN SEA (REMPEC)**

The Sixteenth Meeting of the Focal Points of the Regional
Marine Pollution Emergency Response Centre for the
Mediterranean Sea (REMPEC)

REMPEC/WG.61/12
13 June 2025
Original: English

Sliema, Malta, 13-15 May 2025

REPORT

**SIXTEENTH MEETING OF THE FOCAL POINTS OF THE
REGIONAL MARINE POLLUTION EMERGENCY RESPONSE CENTRE FOR THE
MEDITERRANEAN SEA (REMPEC)**

Sliema, Malta, 13-15 May 2025

For environmental and cost-saving reasons, this document will not be printed and is made available in electronic format only. Delegates are encouraged to consult the document in its electronic format and limit printing.

INTRODUCTION

1.1 The Sixteenth Meeting of the Focal Points of the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC), hereinafter referred to as “the Meeting”, was convened in Sliema, Malta, from 13 to 15 May 2025, to the pursuant Programme of Work (PoW) and Budget for 2024-2025 of the Mediterranean Action Plan (MAP) of the United Nations Environment Programme (UNEP), also referred to as “UNEP/MAP”, adopted by the Twenty-third Ordinary Meeting of the Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (“the Barcelona Convention”) and its Protocols (COP 23) (Portorož, Slovenia, 4-8 December 2023).

1.2 The principal objectives of the Meeting were:

- .1 to review the implementation and deliverables by REMPEC pursuant to the approved UNEP/MAP PoWs and Budgets for the biennia 2022-2023 and 2024-2025, since the Fifteenth Meeting of the Focal Points of REMPEC (Kappara, Malta, from 13 to 15 June 2023); and
- .2 to discuss and agree upon the activities and deliverables of the draft UNEP/MAP PoW for the biennium 2026-2027, as proposed by REMPEC, prior to their submission, for approval by the next meeting of the UNEP/MAP Focal Points (Athens, Greece, 16-19 September 2025), and for adoption by the Twenty-fourth Ordinary Meeting of the Contracting Parties to the Barcelona Convention and its Protocols (COP 24) (Cairo, Egypt, 2-5 December 2025).

1.3 Considering the scope of the Meeting, all REMPEC Governmental Focal Points were invited to nominate jointly and, in consultation with their respective REMPEC Prevention Focal Points and REMPEC OPRC Focal Points, their representatives to the Meeting. The participation of observers representing the oil, chemical, port and shipping industries in national delegations was strongly encouraged. The invitation to attend the Meeting was also extended to the specialised agencies of the United Nations, other governmental and non-governmental organisations, as well as to the international professional organisations and associations, the activities of which were relevant to the work of the Centre.

1.4 The Meeting was attended by delegations from the following Contracting Parties to the Barcelona Convention:

BOSNIA AND HERZEGOVINA
CROATIA
CYPRUS
EGYPT
EUROPEAN UNION
FRANCE

LIBYA
MALTA
MONACO
MONTENEGRO
MOROCCO
SLOVENIA

GREECE
ITALY
LEBANON

SPAIN
TÜRKIYE

by a representative from the following organisations of the United Nations:

- INTERNATIONAL MARITIME ORGANIZATION (IMO)

by representatives from the following inter-governmental organisation:

- INTERNATIONAL OIL POLLUTION COMPENSATION FUNDS (IOPC FUNDS)

by representatives from other organisations:

- ADRIATIC TRAINING AND RESEARCH CENTRE FOR ACCIDENTAL MARINE POLLUTION PREPAREDNESS AND RESPONSE (ATRAC)
- BIRDLIFE MALTA
- CENTRE OF DOCUMENTATION, RESEARCH AND EXPERIMENTATION ON ACCIDENTAL WATER POLLUTION (CEDRE)
- CENTRAL EUROPEAN INITIATIVE EXECUTIVE SECRETARIAT (CEI)
- CITTADINI PER L'ARIA
- EUROPEAN MARITIME SAFETY AGENCY (EMSA)
- ITALIAN FEDERATION OF THE CHEMICAL INDUSTRY (FEDERCHIMICA)
- INTERNATIONAL OCEAN INSTITUTE (IOI)
- ITOPF LIMITED
- MALTA INTERNATIONAL SHIPOWNERS' ASSOCIATION (MISA)
- NATURE TRUST FEE MALTA
- OCEANCARE LTD.
- SEA ALARM
- SECRETARIAT OF THE UNION FOR THE MEDITERRANEAN
- WESTMED

1.5 A complete list of participants is set out in **Annex I**.

OPENING OF THE MEETING

1.6 The Meeting was opened by Mr. Ivan Sammut, Head of Office of REMPEC. He welcomed the participants and set out the objectives for the Meeting, presenting an overview of the main achievements of REMPEC since the previous meeting and highlighting the main issues to be addressed over the course of the Meeting. He expressed gratitude to the Contracting Parties for their continued support, to Malta for its long-standing hospitality as host country, and to the REMPEC team for their dedication. It was highlighted that the Meeting was an important opportunity to review progress, enhance regional cooperation, and define future actions in preventing and responding to marine pollution. Key achievements over the past biennium were acknowledged, including the successful effective application of the Mediterranean Sulphur Oxide Emission Control Area (Med SO_x ECA) on 1 May 2025—an important step toward improving air quality and advancing sustainable maritime transport. Ongoing capacity-building efforts, progress in addressing emerging risks such as biofouling and decarbonisation, and strengthened partnerships were also underlined.

1.7 Ms. Patricia Charlebois, Deputy Director, Marine Environment Division, IMO, provided some opening remarks. In highlighting the importance of the Mediterranean Sea for the region, she stressed the critical role that REMPEC has played over almost fifty years, underpinned by the longstanding partnership between IMO and the UNEP Mediterranean Action Plan (UNEP/MAP). She further underscored the impact of the anticipated amendments to MARPOL Annex VI at IMO later this year, that will have sweeping impacts for the maritime sector and will provide opportunities and challenges, with REMPEC ready and available to support the implementation of the Net Zero Framework, as the sector moves away from traditional bunker fuels, towards low carbon alternatives.

1.8 Hon. Minister Dr. Miriam Dalli, Minister for the Environment, Energy and Regeneration of the Grand Harbour, welcomed participants to Malta, underscoring the importance of the Mediterranean Sea to all countries in the region and expressing Malta's pride in hosting and promoting the work and principles of REMPEC. The Minister conveyed that the Mediterranean Sea is under pressure from human activity, pollution and climate change, and that in the face of this, regional cooperation was essential to tackling these challenges, with REMPEC and the Focal Points Meeting providing important platforms for facilitating such cooperation. The Minister reaffirmed Malta's commitment to the principles of the Barcelona Convention and its Protocols and pledged ongoing support to and promotion of REMPEC as a key institution for catalysing regional cooperation to address an increasing range of maritime issues that will ensure the sustainable management of the Mediterranean Sea.

ORGANISATION OF THE MEETING

Rules of Procedure

1.9 The Meeting agreed to apply, *mutatis mutandis*, the Rules of Procedure for Meetings and Conferences of the Contracting Parties to the Convention for the Protection of the Mediterranean Sea against Pollution and its related Protocols (UNEP/IG.43/6, Annex XI) to its deliberations.

Election of Officers

1.10 The Meeting unanimously agreed to elect the following officers of the Meeting:

Ms Cristina Farchi (Italy)	Chairperson
Ms Biserka Vištica (Croatia)	Vice-Chairperson
Ms Rehab Abou El Fadl (Egypt)	Rapporteur

Working Languages

1.11 The Meeting noted that the working languages of the Meeting were English and French. Simultaneous interpretation services in both languages were provided during the Meeting. All working documents were made available in both official languages of the Centre, i.e. in English and in French. Information documents were made available in their original language, unless a translation was provided in the second working language.

AGENDA ITEM 1: ADOPTION OF THE AGENDA

1.12 The Chairperson thanked the Meeting for supporting her election and proposed that the Provisional Agenda, as set out in document REMPEC/WG.61/1 and annotated in document REMPEC/WG.61/1/1, be adopted.

1.13 The Meeting adopted the provisional agenda reproduced in Annex II to the present report. The list of documents is set out in Annex III thereto.

AGENDA ITEM 2: PROGRESS REPORT ON REMPEC ACTIVITIES SINCE THE FIFTEENTH MEETING OF THE FOCAL POINTS OF REMPEC

2.1 The Meeting considered the report provided by the Secretariat outlining the progress made in implementing its Programme of Work and the activities carried out over the biennium, as set out in document REMPEC/WG.61/2.

2.2 Having noted the information, the Meeting expressed its appreciation to the Secretariat for the considerable body of work carried out by REMPEC over the biennium and noted, in particular:

- .1 REMPEC's success in securing nearly €1 million, in external funding for capacity-building activities directed to the prevention of, preparedness for, and response to marine pollution from ships, from the Italian Ministry of Environment and Energy Security; the French Ministry for Europe and Foreign Affairs; the European Union, and through IMO's Integrated Technical Cooperation Programme (ITCP);
- .2 the challenges faced stemming from limited staff levels and a high turnover during the 2024-2025 biennium and the measures introduced to ensure the smooth and efficient delivery of work, including the engagement of a Junior Professional Officer financed by the Government of Malta;
- .3 the need for Contracting Parties to advise REMPEC of any changes to the designated focal points across the range of REMPEC's work;
- .4 the efficiencies proposed by REMPEC to the Contracting Parties for more efficient implementation of activities aimed at reducing administrative burdens and optimizing use of financial resources (e.g. timely nomination of participants for activities and ensuring appropriate approvals prior to confirming participation in REMPEC-organised events; last minute travel and visa issues; and the provision of accurate banking information for processing of DSA).

2.3 The delegation of Egypt expressed its thanks to REMPEC and IMO for organising a national workshop on the implementation of MARPOL Annex VI, with a focus on SO_x Emission Control Area (ECA), and to REMPEC and the European Union for the launch of the Marine Litter MED Plus Project, which will allow for enhanced management of marine litter in their selected port.

2.4 The representative of Cyprus expressed its appreciation for the work undertaken, recognizing, in particular, the significance of the entry into force of the Med SO_x ECA. It, however, expressed concern regarding the current staffing levels at REMPEC, recommending consideration be given to strengthening staff capacity, in particular given the anticipated new work related to the Net Zero Framework expected to be adopted at IMO in October 2025 and related challenges arising from the new low carbon alternative fuels, most of which are hazardous and noxious substances.

2.5 The representative of the European Union congratulated the Contracting Parties for the entry into force of the Med SO_x ECA, and REMPEC and IMO for their work in this regard. The delegation further expressed

the need for additional support to facilitate its implementation, in particular to those countries that had yet to ratify MARPOL Annex VI.

2.6 The Meeting concluded on the agenda item by noting the information presented, acknowledging the considerable work carried out over the biennium, and expressing its appreciation for the support provided to REMPEC for capacity building activities by the Mediterranean Trust Fund (MTF), the International Maritime Organisation's (IMO) Integrated Technical Cooperation Programme (ITCP), the discretionary voluntary contributions from the French Ministry for Europe and Foreign Affairs and the Italian Ministry of Environment and Energy Security (MASE) and the European Union.

AGENDA ITEM 3: DEVELOPMENTS WITHIN MAP RELATED TO THE OBJECTIVES AND FUNCTIONS OF REMPEC

3.1 No documents were submitted under this agenda item.

AGENDA ITEM 4: DEVELOPMENTS WITHIN IMO RELATED TO THE OBJECTIVES AND FUNCTIONS OF REMPEC

4.1 The representative of the International Maritime Organization (IMO) introduced document REMPEC/WG.61/4, providing a summary of the latest developments within the IMO in the fields of prevention of, preparedness for and response to marine pollution from ships. The Meeting noted, in particular, the work of the IMO Marine Environment Protection Committee (MEPC) and the Sub-Committee on Pollution Prevention and Response (PPR), as well as the recent activities implemented under IMO's Integrated Technical Cooperation Programme as set out in document REMPEC/WG.61/INF.21.

4.2 The representative of the International Oil Pollution Compensation Funds (IOPC Funds) presented document REMPEC/WG.61/4/1, providing information on the latest developments related to compensation for ship-source pollution damage and the work of the IOPC Funds since the last Meeting of the Focal Points of REMPEC. The representative shared information on recent incidents it had been involved in, the implications of recent developments and decisions of the IOPC Funds' governing bodies, as well as resulting output of the Organisation during that period. The representative also highlighted the recent update of an Memorandum of Understanding related to standardized rates for the utilisation of EU response vessels and response resources in the event of a pollution incident. The representative also covered relevant insurance and Hazardous and Noxious Substances (HNS) issues, and made reference to the online claims submission system, available promotional materials and new publications.

4.3 The Meeting welcomed the information presented by both IMO and the IOPC Funds on recent developments of interest to the work of REMPEC.

AGENDA ITEM 5: IMPLEMENTATION OF THE MEDITERRANEAN STRATEGY FOR PREVENTION OF, AND RESPONSE TO MARINE POLLUTION FROM SHIPS (2022-2031) AND ITS ACTION PLAN

5.1 The Meeting recalled that the Mediterranean Strategy for the Prevention of, Preparedness, and Response to Marine Pollution from Ships (2022–2031) (Mediterranean Strategy), adopted at COP 22 in December 2021, through Decision IG.25/16, remains central to achieving its vision of “a clean and healthy Mediterranean marine and coastal environment with a sustainable and pollution-free maritime sector.”

5.2 The Meeting noted that there were three documents to be considered under this agenda item as follows:

1. Progress on the implementation of the Mediterranean Strategy (REMPEC/WG.61/5);
2. Consideration of the Draft Guidance on the Preparation of NAPs (REMPEC/WG.61/5/1);
3. The development of a Policy Framework on Gender and Mainstreaming (REMPEC/WG.61/5/2);
and
4. Complimentary information provided by Contracting Parties on ongoing activities that complement the implementation of the Strategy (European Union) (WG.61/INF.22 and WG.61/INF.23);

5.3 The Secretariat introduced document REMPEC/WG.61/5 providing an overview of the progress made in implementing the Mediterranean Strategy, drawing particular attention to the outcomes of the Second Coordination meeting held in November 2024, the report of which is set out in REMPEC/WG.61/INF.20.

5.4 The representative from Cyprus expressed concern regarding the efficacy of establishing a ten-year strategy, noting that this did not provide sufficient flexibility to address emerging issues, for example the IMO Net Zero Framework. The representative further expressed disappointment that only three of the planned seven intersessional working groups (IWGs) had been established and concurred with the proposed restructuring of the IWGs and related improved distribution of work proposed in the document. The representative also concurred with the proposal to integrate future Coordination Meetings into the Meeting of the REMPEC Focal Points, as a more efficient and cost-effective way forward.

5.5 The representative of Morocco thanked REMPEC for its ongoing support and expressed the view that the Mediterranean Strategy provided an important framework to facilitate cooperation. The representative noted the progress it had made on its National Action Plan but highlighted that more work was needed. It had no objections to the proposal to conduct the Coordination Meetings biennially, alongside the Meeting of the REMPEC Focal Points, if enough time is given to the Contracting Parties to review all the relevant documents.

5.6 The representative of France supported the proposal for restructuring the IWGs and also agreed that future Coordination Meetings be organised prior to the Meeting of the REMPEC Focal Points, in order to report outcomes to the Meeting of the Focal Points.

5.7 The Secretariat thanked delegations for their contributions and clarified that indeed the intention was to add a day to the next Meeting of the REMPEC Focal Points, with the first day dedicated to addressing the implementation of the Strategy, followed by the usual three-day Meeting of the Focal Points, which would offer financial savings and more streamlined planning and logistics.

5.8 The Secretariat expressed its thanks to the current IWG coordinators from France, Italy and OCEANCARE and urged other countries to consider the possibility of volunteering to coordinate the remaining groups that did not currently have coordinators.

5.9 The Meeting endorsed the recommendations of the Biennial Review Report and the proposed restructuring of the IWGs, instructing the Secretariat to initiate the required preparations for the Mid-Term Review of the Strategy to be conducted in 2026. The Meeting further agreed to the scheduling of the next Mediterranean Strategy Coordination Meeting alongside the 17th Meeting of the REMPEC Focal Points and urged Contracting Parties to consider volunteering to coordinate the three CSOs that did not currently have a coordinator since their work cannot be initiated until such time that a coordinator is appointed.

5.10 The Meeting welcomed a presentation delivered by the European Union based on the information contained in documents WG.61/INF.22 and WG.61/INF.23, which provided information the European Maritime Transport Environmental Report 2025 (EMTER 2025) and the EU NAVISON Project on Underwater radiated noise from ships. The Meeting, having requested the Secretariat to make the presentation available to delegates, noted that it would be uploaded to the website as part of the submitted document.

5.11 The Meeting considered document REMPEC/WG.61/5/1 presented by the Secretariat, introducing the Draft Guidance Document on the Preparation of National Action Plans (NAPs) for the Implementation of the Mediterranean Strategy (2022-2031).

5.12 The Meeting, having noted that the Guidelines aimed to support Contracting Parties in translating the regional Mediterranean Strategy into practical nationally tailored action plans to ensure consistency, coherence, and effectiveness in national-level implementation, endorsed the Guidelines as contained in document REMPEC/WG.61/5/1.

5.13 The Secretariat introduced document REMPEC/WG.61/5/2 on Gender and Youth Mainstreaming, within the context of the implementation of the Mediterranean Strategy. The Secretariat highlighted, in

particular the draft framework aimed at integrating gender equality and youth engagement into all relevant policies, activities, and partnerships developed under the Strategy.

5.14 The representative of Italy thanked the Secretariat for its work on this matter and confirmed its intention to support this initiative, being of the view that progress on this issue was essential, noting that similar work was being undertaken under other regional conventions.

5.15 The representative of Cyprus highlighted the work of IMO in this regard, notably the designation of an International Day for Women in Maritime that is celebrated on 18 May of each year. The representative further commended the balanced gender representation at the Meeting of the Focal Points and reported that Cyprus is currently carrying out a study aimed at identifying the representation of women in shipping sectors.

5.16 The Meeting concluded by noting the information provided and endorsing the framework set forth in the document.

AGENDA ITEM 6: ILLEGAL AND ACCIDENTAL OIL AND HNS POLLUTION FROM SHIPS

6.1 The Meeting noted that there were sixteen documents to be considered under this agenda item, and agreed to consider these in the following order:

REMPEC/WG.61/6	Maritime traffic and Offshore Oil and Gas Activities – Trends and Outlook
REMPEC/WG.61/6/1	Marine Pollution Monitoring: Results of the Survey on Needs of Capacity Building on the use of IMAP CI
REMPEC/WG.61/6/2	Lowering of the Threshold for Reporting on Oil Spills
REMPEC/WG.61/6/3	Common Emergency Communication Mediterranean (Joint REMPEC-DG ECHO)
REMPEC/WG.61/6/4	Update of Guidelines and Tools
REMPEC/WG.61/6/4/1	Review of the Guidelines for the use of dispersants for combating oil pollution at sea in the Mediterranean region
REMPEC/WG.61/6/4/2	Upgrading of Databases and REMPEC Platforms
REMPEC/WG.61/6/5	Mediterranean Technical Working Group (MTWG) and related activities
REMPEC/WG.61/6/6	Mediterranean Assistance Unit (MAU) and related activities
REMPEC/WG.61/6/7	Preparedness and Response Contingency Planning
REMPEC/WG.61/6/7/1	Guidelines for the Development of Joint spill Response Exercises within the Framework of the Sub-regional Contingency Plans

REMPEC/WG.61/6/7/2	Improvement Process for Advanced Level of Preparedness for OSR and Harmonizing Response for HNS Incidents
REMPEC/WG.61/6/7/3	Readiness of the Mediterranean Region to respond to Marine Pollution Incidents involving Low-Sulphur Fuels and Alternative Fuels
REMPEC/WG.61/6/8	Mediterranean Network of Law Enforcement Officials relating to MARPOL within the framework of the Barcelona Convention and related activities
REMPEC/WG.61/6/8/1	Possible Creation and Operation of a regional “Blue Fund”
REMPEC/WG.61/6/8/2	Final draft common marine oil pollution detection/investigation report

- **Maritime Traffic and Offshore Oil and Gas Activities - Trends and Outlook**

6.2 The Meeting noted the information contained in document REMPEC/WG.61/6 introduced by the Secretariat and endorsed the draft Terms of Reference for the update of the Study on maritime traffic and offshore oil and gas activities (December 2021), instructing the Secretariat to undertake the update of the study in the coming biennium.

- **Marine Pollution Monitoring: Results of the Survey on Needs of Capacity Building on the use of IMAP CI**

6.3 The Secretariat introduced document REMPEC/WG.61/6/1 providing an update on the results of the survey on the capacity building needs on the use of Integrated Monitoring and Assessment Programme Common Indicator (IMAP CI) in accordance with the conclusions and recommendations of the regional Workshop on Reporting, Monitoring and Data Sharing, held in Malta in September 2024 (see document REMPEC/WG.61/INF.5).

6.4 Having noted the information, the Meeting agreed that the surveys should continue on a quarterly basis and invited Contracting Parties to complete the surveys, even for nil reports, noting they provide important information on spill trends in the Mediterranean region that can provide inform decision making on pollution preparedness response matters and future capacity building needs.

- **Marine Pollution Reporting: Lowering the threshold of Oil Spill Reporting**

6.5 The Meeting considered document WG.61/6/2 introduced by the Secretariat, containing a proposal for lowering the threshold for reporting of oil spills to REMPEC, in alignment with that adopted by other regional conventions, in order to provide better quality data and an improved picture of oil spills occurring in the Mediterranean region that will help identify trends for improved decision making and prioritisation of capacity building requirements.

6.6 The Meeting, having noted the rationale provided, agreed with the lowering of the minimum threshold for reporting of oil spill events to REMPEC to 10 t/m3 and encouraged Contracting Parties to also submit information on spills below the minimum threshold to the extent possible, noting that a full data set would assist in providing the best statistical overview of oil spills in the Mediterranean region.

- **Marine Pollution Reporting: Common Emergency Communication System for the Mediterranean**

6.7 The Meeting recalled that the 14th Meeting of the REMPEC Focal Points had agreed on the use of the EU Common Emergency and Information System for Marine Pollution (CECIS Marine) by all Contracting Parties, as the common emergency communication system for the Mediterranean, for requesting and offering assistance in the event of an oil pollution incident. The Meeting further recalled that it had requested REMPEC to work with the European Commission's DG ECHO to ensure that the requirements of the Contracting Parties to the Barcelona Convention were integrated in the next phase of development of the CECIS MP.

6.8 The Secretariat introduced document REMPEC/WG.61/6/3 providing a status report on progress over the biennium regarding the further development of the CECIS Marine and the integration of REMPEC's requirements for the extension of its use as the common emergency communication system for the Contracting Parties to the Barcelona Convention.

6.9 The Meeting noted that MEDEXPOL 2024 had discussed and provided recommendations on requirements for the system and that the Mediterranean Technical Working Group (MTWG) was also contributing by providing continuous input on the development of the system and would be participating in the testing, as well as in addressing requirements for non-EU States that are Parties to the Barcelona Convention.

6.10 The Meeting considered the additional information report provided by the European Union on CECIS Marine, underscoring that the main function of the system is its use as the platform for requesting assistance in the event of a pollution incident, to coordinate offers of assistance, and as a secure channel for emergency communications. The representative of the EU highlighted that there were dedicated spaces already available for the HELCOM and Bonn Agreements, and it was now in the process of developing the system to accommodate the requirements of the Parties to the Barcelona Convention. The representative further clarified that given the system was somewhat dated, it was undertaking a full modernization of the system and had established a user group to provide input to its development, to which REMPEC had been participating and providing input, in particular, on the requirements of non-EU States.

6.11 The Meeting noted that a test version was expected to be completed by October and would be opened up to users for testing, with a particular invitation to non-EU States to participate. In order to accommodate

this, there was a need for each Contracting Party to identify an Administrator that had the authority within their country to request international assistance, or to offer assistance in the event of an incident in another country. The Administrator would also be required to approve and administer national level system users. The EU representative requested that required contact information for Administrators and other users be submitted as soon as possible, and no later than mid-September 2025.

6.12 The Secretariat expressed its appreciation for the progress made on the system and stressed to the Contracting Parties that this Meeting served as its last opportunity to provide input to the Secretariat for the development of the system and it was therefore essential that the Contracting Parties provide clear direction in order for REMPEC to progress effectively in its dialogue with DG ECHO on the matter, reminding the Meeting that all requests for assistance to REMPEC would be handled through CECIS MP going forward.

6.13 The representative of Egypt thanked the EU for the information provided and asked whether Contracting Parties could send requests for assistance for larger spills (tier 3) to REMPEC directly for assistance rather than going through IMO.

6.14 The representative of IMO explained that any country could request assistance from IMO directly or, in the Mediterranean, could approach REMPEC directly, clarifying that in either case, REMPEC would serve as the main platform for coordinating such assistance, whether the requests came to IMO or to REMPEC. For larger incidents, IMO would generally provide additional backstopping to REMPEC, when its capacity was exceeded.

6.15 The representative of Egypt asked whether the assistance could cover the provision of equipment and whether a contract was needed when assistance was provided. The European Union explained that it could support the logistics in some cases, but the platform will provide the Contracting Party the possibility to communicate directly with the agency to assist with the response. The European Union also confirmed that no contract is required.

6.16 The Meeting concluded by:

.1 welcoming the progress on the development of CECIS MP and its further modification to address the requirements of the Contracting Parties to the Barcelona Convention, and expressed its appreciation to the European Commission for its support in this regard;

.2 inviting Contracting Parties to submit the required national level contact information for Administrators and other users by mid-September 2025; and

.3 urging Contracting Parties, in particular those from non-EU States to participate during the testing phase to ensure the system adequately addressed end-user requirements.

- **Update of Guidelines and Tools**

6.17 The Secretariat introduced document REMPEC/WG.61/6/4, setting out a proposal for reviewing and updating a number of manuals and guidelines developed by REMPEC, as well as their conversion, or parts thereof, to electronic versions.

6.18 Having reviewed the information contained in the document, the representative of Sea Alarm noted that the wildlife manual under the POSOW project did not include the latest forms in respect of wildlife response, which had since been updated, and noted that Sea Alarm could provide a more updated version of the forms for inclusion on the website.

6.19 The representative of France indicated that it was important to have these tools in a format that was easily accessible on the REMPEC website.

6.20 The Secretariat acknowledged the point and noted that there was need for a refresh and update of the REMPEC website, as a whole, noting that the aim was to include this item in the Programme of Work for 2026-2027.

6.21 The Meeting, having considered the information presented, welcomed the initial review of the resources developed by REMPEC and instructed the Secretariat to proceed with the update and/or digitization of the tools/resources set out in the annex to document REMPEC/WG.61/6/4, subject to availability of funds.

- **Review of the Guidelines for the use of dispersants for combating oil pollution at sea in the Mediterranean region**

6.22 The Secretariat introduced REMPEC/WG.61/6/4/1, setting out the results of a review of the Guidelines for the use of dispersants for combating oil pollution at sea in the Mediterranean region, notably the information that required updating in the document in part II of the manual.

6.23 The Meeting, having considered the review, approved the proposed revisions to Part II of the Guidelines, set out in the annex to document REMPEC/WG.61/6/4/1.

- **Upgrading of Databases and REMPEC Platforms**

6.24 The Secretariat introduced document REMPEC/WG.61/6/4/2, setting out a proposal for the upgrading of the databases and platforms managed by REMPEC, as well as the various tools listed in the Annex to the document, taking into account the recommendations from the 15th Meeting of the Focal Points and MEDEXPOL 2024. It was also highlighted that in view that the REMPEC databases and platforms have been developed over a decade ago, the technology has since advanced, and it would require substantial time and resources to update same. Following advice sought from an IT expert, it was recommended that it might be more effective to rebuild the databases and platforms from scratch using modern technologies, resulting in better operation, management and portability.

6.25 Further to the information provided on the status of the various REMPEC-managed databases and tools outlined in the document, the representative of the European Union highlighted that there were a number of other available databases, making specific reference to the Dynamic Overview of National Authorities (DONA) system developed by EMSA and that duplication of work should be avoided. The representative indicated that although the system was primarily for EU Member States, there was a provision for the extension of its use to the beneficiaries of the SAFEMED project and other new projects that would be launched in July 2025. The representative further indicated that there was a possibility of extracting statistical data from other EMSA databases that could be shared. The representative concluded by indicating that EMSA would be pleased to work with REMPEC to look at possible synergies that would reduce expenses associated with developing a new system.

6.26 The representative of France indicated that the country profiles had been updated during the course of the WestMoPoCo Project and further underscored the need to ensure that there was no duplication of work and that costs kept to a reasonable level in the development of any new system.

6.27 Taking into account the views expressed and the information provided on other databases that could provide possible synergies, the Meeting requested REMPEC to undertake a detailed assessment of available systems, together with the effort and resource requirement for upgrading the REMPEC tools and platforms required to meet the obligations of the Barcelona Convention, and to submit this to the 17th Meeting of the REMPEC Focal Points.

- **Mediterranean Technical Working Group (MTWG) and related activities**

6.28 The Meeting considered document REMPEC/WG.61/6/5 introduced by the Secretariat, providing a summary of the work of the Mediterranean Technical Working Group (MTWG), and proposals for future activities to be integrated into its work programme for the 2024-2025 biennium. In particular, the Meeting noted the extension of the work of the OPRC-HNS Correspondence Group to include tasks related to acute pollution monitoring and impact assessment on the marine environment within the Integrated Monitoring and Assessment Programme (IMAP).

6.29 The Meeting, having noted the information provided, concurred with the proposed future work of the MTWG, taking into account the decisions taken under related topics under this agenda item.

- **Mediterranean Assistance Unit**

6.30 The Meeting considered document REMPEC/WG.61/6/6 presented by the Secretariat providing a status report on the Mediterranean Assistance Unit (MAU) and the proposal to increase the MAU Special Revolving Fund to cover up to a maximum two months of an expert mission in the event of a pollution incident, a month longer than what is currently allowed.

6.31 The Meeting concluded by concurring with the proposal for increasing the value of the MAU revolving fund from the current one-month allocation to cover an expert mission to a period of a maximum of two months, for eventual agreement by the UNEP/MAP Focal Points and decision by COP 24 of the Barcelona Convention.

- **Preparedness and Response Contingency Planning**

6.32 The Meeting considered document REMPEC/WG.61/6/7 introduced by the Secretariat outlining REMPEC's work in supporting preparedness and response contingency planning that highlighted key developments over the biennium.

6.33 In its presentation, the Secretariat highlighted a number of items that had been delivered, including the endorsement of the Adriatic Marine Pollution Incident Contingency Plan (2023), the preparatory work for the Joint Spill Response Exercise CypEx 2024 to test the plan and the Guidelines on Joint Spill Response Exercises within the Sub-Regional Contingency Plan (2025) (see document REMPEC/WG.61/6/7/1) and its contribution to the work on the IMO International Operational Guide on the Response to Spills of HNS.

6.34 The meeting considered the additional information provided by the representatives of CEI, Croatia and Slovenia regarding the Adriatic Sensitive Areas Protection (ASAP) project addressing preparedness and response for the north Adriatic, with the intention of eventually expanding collaboration to the entire Adriatic basin. The meeting recognised the importance of Subregional Contingency Planning and related activities which represent a benefit not only for competent national authorities of two or more countries to co-operate in co-ordinating and integrating their response to marine pollution, but also for enhancing national and regional systems for preparedness to respond to marine pollution.

6.35 The representative of Monaco made reference to the regular exercises undertaken under the RAMOGE Agreement between France, Italy and Monaco, which helped to facilitate cooperation and communications

when real incidents occur, such as the collision between the ro-ro vessel **Ulysse** and the container ship **Virginia** off the coast of Corsica in 2018.

6.36 The Meeting noted the information presented and thanked the Secretariat for its efforts on preparedness and response contingency planning matters.

- **Guidance Document on Joint Spill Response Exercise within the Sub-regional Contingency Plans**

6.37 The Meeting considered document REMPEC/WG.61/6/7/1, providing guidance on the planning and organisation of joint spill response exercises undertaken under sub-regional contingency plans.

6.38 The representative of Sea Alarm expressed its appreciation for the inclusion of wildlife response in the document, however noting that it only included rescue and rehabilitation of wildlife. The representative took the opportunity to highlight the document developed by Sea Alarm which considered the wider wildlife response considerations for exercises available on their website, notably the Guidelines for exercise development specific to wildlife developed under the EU-funded EUROWA 2 project¹, with a suggestion to link the two documents.

6.39 The representative of France shared information on the exercises planned under RAMOGEPOL and the Lyon Plan, noting the latter included an HNS component.

6.40 The representative of the European Union recommended removing the reference to ‘cutting edge’ technology related to aircraft support and suggested keeping to the satellite information under CleanSeaNet contained within the document, noting the complexities of obtaining necessary clearance for aircraft use in exercises.

6.41 The representative of Malta highlighted that although it was not part of a sub-regional plan, it had participated in two joint exercises with Italy that proved to be very important means for Contracting Parties to exchange information and improve the response to incidents involving multiple countries.

6.42 The Meeting noted the information provided and approved the Guidelines, as amended, based on the comments provided during the discussion.

¹ <https://civil-protection-knowledge-network.europa.eu/projects/eurowa-2#inpage-section-outputs-results>

- **Continuous Improvement Process for Maintaining Advanced Levels of Preparedness for Oil Spill Response and Harmonizing Response Approaches for HNS Incidents**

6.43 The Meeting considered the following documents:

- .1 REMPEC/WG.61/6/7/2, providing the measures undertaken to ensure continuous improvement for maintaining advanced levels of oil and HNS pollution response, including the status of contingency planning at national levels, and the assessments carried out using the Readiness evaluation tool for oil spills (RETOS);
- .2 REMPEC/WG.61/INF.24 submitted by the European Union (EMSA) providing information on the Marine Intervention in Chemical Emergencies Network (MAR-ICE service), a 24/7 Information Service for marine emergencies involving chemicals, provided by EMSA to the EU and non-EU Mediterranean countries; and
- .3 REMPEC/WG.61/INF.7 and REMPEC/WG.61/INF.8 submitted by Sea Alarm providing an update on its ongoing projects and additional available tools related to oiled wildlife response.

6.44 The Meeting noted the information provided in the various documents to contribute to advancing levels of pollution preparedness throughout the Mediterranean region and urged Contracting Parties to ensure timely development and updating of National Contingency Plans and to ensure a regular assessment of capacity using the RETOS tool, taking into account the available tools and resources to support both preparedness and response to oil and HNS pollution incidents.

- **Readiness of the Mediterranean Region to Respond to Marine Pollution Incidents involving Low-Sulphur Fuels and Alternative Fuels**

6.45 The Meeting considered document REMPEC/WG.61/6/7/3 introduced by the Secretariat, setting out the results of a study on the readiness of the Mediterranean region to respond to marine pollution incidents involving low-sulphur and alternative fuels, with the full study was set out in document REMPEC/WG.61/INF.9.

6.46 The representative of Cyprus congratulated REMPEC on this work, however, highlighting that the work on alternative fuels may be somewhat premature given the ongoing work at IMO on this topic. The representative further underscored the need for training of both port authorities and seafarers given the knowledge gap that existed on responding to the anticipated alternative fuels, most of which were considered hazardous and noxious substances (HNS).

6.47 The representative of Italy was of the view that this topic was of paramount importance, and why they had funded the study. The representative further shared that Italy would be delivering a presentation on this topic at the Third UN Ocean Conference (UNOC 3) in June and would seek to further engage with stakeholders on this topic.

6.48 The representative of the European Union concurred with the view of Cyprus, indicating that it would be important not to proceed too quickly, further noting that there were many types of low-sulphur fuels with differing properties.

6.49 The Secretariat thanked Italy for its contribution to support the study and further clarified that its initial intention was to determine the level of available capacity in the event of a LSF incidents that had decided to extend the study to alternative fuels, given the direction of the work at IMO.

6.50 The representative of France drew attention to similar studies it had supported under the Bonn Agreement and noted the current studies being undertaken at CEDRE, in collaboration with other partners. Consequently, the representative of France highlighted the need to consider the full breadth of work that existed and to build on existing knowledge in order to adapt and strengthen existing capacity to address these emerging fuels, where possible.

6.51 The representative of Greece welcomed the study as a good starting point towards preparing to respond to incidents involving alternative fuels. The representative noted that whilst the study considered preparedness and response aspects, there was equally a need to address the use of such fuels and to have appropriate guidance on those aspects going forward.

6.52 The Meeting concluded by noting the information presented and the comments provided, in particular with respect to the need for developing capacity and knowledge on preparedness and response to the various alternative fuels, following adoption of the Net Zero Framework and related amendments by IMO later in the year.

- **Mediterranean Network of Law Enforcement Officials Relating to MARPOL with the Framework of the Barcelona Convention (MENELAS) and related activities**

6.53 The Meeting considered document WG.61/6/8 presented by the Secretariat, providing an update of the outcomes of the Sixth Meeting of MENELAS, held in Lija, Malta, on 4-5 December 2024, the report of which is presented in document REMPEC/WG.61/INF.10.

6.54 The Meeting considered, in particular:

- .1 a draft Decision on Common Minimum Fines;
- .2 the establishment of a MENELAS Database:
- .3 a review of the Terms of Reference of MENELAS, taking into consideration the operation of similar bodies in the Baltic and North Sea; and
- .4 the proposed activities to be undertaken in the 2026-2027 biennium.

6.55 The representative of Lebanon, referring to paragraph 6a of the terms of reference set out in the Annex to the document, highlighted that it is the responsibility of the maritime administration of each Contracting Party to implement conventions such as MARPOL and its annexes and correspondingly is responsible for issuing fines for lack of compliance. Consequently, Lebanon requested clarification on paragraph 6a, notably on the role of the Prosecutor in such cases, where there may be separation of powers between the executive and judicial authorities.

6.56 The Secretariat clarified that paragraph 6a was to be taken within the context of the chapeau of the paragraph, which states that the overall aim of article 6 is that MENELAS should facilitate cooperation at the regional level on the listed tasks that followed. It was not intended to replace national mechanisms nor interfere with the mandate and powers of national authorities.

6.57 The Meeting, having noted the outcome of the Sixth Meeting of MENELAS, concurred that the establishment of a database on MENELAS be placed on hold awaiting the outcome of the harmonized reporting template being developed by the EU, and endorsed, subject to availability of funds, the recommendation for a common application of minimum fines, and the activities proposed by the Meeting of MENELAS. The Meeting also approved the revised Terms of Reference on the Establishment of MENELAS, as presented in the Annex to document REMPEC/WG.61/6/8 and instructed the Secretariat to submit same for consideration and adoption by COP24.

- **Legal Analysis to assess the implications of the possible creation and operation of a regional “Blue Fund”**

6.58 The Meeting recalled that in 2017 it had considered a proposal by France on enhanced regional judicial cooperation for prosecuting marine pollution offenses that included the concept of the establishment of a regional “Blue Fund”, financed partially through pollution-related fines, to support enforcement and environmental protection measures.

6.59 The Meeting further recalled that the Fifth MENELAS Meeting (2023) had acknowledged the need to further explore the fund's governance and financing structure. Consequently, the Secretariat (REMPEC) was tasked with preparing terms of reference for a legal and operational assessment, which were agreed at COP 23 (2023), and an item on the finalization of these modalities, including a comprehensive legal analysis, was included in the 2024-2025 UNEP/MAP Programme of Work.

6.60 The Meeting considered document WG.61/6/8/1 setting out the operational considerations and legal analysis on the possible creation and operation of a regional “Blue Fund”, based on the request and decision of COP 23.

6.61 Having considered the specifics of the legal analysis, a number of delegations took the floor to indicate that they could not support the establishment of a Blue Fund, citing a number of concerns, including issues related to governance, financing and jurisdiction, amongst others.

6.62 Given the general lack of support for the establishment of a Blue Fund at this time, taking into account the points raised, and in view of the limited time and other priorities on the agenda of the MENELAS, the Meeting agreed to place the matter in abeyance for the 2025-2026 biennium and to undertake further work, in the future, using an informal approach.

- **Final Common Marine oil pollution detection/investigation report**

6.63 The Meeting having considered document REMPEC/WG.61/6/8/2, proposing updates to the common marine oil pollution detection/investigation report to bring it in line with the common reporting framework used by HELCOM and the Bonn Agreement, endorsed the final draft common marine oil pollution detection/investigation report, set out in the Appendix to the document, for use within the framework of the Barcelona Convention.

AGENDA ITEM 7: AIR POLLUTION FROM SHIPS

7.1 The Meeting considered document REMPEC/WG.61/7 introduced by the Secretariat providing information on the latest developments related to the prevention of air pollution from ships in the Mediterranean Sea, in particular the effective application from 1 May 2025 of the Mediterranean Sea Emission Control Area for Sulphur Oxides and Particulate Matter (Med SO_x ECA) and actions taken by the Secretariat during the last biennium on this issue.

7.2 The Meeting, in considering the information, noted the report of the Regional Workshop on the consistent implementation of IMO 2020 under MARPOL Annex VI and the 0.10% sulphur limit in the Mediterranean Sea Emission Control Area for Sulphur Oxides and Particulate Matter (Med SO_x ECA) (Malta,

22-23 May 2024), as set out in the Appendix to document REMPEC/WG.61/INF.18. It also considered the updated draft regional fundraising strategy to support Contracting Parties in the ratification and effective implementation of MARPOL Annex VI, as well as the implementation of the Med SO_x ECA and linked compliance measures, set in document REMPEC/WG.61/INF.12.

7.3 The European Union congratulated REMPEC on its work in respect of the Med SO_x ECA and thanked Italy for the funding provided to support the studies. The representative of the European Union reminded the Meeting that the EU is ready and able to support Contracting Parties on the ratification of MARPOL Annex VI, under the SAFEMED Project, specifically referencing support to the transposition of regulations into national law. The representative further noted that it would soon be delivering training on the use of ammonia as one of the possible future alternative fuels with a recorded version available on their website. During the same intervention, the EU representative sought further insight on a possible timeline as to when the five Contracting Parties that have not yet ratified MARPOL Annex VI, will do so.

7.4 The representative of France congratulated the Contracting Parties for the entry into force of Med SO_x ECA and indicated it would be ready to support in the ratification of MARPOL Annex VI. The representative further highlighted that France also stood ready to support feasibility studies in respect of the Med NO_x ECA.

7.5 The representative of Egypt noted that whilst it was not yet in position to ratify MARPOL Annex VI, all technical approvals had been achieved, and the matter was now in the political domain. The representative expressed the need for more capacity building support, notably with regard to establishing the required regulatory measures, and also with respect to implementation. In addition, the representative indicated the need for assistance with port infrastructure, adequate reception facilities and instruments to measure air pollution in ports, noting that Egypt ships can currently not run on low carbon fuels. The representative also requested the Secretariat to mobilise resources and connect Egypt with relevant donors, funding institutions or investors.

7.6 The representative of Greece extended its congratulations on the entry into force of the Med SO_x ECA, thanked the Secretariat for the draft guidance and urged all to progress with earliest implementation of the MED SO_x ECA.

7.7 The Secretariat highlighted that since most of the Contracting Parties are members of the Mediterranean Memorandum of Understanding on port State control (MED MOU), this Guidance Document is forwarded to the MED MoU Secretariat for dissemination to all Port State Control Officers who follow MED MoU procedures during inspections. The representative of EMSA informed the Meeting that the next meeting of the MED MOU MAB will be held at EMSA, and the matter will be brought to the attention of the meeting.

7.8 The Meeting concluded by noting the information provided and endorsing the Draft Guidance Document on the consistent implementation of the 0.10% sulphur limit under MARPOL Annex VI in the Med SO_x ECA,

as set out in the Appendix 1 of the document. The Meeting urged earliest ratification of MARPOL Annex VI for those five Contracting Parties that have not yet done so, and timely implementation of the Med SO_x ECA for the rest of the Contracting Parties.

7.9 The Secretariat introduced document REMPEC/WG.61/7/1 on the Study on the Environmental and Legal Impacts of the Use of Exhaust Gas Cleaning Systems (EGCS) in the Mediterranean Sea, noting that the study was set out in the Appendix to document REMPEC/WG.61/INF.11.

7.10 The representative of Malta extended its thanks to the Government of Italy for funding the Study. She further recognized that washwater discharges that posed certain threats to the marine environment and noted that there were a number of new regulations arising in a fragmented way and endorsed a more holistic approach. The representative further highlighted that within industry, some early movers had invested in this technology and that some grandfathering clause should be introduced to apply this to new ships

7.11 France thanked the Secretariat and Italy for the work undertaken and for supporting the Study. The representative highlighted that France has an ambitious approach to implementing these regulations and that France would support the prohibition of scrubbers in the Mediterranean Sea.

7.12 Egypt expressed concerns regarding a move to ban scrubbers, given that some Contracting Parties, including Egypt, still use scrubbers as a means of compliance and there is lack of adequate port reception facilities, therefore request the closed loops systems not to be prohibited until more studies can be introduced.

7.13 The representative of the European Union expressed appreciation to Italy and REMPEC for this timely study and noted that the document served as a good basis for discussion on EGCS systems, however noting that more than 40 countries had already applied restrictions to the use of EGCS. The representative further noted the discussions initiated by the EU countries at IMO on the potential toxicity of the use of these systems. Consequently, the representative expressed a more cautionary approach to the wording of the recommendations and indicated it could not endorse all the recommendations, notably any recommendation encouraging the use of closed loops systems. The representative also encouraged consideration of the efforts of other regions, including HELCOM and OSPAR, that are currently developing regulatory frameworks and road maps towards the implementation of MARPOL Annex VI.

7.14 The representative of Cyprus indicated a need to be cautious with respect to EGCS given ongoing work on scrubbers at IMO, noting that IMO's PPR Sub-committee would discuss this matter at its next meeting in early 2026. Consequently, the representative suggested that the Meeting note the recommendations and to review the matter, once IMO has considered and decided on the matter.

7.15 The representative of Monaco thanked REMPEC for its efforts and expressed its appreciation to Italy for funding the Study and indicated that they were open to further discussions on the matter.

7.16 The representative of Birdlife Malta congratulated the Contracting Parties on the MED SO_x ECA, but expressed concern regarding the use exhaust gas cleaning systems as an alternative means of compliance and believed that some of the recommendations contained in the document should not be endorsed, as EGCS washwater discharges contain many environmental toxins and that alternate means of compliance, such as the use of cleaner distillate fuel, provides a pathway to compliance without harming the environment.

7.17 The representative of Greece acknowledged that this is a challenging issue and emphasized the need to examine all possible solutions and await the outcome of the IMO Marine Environment Protection Committee, noting that this would shed more light on this issue. The representative agreed that a cautious approach should be taken but could not agree on the proposal for a total ban of the EGCS option as a means of compliance.

7.18 The representative of France indicated it could not support a recommendation encouraging the use of closed loop scrubbers and that the installation of scrubbers should be considered with extreme caution, in anticipation of the international regulations that were expected and would set out further restrictions.

7.19 Having considered the various comments, the Meeting noted the information provided, notably the implications of the use of open loop systems, and welcomed the information on the work being undertaken at IMO to harmonize the guidance on EGCS

7.20 Following a lengthy discussion and given the general lack of agreement on some of the recommendations presented in the Study, the Meeting agreed to delete the reference to closed loop or hybrid systems as a recommended means of achieving compliance.

7.21 The Meeting considered the update on the preparation of a detailed Technical and Feasibility Study to Assess the Relevant Existing and on-going Studies, as well as to examine the Possible Designation of the Mediterranean Sea, as a whole, as an Emission Control Area for Nitrogen Oxides (Med NO_x ECA) pursuant to MARPOL Annex VI, contained in document REMPEC/WG.61/7.

7.22 In considering the information presented, the representative of Italy highlighted the need for continual updating of the feasibility study, so that it remained current.

7.23 Having considered, in particular, the proposed draft work plan and timetable for the work set out in Appendix 2 to document REMPEC/WG.61/7, the Meeting thanked the Secretariat for the work undertaken and endorsed both. .

AGENDA ITEM 8: REDUCTION OF GHG EMISSIONS FROM SHIPS

8.1 The Meeting noted that there were seven meeting documents and a number of information documents to consider under this agenda item and agreed to consider these as follows:

REMPEC/WG.61/8	A roadmap for transitioning to low carbon shipping in the Mediterranean Sea
REMPEC/WG.61/8/1 and REMPEC/WG.61/INF.13	Effective Implementation of the 2023 IMO Strategy on Reduction of Greenhouse Gas (GHG) Emissions from Ships in the Mediterranean region, and Study on the Effective Implementation of the 2023 IMO Strategy on Reduction of GHG Emissions from Ships in the Mediterranean region
REMPEC/WG.61/8/2 and REMPEC/WG.61/INF.14	Legal and Technical Implications of the European Union Emission Trading Scheme (EU ETS) for shipping in the Mediterranean Study to Assess the Legal and Technical Implications of the European Union Emissions Trading System (EU ETS) for Shipping in the Mediterranean region
REMPEC/WG.61/8/3 and REMPEC/WG.61/INF.15	Implementation of Emission Control and Energy Efficiency Measures for Ships in Port Areas in the Mediterranean Region Study on the Implementation of Emission Control and Energy Efficiency Measures for Ships in Port Areas in the Mediterranean region
REMPEC/WG.61/8/4 and REMPEC/WG.61/INF.16	Impact of Biofouling on the Energy Efficiency of Ships and the GHG Abatement Potential of Biofouling Management Measures in the Mediterranean region Study Analysing the Impact of Biofouling on the Energy Efficiency of Ships and the GHG Abatement Potential of Biofouling Management Measures in the Mediterranean Sea region
REMPEC/WG.61/8/5 and REMPEC/WG.61/INF.17	Implementation of possible Green Shipping Routes (Corridors) and Maritime Hubs (Green Hubs) to reduce GHG emissions from shipping in the Mediterranean region Study on the Implementation of Possible Green Shipping Routes (Corridors) and Maritime Hubs (Green Hubs) to Reduce GHG Emissions from Shipping in the Mediterranean region
REMPEC/WG.61/8/6	Guidance Document on the Development of National Action Plans (NAPs) to address Greenhouse Gas (GHG) Emissions from Ships in the Mediterranean Region

8.2 The Meeting considered the draft roadmap for transitioning to low carbon shipping in the Mediterranean Sea, submitted by the Secretariat, set out in document REMPEC/WG.61/8.

8.3 The Secretariat introduced document REMPEC/WG.61/8 containing the draft Roadmap for Transitioning to Low Carbon Shipping in the Mediterranean Sea, that aimed to address GHG emissions from ships and at the ship-shore interface, in compliance with legal regulations aimed at contributing to net-zero greenhouse gas emissions from ships and controlling greenhouse gas emissions from ships, in conformity with international law, under the aegis of United Nations specialized agencies, and in particular of the IMO.

8.4 The Meeting endorsed the draft Roadmap as set out in the Annex to the document without further comment.

8.5 The Meeting considered the results of the various Studies undertaken by the REMPEC during the 2023-2024 biennium relating to the Reduction of GHG emissions from ships, as set out in documents: REMPEC/WG.61/8/1, REMPEC/WG.61/8/2, REMPEC/WG.61/8/3, REMPEC/WG.61/8/5, together with the results of the studies themselves set out documents REMPEC/WG.61/INF.13, REMPEC/WG.61/INF.14, REMPEC/WG.61/INF.15 and REMPEC/WG.61/17.

8.6 The Meeting had no specific comments on the various Studies, and consequently noted the information contained within the various documents.

8.7 The representative of Cyprus, having noted that document REMPEC/WG.61/8/2 included a proposal for the creation of a fund and recalling the lack of agreement on a similar proposal for a “Blue Fund” under agenda item 6, was of the view that this equally could not be agreed as a way forward, which was confirmed by the Meeting.

8.8 The representative of the EU introduced document REMPEC/WG.61/INF.25 providing an overview of a series of Studies that EMSA had undertaken related to the use of non-fossil fuels by shipping, which were duly noted by the Meeting.

8.9 The Meeting considered and endorsed the draft Guidance Document on the Development of National Action Plans (NAPs) to Address Greenhouse Gas (GHG) Emissions from Ships in the Mediterranean region, introduced by the Secretariat, as set out in document REMPEC/WG.61/8/6.

8.10 Having decided on the various items, the Meeting referred the draft Roadmap for Transitioning to Low Carbon Shipping in the Mediterranean Sea, as presented in document REMPEC/WG.61/8, to the UNEP/MAP Focal Points for approval, for onwards submission to COP 24 to the Barcelona Convention for adoption.

AGENDA ITEM 9: INTRODUCTION OF NON-INDIGENOUS SPECIES BY SHIPPING ACTIVITIES

9.1 The Meeting considered document REMPEC/WG.61/9 introduced by the Secretariat, providing information on the Mid-Term Review of the Ballast Water Management Strategy (BWS) for the Mediterranean Sea (2022-2027), assessing progress and identifying challenges encountered and associated recommendations and proposals to ensure the successful completion of its objectives by 2027.

9.2 The representative of Lebanon indicated the difficulties faced in achieving the targets set out in the BWS, in view of limited funding, and expressed concern regarding the burden placed on Contracting Parties in meeting the targets set out in the Strategy.

9.3 The representative of Türkiye noted that it had signed on the Ballast Water Management Convention and have initiated a national project regarding invasive species.

9.4 The representative of Cyprus indicated that the work should also address biofouling and that this should also be included in the title.

9.5 The Secretariat clarified that any amendment to the title of the Strategy would require approval by the COP to the Barcelona Convention, noting that the Strategy had been adopted as a COP decision. The Secretariat also indicated that the lack of implementation of certain actions contained in the Strategy with respect to capacity building were limited by availability of allocated funding under the Mediterranean Trust Fund and Programme of Work. The Secretariat further highlighted that the resource mobilisation strategy was intended to provide an outline on what actions could be taken to attract the necessary funding to support the implementation of the BWS.

9.6 The representative of Lebanon expressed appreciation to the European Union (EMSA) for the support provided for the transposition of the legal text in Lebanon but raised concerns regarding its ability to fully implement the Strategy and requested further assistance with securing grants and funding.

9.7 The Secretariat clarified that this element was included in the resource mobilisation strategy along with other available options for mobilizing resources, in order to provide necessary capacity, however underscoring that Contracting Parties must decide the methodology that best suited their requirements.

9.8 The Meeting welcomed the information contained in document REMPEC/WG.61/9/1 introduced by the Secretariat on the draft Resource Mobilisation Strategy to implement the Ballast Water Management Strategy for the Mediterranean Sea (2022-2027) and endorsed the draft Resource Mobilisation Strategy to implement the Ballast Water Management Strategy for the Mediterranean Sea (2022-2027), as set out in the Annex thereto.

AGENDA ITEM 10: ACTIVITIES AND DELIVERABLES OF THE DRAFT UNEP/MAP PROGRAMME OF WORK FOR THE BIENNIUM 2026-2027

10.1 The Secretariat introduced document REMPEC/WG.61/10 setting out the activities and deliverables to be included in the draft /MAP Programme of Work for the biennium 2026-2027, proposed by REMPEC, outlining the rationale used for the inclusion of the various work items.

10.2 The Meeting approved the Programme of Work, set out in the annex to the document, as amended taking into account its decision under agenda item 6 in respect of the establishment of a “Blue Fund”, and requested the Secretariat to propose them for approval by the next Meeting of the UNEP/MAP Focal Points prior to their submission for adoption to COP 24 of the Barcelona Convention.

AGENDA ITEM 11: ANY OTHER BUSINESS

11.1 Under this agenda item, the Secretariat introduced document REMPEC/WG.61/11 that set out a proposal on various activities to commemorate the 50th Anniversary of REMPEC that will be celebrated in 2026.

11.2 The Meeting took note of the proposed options for commemorating REMPEC’s anniversary, which included an outreach campaign, a dedicated event to celebrate the anniversary and a digital media campaign. Over and above the outreach and celebratory aspects, the Meeting noted that the document also proposed a strategic review and repositioning of REMPEC’s identity, including a possible name change.

11.3 Having considered the information presented, the Meeting concurred with the proposals for commemorating the occasion, as well as the strategic review of REMPEC’s work, however noting the concerns raised by several delegations in respect of the proposal for a change of name.

11.4 The representatives from Cyprus, Slovenia and IMO were of the view that whilst the formal name could be changed to better reflect the Centre’s current remit, the name ‘REMPEC’ should be retained as it was widely known and represented the identity of the Centre. Notwithstanding, all were of the view that the official name of the Centre could be changed, even if it no longer fully aligned with the acronym.

11.5 The Meeting noted the presentation by the representative of CEDRE, introducing document REMPEC/WG.61/INF.26 on the MANIFESTS GENIUS Project. A Workshop was held on Thursday 15 May 2025, on the margins of the Meeting, providing information to all delegations on the Project, that paves the way for improved emergency planning, the development of operational guidelines, and the upgrading of decision-support systems related to hazardous and noxious substances and supports the safe integration of new

propulsion energies like methanol and ammonia into refuelling stations and coastal industries, while providing cross-sectoral intervention protocols and valuable training tools.

Note of Appreciation

11.6 The Contracting Parties, having noted that this Focal Points meeting would be Mr Malek Smaoui's last meeting due to retirement later in the year, extended their warm thanks and appreciation for Mr. Smaoui's ten years of service and wished him all the best in his retirement.

AGENDA ITEM 12: ADOPTION OF THE CONCLUSIONS AND RECOMMENDATIONS

12.1 The Rapporteur presented the draft conclusions and recommendations of the meeting, as set out in document REMPEC/WG.61/WP.1, and adopted these with minor amendments.

12.2 The meeting noted that the final version would be included as an Annex to the report of the Meeting to be prepared by the Secretariat and circulated following the Meeting, in accordance with the established deadlines. The Meeting adopted the Conclusions and Recommendations of the Meeting, as detailed in Annex IV to the present report.

CLOSURE OF THE MEETING

13.1 The Chairperson thanked the Contracting Parties for their engagement which contributed to the success of the Meeting and wished all a safe return to their home countries.

13.2 The Head of Office of REMPEC expressed his appreciation to the Chairperson for the smooth running of the proceedings and thanked all REMPEC staff for their work throughout the Meeting. He also thanked all delegations for their participation as well as the interpreters and technicians for their support.

13.3 The Chairperson closed the Meeting on Thursday, 15 May 2025 at 1500 hours.

ANNEX I

LIST OF PARTICIPANTS / LISTE DES PARTICIPANTS

CONTRACTING PARTIES / PARTIES CONTRACTANTES

ALBANIA / ALBANIE

Ms Morgana MARKU

Specialist

Sector of Internal Projects and Coordination of Projects with Donors

Water Resources Management Agency

Ms Sidorela SPAHIU

Specialist at Chemical Sector

National Environment Agency, Ministry of Tourism and Environment

BOSNIA & HERZEGOVINA / BOSNIE & HERZÉGOVINE

Ms Selma ČENGIĆ

Executive Director

Hydro-Engineering Institute Sarajevo

Ms Senida DŽAJIĆ-RGHEI

Researcher

HEIS

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ANNEX II

AGENDA

Opening of the Meeting

1. Adoption of the agenda
2. Progress report on REMPEC activities since the Fifteenth Meeting of the Focal Points of REMPEC
3. Developments within MAP related to the objectives and functions of REMPEC
4. Developments within IMO related to the objectives and functions of REMPEC
5. Implementation of the Mediterranean Strategy (2022-2031)
6. Illegal and accidental oil and HNS pollution from ships
7. Air pollution from ships
8. Reduction of GHG emissions from ships
9. Introduction of non-indigenous species by shipping activities
10. Activities and deliverables of the draft UNEP/MAP Programme of Work for the biennium 2026-2027, as proposed by REMPEC
11. Any other business
12. Adoption of the conclusions and recommendations

Closure of the Meeting

LIST OF DOCUMENTS**WORKING DOCUMENTS**

REMPEC/WG.61/1	Provisional Agenda
REMPEC/WG.61/1/1	Annotated Provisional Agenda and Draft Timetable
REMPEC/WG.61/2	Progress Report on REMPEC activities since the fifteenth Meeting of the Focal Points of REMPEC
REMPEC/WG.61/4	Developments within IMO related to the Objectives and Functions of REMPEC
REMPEC/WG.61/4/1	Latest Developments in the field of Compensation for Ship-Source Pollution Damage
REMPEC/WG.61/5	Implementation of the Mediterranean Strategy (2022-2031)
REMPEC/WG.61/5/1	Draft Guidance Document on the Preparation of National Action Plans for the Implementation of the Mediterranean Strategy for the Prevention of, Preparedness, and Response to Marine Pollution from Ships (2022-2031)
REMPEC/WG.61/5/2	Development of a Regional Policy Framework on Gender and youth Mainstreaming within the Context of the Mediterranean Strategy 2022-2031
REMPEC/WG.61/6	Maritime traffic and Offshore Oil and Gas Activities – Trends and Outlook
REMPEC/WG.61/6/1	Marine Pollution Monitoring: Results of the Survey on Needs of Capacity Building on the use of IMAP CI
REMPEC/WG.61/6/2	Lowering of the Threshold for Reporting on Oil Spills
REMPEC/WG.61/6/3	Common Emergency Communication system for the Mediterranean (Joint REMPEC-DGECHO)
REMPEC/WG.61/6/4	Update of Guidelines and Tools
REMPEC/WG.61/6/4/1	Review of the Guidelines for the use of dispersants for combating oil pollution at sea in the Mediterranean region
REMPEC/WG.61/6/4/2	Upgrading of Databases and REMPEC Platforms
REMPEC/WG.61/6/5	Mediterranean Technical Working Group (MTWG) and related activities
REMPEC/WG.61/6/6	Mediterranean Assistance Unit (MAU) and related activities
REMPEC/WG.61/6/7	Preparedness and Response Contingency Planning
REMPEC/WG.61/6/7/1	Guidelines for the Development of Joint spill Response Exercises within the Framework of the Sub-regional Contingency Plans

REMPEC/WG.61/6/7/2	Improvement Process for Advanced Level of Preparedness for OSR and Harmonizing Response for HNS Incidents
REMPEC/WG.61/6/7/3	Readiness of the Mediterranean Region to respond to Marine Pollution Incidents involving Low-Sulphur Fuels and Alternative Fuels
REMPEC/WG.61/6/8	Mediterranean Network of Law Enforcement Officials relating to MARPOL within the framework of the Barcelona Convention and related activities
REMPEC/WG.61/6/8/1	Possible Creation and Operation of a regional “Blue Fund”
REMPEC/WG.61/6/8/2	Final draft common marine oil pollution detection/investigation report
REMPEC/WG.61/7	Prevention of air pollution from ships in the Mediterranean Sea
REMPEC/WG.61/7/1	Environmental and Legal Impacts of the Use of Exhaust Gas Cleaning Systems (EGCS) in the Mediterranean Sea
REMPEC/WG.61/8	A roadmap for transitioning to low carbon shipping in the Mediterranean Sea
REMPEC/WG.61/8/1	Effective Implementation of the 2023 IMO Strategy on Reduction of Greenhouse Gas (GHG) Emissions from Ships in the Mediterranean region
REMPEC/WG.61/8/2	Legal and Technical Implications of the European Union Emission Trading Scheme (EU ETS) for shipping in the Mediterranean
REMPEC/WG.61/8/3	Implementation of Emission Control and Energy Efficiency Measures for Ships in Port Areas in the Mediterranean Region
REMPEC/WG.61/8/4	Impact of Biofouling on the Energy Efficiency of Ships and the GHG Abatement Potential of Biofouling Management Measures in the Mediterranean region
REMPEC/WG.61/8/5	Implementation of possible Green Shipping Routes (Corridors) and Maritime Hubs (Green Hubs) to reduce GHG emissions from shipping in the Mediterranean region
REMPEC/WG.61/8/6	Guidance Document on the Development of National Action Plans (NAPs) to address Greenhouse Gas (GHG) Emissions from Ships in the Mediterranean Region
REMPEC/WG.61/9	Mid Term Review of the Ballast Water Management Strategy for the Mediterranean Sea (2022-2027)
REMPEC/WG.61/9/1	Resource Mobilisation Strategy to implement the Ballast Water Management Strategy for the Mediterranean Sea (2022-2027)
REMPEC/WG.61/10	REMPEC activities and deliverables of the draft UNEP-MAP PoW 2026-27
REMPEC/WG.61/11	REMPEC’s 50 th Anniversary

INFORMATION DOCUMENTS

REMPEC/WG.61/INF.1	List of Documents
REMPEC/WG.61/J/1	Provisional list of participants
REMPEC/WG.61/INF.2	List of participants
REMPEC/WG.61/INF.3	List of updated Focal Points and Designated Representatives
REMPEC/WG.61/INF.4	Report of the Regional Workshop on the Preparation of National Action Plans for the Implementation of the Mediterranean Strategy for the Prevention of, Preparedness, and Response to Marine Pollution from Ships (2022-2031) (Lija, Malta, 20 November 2024)
REMPEC/WG.61/INF.5	Report of the Regional Workshop on Reporting, Monitoring, and Data Sharing (MEDEXPOL 2024) (Lija, Malta, September 2024)
REMPEC/WG.61/INF.6	Manual on National mechanisms for the mobilization of response equipment and personnel in case of emergency (2023)
REMPEC/WG.61/INF.7	Strengthening oiled wildlife preparedness and response
REMPEC/WG.61/INF.8	Future response to incidents involving alternative fuels
REMPEC/WG.61/INF.9	Study on the Readiness of the Mediterranean Region to Respond to Marine Pollution Incidents Involving Low-Sulphur Fuels and Alternative Fuels
REMPEC/WG.61/INF.10	Report of the Sixth Meeting of the Mediterranean Network of Law Enforcement Officials relating to MARPOL within the framework of the Barcelona Convention (MENELAS) (Lija, Malta, 4-5 December 2024)
REMPEC/WG.61/INF.11	Study on the Environmental and Legal Impacts of the Use of Exhaust Gas Cleaning Systems (EGCS) in the Mediterranean Sea
REMPEC/WG.61/INF.12	Overview of potential key finance and funding opportunities, actors, and mechanisms in relation to the ratification and effective implementation of MARPOL Annex VI as well as the implementation of the Med SO _x ECA and linked compliance measures
REMPEC/WG.61/INF.13	Study on the Effective Implementation of the 2023 IMO Strategy on Reduction of GHG Emissions from Ships in the Mediterranean region
REMPEC/WG.61/INF.14	Study to Assess the Legal and Technical Implications of the European Union Emissions Trading System (EU ETS) for Shipping in the Mediterranean region
REMPEC/WG.61/INF.15	Study on the Implementation of Emission Control and Energy Efficiency Measures for Ships in Port Areas in the Mediterranean region

REMPEC/WG.61/INF.16	Study Analysing the Impact of Biofouling on the Energy Efficiency of Ships and the GHG Abatement Potential of Biofouling Management Measures in the Mediterranean Sea region
REMPEC/WG.61/INF.17	Study on the Implementation of Possible Green Shipping Routes (Corridors) and Maritime Hubs (Green Hubs) to Reduce GHG Emissions from Shipping in the Mediterranean region
REMPEC/WG.61/INF.18	Regional Workshop on the consistent implementation of IMO 2020 under Annex VI to the International Convention for the Prevention of Pollution from Ships (MARPOL) and the 0.10% sulphur limit in the Mediterranean Sea Emission Control Area for sulphur oxide and particulate matter (Med SO _x ECA) (Lija, Malta, 22-23 May 2024)
REMPEC/WG.61/INF.19	Leaflet on the Effective Implementation of the Mediterranean Sea Emission Control Area for sulphur oxides and particulate matter (Med SO _x ECA)
REMPEC/WG.61/INF.20	Report of the Second Coordination Meeting on the Mediterranean Strategy for the Prevention of, Preparedness, and Response to Marine Pollution from Ships (2022-2031) (Lija, Malta, 21 November 2024)
REMPEC/WG.61/INF.21	Activities related to the protection of the Marine Environment involving Mediterranean States, delivered through IMO's integrated Technical Cooperation Programme (ITCP) and long-term thematic projects in 2024 and 2025
REMPEC/WG.61/INF.22	European Maritime Transport Environmental Report 2025 (EMTER 2025)
REMPEC/WG.61/INF.23	Underwater radiated noise from ships: presentation of the outcome of the NAVISON Project
REMPEC/WG.61/INF.24	Marine Intervention in Chemical Emergencies Network (MAR-ICE service)
REMPEC/WG.61/INF.25	Relevant studies published by EMSA on the decarbonization of shipping
REMPEC/WG.61/INF.26	MANIFESTS <i>Genius</i> (From Gases and Evaporators risk assessment towards an Integrated management of sea and land pollution incidents) training course

ANNEX IV

CONCLUSIONS AND RECOMMENDATIONS

The Sixteenth Meeting of the Focal Points of the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC), hereinafter referred to as “the Meeting”, which was held in Sliema, Malta, from 13 to 15 May 2025:

Agenda Item 2 Progress Report on REMPEC activities since the Fifteenth Meeting of the Focal Points of REMPEC

1 **welcomes** the progress reported on REMPEC activities since the Fifteenth Meeting of the Focal Points of REMPEC (Malta, 13-15 June 2023), as set out in document REMPEC/WG.61/2;

2 **values** the work carried out by the Secretariat since the Fifteenth Meeting of the Focal Points of REMPEC;

3 **expresses** appreciation for the financial support provided to the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC) for capacity building activities, by the Mediterranean Trust Fund (MTF), the International Maritime Organisation’s (IMO) Integrated Technical Cooperation Programme (ITCP), the discretionary voluntary contributions from the French Ministry for Europe and Foreign Affairs and the Italian Ministry of Environment and Energy Security (MASE) and the European Union;

4 **encourages** the Mediterranean coastal States as well as the relevant regional and international organisations to provide voluntary contributions to support further activities in relation to the prevention of, preparedness for, and response to marine pollution from ships;

5 **urges** the Contracting Parties to the Barcelona Convention (CPs), which have not yet done so, to ratify the Protocol concerning Cooperation in Preventing Pollution from Ships and, in Cases of Emergency, Combating Pollution of the Mediterranean Sea (the “2002 Prevention and Emergency Protocol”) to the Barcelona Convention, in order to achieve universally the objectives of the said Protocol in the Mediterranean region;

6 **noted** the importance of maintaining updated the network of Focal Points and Designated Representatives and encourages all CPs to do their utmost to keep the network updated and to those CPs, that have not yet done so, to nominate the respective Focal Points and Designated Representatives;

7 **acknowledges** the challenges being encountered by REMPEC in facilitating the implementation of its activities, leading to additional administrative burden and overheads; and

8 **encourages** CPs to consult and coordinate at national level with all authorities concerned, when replying to official communications/invitations sent by REMPEC;

Agenda Item 4 Developments within IMO related to the objectives and functions of REMPEC

9 **values** the update provided by IMO on the latest developments within IMO in the fields of

prevention of, preparedness for and response to marine pollution from ships and highlighting the recent activities and projects currently implemented by IMO concerning the protection of the marine environment;

10 **notes** the update provided by the International Oil Pollution Compensation Funds (IOPC Funds) on the latest developments in the field of compensation for ship-source pollution damage and the work of the IOPC Funds since the last Meeting of the Focal Points of REMPEC;

11 **urges** CPs to take a more active role in ongoing discussions at IMO and IOPC Funds on various issues of particular importance in the field of prevention of pollution from ships and compensation for ship-source pollution damage; and

12 **encourages** CPs to take a more active participation in ongoing projects undertaken by IMO's ITCP to the benefit of the protection of the marine environment;

Agenda Item 5 **Implementation of the Mediterranean Strategy (2022-2031)**

13 **notes** the outcome of the Second Coordination Meeting on the Mediterranean Strategy (2022-2031) (Malta, 21 November 2024), hereinafter referred to as the Second Coordination Meeting, as set out in the Appendix to document REMPEC/WG.61/INF.20;

14 **recognises** that the Mediterranean Strategy (2022-2031) remains a key tool in tackling marine pollution from shipping in the region, however its success is reliant on appropriate engagement and support from all CPs and relevant stakeholders;

15 **recognises further** that the full and timely implementation of the Mediterranean Strategy (2022- 2031) requires commitment from CPs and relevant stakeholders, through the provision of the necessary human and financial resources, as appropriate;

16 **endorses** the recommendations of the Biennial Review Report;

17 **thanks** the Secretariat for taking into consideration the priority actions identified by the CPs and relevant stakeholders during the Intersessional Working Groups (IWGs) and contained in the revised Joint Work Plans, as endorsed by the Second Coordination Meeting, for the elaboration of the United Nations Environment Programme Mediterranean Action Plan (UNEP/MAP) Programme of Work (PoW) for 2026-2027;

18 **agrees** to the establishment of the six restructured (IWGs), with revised Terms of References, each with the aim to identify the needs of CPs to fulfil the relevant Common Strategic Objectives (CSO) of the Mediterranean Strategy (2022-2031);

19 **agrees** further that no further work will be carried out on the IWGs that do not have yet a coordinator;

20 **encourages** CPs and Stakeholders to volunteer as coordinators of IWGs for CSOs 4, 5 and 6;

21 **urges** the CPs and Stakeholders to actively contribute to the work of the IWGs and to ensure that the necessary leadership, ownership and contribution is given throughout the forthcoming biennium;

22 **approves** the establishment of a Mediterranean Strategy (2022-2031) Inter-Secretariat Group to support coordination amongst relevant stakeholders and consider the needs and priority actions put forward by each of the IWGs, and define programmes of work, coordinating activities, to support Contracting Parties in achieving the CSOs of the Mediterranean Strategy (2022-2031), based on the needs identified by the IWGs;

23 **encourages** regional and international institutions to formalise their cooperation defined during the Meeting through participation in the newly established Inter-Secretariat Group, and through the establishment of sustainable partnership agreements to provide financial and technical support to Contracting Parties for the implementation of the Mediterranean Strategy (2022-2031);

24 **instructs** the Secretariat to secure the necessary funding and undertake the necessary work to prepare the Mid-Term Review of the Mediterranean Strategy (2022-2031) in 2026, to be presented at the 17th Meeting of Focal Points of REMPEC;

25 **agrees** that the biennial Coordination Meeting envisaged under the Mediterranean Strategy (2022-2031) is considered as a standing agenda item on the Agenda of the Meeting of Focal Points of REMPEC, without the need to organise a separate thematic meeting;

26 **adopts** the Guidance Document on the Preparation of National Action Plans (NAPs) for the Implementation of the Mediterranean Strategy (2022-2031), hereinafter referred to as the Guidance Document, as set out in document REMPEC/WG.61/5/1;

27 **instructs** the Secretariat to publish the adopted Guidance Document on REMPEC website;

28 **urges** CPs to implement the recommended actions in the Guidance Document to develop and finalise their NAPs in line with the Mediterranean Strategy (2022-2031);

29 **encourages** the participation of relevant stakeholders, including government agencies, shipping industries, and environmental organizations, in the NAPs preparation and implementation processes that will contribute to the Mid-term Review process;

30 **requests** the Secretariat to provide ongoing technical assistance and capacity building to CPs to support the development and implementation of their NAPs;

31 **instructs** the Secretariat to develop the Framework on Gender and Youth Mainstreaming, aiming to ensure that gender and youth considerations are integrated into all aspects of the Mediterranean Strategy (2022-2031), promoting equality, inclusivity and empowerment throughout the Mediterranean region for consideration at the 17th Meeting of Focal Points of REMPEC;

32 **values** the presentation by the European Maritime Safety Agency (EMSA) providing an overview of the second edition of the European Maritime Transport Environmental Report (EMTER 2025) and the results from the NAVISON Project aiming at quantifying underwater radiated noise;

33 **acknowledges** the efforts undertaken by EMSA under the SAFEMED V Project to implement targeted actions aligned with the objectives of the Mediterranean Strategy (2022-2031);

Agenda Item 6 **Illegal and accidental oil and HNS pollution from ships**

• Maritime Traffic and Offshore Oil and Gas Activities – Trends and Outlook

34 **notes** the experience gained with the development of the 2017 and 2023 Mediterranean Quality Status Reports (MED QSR), and the valuable contribution of the *Study on Maritime Traffic and Offshore Oil and Gas Activities - Trends and Outlook* (December 2021) in this process;

35 **welcomes** the process for updating and enhancing the Study in view of the forthcoming third edition of the MED QSR;

36 **concurs** with MEDEXPOL 2024 findings, encouraging CPs to agree on the preparation of an

update of the Study and to consider other emerging topics;

37 **endorses** the Draft Terms of Reference for the update and upgrade of the *Study on Maritime Traffic and Offshore Oil and Gas Activities – Trends and Outlook*, as contained in the Annex to document REMPEC/WG.61/6;

38 **requests** the Secretariat, subject to availability of funds, to undertake the update of the Study during the forthcoming biennium;

- **Marine Pollution Monitoring - Results of the Survey on Needs of Capacity Building on the use of IMAP CI**

39 **notes** the results of the *Online Periodical Survey to update on oil and HNS Spills* initiated in January 2024 and continued on a three-month basis until March 2025;

40 **acknowledges** that the surveys neither duplicate nor replace any existing reporting system, and provide preliminary information on spills, serving as a reference for additional reporting when detailed investigation of specific incidents is required;

41 **recognizes** the very limited response from CPs to the surveys and that the results may not be representative, as expected, of the current situation in the Mediterranean when it comes to occurrence of spills;

42 **concurs** with MEDEXPOL 2024 on the usefulness of the survey;

43 **calls** on CPs to consider more closely the added value and benefits at national and beyond (e.g. statistical purposes, trends and outlooks) of reporting on and implementation of the legal instruments;

44 **agrees** on the continuation of the survey process every quarter, during the next biennium;

45 **encourages** the CPs to complete the surveys, even if no spill has occurred during the survey period, to ensure the consistency of the statistics;

- **Lowering of the Threshold for Reporting on Oil Spills**

46 **recalls** the requirements set out in COP 23 Decision IG.26/3, to improve quantity and quality of data for the Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast (IMAP) Common Indicator 19 (CI 19), and to align the definition of the minimum threshold for reporting with those used under other regional sea conventions and within the framework of the Marine Strategy Framework Directive (MSFD);

47 **welcomes** the informal consultation carried by the Secretariat with the relevant competent organizations including UNEP/MAP-MEDPOL, the IMO/MED, HELCOM, OSPAR and the Bonn Agreement, the European Commission, and ITOPF, on the spills measurement unit, the definition and significance of acute pollution, the reporting obligations on oil spills in the Mediterranean, spill trends and the state of play within other regional sea conventions and organisations;

48 **concurs** that a lower minimum threshold for reporting oil spill events in the Mediterranean Sea, for statistical purposes and volumetric estimations, is beneficial;

49 **encourages strongly** CPs to send information related to detected spills below 10 t/m³ classified in 4 categories according to their volume: < 5 m³ / 5-10 m³ / 10-100 m³ / > 100 m³ to be used for statistical purposes;

50 **recommends** lowering the minimum threshold to 10 t/m³, for reporting in the BCRS and that this threshold value should be considered as mandatory;

51 **requests** the Secretariat to present the lowering of the minimum threshold of 10 t/m³ at the CORMONs meeting for adoption, including recommendations for the development of the implementation of IMAP CI 19 in case of accidental spills, identification/Designation of responsible authorities overseeing the monitoring of accidental spills from shipping and Oil and Gas offshore activities, and effective information on stations, list of contaminants;

• **Common Emergency Communication System for the Mediterranean**

52 **recalls** the agreement at the Fourteenth Meeting of the Focal Points of REMPEC, on the use of the Common Emergency Communication and Information System for Marine Pollution (CECIS Marine), as a Common Emergency Communication System for the Mediterranean for the request of assistance;

53 **welcomes** the consultations conducted by the Secretariat and DG ECHO to progress in the development of the functionalities identified during the 14th Meeting of the Focal Points, and the ongoing work of the established 'CECIS MP User Working Group' by DGECHO (the Group), to discuss and decide on the functionalities of the new CECIS Marine to address existing concerns and to facilitate easy transition to the new system;

54 **notes** that within the work of the Group, EU Member States provide their inputs directly to DG ECHO;

55 **considers** the involvement of REMPEC and the Mediterranean Technical Working Group (MTWG) in the work of the Group;

56 **requests** non-EU CPs to take preparatory steps required to access and use the new CECIS Marine, by end September 2025, to:

.1 **appoint** national CECIS Marine administrator/s and map national user authorities to allow having main (constant) users and those that can be relevant and 'activated' in specific circumstances or emergencies with the read-only or read-and-write rights, determined by the administrator; and

.2 **create** an EU login account to enable access to CECIS Marine;

57 **decides** that CPs, who are not SafeSeaNet (SSN) users, shall:

.1 exchange the whole POLREP from the alert phase to the request for assistance through CECIS Marine; and

.2 use a standard request and offer window in CECIS Marine rather than the forms that are now agreed at REMPEC. However, if needed, the option to attach the Standard forms to complement the request, may be envisaged;

58 **requests** CPs who are members of the EU to support the authorisation of REMPEC to be granted access to parts of the SSN data by the SSN High Level Steering Group;

59 **agrees** to include the list of equipment currently maintained on MEDGIS-MAR to CECIS Marine considering that the two systems are not compatible;

60 **agrees** that the request for assistance of MAU experts will be submitted through the CECIS

Marine, once this is operational;

61 **requests** the Secretariat and DGECHO to:

- .1 **create** a link to CECIS Marine authentication screen on REMPEC's website;
- .2 **integrate** the Standard Form for request of experts from the MAU under CECIS Marine;
- .3 **ensure** that when operational, CECIS Marine will:
 - provide a platform for all CPs to share incident information and requests/offers of assistance with the other CPs and REMPEC;
 - grant access to REMPEC to receive and share information and to coordinate assistance within the framework of the MAU;
 - provide for a URL link which would enable access to REMPEC's Country Profile;

- **Update of guidelines and tools**

62 **welcomes** the initial review of the Secretariat of the Mediterranean Guidelines developed by REMPEC over the years, with the aim to identifying those that require full or partial updates in light of developments since their adoption and publication;

63 **notes** the list of revised guidelines since 2018 and the recent digitalised version of the Oiled Shoreline Assessment Form of the Mediterranean Oiled Shoreline Assessment Guidelines (2009);

64 **endorses** the conclusion of the initial review regarding the selected guidelines enquiring an update, and the identification of operational parts of the Mediterranean Guidelines that could potentially be converted into electronic formats to facilitate better use by officers in the respective Contracting Parties;

65 **requests** the Secretariat, subject to availability of funds, to update and/or digitalise, the list of guidelines, as provided in the Annex to document REMPEC/WG.61/6/4;

- **Review of the Guidelines for the use of dispersants for combating oil pollution at sea in the Mediterranean region**

66 **recognises** the value of the *Guidelines for the Use of Dispersants for Combating Oil Pollution at Sea in the Mediterranean* (REMPEC 2011);

67 **recalls** that the 15th Meeting of Focal Points of REMPEC instructed the Secretariat to review Part II of the Guidelines on *Basic Information on Dispersants and their Application*;

68 **welcomes** that the revision process tailored to reflect the specific characteristics of the Mediterranean region, incorporating the latest developments on dispersants since 2011 as well as updated data on dispersants, oil spills response techniques, along with enhanced information on Mediterranean ecosystems; and

69 **approves** the revised Part II of the Guidance Document *Basic Information on Dispersants and their Application* (2025) included as Annex to document REMPEC/WG.61/6/4/1;

- **Upgrading of Databases and REMPEC Platforms**

70 **recalls** the outcomes of the previous Focal Points Meetings with regards to the REMPEC

databases and platforms, with a view to assisting the CPs in fulfilling their commitments on dissemination and exchange of information, and the repeated encouragements to the CPs to regularly update their Country Profile and MEDGIS-MAR, as appropriate;

71 **recognises** that although information on spills continues to be collected, this data remains under reported and not necessarily representative of oil spills from ships under the threshold of 50 m³ or from sources other than ships, hence the recommendation of the 15th Focal Points Meeting on a new layer on ‘spills’;

72 **urges** the CPs to get better organised for reporting activities at national level in order to facilitate the exchange of reporting needs;

73 **requests** the Secretariat, subject to availability of funds, to assess possible future developments of MEDGIS-MAR to enable:

- .1 possible interconnection with the Country Profile pages to allow for a unique update by CPs;
- .2 easier update of the layer “accidents”; and
- .3 avoid duplication with MIDSIS-TROCs 4.0 regarding HNS pollution incidents.

74 **requests further** the Secretariat, subject to availability of funds, to carry an evaluation to assess ways to upgrade the Country Profile and MEDGIS-MAR, as adopted by the 11th Meeting of Focal Points of REMPEC (June 2015), to enhance its practicability for reporting, exchange information, and improve the visibility of national actions and activities **and submit** a proposal, including financial repercussions, for consideration to the 17th Meeting of the Focal Points. The assessment should consider ways to include, but not limited to:

- .1 key national achievements, developments in the field of Preparedness and response to Oil and HNS pollution;
- .2 ongoing Actions and future plans, projects, strategies;
- .3 list and links to relevant websites and platforms that facilitate data sharing and exchange of information; and
- .4 list the links to documents, reports, and templates, such as the template of the *Manual on national mechanisms for the mobilization of response equipment and experts in case of emergency*, Part III of the BCRS template;

• **Mediterranean Technical Working Group (MTWG) and related activities**

75 **welcomes** the progress made by the MTWG since the Fifteenth Meeting of the Focal Points of REMPEC (Malta, June 2023);

76 **endorses** the proposal to combine the Correspondence Group on Data Sharing, Monitoring, and Reporting, established by the 15th Meeting of Focal Points of REMPEC to the OPRC-HNS Correspondence Group and to inherently strengthen its composition by incorporating entities and officials with the necessary knowledge and experience in the Barcelona Convention Reporting System (BCRS);

77 **encourages** the CPs, that have not yet done so, to nominate their national entities and/or officials as contact points for the OPRC-HNS Correspondence Group;

78 **concurs** with MEDEXPOL 2024 findings on reporting on incidents and spills and on collecting data on impacts on biota under IMAF CI 19;

79 **tasks** the MTWG, through the OPRC HNS Correspondence Group to:

.1 support the Secretariat in the preparation of the assessment on future improvement and upgrade of MEDGIS-MAR;

.2 contribute to the review of the Country Profile and its upgrade with the aim to facilitate the collection and utilization of datasets for statistical analysis and studies at regional level and improve the visibility of national actions and activities;

.3 contribute to strengthening the national monitoring system by integrating key elements that enable the monitoring assessment of the impact on the marine environment using IMAF CI19. This includes to any extent possible all the data required in DD&DS, and on impacts on biota, defining the competent responsible authority, engaging operational institution experts, etc;

.4 continue assisting the Secretariat in cooperation with the EC during the different phases of the development of the Common Emergency Communication System for the Mediterranean; and

.5 assist the Secretariat in implementing the findings and recommendations of the Study on the Readiness of the Mediterranean Region to Respond to Marine Pollution Incidents Involving Low Sulphur Fuels or Alternative Fuels, as deemed appropriate;

- **Mediterranean Assistance Unit (MAU) and related activities**

80 **welcomes** the information on the MAU, its achievements during the last three decades, since its inception, and the important role of its members, and **notes** with interest the developments on funding of the MAU;

81 **recalls** the need to raise the funding of the MAU Revolving Fund to cover an additional month with a view that the Revolving Fund will be able to fund a two months' expert mission, subject to the availability of funds;

82 **considers** the context that led to the postponement of the process with the MAP Focal Points and follow-up to the COP to the present Meeting, for further consideration; and

83 **requests** the Secretariat to submit the draft decision of the Contracting Parties, as set out in the Annex thereto, for approval by the next Meeting of the UNEP/MAP Focal Points;

- **Preparedness and Response Contingency Planning**

84 **acknowledges** that the Subregional Multilateral Agreements on the Subregional Contingency Plans (SCPs) developed in accordance with Article 17 to the *2002 Prevention and Emergency Protocol*, provide an additional legal framework, complementing those established at the regional and subregional level by the Barcelona Convention and its 2002 Prevention and Emergency Protocol, respectively;

85 **recognises** that these SCPs benefit not only competent national authorities of two or more countries in charge of the SCP to co-operate in co-ordinating and integrating their response to marine pollution but also contribute through the implementation of respective programme of activities to identifying activities to that enhance national and regional systems for preparedness to response the

marine pollution;

86 **welcomes** the SCPs new developments, made during the period under review, namely, the finalisation of the draft Adriatic Marine Pollution Incident Contingency Plan and the review of the Trilateral Agreement on the SCP between Cyprus, Egypt, and Greece;

87 **requests** the Secretariat in coordination with the National Operational Authorities of the SCPs, in force, to review and update the Study on Synergy between the three sub-regional agreements and contingency plans of the Western Mediterranean, referred to in document REMPEC/WG.51/INF.4, to cover all SCPs;

88 **encourages** particularly CPs that are not yet members of SCPs, to develop new bilateral or sub-regional agreements on SCPs in order to benefit from the support mentioned above;

- **Guidelines for the Development of joint Spill Exercises within the Framework of the Sub-regional Contingency Plans**

89 **acknowledges** that SCP activities are jointly planned and carried out in accordance with the agreed programme of activities on short, medium and long-term capacity-building and trainings on various SCP related themes and despite the numerous activities achieved under the different SCPs, joint exercises involving two or more SCP members were notably lacking;

90 **welcomes** the development of the *Guidelines for the Development of Joint Spill Response Exercises within the Framework of the Subregional Contingency Plans*;

91 **recognises** that the Guidelines are intended for use by Mediterranean countries members of SCP(s) to conduct joint tabletop and real-case exercises and are intended to facilitate the preparatory work for participating countries and to address any technical or logistical issues that may arise during the design, planning, preparation and execution of such exercises;

92 **approves** the *Guidelines for the Development of joint Spill Exercises within the Framework of the Sub-regional Contingency Plans*;

93 **encourages** the CPs to make use of the adopted Guidelines in the planning and execution of Joint thematic tabletop, as well as real-case exercises; and

94 **invites** the CPs to also consider the HNS Manual – Multi- Regional Bonn Agreement, HELCOM and REMPEC while preparing and conducting Tabletop exercise on HNS Spills;

- **Improvement Process for Advanced Level of Preparedness for OSR and Harmonizing Response for HNS Incidents**

95 **notes** that the total number of developed National Contingency Plans (NCP) in the Mediterranean amounts to twenty out of the twenty-one CPs;

96 **acknowledges** the role of REMPEC, within its mandate, in continuing to assist CPs in strengthening national capacities for maintaining their NCP and ensuring their effective implementation in case of emergency;

97 **welcomes** the national assessments of the level of preparedness to respond to oil spills, using the worldwide recognized “Readiness Evaluation Tool for Oil Spills (RETOS™)”, including its accompanying manuals thereby ensuring standardised results that supported definition of clear and coherent developments to enhance contingency planning programmes;

98 **takes note** of the information provided in document REMPEC/WG.61/6/7/2 and its Annex providing an overview of the outcome of the Assessments;

99 **requests** the Secretariat to continue the joint efforts with other regional Secretariats to facilitate the use of the HNS Manual's decision trees, as listed in the Annex to REMPEC/WG.61/6/4 Update of Guidelines and Tools, and related fact sheets in the design and execution of exercises and drills on HNS Spills;

100 **urges** the CPs to:

- .1 maintain a periodic national assessment to reach the higher two-levels B and C;
- .2 extend the evaluation process to the other Scope (industry and ports) with the aim to achieve a comprehensive integrated approach encompassing all levels of preparedness within the scope of Government-Industry collaboration; and
- .3 incorporate the use of the innovative support tools into the planning and execution of their upcoming exercises and drills;

101 **requests** the Secretariat, upon request and subject to the availability of funds, to provide assistance to CPs:

- .1 in the implementation of the recommendations made in the national assessments; and
- .2 in facilitating the use of the updated RETOSTM ;

- **Readiness to respond to LSF and AF pollution incidents**

102 **welcomes** the Secretariat follow up on the recommendation of the 15th Focal Points Meeting of REMPEC (Malta, June 2023) to support the consistent implementation of the 0.10% sulphur limit in the Med SO_x ECA through commissioning in 2024 a *Study on the Mediterranean Region readiness to Respond to Marine Pollution Incidents Involving Low Sulphur Fuels or Alternative Fuels*;

103 **agrees** on the proposed Strategic Roadmap to implement the Study recommendations on the Short-Medium-Long term;

104 **considers** the action plan to operationalise the Strategic Roadmap for the short-term phase (0-2 years), as provided in the Study;

105 **requests** the Secretariat, as appropriate and subject to availability of funds, to:

- .1 conduct, a gap analyses and align with IMO developments, in relation to preparedness and response;
- .2 coordinate with CPs to establish national implementation committees within their NCP;
- .3 develop standardised spill procedures tailored to alternative fuels for use in the Mediterranean region; and
- .4 liaise with EMSA and other stakeholders to organise joint capacity building activities focused on alternative fuel spill response;

- **Mediterranean Network of Law Enforcement Officials relating to MARPOL within the framework of the Barcelona Convention and related activities**

106 **notes** the outcome of the Sixth Meeting of the Mediterranean Network of Law Enforcement Officials relating to the International Convention for the Prevention of Pollution from Ships (MARPOL) within the framework of the Barcelona Convention (MENELAS) (Malta, 4-5 December 2024), as set out in the Appendix to document REMPEC/WG.61/INF.10;

107 **concurs** that the establishment of a MENELAS database on illicit ship pollution discharges in the Mediterranean is put on hold until further developments were achieved on the harmonised reporting template under the EU Ship-Source Pollution Directive;

108 **endorses**, subject to availability of funds, the recommendations concerning the consolidated draft decision to apply criteria for a common minimum level of fines for each offense provided for under the Annexes to MARPOL, within the framework of the Barcelona Convention, hereinafter referred to as the “draft decision”, as set out in the Appendix to document REMPEC/WG.59/2, namely to:

.1 undertake further work on the consolidated draft decision, as adjusted, taking into account the outcome of the discussions held at the Meeting;

.2 carry out a detailed study on the possible criteria and possible minimum level of fines for each offense provided for under the Annexes to MARPOL, as set out in the consolidated draft decision, as adjusted, taking into consideration the specificities of each CP; and

.3 develop associated draft guidelines to ensure the uniform and effective implementation of the consolidated draft decision, as adjusted, in the Mediterranean region, taking into consideration information from CPs on how quantities of waste discharged from polluting ships might be measured;

109 **agrees** to the re-establishment of the Working Group within MENELAS to oversee, through correspondence coordinated by the Secretariat, the completion of the work referred to above, ahead of the next meeting of MENELAS;

110 **approves** the draft Terms of Reference on the Establishment of a Mediterranean Network of Law Enforcement Officials relating to MARPOL, as presented in the Annex to document REMPEC/WG.61/6/8;

111 **instructs** the Secretariat to submit the draft Terms of Reference, referred to in paragraph 110 above, for consideration and adoption to COP 24;

- **Possible creation and operation of a regional “Blue Fund”, including in terms of governance and financing**

112 **recalls** that the Twenty-third Ordinary Meeting of the Contracting Parties to the Barcelona Convention and its Protocols (COP 23) (Portorož, Slovenia, 5-8 December 2023) agreed to include the finalisation of modalities of possible creation and operation of a regional “Blue Fund”, including in terms of governance and financing, as well as a comprehensive legal analysis, in the Programme of Work and Budget for 2024-2025 of the Mediterranean Action Plan (MAP) of the United Nations Environment Programme (UNEP);

113 **welcomes** the preparation of the Legal Analysis to assess the implications of the possible creation and operation of a regional “Blue Fund”, including in terms of governance and financing, in the Mediterranean region (hereinafter referred to as the “Legal Analysis”), as set out in the Appendix to document REMPEC/WG.61/6/8/1;

114 **notes** that there were three (3) potential approaches for the possible creation and operation of a regional “Blue Fund”, including in terms of governance and financing, in the Mediterranean region, as follows:

- .1 a formal approach, which could be:
 - .i either an amendment to the Barcelona Convention; or
 - .ii an amendment to the Protocol Concerning Cooperation in Preventing Pollution from Ships and, in Cases of Emergency, Combating Pollution of the Mediterranean Sea to the Barcelona Convention; or
 - .iii the adoption of a new Protocol to the Barcelona Convention; or
 - .iv the adoption of a COP Decision;
- .2 an informal approach based on a voluntary or trust fund model like The MedFund or the Partnerships in Environmental Management for the Seas of East Asia (PEMSEA); and
- .3 a hybrid approach transitioning from an informal approach at first to a formal approach at a later stage;

115 **acknowledges** the various concerns raised by the CPs on the possible creation and operation of a regional “Blue Fund”, including in terms of necessity to establish such a fund as well as in terms of its governance and financing;

116 **instructs** MENELAS not to pursue further work on the possible creation and operation of a regional “Blue Fund”, during the forthcoming biennium and to look into the matter at future sessions, should the agenda and funds allow, focusing on the informal approach;

• **Final draft common marine oil pollution detection/investigation report**

117 **recalls** that the Fifteenth Meeting of the REMPEC Focal Points endorsed the final draft common marine oil pollution detection/investigation report, as set out in the Appendix to document REMPEC/WG.56/3/1;

118 **notes** the outcome of the discussions held with the relevant regional organisations, namely the North Sea Network of Investigators and Prosecutors (NSN)¹, the Bonn Agreement, as well as HELCOM;

119 **further notes** with satisfaction the first-hand experience in the Mediterranean region on the use of the draft common marine oil pollution detection/investigation report in the margins of a coordinated aerial surveillance operation for illicit ship pollution discharges in the Mediterranean (OSCAR-MED) held in 2023 within the framework of the RAMOGE Agreement²;

120 **endorses** the final draft common marine oil pollution detection/investigation report, as set out in the Appendix to document REMPEC/WG.61/6/8/2, consisting of:

- .1 the Standard Pollution Observation/Detection Log and Completion Guide, as set out in Part A and Part B respectively of the Appendix thereto; and

¹ a body associated with the OSPAR Commission.

² Accord relatif à la Protection de l'Environnement Marin et Côtier d'une Zone de la Mer Méditerranée.

.2 the Pollution Observation/Detection Report on Polluters and Combustible Spills (IMO), as set out in Part C of the Appendix thereto.

121 **requests** the Secretariat to continue liaising with the OSPAR Commission/Bonn Agreement Secretariat and the HELCOM Secretariat to further explore the possibility to jointly endorse the adopted common marine oil pollution detection/investigation report referred to above, for use in the Bonn Agreement, HELCOM and Mediterranean Sea areas;

122 **also requests** the Secretariat to liaise with the Secretariat of the RAMOGE Agreement with a view to ensuring that the adopted common marine oil pollution detection/investigation report referred to **Error! Reference source not found.**above, be used during future OSCAR-MED operations to obtain further practical experience in the Mediterranean region;

Agenda Item 7 **Air Pollution from Ships**

- **Mediterranean Sea Emission Control Area for Sulphur Oxides and Particulate Matter (Med SOX ECA)**

123 **welcomes** the effective application on 1 May 2025, of the Mediterranean Sea Emission Control Area for Sulphur Oxides and Particulate Matter (Med SO_x ECA);

124 **recalls** the urgency of ratification, transposition into national laws and effective implementation and enforcement of MARPOL Annex VI by all CPs;

125 **encourages** the CPs, which have not yet done so, to ratify and effectively implement MARPOL Annex VI, as soon as possible;

126 **calls upon** the Secretariat to continue provide technical support and capacity building to the CPs, which so request, to ratify and effectively implement and enforce MARPOL Annex VI, in synergy with the IMO and other relevant stakeholders, pursuant to the Programme of Work (PoW) and Budget for 2026-2027 of UNEP/MAP;

127 **appreciates** the Secretariat's efforts for securing the necessary funds and the discretionary voluntary contributions from the IMO's ITCP and the Governments of France and Italy to make possible the successful organisation of the Regional Workshop on the consistent implementation of the 0.10% sulphur limit under MARPOL Annex VI in the Med SO_x ECA (Malta, May 2024) and 3 National Workshops on the Ratification and Effective Implementation of MARPOL Annex VI, during 2024;

128 **adopts** the Guidance Document, as contained in Appendix 1 to document REMPEC/WG.61/7 and **requests** the Secretariat to carry out final editing and any editorial corrections, as appropriate, before publishing it on REMPEC's website;

129 **requests** the CPs to bring the draft Guidance Document, as adopted, to the attention of Administrations, port State authorities, other designated authorities, shipowners, ship operators, ports, fuel oil suppliers, shipbuilders, and any other interested groups such as environmental organisations, industry associations, research institutions and local communities, as appropriate;

130 **calls upon** the CPs to implement the draft Guidance Document, as adopted, as appropriate;

131 **encourages** the CPs that are also Members of the Mediterranean Memorandum of Understanding on port State control (MED MOU), to take the necessary steps to bring the Guidance Document, as adopted, to the attention of the Secretariat of the MED MOU;

132 **recommends** to the Mediterranean coastal States that are not yet Parties to MARPOL Annex

VI, to take into account the Guidance Document, as adopted, when planning their ratification process and when carrying out enforcement in their ports to ensure the consistent implementation of the 0.10% sulphur limit under MARPOL Annex VI in the Med SO_x ECA across the whole Mediterranean region;

133 **encourages** the CPs to provide full support, both technically, in terms of expertise, and financially, in terms of voluntary contributions, to the necessary technical assistance and capacity building activities in the Mediterranean region;

134 **calls** upon the Secretariat to continue to promote the work on the designation of the Med SO_x ECA in various fora, as appropriate;

135 **welcomes** the in-kind support provided by the LIFE4MECA Project Partnership to update the *Overview of Key Financing and Funding Opportunities in Mediterranean Coastal State supporting the Implementation of the Med SO_x ECA*, as contained in REMPEC/WG.61/INF.12;

136 **appreciates** the offer made by EMSA to continue providing capacity building to CPs, who have not yet ratified MARPOL Annex VI, under the SAFEMED V and IPA III Projects;

137 **requests** the Secretariat to continue its dialogue with relevant stakeholders to provide technical support, through technical cooperation and capacity-building activities, including financial support and resource mobilisation activities, to address the CPs' needs;

138 **commends** the Secretariat for the *Our Mediterranean, Your Responsibility* awareness campaign, which was built on the fundamental message: *the well-being of the Mediterranean is a shared duty, and every maritime stakeholder plays a crucial role in protecting it* and for the production of the bi-lingual leaflet to enhance awareness on the effective implementation and enforcement of the Med SO_x ECA;

139 **encourages** CPs to actively make use of the campaign material and the digital leaflet and disseminate key information to their respective maritime stakeholders;

- **Environmental and Legal Impacts of the Use of Exhaust Gas Cleaning Systems (EGCS) in the Mediterranean Sea**

140 **appreciates** the discretionary voluntary contribution from the Italian Ministry of Environment and Energy Security (MASE) to enable the Secretariat to prepare the Study on the Environmental and Legal Impacts of the Use of Exhaust Gas Cleaning Systems (EGCS) in the Mediterranean Sea, as presented in document REMPEC/WG.61/INF.11;

141 **notes** the various challenges and growing environmental and legal concerns with EGCS discharge water, that have led to countries to come up with their local and regional policies to safeguard their jurisdictional water;

142 **notes further** that Open-loop EGCS discharge water contains various pollutants, including heavy metals and polycyclic aromatic hydrocarbons (PAHs), which may pose risks to marine ecosystems, especially in enclosed or semi-enclosed seas like the Mediterranean;

143 **recognises** that there is a lack of comprehensive data on the long-term environmental impacts of EGCS discharges in the Mediterranean and that existing studies highlight the necessity for further research to understand the cumulative effects on marine life and water quality;

144 **reaffirms** that the designation of the Mediterranean Sea as a Sulphur Emission Control Area (Med SO_x ECA) effective from May 1, 2024, underscores the region's commitment to reducing air pollution from ships;

145 **recognises** that this development may necessitate a re-evaluation of the use of EGCS, particularly open-loop systems, in compliance strategies in view that the Mediterranean Sea is a major shipping traffic lane and the use of EGCS may have a negative environmental impact on marine ecosystems in the region;

146 **welcomes** the ongoing discussions regarding risk assessments, impact assessments, and potential regulatory measures at the IMO that has recognized the need to evaluate and harmonize rules concerning EGCS discharge water;

147 **encourages** the CPs to:

.1 actively participate in ongoing discussions at IMO to develop harmonized standards and guidelines for EGCS discharge water, ensuring consistency and environmental protection across the region;

.2 implement robust monitoring systems to track EGCS discharges and their environmental impacts, facilitating data collection and informed decision-making;

.3 involve industry stakeholders, environmental organizations, and scientific communities in the development of national policies and regulations concerning EGCS use and discharges, ensuring a balanced and effective approach;

.4 support research initiatives aimed at understanding the long-term effects of EGCS discharges; and

.5 provide full support, both technically, in terms of expertise, and financially, in terms of voluntary contributions, to the necessary technical assistance and capacity building activities, related to EGCS discharges, in the Mediterranean region;

148 **urges** the Secretariat to liaise with other regional organisations, such as HELCOM and OSPAR/Bonn Agreement, to closely follow developments in their respective regions on the matter and to update the next meeting of Focal Points of REMPEC;

- **Mediterranean Sea Emission Control Area for Nitrogen Oxides (Med NO_x ECA)**

149 **welcomes** the establishment of the Nitrogen Oxides (NO_x) Emission Control Area (ECA) Technical Committee of Experts (NECA TCE);

150 **notes** the progress made on the detailed Technical and Feasibility Study to assess the relevant existing and on-going studies as well as to examine the possible designation of the Mediterranean Sea, as a whole, as an Emission Control Area for Nitrogen Oxides (Med NO_x ECA) pursuant to MARPOL Annex VI, including health and socio-economic impacts on the Mediterranean region and the individual CPs (hereinafter referred to as the Technical and Feasibility Study);

151 **urges** those CPs that have not yet nominated any representative to the NECA TCE, to do so, through their REMPEC Prevention Focal Points, jointly and in consultation with their REMPEC Governmental Focal Points;

152 **encourages** all CPs to actively participate and contribute to the work of the NECA TCE, in view of the importance of the matter;

153 **endorses** the Tentative Detailed Work Plan and Timetable for the work of the NECA TCE, as contained in Appendix 2 to document REMPEC/WG.61/7;

154 **instructs** the Secretariat to finalise the Technical and Feasibility Study under the guidance of the NECA TCE, together with the related roadmap, during the biennium 2026-2027, for consideration by the Seventeenth Meeting of the Focal Points of REMPEC, to be tentatively held in 2027, as appropriate;

Agenda Item 8 **Reduction of GHG emissions from ships**

155 **acknowledges** that the decarbonisation of shipping in the Mediterranean is both a regional imperative and a global responsibility. The Mediterranean, as a semi-enclosed sea with high traffic density and environmental sensitivity, faces unique challenges and opportunities in aligning with international climate goals, particularly the IMO 2023 GHG Strategy and evolving EU regulatory frameworks;

156 **recognises** that effective regional cooperation, technical innovation, and harmonised policy implementation are essential to enable a just and equitable transition to low- and zero-carbon maritime transport;

157 **welcomes** the revised IMO 2023 GHG Strategy, adopted at the 80th Session of the Marine Environment Protection (MEPC 80), that sets ambitious targets for reducing greenhouse gas emissions from international shipping;

158 **recalls** the recent approval of the IMO Net-Zero Framework at MEPC 83 in April 2025, that aims to introduce binding global measures, including a greenhouse gas (GHG) fuel intensity standard and a pricing mechanism, set to take effect from 2027. These developments underscore the urgency for Mediterranean stakeholders to align regional strategies with international commitments, ensuring a cohesive and effective transition towards net-zero emissions by or around 2050, as agreed under the IMO 2023 GHG Strategy;

159 **emphasises** that the successful decarbonisation of the maritime sector in the region requires a systemic and coordinated approach. This includes addressing the legal, technical, and operational dimensions of GHG reduction, improving ship-port interface efficiency, fostering clean technologies, and supporting the development of green corridors and hubs. Active engagement of all stakeholders—States, industry, ports, and civil society—is key to building momentum and achieving tangible results;

160 **urges** CPs and stakeholders to strengthen regional cooperation frameworks under the Barcelona Convention, particularly through REMPEC, to ensure consistent implementation of international and regional GHG reduction measures in the maritime sector, including through capacity building, technical assistance, and information exchange;

161 **appreciates** the discretionary voluntary contributions from the French Ministry of Foreign and European Affairs and the Italian Ministry of Environment and Energy Security (MASE) to enable the Secretariat to prepare the various Studies, as presented in documents REMPEC/WG.61/INF.13, REMPEC/WG.61/INF.14, REMPEC/WG.61/INF.15, REMPEC/WG.61/INF.16 and REMPEC/WG.61/INF.17;

162 **stresses** that achieving the targets agreed under the IMO 2023 GHG Strategy requires coordinated efforts among Mediterranean coastal States, including the development of National Action Plans (NAPs) and collaboration with ports to facilitate the uptake of low- and zero-carbon technologies;

163 **encourages** all CPs to develop and submit voluntary NAPs outlining strategies to reduce GHG emissions from ships and to promote partnerships between ports and the shipping sector to support the adoption of energy-efficient practices and alternative fuels;

164 **adopts** the Guidance Document, as contained in Annex 1 to document REMPEC/WG.61/8/6 and requests the Secretariat to carry out final editing and any editorial corrections, as appropriate, before publishing it on REMPEC's website;

165 **calls** upon the CPs to take the Guidance Document, as adopted, into consideration when preparing their NAPs, as appropriate;

166 **encourages** the interested CPs to provide voluntary contributions in terms of expertise and financial support, to facilitate the development of NAPs when requested by other CPs;

167 **acknowledges** the importance of optimizing the ship-port interface for reducing GHG emissions, as inefficiencies can lead to increased fuel consumption and emissions during port calls;

168 **recognises** that technological advancements, such as digitalization and automation, offer opportunities to enhance port operations and reduce environmental impacts;

169 **urges** CPs to seek ways to optimise the ship-port interface in their ports by:

- .1 implementing best practices for port call optimization, including Just-In-Time (JIT) arrival and departure procedures;
- .2 investing in digital infrastructure to facilitate real-time information exchange between ships and ports; and
- .3 encouraging the adoption of shore-side electricity and other emission-reduction technologies at ports;

170 **recognises** that Biofouling increases hull resistance, leading to higher fuel consumption and GHG emissions and that the revised IMO Biofouling Guidelines aim to enhance biofouling management practices to minimize environmental impacts;

171 **encourages** CPs to implement the revised Biofouling Guidelines among Mediterranean shipping stakeholders and support research and development of innovative antifouling technologies and hull cleaning methods;

172 **urges** CPs to work towards the establishment of regional cooperation frameworks for sharing best practices and experiences in biofouling management;

173 **requests** the Secretariat, subject to availability of funds, to provide technical assistance and capacity building, to CPs that request, on the implementation at national level of the IMO Biofouling Guidelines;

174 **urges** CPs to take an active role in the ongoing discussions at IMO on the development of a legally binding instrument on Biofouling Management;

175 **acknowledges** that green corridors and green hubs represent strategic initiatives to accelerate the decarbonization of maritime transport by focusing on specific routes and ports and that successful implementation requires collaboration among Governments, industry stakeholders, and international organizations;

176 **instructs** the Secretariat, subject to availability of funds, to undertake work to identify and prioritize potential green corridor routes within the Mediterranean region, develop action plans for establishing green hubs, including infrastructure upgrades and policy incentives and foster partnerships among Mediterranean countries to share knowledge and coordinate efforts in developing green corridors and hubs;

177 **notes** the information provided by EMSA on a number of studies related to the use of non-fossil fuels by shipping;

178 **recalls** that regional collaboration is essential to address the unique challenges of the Mediterranean maritime landscape. Given the region's dense shipping traffic and ecological sensitivity, a coordinated approach is vital to implement the IMO 2023 GHG Strategy;

179 **welcomes** the draft Roadmap for Transitioning to Low Carbon Shipping in the Mediterranean Sea, hereinafter referred to as Roadmap, as presented by the Secretariat and contained in the Annex to document REMPEC/WG.61/8, that provides a clear and practical framework to guide regional transition;

180 **endorses** the draft Roadmap and **agrees** to submit it to the COP24 for adoption;

181 **requests** the Secretariat to further strengthen regional cooperation through joint projects, training programs and knowledge sharing platforms to support implementation and promote equity in capacity across the Mediterranean region;

182 **instructs** the Secretariat to establish a mechanism, to track progress and secure the necessary funding through voluntary contributions or partnership in projects to support implementation and to report on progress to the next Meeting of the Focal Points of REMPEC;

183 **encourages** CPs to align their national policies with the Roadmap and begin developing NAPs that contribute to international GHG reduction targets;

184 **urges** stakeholders to invest in low and zero emissions technologies, alternative fuels and port infrastructure capable of supporting the transition in the Mediterranean region;

185 **calls** on all CPs and stakeholders to ensure at all times continued alignment with IMO regulations and relevant regional initiatives and broader environmental commitments under the Barcelona Convention;

Agenda Item 9 **Introduction of non-indigenous species by shipping activities**

186 **welcomes** the preparation of the Mid-Term Review on the Ballast Water Management Strategy for the Mediterranean Sea (2022-2027) (the "Mediterranean BWM Strategy (2022-2027)");

187 **reaffirms** that one of the objectives of the Mediterranean BWM Strategy (2022-2027) is to establish a framework for a regional harmonised approach in the Mediterranean on ships' ballast water control and management that is consistent with the requirements and standards of the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 (Ballast Water Management or BWM Convention), as outlined in Article 13(3) thereof;

188 **recalls** that shipping is one of the pathways and ballast water is one of the vectors for the introduction of alien and invasive species, but that there are other pathways and vectors that need to be addressed, as appropriate, by the relevant MAP Components;

189 **acknowledges** that further ratification of the BWM Convention by Mediterranean coastal States is needed and that the adoption of relevant national legislation to enforce the BWM Convention remains incomplete;

190 **emphasises** that there is a need for targeted technical support and capacity-building initiatives to assist CPs in ratifying and implementing the BWM Convention. This includes providing training, technical assistance, and resources to build the necessary infrastructure and expertise, by the appropriate

institutions;

191 **encourages** the CPs, which have not yet done so, to ratify and effectively implement the BWM Convention, as soon as possible;

192 **recalls** the relevance of addressing the emerging issue of biofouling management, and that this requires coordinated efforts and alignment with ongoing developments in the field, especially at IMO, with progress on the development of a legally binding instrument;

193 **recognises** that financial constraints and resource limitations present significant challenges to the successful implementation of the Mediterranean BWM Strategy (2022–2027) and that certain activities contained therein, require substantial financial resources, further hindering progress;

194 **instructs** the Secretariat to establish, as a matter of priority, the regional online BWM Working Group with a view to drive the process towards further harmonisation of BWM measures in the region;

195 **approves** the revised work plan and implementation timetable of the Mediterranean BWM Strategy (2022–2027) to address the identified challenges in the Mid-Term Review Report, contained in document REMPEC/WG.61/9, and adjust the timelines where necessary to ensure that Actions and associated Activities can still be implemented within the overall timeframe of the Mediterranean BWM Strategy (2022–2027);

196 **adopts** the Resource Mobilisation Strategy to implement the Mediterranean BWM Strategy (2022–2027), as contained in document REMPEC/WG.61/9/1;

197 **calls upon** the Secretariat to provide targeted technical support to the CPs, which so request, for the ratification and implementation of the BWM Convention;

Agenda Item 10 **Activities and deliverables of the draft UNEP/MAP Programme of Work for the biennium 2026–2027, as proposed by REMPEC**

198 **agrees** upon the activities and deliverables of the draft UNEP/MAP PoW for the biennium 2026–2027 set out in the Annex to document REMPEC/WG.61/10, as amended, and **requests** the Secretariat to propose them for approval by the next meeting of the UNEP/MAP Focal Points prior to their submission for adoption by COP 24;

Agenda Item 11 **Any other business**

199 **notes** the information concerning the 50th Anniversary of REMPEC and the recommendations, as contained in document REMPEC/WG.61/11;

200 **recognises** the outstanding contributions made by REMPEC over the past five decades in addressing marine pollution and fostering cooperation among Mediterranean coastal States;

201 **appreciates** the valuable services provided by all REMPEC staff over the years in supporting the Mediterranean coastal States in the establishment of robust emergency response systems, development of national pollution contingency plans, successful capacity-building initiatives, and the facilitation of regional agreements and collaborations that have significantly strengthened Mediterranean marine protection;

202 **agrees** that as REMPEC celebrates its 50th anniversary, launching a digital campaign and hosting a commemorative event, subject to availability of funds, will not only honour the Centre's achievements but also raise awareness about the ongoing challenges of marine pollution and the actions taken by the coastal States of the Mediterranean;

203 **requests** the Secretariat to engage stakeholders through social media, videos, and commemorative materials, that will foster a sense of collective responsibility for Mediterranean marine preservation;

204 **instructs** the Secretariat to carry a study, for consideration at the next meeting of Focal Points of REMPEC, for the renaming of REMPEC, with a view to adopt a more concise and accessible name that reflects its core mission and resonates with both maritime professionals and the public, including a new logo and visual identity, ensuring that REMPEC remains relevant and impactful in the future;

205 **agrees** to a comprehensive redesign of the REMPEC website which is crucial to improve navigation, enhance user experience, and provide better access to essential documents for CPs. This modernization should prioritize content organization, accessibility, and secure sections for members;

206 **requests** the Secretariat to develop a Five-Year Strategic Plan for Implementation with a clear roadmap for the next five years to ensure that REMPEC's work continues to align with the Mediterranean Strategy (2022-2031). This plan should include an updated mission and vision that incorporates long-term sustainability objectives, focusing not just on emergency response but on proactive measures to prevent pollution, enhance compliance, and ensure the health of the Mediterranean ecosystem for future generations;

207 **further requests** the Secretariat, subject to availability of funds, to further strengthen technical support, training, and capacity-building programs for CPs to ensure effective implementation of marine pollution prevention and response strategies;

208 **instructs** the Secretariat to continue exploring new technologies and practices, such as those related to alternative fuels, to support Mediterranean countries in meeting emerging environmental challenges and improving their pollution prevention and response capabilities;

209 **agrees** that the endorsed actions are included under the UNEP/MAP PoW for the biennium 2026-2027;

210 **welcomes** the Workshop provided by the representatives of CEDRE in relation to the MANIFESTS Genius Project, that paves the way for improved emergency planning, the development of operational guidelines, and the upgrading of decision-support systems related to hazardous and noxious substances and supports the safe integration of new propulsion energies like methanol and ammonia into refuelling stations and coastal industries, while providing cross-sectoral intervention protocols and valuable training tools;



**UNITED
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UNEP/MED WG.629/4



**UNITED NATIONS
ENVIRONMENT PROGRAMME
MEDITERRANEAN ACTION PLAN**

May 2025
English

15th Meeting of National Focal Points of MedWaves, the UNEP/MAP Regional Activity Centre for SCP (SCP/RAC)
Barcelona, Spain, 28-29 May 2025

Conclusions of the 15th SCP/RAC Focal Points Meeting, May 2025

For environmental and economic reasons, this document is printed in a limited number. Delegates are kindly requested to bring their copies to meetings and not to request additional copies.

MedWaves, the UNEP/MAP Regional Activity Centre for SCP (SCP/RAC)
Barcelona, 2025

**Conclusions of the 15th Ordinary Meeting of the MedWaves, the UNEP/MAP Regional Activity Centre for SCP (SCP/RAC) National Focal Points
28-29 May 2025 (Barcelona, Spain)**

General conclusions

MedWaves, the UNEP/MAP Regional Activity Centre for SCP (SCP/RAC), National Focal Points (hereinafter “NFPs”) expressed their appreciation for the valuable work and outstanding results achieved by SCP/RAC in the development of its activities in support to the countries under the MAP Programme of Work for the biennium 2024-2025.

They welcomed the draft proposal of the SCP/RAC Programme of Work (PoW) for 2026-2027 which gives continuity to the activities developed during 2024-2025 biennium and which is fully in line with the new Programmes structuring the MAP Mid-Term Strategy, especially Programmes 1, 3, 4, 6 and 7.

NFPs decided that the proposed SCP/RAC-led activities under the above-mentioned Programme be recommended for consideration in the MAP PoW.

In a joint commitment to improve coordination, the NFPs and SCP/RAC agreed to establish more regular communications, at least once every six months. These communications will aim to ensure a steady flow of information, provide updates on activity implementation, and strengthen internal coordination among stakeholders.

NFPs welcomed the efforts of SCP/RAC to be present and involved in international and regional events such as the plastic treaty negotiations, the COP UNFCCC of climate change, and the update of the MSSD through the Working Group on circular economy.

On the financial support to SCP/RAC

NFPs took note of the information provided by SCP/RAC regarding funding mobilization efforts to support the implementation of activities foreseen in the upcoming UNEP/MAP Programme of Work (PoW) for the 2026–2027 biennium.

NFPs also acknowledged the successful staff stabilization process at SCP/RAC - a goal set during the previous Focal Points Meeting - and congratulated the Centre on this achievement.

SCP/RAC informed that the PoW 26-27 budget is still to be finalised and approved.

NFPs suggested enlarging the centre’s possible funding opportunities in the next biennium, particularly on topics such as climate change mitigation, toxic chemical activities, and plastic pollution prevention - where circular economy has a pivotal role -, in-line with the global agenda developments and within the competences of the centre. This shall be done in collaboration and

coordination with other MAP components.

NFPs proposed further enhancement of cooperation and synergies - including the optimization of resources - among projects at the regional and national level.

On the activities related to marine litter and toxic chemicals

NFPs emphasized the growing importance of the issue of plastics and microplastics, noting SCP/RAC's active participation in INC meetings of the Global Plastic Treaty. They underlined the need to further justify the prioritization of this issue and highlighted its critical relevance across both the Northern and Southern shores of the Mediterranean.

NFPs recommended to draw strategies in order to enhance sustainability of actions and activities at the national level once projects are finalised, in collaboration with national authorities and stakeholders.

NFPs took note of the results of the activities related to marine litter and toxic chemicals, congratulating the centre for the concrete work on the field, which is having impact and follow up such as developments regarding Extended Producers Responsibility at country level. This work shall be pursued and funding secured, particularly in the view of the future Global Treaty on Plastics.

NFPs expressed the need to continue building data-based driven efforts at regional level, with particular emphasis on the management of POPs (Persistent Organic Pollutants). NFPs highlighted persistent challenges in ensuring accurate national data on plastics and microplastics production.

NFPs emphasized the importance of fostering a just circular economy transition at all levels, including labour and gender justice.

NFPs encourage capitalizing on the programme's positive results and replicating them at the regional level.

Page 3

On the activities regarding SCP/circular economy

NFPs congratulated SCP/RAC in relation to the Switchers Support Programme, which has been acknowledged by NFPs as success stories in their countries.

NFPs welcomed the efforts of the Switchers Support Programme to evaluate and assess the environmental, social and economic impacts of green entrepreneurs. Additionally, it was acknowledged the role of Green and Circular Economy entrepreneurship in delivering social, economic and environmental value.

NFPs welcome and congratulate SCP/RAC on its efforts in programming for the circular economy, acknowledging the success of the programme and ongoing activities. NFPs also emphasized the urgent need for funding mobilization to further enhance the results and impact

of these initiatives.

NFPs welcome the idea to work in textile waste with upcoming projects and activities in the region.

On the activities related to blue economy, climate change and communication activities

NFPs acknowledged that decarbonization activities are costly but stressed their necessity to assess impacts, secure funding, and enable a circular economy transition, given its significant regional impact.

Despite the challenges, NFPs acknowledge the good work done by SCP/RAC, especially in decarbonization and blue economy activities. NFPs encourage SCP/RAC to continue increasing their involvement and funding in related activities.

NFPs were presented with the efforts regarding the new communication strategy, including the rebranding and communication performance. They congratulated SCP/RAC for the significant increase in visibility and exposure achieved, as well as for the growing international presence of SCP/RAC, emphasizing SCP/RAC's presence at local, regional, and international levels.



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UNEP/MED WG.620/Inf.21



**Mediterranean
Action Plan**
Barcelona
Convention

16 July 2025
Original: English

Meeting of the MAP Focal Points

Athens, Greece, 16-19 2025

Agenda Item 5: Specific Matters for Consideration and Action by the Meeting, including Draft Decisions (Space)

Report of the Seventeenth Meeting of SPA/BD Focal Points (Istanbul, Türkiye, 20-22 May 2025)

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UNEP/MAP
Athens, 2025

**UNITED
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EP

UNEP/MED WG.608/20



**United Nations
Environment Programme
Mediterranean Action Plan**

17 June 2025

Original: English

Seventeenth Meeting of SPA/BD Focal Points

Istanbul, Türkiye, 20-22 May 2025

Report of the Meeting

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REPORT OF THE SEVENTEENTH MEETING OF SPA/BD FOCAL POINTS

I. Introduction

1. At their Twenty-third Meeting (COP 23; Portorož, Slovenia, 5-8 December 2023), the Contracting Parties to the Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean and its Protocols, invited the Specially Protected Areas Regional Activity Centre (SPA/RAC) to convene the Seventeenth Meeting of Focal Points for the Specially Protected Areas and Biological Diversity (SPA/BD Focal Points) for the biennium 2024-2025, in 2025.

2. The Seventeenth Meeting of the SPA/BD Focal Points (hereinafter referred to as “the meeting”) was organized at the kind invitation of the Turkish Government, at the Pullman Istanbul Hotel & Convention Centre (Yenibosna Merkez, 1. Asena Sk. No:15, 34295 Bahçelievler) in Istanbul, Türkiye, from 20 to 22 May 2025.

II. Attendance

3. All the SPA/BD focal points were invited to attend the meeting or designate representatives.

4. The following Contracting Parties were represented at the meeting: Bosnia & Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Italy, Lebanon, Libya, Malta, Spain, Türkiye, Tunisia.

5. The Ad Hoc Group of Experts for Marine Protected Areas in the Mediterranean (AGEM) was represented by its Chair.

6. The following intergovernmental organizations were represented as observers: the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area (ACCOBAMS), the International Union for Conservation of Nature (IUCN).

7. The following non-governmental organizations were also represented as observers: the Network of Marine Protected Areas Managers in the Mediterranean (MedPAN), the World Wide Fund for Nature (WWF).

8. The United Nations Environment Programme / Mediterranean Action Plan - Barcelona Convention (UNEP/MAP) Secretariat was represented at the meeting.

9. SPA/RAC acted as the secretariat of the meeting.

10. The full list of participants is attached as **Annex I** to the present report.

III. Opening of the meeting (agenda item 1)

11. The meeting was opened on Tuesday, 20 May 2025, at 9.00 a.m. by the representatives of the host country, UNEP/MAP and SPA/RAC.

12. Ms. Beyhan OKTAR, Deputy General Manager of the General Directorate for Protection of Natural Assets at the Ministry of Environment, Urbanization and Climate Change of Türkiye, introduced herself and greeted all participants in her own name and on behalf of Minister Murat Kurum and the General Manager of the General Directorate of Protection of Natural Assets. She highlighted the role of the Directorate which not only prioritizes the protection of the country's assets and heritage but also strengthens regional cooperation which, she asserts, is a shared responsibility in view of the growing challenges. Ms. Oktar described the rich activity of the General Directorate as well as its ongoing biodiversity studies and management plans for the Special Environmental Protection Areas, all justified by the important position of Türkiye in terms of geopolitics and biogeography and its high natural and ecological value. Current work on management plans and project implementation was briefly described as

well as highly important protection-monitoring projects on habitat, ecosystems and endangered species in protected areas. Among these projects, Ms. Oktar highlighted the measures taken to control mooring and prevent damaging the seagrass meadows and destroying the marine ecosystem. She ended her address by stressing the value of biodiversity and of the joint contributions to conservation effort before thanking UNEP/MAP and SPA/RAC for their valuable effort and coordination and wishing a successful meeting and pleasant stay to all.

13. Ms. Tatjana Hema, MAP Coordinator, thanked Türkiye for hosting the meeting. She recalled that the Mediterranean region benefits from an efficient and resourceful system, the Barcelona Convention, which offers a forum for dialogue and joint actions and a pool of resources in addition to seeking a synergetic approach with the numerous stakeholders and partners with common objectives toward a better future. She said that the meeting will be the opportunity to present and appreciate the tremendous work and achievements implemented together with the Contracting Parties and in collaboration with the relevant regional and international partners to meet the global targets set by the Kunming-Montreal Global Biodiversity Framework (GBF) especially the Target 3, the resolution to forge the “Plastic Pollution Treaty”, and the agreement on the new legally binding instrument on the conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction, the “BBNJ Treaty”.

14. Mr. Mahmoud Elyes Hamza, Director of SPA/RAC, welcomed the participants and thanked the Turkish authorities for hosting the meeting and for their kind hospitality. He said that the biennium, as the second of the UNEP/MAP-six-year midterm strategy 2022-2027, had been very rich in terms of activities, processes and achievements at regional and national levels towards the implementation of the strategies and action plans adopted under the Barcelona Convention and the Specially Protected Areas and Biological Diversity Protocol. He stressed, however, that the Mediterranean faces many challenges leading it to set priorities, and that the coming years will be crucial at many levels. Climate change is impacting the region and its environment more and more severely; and more work, stronger commitment is required to reverse the tendency and to achieve our ambitious global and regional objectives. He welcomed existing and future collaboration with partner organizations which would help to achieve common regional objectives by joining efforts and avoiding overlap and duplication. He also highlighted the work undertaken with regards to the Mid-term assessment with a focus on the startup activities of the collective implementation of the Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO).

IV. Organizational matters (agenda item 2)

A. Rules of procedure

15. The meeting agreed that the rules of procedure for meetings and conferences of the Contracting Parties to the Barcelona Convention and its related Protocols (UNEP/IG.43/6, Annex XI), as amended by the Contracting Parties (UNEP(OCA)/MED IG.1/5 and UNEP(OCA)/MED IG.3/5), would apply *mutatis mutandis* to their deliberations at the meeting.

B. Election of officers

16. In accordance with rule 20 of the rules of procedure and with the principles of geographical and equitable gender representation, the meeting unanimously elected the following officers from among the representatives of the Contracting Parties:

Chairperson:	Mr. Bayram Öztürk (Türkiye),
Vice-chairpersons:	Mr. Leonardo Tunesi (Italy),
	Ms. Lara Samaha (Lebanon),
Rapporteur:	Ms. Silvia García Higuera (Spain).

C. Adoption of the agenda

17. The meeting adopted its agenda on the basis of the provisional agenda circulated in document UNEP/MED 608/1 Rev.1.

18. The agenda is attached as **Annex II** to the present report.

D. Organization of work

19. The meeting agreed to follow the timetable proposed in the annotated provisional agenda (UNEP/MED WG.608/2 Rev.1).

20. The working languages of the meeting were English and French. Simultaneous interpretation was available.

V. Status of implementation of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/BD Protocol) (agenda item 3)

21. The Secretariat introduced document UNEP/MED WG.608/3 Rev.1 entitled “Report on the status of implementation of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/BD Protocol)”, containing a synthesis of 11 national reports timely submitted through the Barcelona Convention Reporting System (BCRS) online platform for the biennium 2022-2023.

22. The meeting welcomed the report and acknowledged SPA/RAC’s support. Some Parties stressed ongoing difficulties related to the complexity of the online reporting system and the structure of the questions. They reiterated their proposals to improve the BCRS system by providing simplified guidance notes, clarifying definitions, and pre-filling data fields with information from previous submissions.

23. The representative of ACCOBAMS highlighted the need for strengthened acoustic monitoring and national data on cetacean populations and noted that these gaps limit effective implementation of Ecological Objective 11. ACCOBAMS confirmed that its future work programme will prioritize support for noise monitoring, capacity-building, and regional coordination efforts, in partnership with SPA/RAC.

24. The representative of IUCN Med acknowledged progress in SPA designation and legislative alignment but pointed to persistent gaps in management effectiveness and implementation of certain Regional Action Plans. she reiterated the commitment of her organization to technical support, capacity-building, and announced the launch of a Mediterranean Expert Group on Marine Protected Areas (MPA) Management Effectiveness under the Green List initiative.

25. The representative of MedPAN reiterated the importance to bridge the gap towards the 30x30 Target, both from a quantitative and qualitative point of view given that MPAs currently cover only around 8.3% of the Mediterranean. She called on Parties to better integrate also Other Effective Area-based Conservation Measures (OECMs) into national planning tools and reaffirmed the partnership of her organization with SPA/RAC in maintaining the MAPAMED database as a key regional reference and source of information on MPAs in the region.

26. The MAP Coordinator stressed the importance of the reporting quality for programme planning, system credibility and public accountability, while admitting the reporting burden on the Contracting Parties.

VI. Progress report on the activities carried out by SPA/RAC under the UNEP/MAP Medium-Term Strategy for the interim period: April 2023-April 2025 (agenda item 4)

27. The Director of SPA/RAC presented the progress report (UNEP/MED WG.608/4), which reflects the themes, strategic outcomes, and key outputs defined in the MAP Mid-Term Strategy 2022-2027. He outlined the main achievements in implementing the Programme of Work, including collaboration with relevant national and international partners.

28. The meeting expressed appreciation for the Secretariat's report and commended the work of SPA/RAC in delivering the Programme of Work since the 16th Meeting of SPA/BD Focal Points.

29. Several delegates (Egypt, Lebanon, Libya, Tunisia) welcomed the support provided by SPA/RAC to their countries in implementing biodiversity monitoring, developing and applying MPA management plans, preparing national action / management plans for species and habitats, establishing a sea turtle rescue centre, and building national capacities. They also acknowledged the significant contribution of externally funded projects, including the EU-funded IMAP-MPA and SEMPA projects and the GEF Child Project 3.1, and encouraged SPA/RAC to continue its efforts in the upcoming biennium.

30. The delegate of Croatia highlighted the importance of developing Nature Restoration Plans. She emphasized the need to build on the Guidelines to develop species recovery plans and implement emergency actions developed by SPA/RAC to support the Contracting Parties in preparing their national strategies and enhancing national capacities.

31. Representatives from partner organizations (ACCOBAMS, IUCN, MedPAN) expressed satisfaction with the ongoing collaboration with SPA/RAC and confirmed the willingness of their respective organizations to continue joint activities with SPA/RAC.

32. The representative of IUCN Med introduced the information document UNEP/MED WG.608/Inf.5 "Mediterranean Blue Carbon Strategy", which offers a much-needed framework to protect, restore, and sustainably manage key blue carbon ecosystems such as *Posidonia oceanica* meadows, essential for biodiversity, climate mitigation, and coastal livelihoods. The strategy outlines a roadmap for 2025–2030 with concrete objectives and 30 proposed measures.

33. The representative of ACCOBAMS presented the cooperation of her organization with SPA/RAC on cetacean conservation and implementation of the Ecosystem Approach (EcAp) in the Mediterranean.

34. The MedPAN representative highlighted ongoing joint work on MAPAMED and MPA status and, along with ACCOBAMS, announced upcoming collaborative events with SPA/RAC in the context of UNOC: a session on MPAs during the Mediterranean Day (10 June 2025), a session during the Ocean Science Congress (3-6 June 2025) focusing on cetacean monitoring data, and a side event dedicated to the official launching of the ACCOBAMS Survey Initiative II (ASI-II) (11 June 2025).

35. The MAP Coordinator thanked the SPA/BD Focal Points for their engagement and achievements. She emphasized that the Mediterranean Strategy for Sustainable Development is currently under revision, incorporating recent frameworks such as the Post-2020 SAPBIO. She also referred to a flagship initiative on *Posidonia oceanica*, led by France, and the Plan of Action for a Model Mediterranean Sea (PAMEX) led by Greece, as opportunities for further national implementation. She recalled that SPA/RAC and the Coordinating Unit are actively supporting Southern countries through EU-funded projects (e.g. SEMPA, EcAp-MED PLUS) and the GEF-funded project in Libya, stressing the importance of timely and effective implementation. She encouraged Contracting Parties to submit concrete proposals for support, including for new measures or action plans on biodiversity.

VII. Conservation of Species and Habitats (agenda item 5)

A. Updating of the Action Plan for the conservation of marine turtles in the Mediterranean (sub-agenda item 5.1)

36. Referring to the UNEP/MED WG.608/5 document “Draft updated Action Plan for the conservation of Marine Turtles”, the Secretariat briefly recalled the main steps for the preparation of the Action Plan update and the assessment of its previous version, underlining the active feedback of the Contracting Parties and the relevant regional organizations in this process.

37. During their interventions following the presentation by the Secretariat, the representatives of Contracting Parties welcomed the “Draft updated Action Plan for the conservation of Marine Turtles” and expressed their satisfaction with the quality of the document. They also informed the meeting about the development of their National Action Plans for the conservation of marine turtles and the creation of MPAs for the conservation of marine turtles.

38. The representative of IUCN Med took the floor to express full support to the draft updated Action Plan for the conservation of marine turtles in the Mediterranean. She recalled the importance of harmonized monitoring methods, and of the identification of Important Marine Turtle Areas in the region, and called to enhance cooperation among Contracting Parties. She valued the collaboration with the IUCN Marine Turtle Specialist Group and strong support.

39. The representatives of Cyprus, Croatia and Libya proposed amendments to the document in relation to the impact of Climate Change on the species, the restoration of habitats and the IUCN Red List Status of the species.

40. The meeting approved the proposed amendments to the document and invited SPA/RAC to submit the Draft updated Action Plan for the conservation of Marine Turtles, as amended (**Annex III**), to the MAP focal points meeting and to the 24th Meeting of the Contracting Parties (COP 24) for adoption.

B. Updating of the Action Plan for the conservation of cartilaginous fishes (Chondrichthyans) in the Mediterranean Sea (sub-agenda item 5.2)

41. Referring to document UNEP/MED WG.608/6, the Secretariat introduced the Draft Updated Action Plan for the Conservation of Cartilaginous Fishes (Chondrichthyans) in the Mediterranean Sea, noting that this fourth revision—requested by Decision IG.26/5 (COP 23)—was developed following an evaluation of the previous plan’s implementation timetable (2019-2024). It outlined the steps taken in updating the document and highlighted SPA/RAC’s ongoing activities to support the plan’s provisions, including:

- Assisting Egypt and Libya in developing National Action Plans;
- Conducting a rapid elasmobranch assessment in Libya (per Decision IG.26/4);
- Collaborating with Plan Bleu on Socio-Economic Impact Study on Implementing Conservation Measures for Cartilaginous Species in the Gulf of Sirte, Libya.

42. Additionally, the Secretariat mentioned that thanks to financial support from the Italian Ministry of Environment and Energy Security (MASE) an Overview of the status of elasmobranch in the Adriatic region had been prepared and a subregional training on cartilaginous fish identification had been organized in Albania in January 2025.

43. The representative of Libya took the floor to request longer time to review the information document (WG.608/Inf.31) on “Socio-Economic Impact Study on Implementing Conservation Measures for Cartilaginous Species in the Gulf of Sirte, Libya”, and also requested that SPA/RAC continue working closely with GFCM on incidental fishing of sharks and rays in the Mediterranean.

44. The representative of Türkiye reported that the country had developed a National Action Plan for cartilaginous species, with 22 species currently under legal protection.

45. The representative of Croatia welcomed the Overview of the status of elasmobranch in the Adriatic region provided as information document which enables more harmonized sub-regional conservation actions, in identifying priority actions and guiding future work.

46. The meeting congratulated the Secretariat on the draft updated Action Plan for the Conservation of Cartilaginous Fishes (Chondrichthyans) in the Mediterranean Sea and invited SPA/RAC to submit it (**Annex IV**) to the MAP focal points meeting and to the Meeting of the Contracting Parties (COP 24) for adoption.

C. Updating of the Regional strategy for the conservation of monk seal in the Mediterranean (sub-agenda item 5.3)

47. Under this Agenda item, the Secretariat introduced document UNEP/MED WG.608/7 (Draft updated Regional Strategy for the conservation of monk seal in the Mediterranean) and recalled that the structure follows the guidelines detailed in the manual for the construction of Species Conservation Strategies (IUCN/SSC, 2008) including:

- Vision, with associated Goals and Goal Targets that are SMART;
- the Objectives needed to achieve the Goal Targets within the stated time span, with associated SMART Objective Targets.

48. The Secretariat emphasized that the comments and relevant amendment proposals received from the focal points following their consultation on the first draft, had contributed to improve the document presented to this meeting.

49. The delegate of Türkiye reported that the monk seal has been a protected species in Türkiye for more than 40 years and that a National Action Plan for its Conservation was developed and implemented. Additionally, two Regional Action Plans—one in Muğla (since 2015) and another in Mersin (since 2014)—focus on critical habitats along the Aegean and Mediterranean coasts. These plans were developed in collaboration with local stakeholders, NGOs, and scientific institutions.

50. Several delegations commended the efforts made by SPA/RAC to assist them in monitoring monk seal habitats in their countries and for providing capacity-building training.

51. The representative of IUCN Med welcomed the inclusion of the document “Mediterranean Monk Seal: A comprehensive set of monitoring and research techniques for the study and conservation of *Monachus monachus* in the Mediterranean Sea” as part of the information documents for the meeting. She also announced the establishment of a Monk Seal Expert Group, which will include specialized sub-working groups to address key conservation challenges for the species. The group’s inaugural meeting is scheduled to take place in the near future.

52. The delegates congratulated the Secretariat on the work achieved in updating the Regional Strategy and invited SPA/RAC to submit the Draft updated Regional strategy for the conservation of monk seal in the Mediterranean, as amended (**Annex V**), to the MAP focal points meeting and to the 24th Meeting of the Contracting Parties (COP 24) for adoption.

D. Updating of the Action Plan for the conservation of the coralligenous and other calcareous bio-concretions in the Mediterranean Sea (sub-agenda item 5.4)

53. Under this agenda item, the Secretariat introduced document UNEP/MED WG.608/9 including the Draft updated Action Plan for the conservation of the Coralligenous and Other Calcareous Bio-concretions in the Mediterranean Sea. It informed the meeting of the steps undertaken for its evaluation and updating. It also stressed that the new structure of the draft updated Action Plan is composed of two parts as per

document WG.608/9 (“Draft Evaluation of the Regional Action Plans Approach for Selected Species and Habitats Adopted Under the SPA/BD Protocol and Recommendations for the Way Forward”). A first Part covering the species/habitats concerned, the current state of knowledge, the relevant policies, the key threats, the assessment methods, the vision, the goals, and the long-term targets. This section will undergo less frequent review. The second Part is to be evaluated and updated more regularly than Part I. It consists of a short-term action plan, focusing on immediate conservation measures.

54. The representative of Türkiye informed the meeting that her country monitors coralligenous habitats along its Aegean and Mediterranean coasts and that it had implemented an action plan for their conservation. Since 2022, seven coralligenous species have been under legal protection.

55. The delegates congratulated the Secretariat for the Draft updated Action Plan for the conservation of the Coralligenous and Other Calcareous Bio-concretions in the Mediterranean Sea and invited SPA/RAC to submit it (**Annex VI**), to the MAP focal points meeting and to the 24th Meeting of the Contracting Parties (COP 24) for adoption.

E. Evaluation of the Regional Action Plans approach for selected species and habitats adopted under the SPA/BD Protocol and recommendations for the way forward (sub-agenda item 5.5)

56. Referring to document UNEP/MED WG.608/9, the Secretariat introduced the Draft Evaluation of the Regional Action Plans Approach for selected species and habitats adopted under the SPA/BD Protocol and recommendations for the way forward. The Secretariat emphasized that the draft evaluation includes the common approach, the structural differences and specificities of the Regional Action Plans, the Results from the questionnaire shared with the national SPA/BD focal points and resource persons and the SWOT analysis. It also highlighted the conclusions and recommendations of the evaluation that were mainly related to the Regional Action Plans (RAP) evaluation and updating process, including a RAP working group and the proposed common format/template for the regional Action Plans.

57. The representative of France welcomed the result of the draft evaluation, which is relevant to the role played by the Regional Action Plans in the conservation of biodiversity. He informed the meeting that his country fully endorses the assessment's recommendations and stressed that while RAPs should remain non-binding, they must maintain high ambition and foster the international cooperation, which is essential for the protection of these species at Mediterranean level. The creation of a working group will ensure that the Plans are consistent with each other and with Regional Action. The integration of the Actions required by the Post-2020 SAPBIO is essential to comply with the framework commonly set at Mediterranean level.

58. The meeting reviewed the Draft Evaluation of the Regional Action Plans Approach for selected species and habitats adopted under the SPA/BD Protocol and approved its recommendations for the way forward, as given in Annex VII, and invited SPA/RAC to submit the latter, to the MAP focal points meeting and to COP 24 for adoption.

F. The List of the Regional Action Plans' Partners (sub-agenda item 5.6)

59. The Secretariat presented the “Draft List of the Regional Action Plans' Partners”, submitted as document UNEP/MED WG.608/10 Rev.1. It emphasized that the Centre received 8 requests in time according to adopted conditions and criteria. After consultation with the concerned national focal points only 7 requests were endorsed and met the criteria for the Regional Action Plans Partner title award.

60. The representatives of France and Italy took the floor during the meeting to confirm their support respectively for the applications of the Mediterranean Network of Marine Protected Areas Managers (MedPAN, France) and the Italian Institute for Environmental Protection and Research (ISPRA, Italy).

61. The meeting decided to award the Regional Action Plans Partner title to the following organizations as detailed in **Annex VIII** to this report:

- Association Notre Grand Bleu (NGB)
- Environment & Resources Authority (ERA), Malta
- Fundación Oceana – Oceana in Europe
- Italian Institute for Environmental Protection and Research (ISPRA)
- The Mediterranean Network of Marine Protected Areas Managers (MedPAN)
- Worldwide Fund for Nature – Mediterranean (WWF Mediterranean)
- Worldwide Fund for Nature – North Africa (WWF NA).

G. Proposals for amendment to Annexes II and III to the SPA/BD Protocol (sub-agenda item 5.7)

62. Referring to document UNEP/MED WG.608/11 Rev.1, the Secretariat introduced the Proposals for amendment of Annexes II and III of the SPA/BD Protocol made by Albania, Greece, Israel and Spain.

63. The representatives of Greece and Spain presented the rationale, and the data required for inclusion of six species of sponges in Annex II to SPA/DB Protocol.

64. The meeting was invited to consider the proposals and make recommendations on the follow-up.

65. The 17th Meeting of SPA/BD focal points agreed to submit this proposal for amendment (**Annex X**) to the MAP focal points meeting taking place in September 2025.

66. However, the focal points of the following Parties expressed reservations pending consultation with their relevant national bodies, before the next MAP focal points meeting:

- Libya and Tunisia: reservation regarding the amendment proposal for the cartilaginous fish species.
- France: reservation regarding the species *Alopias vulpinus* (Bonnaterre, 1788).

67. IUCN and the IUCN Species Survival Commission's (SSC) Sponge Specialist Group reaffirm their commitment to collaborate with the Contracting Parties in advancing the assessment of the conservation status of these species and in fostering their protection.

68. Under this agenda item, the Secretariat presented also document UNEP/MED WG.608/11 Rev.1 containing Draft amendments to the "Common Criteria for proposing amendments to Annexes II and III of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean". The meeting endorsed the document and agreed on its submission (**Annex IX**), to the MAP focal points meeting and the 24th Meeting of the Contracting Parties for adoption.

VIII. Conservation of sites of particular ecological interest (agenda item 6)

A. Report by the Chair of the Ad hoc Group of Experts for Marine Protected Areas in the Mediterranean (AGEM) on the group's works during the biennial period 2024-2025 (sub-agenda item 6.1)

69. Referring to document UNEP/MED WG.608/12, the Secretariat provided some background information on AGEM, followed by the presentation of the AGEM Chair on the Group's works during the period 2024-2025.

70. He informed the meeting that AGEM held its fourth meeting in March 2025, during which the Group discussed and agreed on its Programme of Work for 2025 and Key priorities for the 2026-2027 biennium. He added that AGEM reviewed the Draft Guidance on OECMs in the Mediterranean and further discussed it during its fifth meeting in April 2025.

71. The meeting appreciated the work accomplished so far by the AGEM and stressed its crucial role in supporting countries in achieving the regional and global targets, particularly the Convention on Biological Diversity (CBD) 30x30 Target.

72. Partner organizations members in the AGEM expressed their appreciation to be part of the Group and reaffirmed their commitment to actively support and collaborate in the implementation of its programme of work.

73. The meeting welcomed and endorsed the AGEM's Programme of Work for 2025 and Key Priorities for the 2026-2027 biennium.

B. Draft guidance document on Other Effective area-based Conservation Measures in the Mediterranean: identification and Criteria application (sub-agenda item 6.2)

74. The Secretariat presented the "Draft guidance document on Other Effective area-based Conservation Measures in the Mediterranean: identification and Criteria application" in document UNEP/MED WG.608/13. It recalled that this Guidance aims to assist Mediterranean countries in identifying and reporting OECMs through a clearer and harmonized process, within the framework of the Post-2020 Regional Strategy for Marine and Coastal Protected Areas and Other Effective Area-based Conservation Measures (OECMs) in the Mediterranean.

75. It added that a pilot phase to test the draft Guidance with volunteer country(ies) will be launched, and that it will convene a dedicated webinar to present the document with the view of gathering additional feedback. The Guidance document will be then finalized taking into account the lessons learnt from the undertaken tests with the volunteer country(ies) and the recommendations from the webinar.

76. The meeting welcomed the preparation of this timely and comprehensive guidance and commended the technical leadership of SPA/RAC and the consultative process conducted and the work of the AGEM on the document.

77. The representative of IUCN Med stressed the importance of a clear and rigorous application of the OECM definition and criteria to avoid target-driven designations and recommended using the World Database on Protected Areas (WDPA) as a means of verification, in addition to MAPAMED, thus ensuring alignment between the regional and global reporting.

78. The representative of MedPAN highlighted the absence of designated marine OECMs in the Mediterranean and reaffirmed the support of her organization to countries and stakeholders to make progress in identifying, designing and effectively managing marine OECMs. She also suggested amending the reference to international designations.

79. The Secretariat took note of the expressed comments that will be considered in the final version of the document.

C. Analysis of the reports on Specially Protected Areas (SPAs) for the Directory of Mediterranean SPAs (sub-agenda item 6.3)

80. The Secretariat introduced document UNEP/MED WG.608/14, which contains an analysis of the reports by the Contracting Parties on Specially Protected Areas (SPAs) for the Directory of Mediterranean SPAs. It clarified that the analysis presented in this document was based on the official SPA notification section within the BCRS for 2022-2023 as well as on previously reported SPAs from the 2020-2021 reporting cycle, in accordance with the adopted criteria for SPA inclusion in the Directory.

81. Some Contracting Parties representatives noted potential omissions or inconsistencies in the summary table of reported SPAs, often linked to technical issues encountered during submission via the BCRS. The concerned Parties expressed their willingness to review and update the information and to share

it with SPA/RAC. The Secretariat welcomed Parties contributions and reiterated its readiness to provide technical support to ensure the accuracy and completeness of the reporting.

D. List of Specially Protected Areas of Mediterranean Importance (SPAMI List) (sub-agenda item 6.4)

a) Report on the Ordinary Periodic and Extraordinary Review of the areas included in the SPAMI List (sub-agenda item 6.4.1)

82. The Secretariat introduced the Report on the Ordinary Periodic and Extraordinary Review of the areas included in the SPAMI List, in document UNEP/MED WG.608/15, and indicated that in accordance with Decision IG.26/5 of COP 23, the SPA/RAC undertook the following SPAMI reviews during the 2024-2025 period:

- The ordinary review for the Karaburun Sazan National Marine Park (Albania), which should have taken place in 2022 but has been exceptionally postponed to 2024.
- The ordinary reviews for the following national SPAMIs:
 - o Lara-Toxeftra Turtle Reserve (Cyprus),
 - o Cerbère-Banyuls Marine Nature Reserve (France),
 - o La Côte Bleue Marine Park (France),
 - o Les Embiez Archipelago - Six Fours (France),
 - o Port-Cros National Park (France),
 - o Capo Carbonara Marine Protected Area (Italy),
 - o Egadi Islands Marine Protected Area (Italy),
 - o Penisola del Sinis - Isola di Mal di Ventre Marine Protected Area (Italy),
 - o Porto Cesareo Marine Protected Area (Italy),
 - o Landscape Park Strunjan (Slovenia),
 - o Alboran Island (Spain),
 - o Cabo de Gata-Níjar Natural Park (Spain),
 - o Cap de Creus Natural Park (Spain),
 - o Columbretes Islands (Spain),
 - o Mar Menor and Oriental Mediterranean zone of the Region of Murcia coast (Spain),
 - o Medes Islands (Spain),
 - o Sea Bottom of the Levante of Almeria (Spain), and
 - o Cetaceans Migration Corridor in the Mediterranean (Spain).
- The ordinary review for the Pelagos Sanctuary for the Conservation of Marine Mammals (France, Italy and Monaco).
- Extraordinary reviews for the following national SPAMIs:
 - o Palm Islands Nature Reserve (Lebanon),
 - o Tyre Coast Nature Reserve (Lebanon),
 - o La Galite Archipelago (Tunisia),
 - o Kneiss Islands (Tunisia), and
 - o Zembra and Zembretta National Park (Tunisia).

83. The Secretariat added that Algeria reported about corrective measures identified and/or undertaken concerning the Habibas Islands SPAMI included in a period of a provisional nature by COP 23.

84. The meeting commended the efforts of SPA/RAC for the review process for the SPAMI reviews, initiated in July 2024, which enabled the Technical Advisory Commissions (TACs) to plan and conduct their missions in a timely manner. Delegates highlighted the considerable workload required at the national level and for SPA/RAC, to coordinate and support the evaluation missions. They expressed appreciation for the efficient technical and logistical support of SPA/RAC, and for the video tutorials made available.

85. The representative of Tunisia highlighted the crucial role of The MedFund and other donors in supporting the effective management of SPAMIs, noting that The MedFund-funded projects fostered partnerships between national institutions and NGOs, and contributed to the establishment of dedicated management teams and appropriate tools, which led to the improvement of the management of the Tunisian SPAMIs and their positive evaluation by their respective TACs.

86. The meeting endorsed the results of the twenty (20) periodic ordinary reviews and recommended that the five (05) SPAMIs subject to extraordinary reviews leave the period of provisional nature and enter again the regular review process, in accordance with the Procedure for the revision of areas included in the SPAMI List. It also took note of the corrective measures reported by Algeria for the Habibas Islands SPAMI.

87. The Secretariat informed the meeting of the following ordinary reviews to be conducted in 2026 and 2027:

- Four (04) ordinary reviews to be undertaken in 2026 for the following SPAMIs:
 - o Marine Protected Area of Tavolara-Punta Coda Cavallo (Italy),
 - o Marine Protected Area and Nature Reserve of Torre Guaceto (Italy),
 - o Miramare Marine Protected Area (Italy), and
 - o Plemmirio Marine Protected Area (Italy).
- Six (06) ordinary reviews to be undertaken in 2027 for the following SPAMIs:
 - o Bouches de Bonifacio Nature Reserve (France),
 - o Marine Protected Area of Capo Caccia Isola Piana (Italy),
 - o Punta Campanella Marine Protected Area (Italy),
 - o Al-Hoceima National Park (Morocco),
 - o Archipelago of Cabrera National Park (Spain), and
 - o Maro-Cerro Gordo Cliffs (Spain).

b) Inclusion of areas in the SPAMI List (sub-agenda item 6.4.2)

88. The Secretariat informed the meeting that no proposals have been received for inclusion of areas in the SPAMI List during the intersession.

IX. Status of implementation of the Ecosystem Approach (EcAp) Roadmap (agenda item 7)

89. The Secretariat presented document UNEP/MED WG.608/16 on the status of implementation of the Ecosystem Approach (EcAp) Roadmap, which outlined the progress made in implementing the EcAp Roadmap and the Integrated Monitoring and Assessment Programme (IMAP) regarding the Ecological Objectives 1 and 2 at both national and regional levels during the period from April 2023 to April 2025. It informed the meeting about the support provided to countries for the implementation of national monitoring programmes for biodiversity and non-indigenous species.

90. The document includes in its appendices the proposals on the Common Indicators for EcAp Ecological Objective 4 on Marine Food Webs, the draft Ecological Objective 6 on sea-floor integrity, the proposed indicators based on phytoplankton and zooplankton relevant to IMAP biodiversity indicators, as well as the draft assessment methodologies, criteria, and thresholds for biodiversity Common Indicators CI1 and CI2. The Secretariat commended the work carried out by the Biodiversity Online Working Groups, highlighting the valuable scientific contributions made by the nominated experts and partner organizations and indicated that the presented elements were discussed within these Working Groups and endorsed by the Meeting of the Correspondence Group on Monitoring (CORMON) on Biodiversity and Fisheries, held in Athens on 7-8 April 2025.

91. The Secretariat encouraged the Contracting Parties to maintain their efforts toward the collective implementation of national IMAPs.

92. The Contracting Parties welcomed the progress achieved, shared updates on developments in their respective countries, and expressed their appreciation of the continuous support by SPA/RAC. They also welcomed the willingness expressed by the representative of ACCOBAMS to contribute to the implementation of the EcAp IMAP process related to cetaceans, through capacity-building activities and the provision of data from the ACCOBAMS Survey Initiative (ASI).

93. The MAP Coordinator highlighted the importance of fulfilling the mandates outlined in Decision IG.26/3 of COP 23, particularly regarding the review of the EcAp Policy and the IMAP for the Mediterranean. Considering the strengthened role of the SPA/BD Focal Points in this revision process, SPA/RAC will circulate a consolidated document covering the EcAp Policy and the IMAP sections related to Ecological Objectives 1, 2, 3, 4, and 6 by 2 June 2025, for comments by 10 June. The aim is to review and agree on the submission of these documents to the next Meeting of the EcAp Coordination Group and the Meeting of MAP Focal Points.

94. The Meeting endorsed the appendices of the document, as presented in **Annexes XII, XIII, XIV, and XV** of this report, and agreed to consider their use for the revision of the EcAp policy and IMAP.

X. Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO) (agenda item 8)

A. Mid-term assessment with focus on startup activities of the collective implementation of the Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO) (sub-agenda item 8.1)

95. The Secretariat introduced the working document UNEP/MED WG.608/17 entitled “Main findings of the mid-term assessment focusing on the Post-2020 SAPBIO start-up activities”, referring also to information documents UNEP/MED WG.608/Inf.28 entitled “Report of the 10th Meeting of the SAPBIO National Correspondents”, UNEP/MED WG.608/Inf.29 entitled “Report of the 11th Meeting of the Post-2020 SAPBIO National Correspondents” and UNEP/MED WG.608/Inf.30 entitled “Mid-term assessment focusing on the Post-2020 SAPBIO start-up activities with national scope: sub-regional reports”.

96. The Secretariat presented a brief overview of the steps undertaken towards the implementation of the Post-2020 SAPBIO mainly at regional level and the monitoring requirements and milestones as provided for by the Post-2020 SAPBIO chapter 7 (SAPBIO implementation and monitoring progress), Target T3.3 (Means for the assessment mechanisms), Action 34 (Post-2020 SAPBIO monitoring) and Action 35 (Support to run the SAPBIO).

97. It recalled the agreed sub-regional approach for carrying out the periodic assessments of the Post-2020 SAPBIO, the one followed for the mid-term assessment, whereby a simplified table was prepared by SPA/RAC and shared with the Contracting Parties (actions with a national scope) and with the member organizations of the Advisory Committee (actions with a regional scope).

98. The Secretariat presented also the main findings of the mid-term assessment with a focus on the Post-2020 SAPBIO start-up activities, highlighting the main achievements and challenges for the collective implementation of the Post-2020 SAPBIO actions with national and regional scopes alongside with the conclusions and recommendations of the 11th Meeting of the Post-2020 SAPBIO National Correspondents.

99. A consultant of the Secretariat provided an update on the GBF implementation process and the outcomes of the Second resumed session of the sixteenth meeting of the Conference of the Parties to the Convention on Biological Diversity (Rome, Italy, 25-27 February 2025), including decisions on resource mobilization and the financial mechanism. The revised CBD GBF Resource Mobilization Strategy, which aims to facilitate resource mobilization, needs to be supported by enabling conditions at the national level,

notably through the adoption of National Biodiversity Strategies and Action Plans (NBSAPs) and National Biodiversity Finance Plans.

100. The meeting commended the efforts of the Secretariat dedicated to the preparation of the documents related to the mid-term assessment focusing on the Post-2020 SAPBIO start-up activities, including the sub-regional reports and the Main findings.

101. The delegate of France welcomed the conclusions and recommendations of the 11th Meeting of the Post-2020 SAPBIO National Correspondents in particular the one urging Mediterranean countries to prepare or revise their National Biodiversity Strategies and Action Plans (NBSAPs) and to fully incorporate the relevant elements of the Post-2020 SAPBIO as a first step to elaborate National Biodiversity Finance Plans and mobilize resources.

102. He emphasized that the issue of incentives, including subsidies that are harmful for biodiversity should be addressed at all levels with respect to Target 18 of the GBF and would require capacity building.

103. The delegate of Libya informed the Meeting that his country elaborated NBSAP and presented them to CBD COP 15 and requested the support of UNEP/MAP and SPA/RAC to elaborate the National Biodiversity Finance Plan of his country.

104. The representative of MedPAN informed the Meeting that her organization, along with SPA/RAC, IUCN Med, WWF-MedPo and the Food and Agriculture Organization (FAO), were selected as a scientific and technical cooperation centre to provide a wider ray of expertise to support the Mediterranean countries Parties to the CBD to implement the CBD GBF. Discussion is ongoing to coordinate efforts and to provide the best support with other selected centres.

105. The MAP Coordinator emphasized that priority should be given to implementing the Post-2020 SAPBIO as a contribution to achieving the targets of the Global Biodiversity Framework.

106. The meeting approved the main findings of the mid-term assessment focusing on the Post-2020 SAPBIO start-up activities and invited SPA/RAC to submit it (**Annex XVI**), to the MAP focal points meeting and to the 24th Meeting of the Contracting Parties (COP 24) for adoption.

B. Monitoring Framework of the collective implementation of the Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO) (sub-agenda item 8.2)

107. Referring to document UNEP/MED WG.608/18 entitled “Draft Monitoring Framework for the assessment of the collective implementation of the Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO)”, the representative of the Secretariat provided an overview of the context, the objectives and the principles that guided the preparation of this draft monitoring framework, and presented the different sections of the proposed Post-2020 SAPBIO Monitoring Table, including its sections on national scope actions by 2027 and 2030 and on regional scope actions by 2027 and 2030, structured according to the 3 goals of the Post-2020 SAPBIO.

108. The representative of the Secretariat also informed the meeting that the indicators of the monitoring framework for assessing the collective implementation of the Post-2020 SAPBIO would be developed in close consultation with, and endorsed by, the Post-2020 SAPBIO National Correspondents in 2026. These indicators will then be used to assess the collective implementation of the Post-2020 SAPBIO in 2027 and 2030.

109. The Secretariat also briefed the meeting on the Monitoring Framework for the Kunming-Montreal GBF development process, highlighting the necessity of alignment between this framework and the Post-2020 SAPBIO Monitoring Framework.

110. The MAP Coordinator informed the meeting about the study undertaken by the Regional seas branch of UNEP on the applicability of the CBD GBF Monitoring indicator to the assessment of the Post-2020 SAPBIO implementation.
111. The delegate of France highlighted the need to take into account the national reports to CBD, where applicable, planned for 2026 and 2029 for the assessment of the Post-2020 SAPBIO implementation.
112. The meeting congratulated the Secretariat on its work for the preparation of the Draft Monitoring Framework and invited SPA/RAC to submit the Draft Monitoring Framework for the assessment of the collective implementation of the Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO) to the MAP focal points meeting and to the 24th Meeting of the Contracting Parties (COP 24) for adoption (**Annex XVII**).

XI. Draft Programme of work of SPA/RAC for the biennium 2026-2027 (agenda item 9)

113. The Director of SPA/RAC presented the Draft SPA/RAC programme of work for the 2024-2025 biennium contained in document UNEP/MED WG.608/19. He recalled that it was prepared and shared with the SPA/BD focal points in January 2025 and that all the comments received had been considered.
114. He explained that since this is the last biennium of the MTS cycle (2022-2027), most of the proposed activities follow on those started in the present biennium. The activities proposed aim at assisting the Barcelona Convention Contracting Parties in the implementation of the SPA/BD Protocol. They were developed on the basis of the priorities defined in the Post-2020 SAPBIO, the Post-2020 Regional Strategy for Marine and Coastal Protected Areas (MCPAs) and Other Effective Area-based Conservation Measures (OECMs) in the Mediterranean, and the Regional Action Plans and Strategy on threatened and endangered species and key habitats.
115. He added that the SPA/RAC Draft 2026-2027 PoW is developed mainly under six of the seven MTS Programmes, namely, “Towards Healthy Mediterranean Ecosystems and Enhanced Biodiversity”, “Towards a Climate Resilient Mediterranean”, “Governance”, “Together for a shared vision of the Mediterranean Sea and coast” and “Towards a Stronger Advocacy, Awareness, Education and Communication of the Mediterranean Sea and Coast”.
116. He noted that particular attention has been and will be further paid to collaboration with other MAP Components toward a more integrated MAP action. Cooperation with relevant regional partners with the aim of achieving a more coherent and inclusive regional partnership will be given particular attention as well.
117. Several countries requested that SPA/RAC continue to provide them with technical and financial support mainly for the establishment and management of SPAs, for the implementation of national action plans and national IMAP programmes.
118. The delegate of Libya welcomed the well-articulated programme of work and called for strengthening the integration of climate change adaptation into all activities and enhancing focus on the implementation and on-the-ground impact.
119. Representatives of partner organizations expressed their willingness to contribute to the implementation of the proposed programme of work for 2026-2027.
120. The MAP Coordinator reminded the meeting that priority should be given to achieve the 30x30 target at the regional level emphasizing that the 2026-2027 biennium will be critical for implementing necessary measures. She called for a greater role to be played by the Ad hoc Group of Experts for Marine

Protected Areas in the Mediterranean (AGEM). The representative of MedPAN underlined the importance to support the effectiveness of marine conservation efforts and of the MPAs management. She stressed also the critical importance to better factor the impact of climate change and invasive alien species into national and regional marine conservation efforts in order to make more connected and resilient the regional network of MPAs.

121. The meeting congratulated the Secretariat on the quality of the document and welcomed the ambitious draft programme of work of SPA/RAC for the biennium 2026-2027. The delegates made some comments and suggestions on the Programme of Work, which SPA/RAC will consider and forward to the MAP Secretariat for inclusion in the relevant draft decision to be submitted to the next MAP focal points meeting and COP 24 (**Annex XVIII**).

XII. Any other matters (agenda item 10)

122. No other question related to the topics of the meeting was raised by participants or by the Secretariat.

XIII. Adoption of the report (agenda item 11)

123. The meeting reviewed the draft report prepared by the Secretariat, modified it and adopted the present report and its annexes.

XIV. Closure of the meeting (agenda item 12)

124. After the customary exchange of courtesies, the meeting was closed on Thursday, 22 May 2025, at 5.00 p.m.

Annexe I
List of Participants
Liste des Participants

Provisional List of Participants
Liste Provisoire des Participants

REPRESENTATIVES OF THE CONTRACTING PARTIES
REPRÉSENTANTS DES PARTIES CONTRACTANTES

BOSNIA & HERZEGOVINA BOSNIE-HERZÉGOVINE	Mr. Admir ALADŽUZ Hydro Engineering Institute Sarajevo Bosnia Herzegovina
CROATIA / CROATIE	Ms. Jelena UROS Senior Advisor Service for mainstreaming biodiversity Ministry of Environmental Protection and Green Transition Zagreb, Croatia
CYPRUS / CHYPRE	Ms. Melina MARCOU Department of Fisheries and Marine Research (DFMR) Directorate General for Environment Ministry of Agriculture, Rural Development and Environment Nicosia, Cyprus Mr. Vasilios PAPADOPOULOS Senior Fisheries and Marine Research Officer Department of Fisheries and Marine Research Nicosia, Cyprus
EGYPT / ÉGYPTÉ	Mr. Mohamed Said ABDELWARITH Environmental Researcher Nature Conservation Sector Egyptian Environmental Affairs Agency Cairo, Egypt
FRANCE / FRANCE	Mr. Nicolas LAURENT Coordinateur Biodiversité Europe et International Direction de l'Eau et de la Biodiversité / Mission Europe et International Ministère de la Transition Ecologique, de la Biodiversité, de la Forêt, de la Mer et de la Pêche Paris La défense, France Ms. Capucine MARTIN Stagiaire coordination milieux marins Mission Europe et Internationale (MI) Direction de l'eau et de la biodiversité Direction Générale de l'Aménagement, du Logement et de la Nature
GREECE / GRÈCE	Ms. Aimilia DROUGAS Biologist, Geologist-Oceanographer, PhD Department A' Protected Areas Directorate of Natural Environment and Biodiversity Management General Directorate of Environmental Policy General Secretariat of Natural Environment and Water Ministry of Environment and Energy Athens, Greece

ITALY / ITALIE	Mr. Leonardo TUNESI Research Director Emeritus Department of Marine biodiversity, habitat and species Protection ISPRA - High Institute for Environmental Protection and Research Rome, Italy
LEBANON / LIBAN	Ms. Lara SAMAHA Head of Department Department of Ecosystems Ministry of Environment Beirut, Lebanon
LIBYA / LIBYE	Mr. Elmaki Ayad ELAGIL Director Natural Conservation Department Ministry of Environment Tripoli, Libya Mr. Abdulmaula HAMZA Nature conservation department senior advisor Ministry of Environment Tripoli, Libya
MALTA / MALTE	Ms. Brina PUNTAR Environment Protection Officer Assistant Environment Protection Office Biodiversity and Water Unit Environment and Resources Authority Malta Mr. Mauro SPATAFORA Environment Protection Officer Assistant Biodiversity and Water Unit Environment and Resources Authority Malta
SPAIN / ESPAGNE	Ms. Silvia GARCÍA HIGUERA Civil servant Ministry for Ecological Transition and Demographic Challenge Madrid, Spain
TUNISIA / TUNISIE	Ms. Samia BOUFARES Directeur Gestion des Ecosystèmes Littoraux Agence de Protection et d'Aménagement du Littoral Tunis, Tunisia

TÜRKİYE / TÜRKİYE	Ms. Dr. Beyhan OKTAR Deputy General Manager Republic of Türkiye Ministry of Environment, Urbanization and Climate Change Ankara, Türkiye Mr. Mustafa UZUN Head of Department Directorate General of Protection of Natural Assets Republic of Türkiye Ministry of Environment, Urbanization and Climate Change Ankara, Türkiye Ms. Neşe YAPICI SPA/RAC National Focal Point of Türkiye Head of Section (Species and Habitat Protection) Directorate General for Protection of Natural Assets Republic of Türkiye Ministry of Environment, Urbanization and Climate Change Ankara, Türkiye Mr. Emrah MANAP Head of section Republic of Türkiye Ministry of Environment, Urbanization and Climate Change Ankara, Türkiye Mr. Bayram ÖZTÜRK Istanbul University, Faculty of Fisheries Istanbul, Türkiye
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**AD HOC GROUP OF EXPERTS FOR MARINE PROTECTED AREAS IN THE
MEDITERRANEAN (AGEM) / GROUPE AD HOC D'EXPERTS POUR LES AIRES MARINES
PROTÉGÉES EN MÉDITERRANÉE (AGEM)**

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DE LA CONVENTION DE BARCELONE ET COMPOSANTES DU PLAN D'ACTION POUR LA
MÉDITERRANÉE***

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Annex II
Agenda

Agenda

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| Agenda item 1 | Opening of the meeting |
| Agenda item 2 | Organizational matters <ul style="list-style-type: none"> 2.1. Rules of procedure 2.2. Election of officers 2.3. Adoption of the agenda 2.4. Organization of work |
| Agenda item 3 | Status of implementation of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/BD Protocol) |
| Agenda item 4 | Progress report on the activities carried out by SPA/RAC under the UNEP/MAP Medium-Term Strategy for the interim period: April 2023-April 2025 |
| Agenda item 5 | Conservation of Species and Habitats <ul style="list-style-type: none"> 5.1. Updating of the Action Plan for the conservation of marine turtles in the Mediterranean 5.2. Updating of the Action Plan for the conservation of cartilaginous fishes (Chondrichthyans) in the Mediterranean Sea 5.3. Updating of the Regional strategy for the conservation of monk seal in the Mediterranean 5.4. Updating of the Action Plan for the conservation of the coralligenous and other calcareous bio-concretions in the Mediterranean Sea 5.5. Evaluation of the Regional Action Plans approach for selected species and habitats adopted under the SPA/BD Protocol and recommendations for the way forward 5.6. The List of the Regional Action Plans' Partners 5.7. Proposals for amendment to Annexes II and III to the SPA/BD Protocol |
| Agenda item 6 | Conservation of sites of particular ecological interest <ul style="list-style-type: none"> 6.1. Report by the Chair of the <i>Ad hoc</i> Group of Experts for Marine Protected Areas in the Mediterranean (AGEM) on the group's works during the biennial period 2024-2025 6.2. Draft guidance document on Other Effective area-based Conservation Measures in the Mediterranean: identification and Criteria application |

6.3. Analysis of the reports on Specially Protected Areas (SPAs) for the Directory of Mediterranean SPAs

6.4. List of Specially Protected Areas of Mediterranean Importance (SPAMI List)

6.4.1. Report on the Ordinary Periodic and Extraordinary Review of the areas included in the SPAMI List

6.4.2. Inclusion of areas in the SPAMI List

Agenda item 7 Status of implementation of the Ecosystem Approach (EcAp) Roadmap (Progress)

Agenda item 8 Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO)

8.1. Mid-term assessment with focus on startup activities of the collective implementation of the Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO)

8.2. Monitoring Framework of the collaborative implementation of the Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO)

Agenda item 9 Draft Programme of Work of SPA/RAC for the biennium 2026-2027

Agenda item 10 Any other matters

Agenda item 11 Adoption of the report

Agenda item 12 Closure of the meeting

Annex III

Draft updated Action Plan for the Conservation of Marine Turtles in the Mediterranean

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1. Introduction

1. The Parties to the Barcelona Convention included among their priority targets for the period 1985-1995 the protection of Mediterranean marine turtles (Genoa Declaration, September 1985). To this purpose and as a response to growing international concern about the status of Mediterranean marine turtles, which encounter various threats, including mortality in fishing gear and loss of vital habitats on land (nesting beaches), they adopted in 1989 the Action Plan for the Conservation of Mediterranean Marine Turtles. In 1996, the Parties confirmed their commitment to the conservation of marine turtles by including the 5 species of marine turtle recorded for the Mediterranean in the List of **Endangered** and Threatened Species annexed to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (Barcelona, 1995). The Protocol calls on the Parties to continue to cooperate in implementing the Action Plans already adopted.

2. Since 1989, the Action Plan has been revised four times. The first review was in 1999, when the updated version of the Action Plan was adopted by the 11th Conference of the Contracting Parties to the Barcelona Convention (COP11 Malta). The second review was in 2007 and concerned only the update of the timetable for the period 2008-2013. The third and fourth revisions occurred in 2013 and 2019 where the timetable was updated respectively for the periods 2014-2019 and 2019-2025. This fifth revision of the Action Plan, completed in 2025, updates the main text of the Action Plan and the associated implementation timetable following a review of the implementation of the previous version involving input from national Focal Points and national and regional experts.

3. Two species of marine turtles nest in the Mediterranean, the Loggerhead turtle (*Caretta caretta*¹) and the Green turtle (*Chelonia mydas*²). The Leatherback turtle (*Dermochelys coriacea*³) is observed regularly, while the remaining two species (Hawksbill turtle *Eretmochelys imbricata*⁴ and Kemp's Ridley turtle *Lepidochelys kempii*⁵) in the original listing are very rarely encountered vagrant species. A sixth species of marine turtle, the Olive Ridley (*Lepidochelys olivacea*⁶) has also recently been recorded in the region. Both Loggerhead and Green turtles also enter the Mediterranean from the Atlantic as juveniles in their oceanic stage and generally return to the Atlantic at larger sizes.

4. Marine turtles are reptiles, and they need to utilise terrestrial habitats (sandy beaches) to lay their eggs and produce young. The intensive exploitation of marine turtles during much of last century has led to a virtual collapse of the marine turtle populations in the Mediterranean. The remaining populations still face threats such as incidental catches and mortality in commercial fishing gear and degradation of nesting habitats, entanglement as well as plastic ingestion. The conservation of marine turtles requires that threats and issues both on land and in the sea are addressed. Marine turtles are long-lived reptiles, and the recovery of populations is therefore a protracted process. Their reproduction on land poses threats, but it also provides opportunities, in a practical way, to help the species recover, for example through reducing predation rates on eggs and hatchlings. Good

¹ Loggerhead Turtle *Caretta caretta* Mediterranean subpopulation has most recently been assessed for *The IUCN Red List of Threatened Species* in 2015. *Caretta caretta* Mediterranean subpopulation is listed as Least Concern

² Green Turtle *Chelonia mydas* Mediterranean subpopulation has most recently been assessed for *The IUCN Red List of Threatened Species* in 2022. *Chelonia mydas* Mediterranean subpopulation is listed as Near Threatened under criteria B2b(ii,iii)

³ Leatherback Turtle *Dermochelys coriacea* has most recently been assessed for *The IUCN Red List of Threatened Species* in 2013. *Dermochelys coriacea* is listed as Vulnerable under criteria A2bd

⁴ Hawksbill Turtle *Eretmochelys imbricata* has most recently been assessed for *The IUCN Red List of Threatened Species* in 2008. *Eretmochelys imbricata* is listed as Critically Endangered under criteria A2bd

⁵ Kemp's Ridley *Lepidochelys kempii* has most recently been assessed for *The IUCN Red List of Threatened Species* in 2019. *Lepidochelys kempii* is listed as Critically Endangered under criteria A2bd

⁶ Olive Ridley Turtle *Lepidochelys olivacea* has most recently been assessed for *The IUCN Red List of Threatened Species* in 2008. *Lepidochelys olivacea* is listed as Vulnerable under criteria A2bd

knowledge of marine turtle population biology is essential if this opportunity is to be used properly. Marine turtles do not nest every year and significant fluctuations from year to year in nesting activity are common, especially in green turtles. Consequently, long-term data are needed to study populations and draw conclusions on their status.

5. The wider issues of biodiversity conservation need to be considered in conserving species, such as marine turtles. Threatened species are components of an ecosystem and the interdependence of the implementation of the various SPA/RAC Action Plans for endangered species and biodiversity conservation is stressed here.

6. There is clear evidence of important negative impacts on the populations of Mediterranean marine turtles by human activities. The most serious current threats to and impacts on marine turtles are:

- Deterioration of the critical habitats for their life cycle, such as nesting, feeding and wintering areas, and key migration routes.
- Direct impacts from incidental capture in fisheries, intentional killing, consumption, egg exploitation and boat strikes.
- Pollution, which can impact both habitats and the marine turtles at individual and population level.
- Climate change (feminization of eggs, sea level rise impacting the nesting beaches)

7. Knowledge of the genetic units, status, biology and behaviour of marine turtles is increasing rapidly in the Mediterranean and, though gaps still exist, sufficient information is available for conservation purposes. This information has been used in updating and improving the provisions of the present MAP Action Plan for the Conservation of the Mediterranean Marine Turtles. Sufficient information is also available in most cases to draw up National Action Plans for the conservation of marine turtles.

8. Elaborating and implementing action plans to confront the threats to biological diversity is an effective way of guiding, coordinating and stepping up the efforts made by the Mediterranean countries to safeguard the region's natural heritage. The adopted Ecosystem Approach (EcAp) to management of human activities with a view to conserving natural marine heritage and protecting vital ecosystem services recognizes that to achieve Good Environmental Status "Biological diversity is maintained or enhanced". In this context, under the Barcelona Convention, three common indicators related to marine turtles have been elaborated within the 27 common indicators of the Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and related Assessment Criteria (IMAP):

- **COMMON INDICATOR 3:** Species distributional range (EO1 related to marine mammals, seabirds, marine reptiles)
- **COMMON INDICATOR 4:** Population abundance of selected species (EO1, related to marine mammals, seabirds, marine reptiles)
- **COMMON INDICATOR 5:** Population demographic characteristics (EO1, e.g. body size or age class structure, sex ratio, fecundity rates, survival/mortality rates related to marine mammals, seabirds, marine reptiles)

9. The 2017 Mediterranean Quality Status Report (2017 MED QSR), within the analysis conducted on Common Indicators 3 (Species distributional range), 4 (Population abundance of selected species) and 5 (Population demographic characteristics) related to EO1 on marine mammals, seabirds and marine reptiles, focused on the major existing gaps related to the current knowledge about the presence, distribution, habitat use and preferences of these marine species. It stressed the need to increase efforts on filling these gaps to predict with any certainty the future viability of marine turtle populations in the Mediterranean. Moreover, the 2023 MED QSR recalls that IMAP reporting framework, is a requirement of all riparian Mediterranean states, does not exist in isolation but coincides with other international reporting requirements such as those for the EU Habitats Directive

and the Marine Strategy Framework Directive (MSFD). There is much overlap and synergy between these programs, which means data collected if collected in adequately rigorous manner can be used multiple times and not only for the IMAP.

10. Information from various sources has been considered in this updated Action Plan. Effective protection and management of nesting areas, practical measures to reduce turtle bycatch, as well as the management of feeding grounds, based on scientific information, are some of the key elements that can help to ensure the survival and the recovery of populations of marine turtles. These elements have been paid due attention. Scientific information on population dynamics, biology and physiology and the topics of public awareness and education etc have also been given due consideration in this plan. Especially noted was the nesting range expansion and increased use of previously marginal areas for nesting by Loggerhead turtles in the central and western Mediterranean.

11. The effective and sustainable protection of the Mediterranean marine turtles implies the need for management of the Mediterranean as a whole, taking into account the ecosystem approach, it should take advantage of the actions of all the concerned stakeholders and be carried out in cooperation with organisations, programmes and plans, at the supranational and national level such as the Mediterranean Action Plan (MAP); Fisheries Management Plans (FAO/GFCM); the Marine Turtle Specialist Group (IUCN/SSC); International Commission for the Conservation of Atlantic Tunas (ICCAT); International Commission for the Scientific Exploration of the Mediterranean Sea (CIESM); relevant NGOs, research institutions and universities etc.

12. This Action Plan outlines objectives, priorities, and implementation measures in different fields as well as their coordination. The different components of the Action Plan are mutually reinforcing and may act synergistically.

13. Progress in implementing the Action Plan will be reviewed at each meeting of the National Focal Points for SPA/BD, based on national reports and on reports by SPA/RAC on the regional aspects of the Action Plan. The Action Plan will be assessed and revised and updated every five years, unless the SPA Focal Point Meetings deem otherwise.

2. Objectives

14. The objective of this Action Plan is to maintain the Good Environmental Status and to further recovery of the populations of Loggerhead turtles and Green turtles in the Mediterranean (with priority accorded to Green turtles, wherever appropriate, due to their more spatially and numerically smaller populations) through:

- Appropriate protection, conservation and management of marine turtles and their habitats, including nesting, feeding and wintering areas and key migration passages.
- Improved biological understanding of the status of marine turtle populations through scientific research and monitoring.

3. Priorities

15. Acknowledging the progress achieved over the past years and the proliferation of projects, activities and actions in many countries in the region, it is considered an overarching priority action to continue and enhance such ongoing projects and activities related to marine turtle conservation, research and monitoring. The following priorities have been identified for each component of this Action Plan:

3.1. Protection and management of the species and their habitats

16. Conservation should be fostered through the following actions:

- Development, implementation and enforcement of specific legislation on marine turtles.

- Reduction of incidental catches and elimination of intentional killings.
- Protection and effective management of nesting areas, including emerging nesting areas, and the adjacent mating and inter-nesting marine habitats.
- Protection and management of feeding, wintering and mating areas and key migration passages.
- Assessment, improvement, and restoration of degraded nesting beaches.
- Sharing and adopting standardised protocols for management and conservation.

3.2. Research and monitoring

17. Knowledge needs to be improved in the following topics:

- Location of mating, feeding and wintering areas and key migration routes.
- Location of potential and new nesting areas with thermal conditions conducive to successful breeding.
- Biology of the species, in particular aspects related to life cycles, population dynamics and population trends and genetics.
- Rates of fisheries interactions (e.g. bycatch) and associated direct and post-release mortalities.
- Efficacy of modification of fishing practices, mitigation measures and related socioeconomic effects of implementing these measures.
- Efficacy of nesting beach management techniques that increase hatchling recruitment, especially for emerging nesting areas.
- Causes of injury and death that may be collected from stranded marine turtles through adoption of standardised protocols used by stranding networks and rescue centres.
- Impact of climate change on populations including habitat alteration, altering sex ratios to levels that could reduce population fitness, hatching success, changes in reproductive frequency and changes in food availability and in feeding ecology that could affect reproduction and/or survival.
- Impact of pollution (including plastics) on the health of individuals and populations.
- Population status and trends through long-term monitoring programmes, both on nesting beaches and at sea, based on the IMAP developed within the framework of the EcAp process of the Barcelona Convention as well as the monitoring requirements set under the MSFD of the EU.

3.3. Public awareness and education

18. For the implementation of this action plan, public support is needed. Information and education campaigns on relevant marine turtle conservation issues should target groups such as:

- Fishers and other stakeholders.
- Decision makers at national, regional and local levels.
- Local residents and visitors to nesting areas.
- Schoolchildren and teachers.
- Tourists and tourism-related organizations.

3.4. Capacity building/Training

19. Training in standardised conservation and management techniques and protocols relating to conservation, research and monitoring of the priority issues covered by the Action Plan, and data required for the IMAP, should be delivered to managers, scientists, researchers and other relevant staff.

3.5. Coordination

20. Promote and enhance cooperation and coordination among the Contracting Parties, the UNEP/MAP partners, relevant organizations and projects carried out in the field of marine turtle

conservation. Promote intra-governmental coordination and communication for the enhancement of marine turtle conservation. Priority should be given to the regular assessment of the progress in the implementation of this Action Plan.

4. Implementation

21. The implementation of the measures recommended in this Action Plan will only be possible with the appropriate support of the Parties and by competent national and international organisations, particularly with regards to the provision of adequate financial support, through national and regional funding programmes and through applications to donors for specific projects. Much progress has been achieved over recent years, with the proliferation of projects, programmes, activities and actions in many countries around the Mediterranean. The implementation, coordination and strategic alignment of such ongoing activities related to marine turtle conservation, research and monitoring is expected to benefit from the provisions of this Action Plan.

4.1. Protection and management

22. Regarding protection and management, the following measures are recommended:

(a) Legislation

23. The Contracting Parties that have not yet extended legal protection to marine turtles should do so as soon as possible. Protection should be extended to *all* species of sea turtle as any marine turtle present in the Mediterranean is worthy of protection; however, management legislation can be limited to loggerhead and green turtles as the only two species with established breeding populations.

24. Each Contracting Party should develop and implement as soon as possible the necessary legislation for the protection, conservation and/or management of areas important for marine turtles, such as nesting (including the adjacent sea), feeding, wintering and mating areas and key migration passages.

25. In pursuing the above the Contracting Parties should consider the provisions of the relevant international conventions and supranational legislation as well as the SPA/RAC “Guidelines to Design Legislation and Regulations Relative to the Conservation and Management of Marine Turtles Populations and their Habitats”.

26. Legislation on deliberate killing must be enforced and/or updated in some countries and developed in others that lack this fundamental measure.

(b) Protection and management of habitats

27. Integrated management plans should be elaborated and implemented for terrestrial and marine areas critical for nesting, feeding, wintering and mating, as well as key migration routes.

28. Measures and management rules aimed at protecting critical habitats, on land and at sea, should be developed and implemented. In the case of nesting areas, such measures should cover issues such as public access, use of vehicles, use of artificial lights, nautical activities, minimization of predation, inundation, disturbance during nesting, disturbance in adjacent waters, etc. In the case of marine areas such measures should address boat traffic and fishing. Contracting Parties are encouraged to use the SPA/RAC “Guidelines for setting up and management of Specially Protected Areas for marine turtles in the Mediterranean”

29. Training of the staff involved in protection and management activities is a prerequisite to good management.

(c) Reduction of incidental catches and elimination of intentional killings

30. A reduction of incidental catches and mortality can be achieved by:

- Applying appropriate regulations concerning fishing depth, season, gear, etc, especially in areas with a high concentration of marine turtles.
- The modification of fishing gear, methods and strategies proven to be effective, and as appropriate, their introduction in fisheries legislation and fishing practices.
- Education/training of fishers to correctly haul, handle, release and record incidentally caught marine turtles. Use of appropriate methods are described *inter alia* in the SPA/RAC publication “Sea turtle handling guidebook for fishermen”.

31. Deliberate killing and exploitation of marine turtles can be practically eliminated by:

- Applying and enforcing appropriate legislation.
- Carrying out campaigns among fishers, to urge them to release unharmed any marine turtles caught incidentally and to participate in the information networks on turtles (report sightings of marine turtles, of tags, participation in tagging programmes, etc.).
- Carrying out campaigns for fishers and local populations to facilitate the implementation of legislation to ban the exploitation/consumption and trade/use of all products derived from marine turtles.

The above will help reduce mutilation and killing of marine turtles due to ignorance and/or prejudice.

(d) Other Measures to Reduce Mortality

32. The setting up and proper operation of Rescue Centres and First Aid Stations is suggested as an additional means to minimize individual marine turtle mortality. Rescue centres may also play an important role for the conservation of the populations by contributing to activities such as awareness, education, and data collection. The use of the SPA/RAC “Guidelines to Improve the Involvement of Marine Rescue Centres for Marine Turtles” is recommended.

33. There is a need to develop a common methodology for the management of rescue centres both for methods of collection and transfer of conservation relevant data and the improved welfare to individual marine turtles.

34. Staff involved at rescue and rehabilitation centres should all receive training to provide them with a certain level of competency. In addition, a Mediterranean-wide rescue network should be set up, to assist the exchange of knowledge and experience among those who work with marine turtles in facing difficulties. The network should include existing rescue centres and promote the establishment of new rescue centres in countries that are currently lacking adequate structures.

35. Through all work, standard protocols should be followed, which include good data collection and sharing for the general advancement of marine turtle welfare and generation of conservation-related information. Guidelines should be reviewed and updated where necessary.

4.2. Scientific Research and Monitoring

36. The strategic development of research and monitoring programmes and the exchange of information should focus on the priority fields for the conservation of marine turtle populations. This can be achieved through adoption of various methods, such as beach surveys and (long-term) monitoring of nesting beaches, tagging (keeping in mind the provisions of the SPA/RAC tagging guidelines), data logging, satellite telemetry, Geographic Information Systems (GIS), genetics, fishery observers and modelling.

37. Priority should be afforded to robust scientific data collection that contributes to regional assessment programmes such as the EU MSFD and the Barcelona Convention IMAP, and to the fledgling identification of Important Marine Turtle Areas initiative of the IUCN Marine Turtle Specialist Group.

(a) Scientific research

38. Research should cover *inter alia* the following (not in order of priority):

- Identification of mating, feeding and wintering areas and key migration passages.
- Identification of potential or new nesting areas with thermal conditions conducive to successful breeding.
- Deeper understanding of the biology of the species, in particular aspects related to life cycles, population dynamics and population trends and genetics. Contracting Parties are encouraged to use the “Guidelines to standardize methodologies to estimate demographic parameters for marine turtles [sic] populations in the Mediterranean”.
- The assessment of marine turtle bycatch and direct and post-release mortality rates from different fishing gears, including those used in small scale and artisanal fisheries.
- Gather data on the effects of gear modifications (new hooks etc.), other mitigation measures and fishing strategies to evaluate the effects of these on marine turtle mortality and catch rates as well as the effects on other species.
- The assessment of socio-economic effects of the implementation of marine turtle conservation measures that can impact fisheries to determine best course of action.
- Evaluation of the impact of different climate change scenarios on marine turtles; for example altered sex ratios (to levels that could reduce population fitness), behaviours and habitat use or shifted seasonality of nesting.
- Identification and quantification of new and emerging threats, whose impacts may be increasingly important at national to regional level.

(b) Monitoring

39. For monitoring, programmes should follow the recommendation of the MAP ecological objectives, the IMAP and the relevant Protocol³. They should cover *inter alia* the following (not in order of priority):

- Long-term monitoring programmes for important nesting beaches and foraging areas. All Contracting Parties that have nesting beaches or foraging areas should encourage their uninterrupted and standardized monitoring considering any national monitoring programmes related to biodiversity. Where such programmes do not exist, the Parties should set up such programmes or encourage them.
- Surveys of nesting beaches of lower nest densities, and of scattered nesting at emerging sites need also to be undertaken regularly if possible, so that a more complete picture of populations can be formed. Contracting Parties are encouraged to use the SPA/RAC “Guidelines for the long-term Monitoring programmes for marine turtles nesting beaches and standardized monitoring methods for nesting beaches, feeding and wintering areas”.
- Cost-effective by-catch monitoring programmes, possibly using on-board observers (who could collect marine turtle tissue samples for genetic analyses) or cameras, to gather precise data on species biology and bycatch rates and outcomes should complement nesting beach and foraging area monitoring.
- Standard management techniques for nesting beaches within the scope of on-going monitoring programmes should be implemented
- Standard management techniques for foraging areas within the scope of on-going monitoring programmes, and for the establishment of new programmes should be developed and implemented.

- Data collection from stranded marine turtles through integrated stranding networks and rescue centres should be strengthened following standard protocols.
- Joint monitoring initiatives (possibly on a pilot basis) with the aim to share and exchange best practices, using harmonized methodologies, and ensuring cost efficiency. Contracting Parties, with the help of national, regional or international organisations, should undertake, when appropriate,
- Regional initiatives and projects led by competent partner organizations to strengthen strategic and operational regional synergies. Contracting Parties should support and take part in them to contribute to the implementation of the IMAP, and other international initiatives.
- Regular reporting of quality assured data, based on national and international reporting requirements. Contracting Parties should encourage this together with promoting publication of results as peer-reviewed articles in scientific journals.

40. For some Contracting Parties there is still little information on marine turtle nesting beaches and size of breeding populations. These Parties should undertake urgently more comprehensive surveys and encourage the setting up of long-term monitoring programmes considering their national monitoring programmes related to biodiversity.

4.3. Public awareness and education

41. Public-awareness programmes, including appropriate multiple information tools (special documentary information material, electronic media etc), should be developed for fishers, local residents, tourists and tourism-related organizations, to help reduce the mortality rates of marine turtles, to induce respect for nesting, feeding and wintering and mating areas, and to promote the reporting of any useful information concerning marine turtles. Appropriate training/education of stakeholders can be given (e.g. turtle handling to fishers and promotion of legitimate eco-touristic options to tourism businesses).

42. Information campaigns directed at local authorities, residents, teachers, visitors, fishers, decision makers at local, regional and national levels and other stakeholders, are urgently needed to enlist their participation in the efforts for the conservation of marine turtles and for their support for conservation measures.

43. Inclusion of marine turtle conservation in school education, potentially as part of the national curriculum, is strongly recommended.

4.4. Capacity building/Training

44. Existing training programmes should be continued, particularly for those Parties that need more expertise and/or experts with specialized knowledge of marine turtles, and for managers and other staff of protected areas, in the conservation and management techniques needed (these include *inter alia* beach management, tagging and monitoring).

45. Training programmes in the setting up and operation of Rescue Centres should be continued, with the aim of guaranteeing that these centres have skilled personnel, appropriate equipment and adopt best practice and common methodologies for necessary data collection. Training programmes to be elaborated for other fields, as needed, especially where fisheries managers are concerned. The dissemination of standardised protocols to all relevant parties is encouraged, to obtain comparable and scientifically robust data for conservation and management.

4.5. National Action Plan

46. Contracting Parties should establish National Action Plans for the conservation of marine turtles, in line with the requirements for the Post-2020 SAPBIO.

47. National Action Plans should address the current factors causing loss or decline of marine turtle population and their habitats, suggest appropriate subjects for legislation, give priority to the protection and management of coastal and marine areas, the regulation of fishing practices and ensure continued research and monitoring of populations and habitats as well as the training and refresher courses for specialists and the awareness-raising and education for the general public, actors and decision-makers.

48. Long established National Action Plans should be reviewed to confirm they still meet the national needs of the marine turtles and how well-established recommendations have been implemented.

49. The national plans must be brought to the attention of all concerned actors and, when possible, coordinated on a regional basis.

4.6. Regional coordination structure

50. It is necessary to further develop cooperation and exchange of information among the Contracting Parties for the implementation of the Action Plan and to improve the coordination of activities within the region.

51. SPA/RAC continues to be considered the most appropriate existing mechanism for this coordination. The implementation of the Action Plan may be carried out, in cooperation with other bodies concerned, through establishing Memoranda of Cooperation, as necessary. Sub-regional working groups of experts and NGOs, such as NAST-Net for the northern Africa region, are encouraged to be developed and become partners to the AP (see below). Such regions could include the Adriatic Sea and the northern Western Mediterranean.

52. The major function of the coordinating mechanism for the marine turtle AP would be to:

- Assess the progress achieved in implementing this Action Plan. SPA/RAC will request at regular intervals, not exceeding two years, update reports from the Parties and, based on these ongoing national reports and of its own assessment of the progress in the regional component of this Action Plan, prepare reports to be submitted to the SPA National Focal Point meetings, which will make follow-up suggestions to the Contracting Parties.
- Collect and evaluate the data at Mediterranean level.
- Prepare a timetable of activities and financing proposals for the Contracting Parties' meetings.
- Contribute to the dissemination and exchange of information and best practice standard protocols.
- Create more opportunities with relevant partner organizations, to strengthen technical support that countries might need to implement the IMAP in relation with marine turtles.
- Assist and/or organize expert meetings on specific topics regarding marine turtles.
- Continue to support the organisation of the Mediterranean Marine Turtle Conferences.
- Assisting and/or organising, training courses and support and catalyse the complementary work carried out by other international bodies, NGOs and UNEP/MAP partners aiming at the same objectives should be encouraged and capitalized to prevent possible overlapping and help disseminate their knowledge across the Mediterranean Community.
- Coordinate the activities needed for the revision/updating of this Action Plan every five years, or earlier, if this is deemed necessary by the SPA/DB National Focal Point meetings or based on important new information becoming available.
- Support data collection, compilation and analysis that will contribute towards the establishment of Important Marine Turtle Areas in the Mediterranean, which is a target of the IUCN-SSC Marine Turtle Specialist Group.

4.7. Participation

53. Any interested international and/or national organisation, qualified through sufficient expertise, is invited to participate in actions necessary for the implementation of this Action Plan.

54. Links with other bodies responsible for Action Plans dealing with one or more species of marine turtles, especially regarding fisheries related issues, should be made to strengthen co-operation and avoid duplication of effort.

55. The co-ordination structure shall set up a mechanism for regular dialogue between the participating organisations and is encouraged to organise regular meetings to this effect.

4.8. Actions Plan Partners

56. Implementing the present action plan is the province of the national authorities of the Contracting Parties. Relevant international organisations, NGOs, laboratories, and any other entities are invited to join in the efforts necessary for the successful implementation of the Action plan. During their ordinary meetings, the Contracting Parties may, upon the recommendation of the meeting of National Focal Points for SPAs/BD, grant the status of «Action Plan Partner» to any organization or laboratory that requests it. This status will be awarded to those that carry out, or support (financially or otherwise), concrete actions (such as conservation, research, etc.) That contribute to the implementation of the present action plan, in line with its priorities. The conditions and criteria for the award of the regional action plan partner title are outlined in Annex VI to the decision IG.26/5.

4.9. Implementation timetable

ACTION	Deadline/ periodicity	By whom
A. PROTECTION AND MANAGEMENT		
A.1 Legislation		
a. Protection of marine turtles – general species protection	As soon as possible	Contracting Parties
b. Enforce legislation to eliminate deliberate killing	As soon as possible	Contracting Parties
c. Habitat protection and management (nesting, mating, feeding, wintering and key migration passages)	As soon as possible	Contracting Parties
A.2 Protection and management of habitats		
a. Setting up and implementing management plans of key areas	Immediate and continuous	Contracting Parties
b. Mitigation measures in place at damaged nesting habitats	Immediate and continuous	Contracting Parties
A.3 Minimisation of incidental catches		
a. Fishing regulations (depth, season, gear, duration, dynamic spatial extents) in key areas	Immediate and continuous	Contracting Parties
b. Modification of gear, methods and strategies	Immediate and continuous	SPA/RAC, Partners & Contracting Parties
A.4 Other measures to minimise individual mortality		
a. Setting up and/or improving operation of Rescue and Rehabilitation Centres	Continuous	Contracting Parties
b. Elaborate guidelines for the management of rescue centres, including methods for data collection, which align with existing protocols	1 year after adoption	SPA/RAC

ACTION	Deadline/ periodicity	By whom
B. SCIENTIFIC RESEARCH AND MONITORING		
B.1 Scientific research		
a. Identification of new mating, feeding and wintering areas and key migration passages in order to generate data for establishing MTSG Important Marine Turtle Areas	Continuous	Contracting Parties and Partners
b. Assess the interaction between marine turtles and fisheries through elaboration and execution of cooperative research projects of regional importance	Continuous	SPA/RAC, Partners & Parties
c. Identify sub-regional management units through re-identification and tracking of individual marine turtles and through genetic analysis	Continuous	SPA/RAC and Contracting Parties and Partners
d. Exchange information and experience between managed and monitored nesting sites through networking and other means	Continuous	SPA/RAC
B.2. Monitoring		
a. Set up and/or improve long-term monitoring programmes for nesting beaches, feeding and wintering areas in order to generate data for establishing MTSG Important Marine Turtle Areas and other regional initiatives such as IMAP and MSFD	Continuous	Contracting Parties and SPA/RAC
b. Elaboration of protocols for data collection from stranded marine turtles, ensuring minimum data standards are adhered to	2 years from adoption	SPA/RAC
c. Encourage establishment of national stranding networks and communication between established networks	As soon as possible	Contracting Parties

ACTION	Deadline/ periodicity	By whom
C. PUBLIC AWARENESS AND EDUCATION		
Awareness raising and information campaigns directed at fishers, coastal populations, authorities and other stakeholders	Continuous	SPA/RAC, Partners and Contracting Parties
D. CAPACITY BUILDING		
Establish training courses on topics such as nesting and foraging area management, nest management techniques and in-water research techniques. To be carried out by recognised regional expert individuals and organisations.	Continuous	SPA/RAC and Partners
E. NATIONAL ACTION PLANS		
Elaboration of National Action Plans	Continuous	Contracting Parties
F. COORDINATION		
a. Assessment of progress in the Implementation of the Action Plan	Every Five years	SPA/RAC and Parties
b. Cooperation in organising the Mediterranean Conferences on marine turtles	Every three year	SPA/RAC
c. Updating the Action Plan on Marine Turtles	Five years from adoption	SPA/RAC

Annex IV
Draft updated Action Plan for the Conservation of Cartilaginous Fishes (Chondrichthyans) in
the Mediterranean Sea

INTRODUCTION

1. The chondrichthyan fish fauna of the Mediterranean is relatively diverse, with approximately 90 species; at least 48 species of sharks, 40 batoids and two chimaeras. All species are fished as bycatch, and many of them are sold at fish markets, among them some species which are very rare, endangered or protected and may never have been common. There is evidence of significant negative impacts of unmanaged and irresponsible fisheries on the populations of many chondrichthyan species.

2. Chondrichthyan fishes have specific biological characteristics, such as low reproduction productivity due to late sexual maturity and low fecundity, which make them vulnerable to fishing pressures and ecological disturbances, and populations are slow to recover once depleted.

3. For chondrichthyan fishes, there also exists a close relationship between the number of young produced and the size of the breeding biomass (stock-recruitment relationship) and complex spatial structures (size/sex segregation and seasonal migration) that contribute to their vulnerability to habitat deterioration, environmental pollution, and over-exploitation.

4. Most sharks and some skates and rays are apex predators that have an important trophic function in the marine ecosystem. Therefore, the ecosystem approach is particularly important to understand the role of these fishes in the structuring and functioning of this system. The integrated effects of irresponsible fishing, pollution, and habitat destruction can result in changes in abundance, size structure and biological features, and can lead to extinction. The indirect impacts include changes in species prey/predator composition, with species replacement, since fishing tends to remove larger species and larger individuals from ecosystems. Exploitation of chondrichthyans should respect the principles of sustainability and the precautionary principle as defined in the FAO Code of Conduct for Responsible Fisheries.

5. Elasmobranchs are by far the most endangered group of marine fish in the Mediterranean Sea and worldwide. The IUCN Red List shows clearly the vulnerability of elasmobranchs and the lack of data; 39 species in 2016 (53% of 73 assessed species), and 47 species in 2020 (53% of 88 assessed species), are critically endangered, endangered, or vulnerable. Around 13 % are data deficient (DD).

6. The Contracting Parties to the Barcelona Convention, within the framework of the Action Plan for the Protection of the Marine Environment and the Sustainable Development of the Coastal Area of the Mediterranean (MAP Phase II), give priority to ensuring the protection of sensitive species, habitats and ecosystems in the Mediterranean Sea.

7. In line with the Post-2020 SAPBIO and its alignment with the CBD Global Biodiversity Framework and the UN Sustainable Development Goals, efforts to conserve cartilaginous fishes in the Mediterranean should emphasize harmonized regional actions, integrating habitat and species protection measures to achieve good conservation environmental status and ensure sustainable management of marine biodiversity.

8. The decline of some chondrichthyan populations has become a matter for international concern, and a growing number of organisations have expressed the need for urgent measures to be introduced for the conservation of these fish. To this end, SPA/RAC was entrusted (Monaco, November 2001) by the Contracting Parties to the Barcelona Convention with the task of elaborating an action plan for the conservation of the chondrichthyan populations of the Mediterranean. This action plan was adopted within the frame work of the Barcelona Convention for the protection of the marine environment and the coastal region of the Mediterranean in 2003.

9. Parties to Barcelona Convention requested SPA/RAC during the COP 23 (Portoroz, Slovenia, 5-8 December 2023) to update this Action Plan.

10. Today, the serious threats to the populations of chondrichthyan fishes are widely acknowledged: mainly unmanaged and irresponsible fishing, pollution and the negative aspects of some littoral development. These threats affect both chondrichthyan biodiversity and abundance. The Mediterranean Sea being a semi-enclosed sea with strongly populated coastal countries, critical habitats have been damaged by some littoral development and pollution. Pollution may harm the marine ecosystem because contaminants, concentrating along the food webs, can alter the physiology and good functioning of individuals and populations.

11. Although the Mediterranean chondrichthyan fish fauna have been studied for a long time, scientific research still needs to be undertaken to study the biology, ecology, population dynamics and status of stocks of most of the species. These studies are necessary to better understand their ecological role. The taxonomic status of several species is still uncertain. A few species are endemic to the Mediterranean. Some Red Sea species enter the eastern Mediterranean through the Suez Canal (Lessepsian migrants); the progression of the populations of these species, and the effect of these invaders on the Mediterranean ecology, should be carefully studied.

12. Since many chondrichthyans are wide-ranging and/or migratory, regional coordination is required for research, monitoring and enforcement. Also, information should be widely disseminated amongst the public to make it aware of the threats to chondrichthyans and the urgent need for their conservation and the management of their exploitation.

A. OBJECTIVES

13. The present Action Plan is aimed at promoting:

13.1. The general conservation of the endangered chondrichthyan populations of the Mediterranean Sea, including supporting and promoting national and regional programmes on reducing bycatch and all other kind of disturbance.

13.2. The protection of chondrichthyan species, mainly those which are vulnerable and endangered;

13.3. The identification, the protection and the restoration of critical habitats, such as mating, spawning and nursery grounds;

13.4. The improvement of scientific knowledge by research and scientific monitoring, including the creating of regional standardised databases;

13.5. The recovery of depleted chondrichthyan stocks;

13.6. Public awareness and capacity-building about conservation of chondrichthyans.

13.7. Compliance with provisions of Annex II listings and GFCM Recommendations through improved national legislation and effective national enforcement.

B. PRIORITIES

14. The following general priorities are recommended:

14.1. Urgent provision of legal protection status for the species enlisted in the Annex II (list of endangered or threatened species) of the SPA/BD Protocol, which based on Recommendation GFCM/36/2012/1 (now GFCM/42/2018/2) cannot be retained on board, trans-shipped, landed,

transferred, stored, sold or displayed or offered for sale, and must be released unharmed and alive to the extent possible

14.2. Urgent action is required to monitor and mitigate interactions between fisheries and vulnerable elasmobranch species in the Mediterranean Sea, in alignment with Resolution GFCM/46/2023/4 on a regional plan of action to monitor and mitigate interactions between fisheries and vulnerable species in the Mediterranean Sea.

14.3. Strengthened measures are needed to improve the conservation status of elasmobranch species listed in Annex II and III of the SPA/BD Protocol, and to mitigate or eliminate, where possible, the risk of incidental catch in fishing operations and associated mortality in the GFCM area of application, in line with Recommendation GFCM/44/2021/16 on additional mitigation measures for the conservation of elasmobranchs in the Mediterranean Sea.

14.4. Other species are currently data-deficient with inadequate information to assess extinction risk. Thus, there is an urgent need to assess the status in the Mediterranean Sea of the 12 species identified by IUCN as Data Deficient: Marbled stingray (*Dasyatis marmorata*), Lusitanian Cownose (*Rhinoptera marginata*), Round fantail stingray (*Taeniurops grabata*), Bignose shark (*Carcharhinus altimus*), Copper shark (*Carcharhinus brachyurus*), Blacktip shark (*Carcharhinus limbatus*), Dusky shark (*Carcharhinus obscurus*), Sharpnose sevengill shark (*Heptranchias perlo*), Longnose spurdog (*Squalus blainville*), Shortnose spurdog (*Squalus megalops*), Bigeyed sixgill shark (*Hexanchus nakamurai*) and Longfin mako (*Isurus paucus*). In addition, prioritize research and protection of deep-sea sharks, such as the Little Gulper Shark (*Centrophorus uyato*).

14.5. Identify further legislative, management and technical measures to protect species including minimizing bycatch and mortality of sharks, and develop management programmes for species currently marketed, which might include listing in Annex II of the SPA/BD Protocol.

14.5.1. Primarily for the endangered species: the dogfish (*Squalus acanthias*), the thresher sharks (*Alopias spp.*), the blue shark (*Prionace glauca*), sandbar shark (*Carcharhinus plumbeus*), gulper sharks (*Centrophorus spp.*), and Porbeagle (*Lamna nasus*).

14.5.2. Secondly, for the other commercially important species: the catsharks (*Scyliorhinus spp.* and *Galeus melastomus*), the hound sharks (*Mustelus spp.*), the requiem sharks (*Carcharhinus falciformis*, *C. limbatus*, *C. obscurus* and), the Mackerel sharks (Lamnidae), the skates (*Leucoraja spp.*, *Raja spp.*), and the stingrays (*Dasyatis spp.*).

14.6. Ensure good practice for handling rays and sharks caught accidentally and encourage fishing practices that reduce chondrichthyan by-catch and/or facilitate live release.

14.7. Identify, protect, and restore critical habitats, especially mating areas, and spawning and nursery grounds, ensuring their sustained ecological function through regular monitoring and conservation efforts.

14.8. Develop research programmes on general biology (feeding, reproduction and growth parameters), taxonomy, ecology and population dynamics, with particular regard to genetic and migration studies. Additionally, establish programs for the development and transfer of technology and innovative measures in fishing activities.

14.9. Develop both systems for the monitoring of fisheries and fishery-independent monitoring programmes at both, national and regional level.

14.10. Develop research programmes to identify best practices for the reduction of the Chondrichthyes-fishery interactions

14.11. Develop training to ensure capacity-building at both the national and regional levels in a participatory approach, mainly in the following fields: taxonomy, biology, ecology, monitoring methods, stock assessment, and digital data collection tools.

14.12. Develop information, education and training programmes for professionals and public awareness.

C. IMPLEMENTATION MEASURES

In order to implement the above-mentioned general priorities, specific measures should be taken at national and regional level:

C.1. PROTECTION

15. Strict legal protection of elasmobranchs species under Annex II (list of endangered or threatened species) of the SPA/BD Protocol to the Barcelona Convention, which concerned by Recommendation GFCM/42/2018/2 on fisheries management measures for the conservation of sharks and rays in the GFCM area of application, amending Recommendation GFCM/36/2012/3 (cf. paragraphs 10.2 and 11.1), Recommendation GFCM/44/2021/16 on additional mitigation measures for the conservation of elasmobranchs in the Mediterranean Sea and Resolution GFCM/46/2023/4 on a regional plan of action to monitor and mitigate interactions between fisheries and vulnerable species in the Mediterranean and the Black Sea in accordance with national and international laws and conventions. The status of Mediterranean chondrichthyans should be regularly reviewed in order to recommend, when necessary, legal protection for threatened species.

16. Strengthen the legal framework for the conservation of elasmobranch species with consideration of amendments to Annexes II and III of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean. Mediterranean chondrichthyan species should be regularly reviewed to recommend updates and enhance legal protections for those listed in Annexes II and III.

C.2. FISHERIES MANAGEMENT

17. According to the principles of the IPOA-Sharks and of the UN Straddling Fish Stocks Agreement, states that contribute to fishing mortality for a species or stocks should participate in their management.

18. Existing assessment reports and fisheries management programmes should be adjusted to chondrichthyan fishes or specific plans should be developed within the framework of the IPOA-Sharks and the GFCM recommendations GFCM/42/2018/2, GFCM/44/2021/16 and Resolution GFCM/46/2023/4.

19. It is urgent to collect and report precise fisheries statistics, mainly on catches and landings by species. For this purpose, field identification sheets should be published in appropriate languages with vernacular names, dispatched to fishery communities, digitized, and integrated into mobile platforms to enhance functionality and user-friendliness, designed to aid species identification, incorporated into regional policies to make it mandatory for fishers and conservation stakeholders. Additionally, data on fishing efforts should be collected and reported to GFCM, when possible.

20. bis. capacity building training of statistics collectors should be ensured and statistics categories defined.

21. Management programmes for chondrichthyan fishes should be based on studies of the assessment of stocks and populations. Management should be also based on by-catch and measures,

including proven and efficiently tested innovative approaches to reduce incidental catches studies specifically threatened or endangered chondrichthyan species

22. Publish and disseminate guidelines on bycatch reduction and proper handling practices for protected species in relevant languages to ensure broad accessibility. Ensure the immediate and safe release of protected species, prioritizing their unharmed survival, whenever conditions allow.

23. Implementing a permanent monitoring, specifically scientific monitoring, of fisheries where chondrichthyans are impacted is a fundamental management measure, useful for the conservation of these species. This action would permit the timely detection of any decline in their biomasses that could be an unequivocal sign of over-fishing. This monitoring could be done through surveys, scientific observation mainly on board, landing-site observation and the examining of logbooks. This action should also address sightings (strandings and observations at sea).

24. For most species, cooperative management is necessary at national, regional and international levels. The mechanisms for achieving a cooperative approach may consist of the following elements:

- information on existing exploited resources and management systems;
- the defining and provision of legal instruments;
- the use of a participatory planning approach;
- the defining of clear management agreements;
- the building and development of national groups.

25. Implement measures, including proven and efficiently tested innovative approaches, based on the assessment of fishing gear impacts and promote the adoption of alternative gear to minimize bycatch and enhance sustainable practices.

26. Mediterranean countries shall ban finning following GFCM recommendation GFCM/42/2018/2; it shall be prohibited to remove shark fins on board vessels and to retain, tranship or land shark fins.

C.3. CRITICAL HABITATS AND ENVIRONMENT

27. Field studies are needed to inventory and map critical habitats around the Mediterranean that are important for chondichthyans at all their life stage.

28. Legal protection should be given to these habitats, in conformity with the national and international laws and conventions on the subject, to prevent their deterioration due to the negative effects of human activity. When these habitats have deteriorated, restoration programmes should be undertaken. One example of legal protection is the creation, where possible, of marine protected areas in which human activity is regulated.

29. Such protection measures could be part of fishery management programmes as well as of integrated coastal zone management.

30. Habitat connectivity should be identified and preserved by mapping and protecting ecological corridors between critical habitats to ensure the movement, migration, and genetic exchange of sensitive species.

C.4. SCIENTIFIC RESEARCH AND MONITORING

31. Parallel to protection and conservation measures, properly funded and staffed scientific research programmes should be undertaken or developed, mainly on species biology and ecology, emphasising growth, reproduction, diet, geographical and bathymetric distribution, migration, ecological connectivity, population structure using molecular tools and dynamics, non-indigenous

species interactions (including their role as hosts of pathogens) and risk assessment, specifically focusing on risks related to overfishing, habitat destruction, climate change, pollution, and invasive species. Regional tagging (conventional, acoustic, pop-up and satellite tag) programmes should be developed for migratory species. Also, fishing efforts exploratory cruises and the status of species within the precautionary principle, should be assessed. In the same way, discard should be evaluated in terms of quantity and composition. Research on tools to avoid or reduce by-catch should be fostered. Evaluation of the outcomes of management measures should be considered, through the utilisation of the scientific monitoring programme and should be inclusive of all stages, in order to support and guide the development of effective management measures.

32. For the scientific monitoring of fisheries, the standardised collection of data at landing places and fish markets should be supplemented and completed by on-board observation programmes to gather precise data on fisheries and on species biology. Also, logbooks adapted to chondrichthyan fisheries should be distributed to fishermen. The following set of data would be required:

- species composition of the catch with length frequency distribution by sex and maturity stage;
- retained catch by species in number and weight;
- discarded catch in number and weight (+ reasons for discard);
- released species in number (sex, length when possible);
- gear and vessel specifications and cruise characteristics;
- provide data on location and depth of fishing

Furthermore, samples (vertebrae, dorsal spines) should be taken and adequately preserved for age determination, and tissue samples for genetic analysis (DNA). Furthermore, data collection and monitoring should be improved by utilizing new technologies for more effective and accurate tracking.

33. Mediterranean countries should establish or expand monitoring programmes, specifically scientific monitoring, at both national and regional level, to cover the whole Mediterranean Sea, and to collect standardised quantitative data to estimate fish density (relative abundance). Also these programmes should leverage innovative tools such as environmental DNA (eDNA), baited remove underwater videos (BRUVs), citizen science, and local ecological knowledge (LEK), fostering a participatory approach that actively involves all stakeholders. This would help evaluate the risk status of the various species.

34. Assess the socioeconomic impacts of interactions between elasmobranch species and fisheries, including incidental catch-related damages, testing mitigation technologies, and identifying barriers to adoption while developing alternative solutions and compensation measures.

C.5. CAPACITY BUILDING/TRAINING

35. The Contracting Parties should promote the training of specialists, fisheries officers and managers in the study and conservation of chondrichthyan fishes. To this end, it is important to identify already existing initiatives and to give priority to taxonomy, conservation biology and techniques for monitoring research programmes (cf. above paragraph on scientific research).

36. Training programmes should also focus on methods of fisheries data collection and stock assessment, by-catch mitigation especially data analysis.

37. Promote capacity-building initiatives that foster inclusivity by engaging experts, academia, indigenous peoples and local communities, women and youth representatives, and other relevant stakeholders. These efforts should aim to ensure diverse perspectives, equitable participation, and the effective dissemination of knowledge across all sectors

38. Provide adequate institutional support and promote capacity building activities to Contracting parties according to their needs, specifically training programs and workshops, technical assistance, and technical expertise and consultancy.

C.6. EDUCATION AND PUBLIC AWARENESS

39. For protection and conservation measures to be effective, public support should be obtained: In this respect, (1) information campaigns should be directed at national authorities, residents, teachers, visitors, recreational and professional fishermen, wholesale/market sector, sport anglers, divers and any other stakeholder; (2) Publication materials should be produced to present the life history, and vulnerability, of chondrichthyans; and (3) educational programme on the issue should be taught to school children (including new teaching approaches and technologies, such as virtual reality (3D-VR)).

40. Also, guidelines for chondrichthyan watching should be published and widely distributed to potential observers such as anglers, yachtsmen, divers, shark-fans, etc, in order to make them actively involved in the conservation of chondrichthyan fishes.

41. In this process of education and public awareness, the help of associations and other bodies involved in nature conservation should be solicited.

C.7. REGIONAL COORDINATING STRUCTURE

42. All the above-mentioned recommended actions related to the protection and the conservation of species and their habitats, and the research and educational programmes, should be monitored and implemented, with as much regional cooperation between all the countries operating in the Mediterranean basin.

43. These actions should be undertaken in cooperation with, and with the support of, other regional fisheries organisations (e.g. GFCM, ICCAT), through establishing MoUs where necessary. Non- governmental organisations, associations and national environmental bodies should also be involved, as well as other relevant MEA's such as CITES, CMS, Sharks-MOU, and the Bern Convention.

44. Implementation of the present Action Plan will be regionally coordinated by the Mediterranean Action Plan's (MAP) Secretariat through the Regional Activity Centre for Specially Protected Areas (SPA/RAC). The main functions of the coordinating structure shall consist in:

- favouring and supporting the collection of data and publishing and circulating results at Mediterranean level;
- promoting the drawing up of inventories of species and areas of importance for the Mediterranean marine environment;
- promoting transboundary cooperation;
- preparing reports on progress in the implementation of the Action Plan, to be submitted to the Meeting of National Focal Points for SPAs/BD and to meetings of the Contracting Parties;
- organising meetings of experts on specific subjects relating to Mediterranean chondrichthyans, and training courses;
- promoting the review of status of species and fisheries by relevant organisations;
- One year after the adoption of the Action Plan, coordinating the organisation of a Mediterranean symposium aiming at defining the state of knowledge on chondrichthyan fishes and taking stock of the progress made in implementing the Action Plan;
- five years after the present updating of the Action Plan, organising a meeting to review the progress of the Action Plan and to propose a revision of the Action Plan if needed.

45. Complementary work done by other international organisations with the similar objectives shall be encouraged by SPA/RAC, promoting collaborative efforts and avoiding possible duplication.

46. Initiatives aiming at ensuring enforcement of the current Action Plan, particularly in international waters, should be promoted and aligned with the implementation of the Kunming-Montreal Global Biodiversity Framework, CBD modalities on ecologically or biologically significant marine areas (EBSA's), the United Nations Convention on the Law of the Sea (UNCLOS), and the Agreement under UNCLOS on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction (BBNJ).

47. Establish or improve a network and continuously update the directory of national, regional, and international experts on chondrichthyan fishes.

48. Enhancing coordination and collaboration at national and regional levels, among Contracting Parties, regional institutions, Convention Secretariats, Convention's Secretariats, Associates and Partners of the Action Plans, indigenous peoples and local communities, women and youth representatives, and other relevant stakeholders, initiatives, networks, and partnerships, while addressing gaps in geographical and thematic coverage.

49. Enhance contribution to efforts in identifying and facilitating partnerships with potential funding bodies, including international financial institutions, donors, and other relevant organizations, by promoting existing and new research proposals developed in the framework of this Action Plan.

D. PARTICIPATION IN THE IMPLEMENTATION

50. Implementing the present Action Plan is the responsibility of the national authorities of the Contracting Parties. Parties should facilitate coordination between their national, environmental and fisheries departments to ensure implementation of activities directed at protected and non-protected chondrichthyan species. Organisations or bodies concerned are invited to associate themselves with the work of implementing the present Action Plan. At their ordinary meetings, the Contracting Parties may, at the suggestion of the Meeting of National Focal Points for SPAs/BD, grant the status of 'Action Plan Associate' to any organisation or laboratory which so requests and which carries out, or supports (financially or otherwise) the carrying out of, concrete actions (conservation, research, etc.) likely to facilitate the implementation of the present Action Plan, taking into account the priorities contained therein. NGOs can submit their applications directly to SPA/RAC.

51. The coordinating structure shall set up a mechanism for regular dialogue between the Action Plan Associates and, where necessary, organise meetings to this effect. Dialogue should be conducted mainly electronically, including virtual meetings and e-mail.

E. TITLE OF ACTION PLAN PARTNER

52. To encourage and reward outside contributions to the Action Plan, the Contracting Parties may at their ordinary meetings grant the title of 'Action Plan Partner' to any organisation (governmental, NGO, economic, academic etc.) that has to its credit concrete actions likely to help protect chondrichthyan fishes in the Mediterranean. During their ordinary meetings, the Contracting Parties may, upon the recommendation of the meeting of National Focal Points for SPAs/BD, grant the status of «Action Plan Partner» to any organization or laboratory that requests it. This status will be awarded to those that carry out, or support (financially or otherwise), concrete actions (such as conservation, research, etc.), that contribute to the implementation of the present action plan, in line with its priorities. The conditions and criteria for the award of the regional action plan partner title are outlined in Annex VI to the decision IG.26/5.

F. ASSESSING THE IMPLEMENTATION AND REVISION OF THE ACTION PLAN

53. At each of their Meetings, the National Focal Points for SPAs/BD will assess the progress made in implementing the Action Plan, on the basis of national reports and of a report made by the SPA/RAC on implementation at regional level. In the light of this assessment, the Meeting of the National Focal Points for SPAs/BD will suggest recommendations to be submitted to the Contracting Parties, and, if necessary, suggest adjustments to the timetable given in the Annex to the Action Plan.

IMPLEMENTATION TIMETABLE FOR THE PERIOD 2025-2030

ACTIONS	CALENDER	BY WHOM
Tools		
1. Establish or improve a network and continuously update the directory of national, regional, and international experts on chondrichthyan fishes. (cf. § 47 of C.7 "Regional coordinating structure")	(2025-2030)	SPA/RAC, CMS Shark MOU Secretariat, IUCN SSG, RFMO Shark Working Groups
2. Improve and promote the use of the existing Field identification sheets. (cf. § 19 of C.2. "Fisheries management")	(2025-2030)	Contracting Parties and RFMOs
3. Promote the use of the GFCM manual (2019) "Monitoring the incidental catch of vulnerable species in the Mediterranean and the Black Sea: methodology for data collection" (cf. § C.2. "Fisheries management")	(2025-2030)	Contracting Parties
4. Formalize/reinforce synchronous submission of catch, bycatch and discard data annually to the GFCM according to DCRF (Data Collection Reference Framework). (cf. § 32 of C.4. "Scientific research and monitoring")	Every year	Contracting Parties
5. Information campaigns and publishing materials for public awareness (cf. § 13.11. of B "Priorities" and cf. § 39 of "Education and public awareness")	(2025-2030)	SPA/RAC
6. Publish and disseminate guidelines for reducing the presence of sensitive species in by-catch and releasing them if caught, and promote them in relevant languages to ensure broad accessibility. (cf. § 22 of C.2 «Fisheries management")	(2025-2030)	SPA/RAC and RFMO
7. Update and promote protocols and programmes for improved compilation and analysis of data, for contribution to regional stock assessment initiatives. (cf. § C2 "Fisheries management" and 29 of C.4. "Scientific research and monitoring")	Continuous action (2025-2029)	National and regional agencies and advisory bodies, CMS, GFCM and FAO.

8. Training manual on cartilaginous fish eco-biology (Taxonomy, biological parameters determination, identification and monitoring of fisheries and critical habitats, conservation...) (cf. § 29 of C.6 "Education and public awareness")	ASAP	SPA/RAC
9. Capacity building and training programmes on cartilaginous fish biology (cf. § 14.11., and 14.12 of B "Priorities", cf. § 35, 36, 37, 38 of C.6 "Capacity building/training" and cf. § 39, 41 of C.6 "Education and public awareness")	ASAP	SPA/RAC, Contracting Parties, RFMOs, GFCM, FAO.
10. Symposium on Mediterranean chondrichthyan fishes (cf. § C.7 "Regional coordinating structure")	One year after adoption	SPA/RAC
11. Meeting to review progress made on the Action Plan (cf. § 52 of C.7 and § F "Assessing the implementation and revision of the Action Plan")	5 years after adoption	SPA/RAC
Legal processes		
12a. Legal protection established for endangered species, recommended in this Action Plan, identified by country (species enlisted in Annex II of the SPA/BD Protocol) 12b. Urgent assessment of the status of data deficient species, recommended in this Action Plan (assessed by IUCN) (cf. § 14.1. of B "Priorities"; C.1 "Protection")	ASAP	Contracting Parties
13. Legal protection for prohibiting "finning" according to the GFCM recommendation (GFCM/42/2018/2) (cf. § 14.1 of B "Priorities" and cf. § 26 of C.2 "Fisheries management")	ASAP	Contracting Parties
14. Legal protection that addresses additional mitigation measures for the conservation of elasmobranchs in the Mediterranean Sea, according to the GFCM recommendation (GFCM/44/2021/16) (cf. § 14.2 of B "Priorities")	ASAP	Contracting Parties

15. Legal protection that addresses the plan of action to monitor and mitigate interactions between fisheries and vulnerable species in the Mediterranean and the Black Sea according to the GFCM resolution (GFCM/46/2023/4) (cf. § 14.3 of B "Priorities")	ASAP	Contracting Parties
16. Critical habitats identified, legally protected, restored and monitored, as soon as they are identified. (cf. § 14.7. B "Priorities" and cf. § 27 and 28 C.3 "Critical habitats and environment")	ASAP	Contracting Parties
17. Implement measures based on the assessment of fishing gear impacts and promote the adoption of alternative gear to minimize bycatch and enhance sustainable practices. (cf. § 25 of C.2 "Fisheries management")	ASAP	Contracting Parties
18. Establish and promote national, sub-regional and regional plans or strategies for cartilaginous fish species (mainly listed in Annexes II and III). (cf. § C.2 "Fisheries management")	Continuous action (2025-2030)	Contracting Parties, SPA/RAC, GFCM, CMS
19. Facilitating the enforcement of legal measures aiming to set up a system for enforcement of monitoring fisheries in international waters such as extending MEDITS programme to all Mediterranean countries (Mediterranean International Trawl Survey). (cf. § 48 C. 7 "Regional coordinating structure")	(2025-2030)	Contracting Parties, SPA/RAC, GFCM, CMS and EU
20. Monitor and mitigate interactions between fisheries and vulnerable elasmobranch species in the Mediterranean Sea. (cf. § 14.2 of B "Priorities")	(2025-2030)	Contracting Parties, International organization, GFCM, FAO
Monitoring and data collection		
21. Establishing research programmes, specifically scientific programmes, mainly on the biology,	(2025-2030)	Contracting Parties

ecology and population dynamics of the main species identified by the countries (cf. § C. 4 "Scientific research and monitoring")		
22. Support the establishing of, or feed the existing, centralised databases (DCRF, MEDLEM...) (cf. § C.7 "Regional coordinating structure")	(2025-2030)	Contracting Parties and SPA/RAC
23. Inventory of critical habitats (mating, spawning and nursery grounds) (cf. § 14.7. B "Priorities" and cf. § 27 and 28 C.3 "Critical habitats and environment")	ASAP	Contracting Parties
24. Promote habitat connectivity and identify and protect ecological corridors between critical habitats. (cf. § 30 of C. 3 "Critical habitats and environment")	(2025-2030)	Contracting Parties and RFMOs
25. Promote existing and new research proposals developed under the SPA/RAC Action Plan to funding agencies (cf. § C. 4 "Scientific research and monitoring" and cf. § C.7 "Regional coordinating structure")	(2025-2030)	SPA/RAC, CPs, AP partners
26. Promote programme on citizen science and local ecological knowledge (LEK) in data collection and monitoring. (cf. § 33 of C. 4 "Scientific research and monitoring")	(2025-2030)	Contracting parties, RFMOs
27. Assess the socioeconomic impacts of interactions between elasmobranch species and fisheries. (cf. § 34 of C. 4 "Scientific research and monitoring")	(2025-2030)	Contracting parties, international organizations
28. Promote programs, specifically scientific programmes, on the status of bycatch to propose measures for attenuation of the phenomenon. Such programs should be developed with onboard observers and multispecies approach. (cf. § 32 of C. 4 "Scientific research and monitoring")	(2025-2030)	SPA/RAC, CPs, AP partners
29. Increase compliance with obligations to collect and submit species- specific commercial catch and	(2025-2030)	Contracting Parties

bycatch data to FAO and GFCM, including through increased use of observers. (cf. § C. 7 "Regional coordinating structure")		
30. Support expert participation in RFMO and other relevant meetings and workshops, to share expertise and build capacity for data collection, stock assessment and bycatch mitigation. (cf. § C.5 "Capacity building / Training")	ASAP	Contracting Parties, RFMO, SPA/RAC
Management and assessment procedures		
31. Continuously review data and undertake new studies to clarify the status of Mediterranean chondrichthyan species focusing on endemics and species assessed as Data Deficient or Near Threatened (cf. § 14.4 of B "Priorities"; 15 of C.1 'Protection'; 31 of C.4 "Scientific research and monitoring")	(2025-2030)	International organisations
32. Develop and adopt National Shark Plans where they do not yet exist. (cf. § C.1 'Protection', C.2. "Fisheries management", & C.3 "Critical habitats and environment").	(2025-2030)	Contracting Parties
33. Identify further management and technical measures to minimize bycatch and mortality of sharks in fisheries impacting cartilaginous fishes. (cf. § 14.5 of B "Priorities")	(2025-2030)	Contracting Parties & RFMOs
34. Identify and address mitigation measures for the conservation of cartilaginous fishes in the Mediterranean Sea (cf. § 15 of C.1. "Protection")	(2025-2030)	Contracting Parties
35. Assess the fishing gear impacts and promote the adoption of alternative gear to minimize bycatch and enhance sustainable practices. (cf. § 25 of C.2. "Fisheries management")	(2025-2030)	International organizations, RFMOs, GFCM, FAO

Annex V

Draft updated Regional Strategy for the conservation of monk seal in the Mediterranean

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List of Acronyms

AP: Action Plan

ISPRA: Italian National Institute for Environmental Protection and Research (Italy).

IMAP: Integrated Monitoring and Assessment Programme

IUCN/SSC: International Union for Conservation of Nature /Species Survival Commission

MSA: The Monk Seal Alliance.

MSAC: Monk Seal Advisory Committee.

MedCEM: Mediterranean Centre for Environmental Monitoring

MOM: Hellenic Society for the Study and Protection of the Monk Seal (Greece).

NECCA: Natural Environment and Climate Change Agency (Greece)

UNEP/MED: United Nations Environment Programme Mediterranean Action Plan

RS: Regional Strategy for the Conservation of Monk Seals in the Mediterranean

SPA/RAC: Specially Protected Areas Regional Activity Centre (Tunisia)

1. Introduction and rationale

1. In 1988, the Contracting Parties to the Barcelona Convention adopted an Action Plan for the management of the Monk Seal (AP). This was followed in 2013 by the adoption of the “Regional strategy for the conservation of Mediterranean monk seal (2014-2019)” (RS). A new updated RS (2020-2025) was adopted by the Barcelona Convention COP 19, 2019 Decision IG.24/7.
2. This new draft RS, like those preceding it, produced by the Specially Protected Areas Regional Activity Centre (SPA/RAC) in 2013¹ and 2019², respectively, differs from the Barcelona Convention’s “Action plan for the management of the Mediterranean monk seal (*Monachus monachus*)” (UNEP-MAP-RAC/SPA 2003a) chiefly in terms of its method, considering that the old AP continues to be valid as far as its contents and general principles are concerned³.
3. As, it was the case for the two earlier versions, this updated RS follows the guidelines detailed in the manual for the construction of Species Conservation Strategies (IUCN/SSC 2008). Accordingly, it is structured with the following elements:
 - a. a **Vision**, with associated **Goals** and **Goal Targets** that are SMART⁴;
 - b. the **Objectives** needed to achieve the Goal Targets within the stated time span, with associated **SMART Objective Targets**.
4. The main problem encountered in envisaging a region-wide Strategy derives from the quite diverse conservation status of monk seals in the different portion of the Mediterranean and by consequence the quite different priorities and responsibilities saddled onto the various monk seal Range States.
5. To handle this challenge, Mediterranean countries were assigned to the following three groups (Figure 1 and Table 1):
 - A. Countries where monk seal breeding has been reported after year 2017⁵;
 - B. Countries where no monk seal breeding is reported, but where repeated sightings of monk seals (>3) were reported since 2017;
 - C. Countries where no monk seal breeding is reported, and where very rare or no sightings of monk seals (≤3) were reported since 2017.
6. With respect to the precedent version, two countries have changed groups:
 - Croatia, with practically no monk seal sightings reported in recent years, with the exception of a couple of opportunistic reports in 2022, has been moved to Group C from Group B.
 - Syria, where between 2001-2023, Mediterranean monk seals were reported 34 times (17 of them between 2017-2023) in 7 different locations along the northern Syrian coast (Ibrahim et al., 2024). Of those 34 observations, with the exception of two dead individuals (one killed by a gunshot), all individuals were reportedly alive and routinely swimming around. These observations were concentrated in the area extending from Ras Al Bassit to Oum Al Tiur (9 caves) and that extending from Burj Islam to Slaib Al Turkman (7 caves). This data should however be interpreted with some caution since only three of those reports were supported with photographic evidence. Hence, Syria has been moved to Group B from Group C.

¹ https://www.rac-spa.org/sites/default/files/doc_monackus/monk_seal_strategy.pdf

² https://www.rac-spa.org/sites/default/files/action_plans/strategie_phoque_en.pdf

³ With few exceptions; e.g., concerning knowledge of the species, which is no longer as poor as it was in 1988 (Art. 3), and the fact that scientific opinion is no longer divided concerning conservation strategies (Art. 4).

⁴ Specific, Measurable, Achievable, Relevant, Time-bound.

⁵ Year 2017 was selected as a criterion to separate the present from the country assessments described in the first and second RSs, respectively.

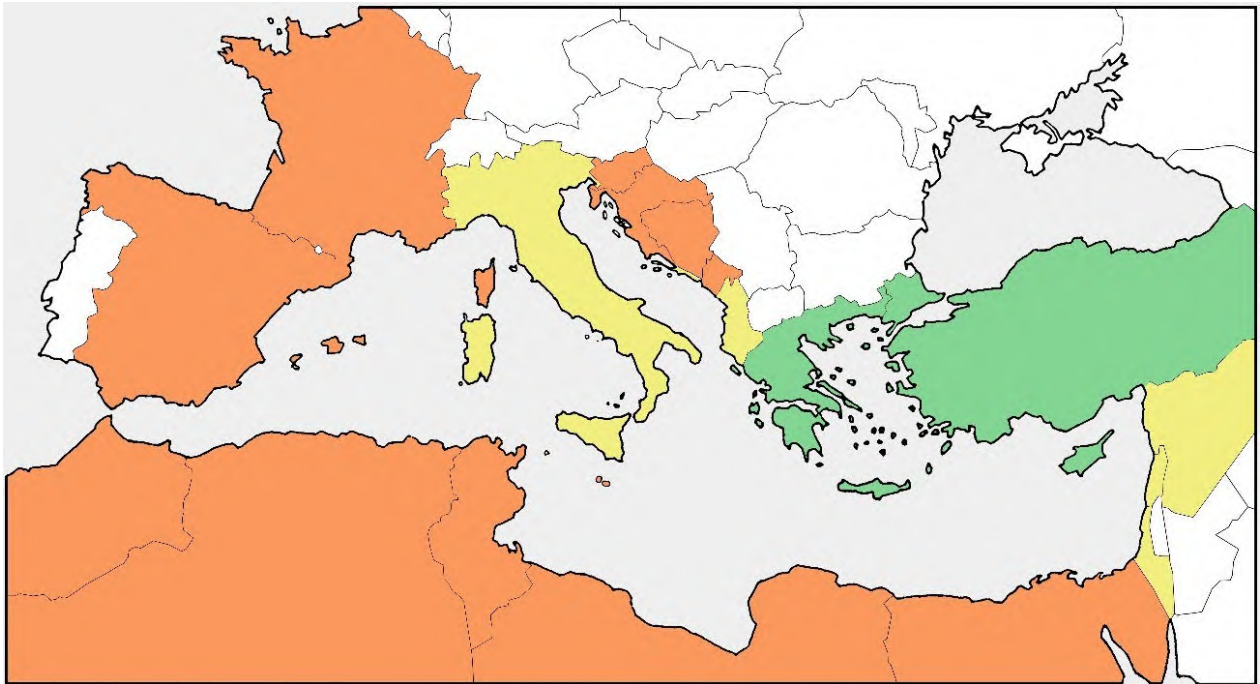


Figure 1. Monk seal conservation status by country (revised for this updated RS). Green: “Group A” countries (where monk seal breeding has been reported after year 2017). Yellow: “Group B” countries (where no monk seal breeding is reported, but where repeated sightings of monk seals (>3) were reported since 2017). Tan: “Group C” countries (where no monk seal breeding is reported, and where very rare or no sightings of monk seals (≤ 3) were reported since 2017).

7. We realise that the above are rough indicators (e.g., monk seals can be present in a location even if they are not seen, as sightings depend on the presence of observers and the animals can have very inconspicuous behaviours; breeding may not occur in some countries because of lack of breeding habitat, but there may be a healthy presence of animals in that country; etc.). However, the above indicators are conceived to separate countries into major categories according to their current importance for monk seals, thereby involving different types of actions.

8. Group A countries is where action is most urgent, because at the moment these countries are our best hope for the survival of the species. These countries host monk seal resident breeding populations and the majority of the species population.

9. Group B countries are important, because current monk seal sighting records suggest the potential for the species’ survival and expansion in areas beyond Group A country borders. Group B countries may contain monk seal critical coastal habitat which is likely to be re-colonised, and may lead to resident breeding nuclei, if conditions are favourable (as demonstrated by the frequent appearances of monk seals in many locations).

10. Group C countries are also important because, although they are characterised by rare monk seal occurrence, they contain historical monk seal critical habitat. The reestablishment of monk seal presence will become more likely if actions in nearby Group B countries are successful and if environmental conditions in historical critical habitat become favourable. In the absence of data collection mechanisms for monk seal sightings, some countries, known to host seals and suitable environmental conditions in the recent past, may currently qualify as Group C.

11. To fulfil the Vision, this draft updated Strategy identifies four Goals. The first Goal relates to the creation of a conservation support structure at the international level, whereas the other three Goals relate to each of the three Groups the various countries have been assigned to.

Table 1: Summary of monk seal presence in the different Mediterranean countries. Countries were subdivided as follows: Green: “Group A” countries (where monk seal breeding has been reported after year

2017). Yellow: “Group B” countries (where no monk seal breeding is reported, but where repeated sightings of monk seals (>3) were reported since 2017). Tan: “Group C” countries (where no monk seal breeding is reported, and where very rare or no sightings of monk seals (≤ 3) were reported since 2017). “Group C” includes countries where little or no data was collected at least since 2017, implying that monk seals could be occurring there more frequently, but no information is available

Country	Group A	Group B	Group C	References / Data sources	Notes
Albania				UNEP-MAP-RAC/SPA 2003b, UNEP-MAP-RAC/SPA 2005, Anon. 2012; Bundone <i>et al.</i> 2019, 2021, 2022; Bakiu and Cakalli 2018; Karamanlidis 2024	Sightings of single and 2 individuals reported in the last 15 years and evidence of cave use recorded recently. Birth of a pup in 2019 that survived the first 2 months of its life. The species should now be considered to be effectively re-established, at least from the border of Albania to Greece north to the bay of Vlorë.
Algeria				UNEP-MAP-RAC/SPA 2006	The seal pup reported in 2006 was not <i>M. monachus</i> (Bouderbala <i>et al.</i> 2007). No recent confirmed reports
Bosnia Herzego.					No recent reports.
Croatia				Antolovic <i>et al.</i> 2007; Gomercic <i>et al.</i> 2011; Bundone <i>et al.</i> 2019	2000-2014: 300 individual sightings reported. Only ONE single adult female has been inhabiting area of Kvarner. It appeared in the area in June 2005 and died in August 2014. (data to be taken with caution since these sightings were ascribed to a limited number of animals). Almost monk seal sightings reported in recent years, with the exception of two opportunistic sightings in 2022 confirmed by photograph/video in Croatia (both in July and October 2022).: at Mljet National Park ⁶ , by a Park Ranger, and in Danče by a recreational fisher ⁷ .
Cyprus				Gucu <i>et al.</i> 2009a; UNEP/MAP/RAC/SPA 2011; Karamanlidis 2024; Marcou 2015; Nicolau <i>et al.</i> , 2021 ; Marcou and Nicolaou 2023	Evidence of breeding activities in the northern coast (2006-2007) and in the southern coast (since 2009). During 2009-2024, increasing number of seal sightings and the birth of several pups.
Egypt				Notarbartolo di Sciara and Fouad 2011	Single individual observed in 2011. No recent sightings.
France				UNEP-MAP-RAC/SPA 1994	No recent reports.
France-Corsica				Data stored in Office de l'Environnement de Corse	Single individual sightings reported in 2007 and 2011
Greece				Karamanlidis 2024; Notarbartolo di Sciara <i>et al.</i> 2009; Panou 2009; National Action Plan for the Mediterranean Monk Seal (Joint Ministerial Decision YΠEN/ΔΤΦΠΒ/95178/2431/5-9-2024 ⁸)	Mediterranean monk seals in Greece are expanding their range and increasing in numbers. Their marine habitat includes almost the entire coastline of the country up to a depth of 200 m. Greece is home to > 50% of the world population for the species.

⁶ Mediterranean monk seal after 40 years spotted in the waters of NP Mljet <https://np-mljet.hr/mediterranean-monk-seal-after-40-years-spotted-in-the-waters-of-np-mljet/?lang=en>

⁷ <https://youtu.be/jehVlh6JWjE?si=nJO-yZj5TRppZDGj>

⁸ The National Action Plan for the Mediterranean Monk Seal (*Monachus monachus*) was published in September 2024 in the Official Gazette and prepared by the Hellenic Society for the Study and Protection of the Monk seal (MOM). <https://search.et.gr/el/fek/?fekId=770812>

Israel				Scheinin <i>et al.</i> 2011; Bundone <i>et al.</i> 2016; Bundone <i>et al.</i> 2019; Roditi-Elasar <i>et al.</i> 2021, pers. comm.; Rabou <i>et al.</i> 2023	80+ individual sighting records (2010-2020), 2 different individuals observed in 2010. Monk seal “Yulia”, first spotted as a young adult in Türkiye, also known as Tuğra/Gülgez in Türkiye, back in 2007, seen in an open beach in Israel and even the Gaza Strip in May 2023, then spotted again in Israel in May 2024 and north of Beirut, Lebanon, in July 2024.
Italy				ISPRA records of in situ monitoring programs and national sighting database.	Individual validated sightings reported for the years :2010-2012, 2014-2015, 2017-2023. In situ cave use observed through monitoring: 2011-2013, 2016-2017,2020, 2022-2023. One stranded live seal pup but no direct observation of birth, lactation and coastal/cave use of mother-pup pairs observed. The species’ current national Red Listing status is Data Deficient due to the difficulty in establishing an overall national population estimate.
Lebanon				Anon. 2010; Karamanlidis 2024; Khatib 2016; SPA/RAC-UNEP/MAP, 2020 Data stored in Society for Nature Protection Lebanon	Single animal sightings reported: 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017; Dead pregnant seal observed in 2015; 47 monk seal sightings recorded 2003-2020 from Beirut to Tripoli in the north of Lebanon. Recent reports on monk seal presence at Amchit Seal Cave ⁹ ;SPA/RAC 2024 by Fatfat; No evidence of successful pupping.
Libya				Hamza <i>et al.</i> 2003, UNEP-MAP RAC/SPA 2003b, UNEP-MAP RAC/SPA 2012; Alfaghi <i>et al.</i> 2013	25 sightings reported by fishermen between 1998-2002 A 60-kg female juvenile Mediterranean monk seal, approximately 6 months old was found in March 2012 entangled in a fishing net near El Elba Island. Another 2 dead individuals reported in 2023.
Malta				UNEP-MAP-RAC/SPA 2003b	One recent report, where <i>Dive Systems Malta</i> captured some footage off the southwest coast of Malta in early July 2024 ¹⁰
Monaco					No recent reports. Monk seal habitat no longer present.
Montenegro				Panou <i>et al.</i> 2017, 2023	A total of 14 single individual sightings Between 1985-2010 throughout the country’s coastline may indicate movements of animals from neighbouring countries. >25 suitable caves. A young individual, recorded by MedCEM in August 2023 ¹¹ . Sightings also reported at Ulcinj and again in September 2024 in Bar (different locations).
Morocco				UNEP-MAPRAC/SPA 2003b, Mo <i>et al.</i> 2011; Bundone <i>et al.</i> 2019	More than 90 sightings reported by fishermen 2000-2005, 1 sighting 2006 (Chafarinas isl.)
Slovenia				UNEP-MAP-RAC/SPA 2003b	No reports.
Spain				Anon. 2008, Font and Mayol 2009; Karamanlidis 2024.	Individual sighted in 2008. More sightings in 2009. Possibly extinct, detection through eDNA, no recent sightings

⁹ https://www.instagram.com/reel/DBQkDqvMRSk/?utm_source=ig_web_copy_link&igsh=MzRlODBiNWFiZA==

¹⁰ <https://www.youtube.com/watch?v=OuurntREzw0>

¹¹ <https://medpan.org/en/news/exceptional-filmed-observation-monk-seal-montenegro>

Syria				Gucu 2004, Jony and Ibrahim 2006, Mo <i>et al.</i> 2003; Ibrahim et al. 2024	Between 2001-2023, Mediterranean monk seals reported 34 times (only three with photographic evidence) in 9 different locations along the northern Syrian coast. They were concentrated in the area extending from Ras Al Bassit to Oum Al Tiur (9 caves) and that extending from Burj Islam to Slaib Al Turkman (7 caves).
Tunisia				S. Guelloz ,pers. comm.	Single individual sightings reported: 2007, 2011 (La Galite archipelago)

Türkiye			Güçlüsoy <i>et al.</i> 2004; Gucu <i>et al.</i> 2009b; Karamanlidis <i>et al.</i> 2023; Karamanlidis 2024; Ok, M., & Kırac, C. O. (2023). <i>Updated population size and status of the Mediterranean monk seal in Türkiye</i> [Unpublished working document]. METU Institute of Marine Science, Mersin, Türkiye and Underwater Research Society – Mediterranean Seal Research Group, Ankara, Türkiye. (Contributed to Karamanlidis, A. A., Dendinos, P., Fernandez de Larrinoa, P., Kırac, C. O., Nicolaou, H., & Pires, R. (2023). <i>Monachus monachus</i>. The IUCN Red List of Threatened Species 2023, e.T13653A238637039. https://dx.doi.org/10.2305/IUCN.UK.2023-1.RLTS.T13653A238637039.en); Dede, A., Tonay, A. M., Gönülal, O., Güreşen, S. O., & Öztürk, B. (2025). Camera trap monitoring of the haul-out behavior of Mediterranean monk seals on Gökçeada Island in the North Aegean Sea. <i>Regional Studies in Marine Science</i>, 87, 104224. https://doi.org/10.1016/j.rsma.2025.104224	The number of Mediterranean monk seals in Türkiye has been estimated at 76–140 individuals, including 42–120 mature individuals. As it is the case in neighboring Greece, their marine habitat is considered to include most of the coastline of the country up to a depth of 200 m. Recently some individuals also reported in the Sea of Marmara. Besides in Northern Aegean Sea was under surveyed last year.
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2. The Strategy

2.1. Vision

(As it was stated in the first version of the RS in 2013 and still valid)

12. *Over the next two decades, the ecological recovery of monk seals in the Mediterranean will deem to have occurred, when multiple colonies have become established within all major habitats in their historic range, interacting in ecologically significant ways with the fullest possible set of other species, and inspiring and connecting human cultures.*

2.2. Goals

13. **Goal 1.** Mediterranean Range States implement this Strategy in pursuance of the Vision, through the expeditious development and adoption of appropriate national policies and administrative frameworks, and with effective, coordinated support from relevant international organisations and civil society.

14. **Goal 2.** Monk seal breeding nuclei in sites located in “Group A” countries are effectively protected from deliberate and accidental killings, habitat degradation and human disturbance, so that seal numbers in such sites increase and seals are able to disperse to and re-colonise the surrounding areas.

15. **Goal 3.** Monk seal presence in sites where they are repeatedly seen today in “Group B” countries is permanently established, and breeding resumes. “Group B” countries are upgraded to “Group A”.

16. **Goal 4.** Monk seal presence is reported repeatedly in the species’ historical habitat in “Group C” countries, and these “Group C” countries are upgraded to “Group B”. Once all “Group C” countries are upgraded, Group C is deleted.

2.3. Goal Targets, Objectives and Objective Targets

Goal 1. Strategy implementation.

17. Mediterranean Range States implement this Strategy in pursuance of the Vision, through the development and adoption of appropriate national policies and administrative frameworks, and with effective, coordinated support from relevant international organisations and civil society.

Goal Target 1.1. A framework for the implementation of the Mediterranean Monk Seal Conservation Strategy is established by the Mediterranean Range States. The framework will include the establishment of a Monk Seal Advisory Committee (MSAC).

18. **Objective 1.1.1.** SPA/RAC establishes a **Monk Seal Advisory Committee (MSAC)**¹². The main objective of the Committee is to support SPA/RAC in the development and implementation of specific conservation actions related to monk seal research and conservation in the framework of the RS and other initiatives/programmes in the region. Tasks of the MSAC will include :

- provide support to SPA/RAC in the implementation of the Strategy and its review and updating (e.g., by defining the Actions needed to attain the different Objective Targets);
- provide recommendations and advice on issues related to monk seal conservation;
- support SPA/RAC in the creation and maintenance of a forum for monk seal conservation practitioners, where relevant information and experience is shared, exchanges are facilitated, challenges are discussed, cooperative initiatives are enhanced, transparency and openness of procedures are safeguarded.

¹² Detail on draft Terms of Reference for the MSAC can be found at UNEP/MED WG.548/8 Rev.2 Annex I https://www.rac-spa.org/meetings/nfp16/docs/working/rev/WG548-8_ENG_REV_2_.pdf

19. The MSAC is composed by a small number of experts, which should include, not only monk seal experts, but also professional profiles such as: marine conservation ecologists, marine veterinarians, fisheries experts, fisheries practitioners, socio-economists, MPA practitioners, and representatives from relevant intergovernmental regional organisations.

20. The MSAC function is supported by SPA/RAC, and may benefit from relevant bodies within IUCN, the GFCM, and other international organisations.

21. **Objective Target 1.1.1.1.** MSAC established by 2026. The Advisory Committee meets at least once a year to review the status of monk seals in the Mediterranean, and to support the implementation of the Actions foreseen in the Strategy.

22. **Objective Target 1.1.1.2.** First meeting of MSAC in November 2026. The MSAC experts shall elect among them a chairperson that can be re-elected annually. SPA/RAC will act as secretariat and appoint a representative and Coordinator that will follow up on the organisation and work of the committee.

23. **Objective Target 1.1.1.3.** MSAC activities are harmonised, wherever appropriate, with prescriptions of the EU Habitats Directive, and with efforts by UNEP-MAP within the Ecosystem Approach process for the attainment of Good Environmental Status in the Mediterranean, i.e., to attain Ecological Objective EO1 “Biodiversity” and Operational Objectives 1.1 (“Species distribution is maintained”), 1.2 (“Population size of selected species is maintained”), 1.3 (“Population condition of selected species is maintained”), 1.4 (“Key coastal and marine habitats are not being lost”), as far as monk seals are concerned.

24. **Objective Target 1.1.1.4.** Member States establish a national multiannual program that draws from, their National Action Plan (if any), the Action Plan and the Strategy objectives, that incorporates monitoring, capacity building and conservation measures into relevant existing national programs involving monitoring of marine biodiversity and spatial protection measures that have been formulated for national and international policy implementation (i.e. monitoring as per EcAP/IMAP region-wide programs and Habitats Directive and MSFD for EC Member States, MPA network development and marine Natura 2000 establishment for Mediterranean EC countries). The MSAC reviews the multiannual programs and reports to SPA/RAC, recommending content improvement so as to harmonise conservation efforts at a regional level with common objectives and comparable efforts. The MSAC will provide support to SPA/RAC so national multiannual programs are defined by early 2027.

25. **Objective 1.1.2.** The Parties to the Barcelona Convention ensure that the activities that the MSAC recommends are addressed.

26. **Objective Target 1.1.2.1.** The Parties to the Barcelona Convention adopt resolutions in support of specific MSAC recommendations concerning the implementation of this Strategy.

Goal Target 1.2. Based on this Strategy, the MSAC provides support to SPA/RAC in the development and implementation of specific conservation actions having a regional scope.

27. **Objective 1.2.1.** The first task of the MSAC is to support SPA/RAC on supervising the attainment of Goals 2, 3 and 4.

28. **Objective 1.2.2.** Capacity building and awareness activities are planned by the MSAC, and promoted in monk seal Ranges States by SPA/RAC so that monk seal protection and recovery is effectively embraced at the national level. This will include the preparation of a dedicated

website (including links to the relevant existing web pages) and the regular issuing and widely distributed monk seal information newsletter in an adequate number of different languages.

29. **Objective Target 1.2.2.1.** Capacity building: the main groups of stakeholders in monk seal conservation are identified by the MSAC, taking stock of national frameworks pertaining to the relevant sectors, tailored to each different monk seal Range State (with first priority given to “Group A Countries” and second priority given to “Group B Countries”), and training courses are prepared and planned (see Goal Target 2.2.). Preferably, training events will be developed *in situ* at selected locations having special relevance to monk seal conservation, in collaboration with the local groups, and will be followed by a constant “advice service” or accompanying process to ensure that full and long-lasting advantage derives from the effort.
30. **Objective Target 1.2.2.2.** In order to facilitate collaboration and communication amongst monk seal conservation experts throughout the region, the MSAC provides support to SPA/RAC for organizing periodical workshops on best practices of monk seal monitoring and conservation techniques, preferably taking advantage of other meetings being periodically organised (e.g., CIESM Congresses, ECS Annual meetings). Proceedings are edited and widely diffused (e.g., by pdf through the Internet) in formats that will serve as “best practice guidelines”.
31. **Objective Target 1.2.2.3.** In consultation with MSAC awareness actions are promoted by SPA/RAC, with first priority given to “Group A Countries” and second priority given to “Group B Countries”, in cooperation with **local** groups, targeting special-interest stakeholders such as fishermen and local coastal communities.
32. **Objective Target 1.2.2.4.** Ideally, an electronic monk seal newsletter should be issued yearly by SPA/RAC based on the recommendations from the MSAC and made freely available on-line (e.g., by resuming the *Monachus Guardian*), starting in 2026.
33. **Objective 1.2.3.** Monitoring of monk seal distribution and abundance, as well as advances in knowledge important for monk seal conservation, are promoted and supported by SPA/RAC through training, workshops and the facilitation of research and monitoring programmes. The monitoring process is made to coincide with the similar monitoring requirements within the framework of the Ecosystem Approach-IMAP process by UNEP-MAP, and (where appropriate) with the Marine Framework Strategy Directive and Habitats Directive of the EC.
34. **Objective Target 1.2.3.1.** MSAC supports SPA/RAC in the completion of monk seal breeding site inventories in “Group A Countries” by 2030.
35. **Objective Target 1.2.3.2.** MSAC supports SPA/RAC in the yearly monitoring of monk seal population parameters (e.g., population abundance, trends, pup production) in breeding sites in “Group A Countries”, starting in 2026.
36. **Objective Target 1.2.3.3.** MSAC supports SPA/RAC in the monitoring of monk seal parameters (e.g., species distribution, population abundance, mortality levels and causes) in areas of “Group B countries” with recurrent sightings, habitat availability, and spatial protection measures for the species.
37. **Objective Target 1.2.3.4.** MSAC supports SPA/RAC in the set-up of common databases (e.g., photo-id catalogues). An initiative, in line with this, is being considered at the moment

of producing this draft by the Monk Seal Alliance (MSA)¹³. Strengthening cross-border cooperation and data-sharing mechanisms among Mediterranean countries would help to enhance the tracking of monk seal movements and improve habitat protection measures.

38. **Objective 1.2.4.** The MSAC will provide support to SPA/RAC in facilitating the definition of a region-wide protocol for rescue and rehabilitation centres and programmes, and will provide support and advice, as required, to such centres and programmes supported by the different Range States.

39. **Objective Target 1.2.4.1.** Region-wide protocol for rescue and rehabilitation centres and programmes defined by the MSAC by 2026, taking stock of the successful initiatives developed during the last 30 years¹⁴.

40. **Objective 1.2.5.** MSAC supports SPA/RAC in the development of contingency plans for disastrous events (e.g., lethal epizootic outbreaks, massive oil spills within monk seal habitat), and for emergency conditions which may derive from catastrophic environmental change. Ideally, this should be done in cooperation with equivalent bodies dealing with the conservation of Mediterranean monk seals in the Atlantic, with the conservation of cetaceans in the Mediterranean (i.e., within the ACCOBAMS framework), and with the appropriate bodies within the “Barcelona System” (e.g., REMPEC). The contingency plan will include the collection and safe storage of Mediterranean monk seal germplasm which may support in the future the recovery of the species, should it become necessary.

41. **Objective Target 1.2.5.1.** Contingency plan coordinated by SPA/RAC with support of MSAC in 2027 and adopted by the subsequent Barcelona Convention CoP.

(Note on MSAC: Once the MSAC is established, a first meeting of MSAC takes place and a chairperson is elected a two-year trial period could be envisaged for the MSAC so as to evaluate its real effectiveness.).

Goal 2. “Group A” countries.

42. Monk seal breeding nuclei in sites located in “Group A” countries are effectively protected from deliberate and accidental killings, habitat degradation and human disturbance, so that seal numbers in such sites increase and seals are able to disperse to and re-colonise the surrounding areas.

Goal Target 2.1. Maintain and secure monk seal presence in Group A countries with special attention to the following locations: a) Zakynthos, Kefalonia, Ithaca and the Inner Ionian Sea Archipelago (Meganisi, Arkoudi, Atokos, Kalamos, Kastos, Vromonas and surrounding islets and seas); b) Northwest Evia; c) Northern Sporades; d) Northern Cyclades (including the Natura 2000 site of the Island of Gyaros and its surrounding 3-mile marine area); e) Northern Karpathos - Saria and the Astakida islets; f) Kimolos and Polyaigos; g) Turkish coasts; h) Cyprus. Breeding nuclei in the locations listed above are effectively protected from deliberate and accidental killings, habitat degradation and human disturbance, so that seal numbers in such sites increase and young seals are able to disperse and re-colonise the surrounding areas.

¹³ <https://www.monksealalliance.org/> The MSA was created in 2019 by five founding members experienced in funding Mediterranean monk seal conservation projects: the Prince Albert II of Monaco Foundation, the MAVA Foundation, the Segre Foundation, the Sancta Devota Foundation and the Thalassa Foundation.

¹⁴ The Monk Seal Rehabilitation program in Greece (on-going for well over three decades) offers an obvious choice to contribute to the training of managers from other countries of the Group A. Rescue and rehabilitation protocols have been officially adopted by the Greek state. Currently, the Greek monk seal rehabilitation program supports the Republic of Cyprus in the establishment of a monk seal rehabilitation structure.

(Considering that in both Greece and Turkey monk seal's marine habitat includes almost the entire coastline of the country up to a depth of 200 m., and that a large portion of it is included in Important Marine Mammal Areas (IMMAs) identified by the IUCN Marine Mammal Protected Areas Task Force¹⁵, priority should be paid to the locations listed above, but conservation actions should not be limited exclusively to them. In the case of Greece, the *National Action Plan for the Mediterranean Monk Seal in Greece*, officially adopted by the Greek Government in September 2024 -Official Gazette 5100/B/10-09-2024¹⁶- should provide guidance on future conservation action since it presents the most recent and reliable information on the species at a National level..)

43. **Objective 2.1.1.** Current legislation prohibiting to carry firearms and explosives aboard fishing vessels in Greece, Türkiye and Cyprus is enforced, with a special attention in locations listed in Goal Target 2.1. Monitoring and mitigating negative seal–fishery interactions schemes put in place.

44. **Objective Target 2.1.1.1.** Compliance with existing laws concerning firearms and explosives aboard fishing vessels in Greece, Türkiye and Cyprus is routinely enforced everywhere, to come into effect with immediate urgency. Appropriate statistics of infringements are kept and publicised. Infringements are prosecuted with penalties appropriate to address the destruction of an endangered, highly species. Enforcement of fishing regulations and eradication of illegal fishing practices.

45. **Objective 2.1.2.** Locations listed in Goal Target 2.1, and other equally important locations that may be eventually discovered in the future, are geographically delimited and legally protected/managed. The resulting MPA network should be ecologically coherent and effectively managed in order to guarantee favourable conservation status.

46. **Objective Target 2.1.2.1.** A monk seal MPA network encompassing the most important monk seal habitat in the area is formally established in the Greek Ionian islands by 2030. All areas within the Greek NATURA 2000 network and designated of exceptional importance for the breeding of the species should have the necessary institutional protection in order to minimize disturbance from human activities at the breeding sites of the species. A valid example is the islet of Formicula, in the Inner Ionian Sea Archipelago¹⁷, where a decision by the Minister of the environment was adopted on 31/12/2024¹⁸, establishing a strict protection regime¹⁹ around Formicula.

47. **Objective Target 2.1.2.2.** Implementation and enforcement of specific interaction guidelines²⁰ to prevent any adverse effects of recently developed “monk seal tourism” in Lichadonisia islets off the northwestern end of the island of Evia.

¹⁵ See <https://www.marinemammalhabitat.org/imma-eatlas/>

¹⁶ <https://search.et.gr/el/fek/?fekId=770812>

¹⁷ https://natura2000.eea.europa.eu/?sitecode=GR2220003&views=Sites_View

¹⁸ link to Decision YΠEN/ΔΔΦΠΒ/123711/3066 of 31/12/2024 published in the Hellenic National Gazette, with maps: <https://tinyurl.com/mb5a9kx9>

¹⁹ Measures aiming at mitigating tourist disturbance to monk seals include the delimitation of a 200 m-wide no-entry zone along the islet's coast, except for a corridor to allow access to organised tours to a single ad hoc mooring. The fact that fishing is not excluded from the no-entry zone, offers a loophole potentially opening the door to indiscriminate access, undermining the measure's effectiveness. Now the organisations that were actively involved in this process, together with the relevant government agencies, local communities and stakeholders should bring this plan to life.

²⁰ <https://ionianandolphinproject.org/mediterranean-monk-seals/monk-seal-watching-guidelines/>

48. **Objective Target 2.1.2.3.** Ensure continuity and the future effectiveness of a patrolling system of the National Marine Park of Alonissos Northern Sporades²¹
49. **Objective Target 2.1.2.4.** The current Natura 2000 site around the island of Gyaros is formally established. The legislative status of the MPA must be finalized through the issuance of a definitive Presidential Decree by 2026 and a science-based, regularly updated Management Plan.
50. **Objective Target 2.1.2.5.** A monk seal MPA is formally established in Karpathos - Saria by 2026²².
51. **Objective Target 2.1.2.6.** A monk seal MPA is formally established in Kimolos - Polyaigos by 2026.
52. **Objective Target 2.1.2.7.** Monk seal MPAs are formally established along the Aegean and Mediterranean coastline of Türkiye by 2030, to protect monk seal critical habitat as determined and mapped by the Turkish National Monk Seal Committee. Continuity is given to both monk seal ongoing projects; a) in the Muğla Province, run in collaboration between MSA and the Ministry of Agriculture, and b) Forestry, and Fethiye and Babadağ Pilot Coastal Zoning and Management Planning supported by UNDP GEF-SGP. Similar initiatives to be developed in other important sites for the species.
53. **Objective Target 2.1.2.8.** Monk seal MPAs have been identified and are formally established in Cyprus²³.
54. **Objective 2.1.3.** Areas in locations listed under Goal Target 2.1 are effectively protected through a) appropriate management actions, and b) the involvement of the local communities, which will both ensure the good conservation status of monk seals found there. A management framework is in place and implemented, defining the spatial, temporal and specific measures needed in the species' critical habitats (e.g., regulating access to caves), thereby affording effective protection to haul out and pupping sites.
55. **Objective Target 2.1.3.1.** Until formal protection of the areas listed under Goal Target 2.1 is established and enforced, patrolling of the most important haul out and pupping locations and caves is organised at least during the summer and breeding season. Patrolling can be done by volunteers, well-trained and possibly local, who could also be performing awareness actions *in situ*, as well as solicit the intervention of law enforcers in case of need. Since this may be counterproductive if not properly executed, it should only happen under expert guidance (e.g., MSAC). In Greece, the competent management body is NECCA, which should coordinate any volunteer patrolling/monitoring scheme while extreme caution is taken to prevent any leaks of sensitive information (e.g., seal pupping cave locations) to the general public or to inadvertently cause an increase of disturbance.

²¹ The Management Unit of Sporades National Park operates under the Natural Environment and Climate Change Agency (NECCA), Protected Areas Management Directorate (Sector A), based in Alonissos. <https://necca.gov.gr/en/mdpp/management-unit-of-alonissos-northern-sporades-national-park-and-protected-areas-of-eastern-thessaly/#Actions>

²² Greece has already established the protected area Management Body in Karpathos in 2007, however the MPA has not been legally declared yet.

²³ In Cyprus, four MPAs were established through Ministerial Decrees (through the Fisheries Law and Regulations) for the protection of the Mediterranean monk seal and its habitats: Halavro MPA; Agios Georgios Alamanou MPA; Ayia Napa Sea Caves; Peyia Sea Caves: [https://www.moa.gov.cy/moa/dfmr/dfmr.nsf/0/0021828B42D07413C2258B64002DE442/\\$file/Report%20MONACHUS%202020-2023%20-%20eng.pdf](https://www.moa.gov.cy/moa/dfmr/dfmr.nsf/0/0021828B42D07413C2258B64002DE442/$file/Report%20MONACHUS%202020-2023%20-%20eng.pdf)

56. **Objective Target 2.1.3.2.** All monk seal MPAs established under Objective 2.1.2, as well as those already created (e.g., National Marine Park of Alonissos – Northern Sporades), are endowed with an operant Management Body and a management plan that is adaptive, ecosystem-based and fully implemented by 2030.

57. **Objective Target 2.1.3.3.** Management in monk seal MPAs established under Objective 2.1.2 is conducted in a participatory fashion, with the full involvement of local relevant stakeholders, as considered necessary in a case-by-case basis (e.g., artisanal fishers, tourism operators, managers and politicians). All proposals and decisions aiming at establishing or modifying conservation and protection measures must be based on sound and indisputable scientific data and evidence. Elements of participatory approach will include awareness campaigns as well as the experimentation/adoption of innovative mechanisms to address opportunity costs, damage mitigation and the generation of alternative sources of income (e.g., ecotourism).

Goal Target 2.2. Implementation of Goal Target 2.1. is enabled through appropriate capacity building activities.

58. **Objective 2.2.1.** Training sessions are organised in areas relevant to locations listed in Goal Target 2.1, with the support of the MSAC (see Objective Target 1.2.2.1). Training will concentrate, at least initially, on mitigating the main threats to monk seals (deliberate killing, habitat degradation, and accidental entanglements), and will target stakeholders identified by the MSAC (e.g., fishermen, tourist operators, enforcement officers, judges). Training will be developed together with the local groups and will be followed by a constant “advice service” or accompanying process to ensure that full advantage is taken from the effort. Lessons learnt from previously executed capacity-building initiatives will be implemented. Follow-up contacts by MSAC with those participating in capacity building activities will be scheduled to secure post-training support and guidance.

Goal 3. “Group B” countries.

59. Monk seal presence in sites where they are occasionally seen today in “Group B” countries is permanently established, and breeding resumes in areas characterised by sufficient and suitable coastal habitat. “Group B” countries are upgraded to “Group A”.

60. Monk seal presence in “Group B” countries must be verified with appropriate methods so as to define the actual species’ use of the coastal seas and identify the areas in which priority monitoring, awareness and protection actions need to be carried out. Priority areas of usage will be identified through sighting collection campaigns, habitat surveys in areas of hotspot sightings, and where the coastal habitat is most pristine (which implies analysis of coastal habitat characteristics and their distribution in each nation), followed by *in situ* monitoring to assess the eventual degree of habitat use by monk seals. Coastal areas with confirmed repeated use must be evaluated in terms of pressures and risks.

61. In areas where the importance for the species has been well established in recent years, even if monitoring and protection actions may be already in place, such actions must be given long-term continuity²⁴.

²⁴ The Eastern Adriatic Monk Seal Project²⁴, funded by MSA, with dedicated actions and partners in Albania, Croatia, and Montenegro will be particularly relevant for Goal Targets 3.1, 3.2. and 4.3:

<https://www.monksealalliance.org/en/projects/eastern-adriatic-monk-seal-project-phase-ii-00557>

62. Awareness activities to be carried out in each site will depend on the type of use of the coasts by the species, the degree of the pressures insisting in each site, and the risks involved. Spatial protection measures are established and site-specific management actions are implemented to reduce the pressures on the basis of the monitoring and risk analysis outcomes.

Goal Target 3.1. Monk seal presence in Albania and specially in southern Albania (between the area bordering with Greece and north to the bay of Vlorë), is permanently established and monk seal breeding resumes.

63. **Objective Target 3.1.1.** A reporting scheme to detect monk seal presence and alert authorities continues to be implemented along the Albanian coastal zone and awareness actions are conducted.

64. **Objective Target 3.1.2.** Monk seal habitat along the coasts of Albania is completely mapped and populations are monitored, paying special attention to Southern Albania (between the area bordering with Greece and north to the bay of Vlorë).

65. **Objective Target 3.1.2.1.** Non-invasive and scientifically sound monitoring technologies as recommended by the MSAC are applied to caves in appropriate locations.

66. **Objective Target 3.1.2.2.** A programme targeting the local community and visitors, aimed at increasing awareness and fostering species' protection measures is continued and enhanced.

Goal Target 3.2. Monk seal presence in Montenegro is permanently established.

67. **Objective 3.2.1.** A reporting scheme to detect occasional monk seal presence and alert authorities is implemented along the coastal zone of Montenegro.

68. **Objective 3.2.2.** To take advantage of the Coastal habitat assessment studies conducted in recent years (Mačić et al., 2019) and give continuity, and expand as necessary, the on-going long-term cave monitoring programmes in Montenegro.

Goal Target 3.3. Monk seal presence in Italy, in areas with recurrent sightings, habitat availability and proximity to nearby breeding colonies, is permanently established, and monk seal breeding resumes.

69. **Objective 3.3.1.** A reporting scheme to detect occasional monk seal presence and alert authorities is enhanced along the coastal areas characterised by recurrent sightings and coastal habitat historically used by the species

70. **Objective 3.3.2.** Monitoring of monk seal distribution, abundance and behaviour (including eventual pup production) is continued in the Egadi islands.

71. **Objective Target 3.3.2.1.** Non-invasive and scientifically sound monitoring technologies, applied to caves in appropriate locations within the Egadi Islands MPA, is continued and enhanced.

72. **Objective Target 3.3.2.2.** A programme targeting the local community and visitors, aimed at increasing awareness and fostering species' protection measures is continued and enhanced.

73. **Objective 3.3.3.** Regular monitoring of monk seal presence and awareness actions are conducted in areas historically containing monk seal habitat and characterised by recurrent sightings in Sardinia.

74. **Objective 3.3.4.** Regular monitoring of monk seal presence and awareness actions are conducted in areas historically containing monk seal habitat in the Tuscan Archipelago.

75. **Objective 3.3.5.** Regular monitoring of monk seal presence and awareness actions are conducted in areas historically containing monk seal habitat and recurrent recent sightings in the lesser islands of the Sicily Strait (Pantelleria, Pelagie islands).

76. **Objective 3.3.5.** Regular monitoring of monk seal presence is conducted in Salento (Apulia) in coastal areas containing historical monk seal habitat and characterised by recurrent sightings.

Goal Target 3.4. Monk seal presence in Lebanon is permanently established.

77. **Objective 3.4.1.** A reporting scheme to detect occasional monk seal presence and alert authorities is implemented along the Lebanese coastal zone; awareness actions are conducted in the concerned areas.

78. **Objective 3.4.2.** A coastal habitat assessment study is conducted in the areas characterised by recent recurrent monk seal sightings and long-term cave monitoring program is initiated in northern Lebanon; conservation actions are implemented in the Palm Islands nature reserve by 2026²⁵.

Goal Target 3.5. Monk seal presence in Israel is permanently established.²⁶

79. **Objective 3.5.1.** A reporting scheme to detect occasional monk seal presence and alert authorities is enhanced along the Israeli coastal zone and awareness actions are conducted in areas characterised by recent sightings or coastal habitat suitability.

80. **Objective 3.5.2.** A coastal habitat assessment study is conducted, and a long-term cave monitoring program is implemented in northern Israel.

Goal Target 3.6. Monk seal presence in Syria is permanently established.

Objective 3.6.1. A reporting scheme to detect occasional monk seal presence and alert authorities is implemented along the Syrian coastal zone and awareness actions are conducted in areas characterised by recent sightings or coastal habitat suitability.

Objective 3.6.2. A coastal habitat assessment study is conducted, and a long-term cave monitoring program is implemented in Syria.

Goal Target 3.7. Implementation of Goal Targets 3.1 - 3.6 is enabled through appropriate capacity building activities and sub-regional cooperation.

81. **Objective 3.7.1.** Capacity building. Training sessions are organised in areas relevant to locations listed in Goal Targets 3.1 - 3.6, with the support of the MSAC (see Objective Target 1.2.2.1). Training will concentrate, at least initially, on national / local groups working on the

²⁵ Project *Recolonization of the Monk Seal in Lebanon*, supported by MSA and led by IndyACT, sets up a favorable framework to achieve Goal target 3.4. <https://www.monksealalliance.org/en/projects/recolonization-of-the-monk-seal-in-lebanon-00563>

²⁶ Project *Preparing the ground for the monk seal's return to the Israeli coast*, supported by MSA and led by Delphis, should greatly facilitate Goal target 3.6. <https://www.monksealalliance.org/en/projects/preparing-the-ground-for-the-monk-seal-s-return-to-the-israeli-coast-00565>

development of monitoring and awareness programs directed at mitigating the main threats to monk seals (deliberate killing, habitat degradation, and accidental entanglements). Capacity building activities can also target stakeholders identified by national/local groups with the support of the MSAC (e.g., fishermen, tourist operators, enforcement officers, judges). Training will be developed together with the local groups and will be followed by a constant “advice service” or accompanying process to ensure that full advantage is taken from the effort.

82. Objective 3.7.2. Streamlining of sighting and cave monitoring results carried out in Goal Targets 3.1 - 3.6 above is discussed at sub regional level in order to better assess the population status in the “Group B” countries within a geographic context that goes beyond country borders, and in order to identify priority areas in which spatial protection measures are necessary.

83. Objective 3.7.3. Capacity building of MPA managers acting in monk seal distribution areas identified through the implementation of Goal Targets 3.1 - 3.6, is carried out so as to discuss improved management and mitigation measures to be introduced in existing MPAs.

84. Objective 3.7.4. The implementation of Goals 3.1-3.6 is carried out, as much as possible, through the development of international collaboration frameworks, directed at guaranteeing sharing of expertise and monitoring results amongst neighbour countries for the purpose of sub regional status assessments and conservation goal attainment. The latter is particularly important for countries that have limited suitable coastal habitat and recurrent sightings and which border countries with breeding colonies or countries with sightings and extensive and suitable habitat. This may involve cross collaboration initiatives that involve an array mixture of Group A, B and C countries (i.e. Türkiye-Israel -Cyprus; Syria-Lebanon-, Libya-Egypt, Greece-Albania-Italy-Montenegro-Croatia, Italy-Tunisia-Algeria-Morocco).

Goal 4. “Group C” countries.

85. Monk seal presence is again repeatedly reported in the species’ historical habitat in “Group C” countries, and these “Group C” countries are upgraded to “Group B”. Once all “Group C” countries are upgraded, Group C is deleted.

Goal Target 4.1. Monk seal presence in locations of the Maghreb’s Mediterranean coasts and annexed islands in Algeria, Morocco, Tunisia, and the Chafarinas Islands (Spain) is repeatedly reported and permanently established.

86. Objective 4.1.1. A reporting scheme to detect monk seal presence through sightings and to alert authorities is implemented along Maghreb’s Mediterranean coasts and annexed islands characterised by monk seal historical presence and recent sightings. This includes areas such as: northern Tunisia, Algeria, Morocco, and the Chafarinas Islands (Spain); awareness actions are conducted in the concerned areas.

87. Objective 4.1.2. Long-term cave monitoring activities are initiated in the coastal habitat identified as suitable in the Al Hoceima National Park²⁷ and Cap Trois Fourches in order to assess monk seal presence in the Mediterranean Moroccan coastal area.

88. Objective 4.1.3. Long-term cave monitoring activities are initiated in the coastal habitat identified as suitable in the Chafarinas islands in order to assess monk seal presence in the area.

²⁷ Project Med-Monk seal Project: Enhancing knowledge and awareness on monk seal in the Mediterranean, supported by MSA and led by SPA/RAC, sets up a favorable framework to achieve objective 4.1.2.

89. Objective 4.1.4. Long-term cave monitoring activities are initiated in the coastal habitat identified as suitable in previous studies carried out in selected Algerian locations in order to assess monk seal presence in the area.

90. Objective 4.1.5. Long-term cave monitoring activities are initiated in the coastal habitat identified as suitable in the La Galite Archipelago²⁸ (North of Tunisia) in order to assess monk seal presence in the area.

Goal Target 4.2. Monk seal presence in the Balearic Islands, Spain, is repeatedly reported and permanently established.

91. Objective 4.2.1. A reporting scheme to detect occasional monk seal presence and alert authorities is implemented; awareness actions are conducted around the Balearic Islands, Spain.

Goal Target 4.3. Monk seal presence in Croatia is repeatedly reported and permanently established.

92. Objective 4.3.1. A reporting scheme to detect occasional monk seal presence and alert authorities is enhanced along the Croatian coastal areas.

93. Objective 4.3.2. Long-term cave monitoring activities are implemented in selected locations identified as suitable habitat for monk seals based on previous observations.

Goal Target 4.4. Monk seal presence in Bosnia Herzegovina and Slovenia repeatedly reported and permanently established.

94. Objective 4.4.1. Regular monitoring of monk seal presence and awareness actions are conducted in the species' historical habitat in Bosnia Herzegovina and Slovenia.

Goal Target 4.5. Monk seal presence in Corsica is repeatedly reported and permanently established.

95. Objective 4.5.1. Regular monitoring of monk seal presence and awareness actions are conducted in the species' historical habitat in Corsica.

Goal Target 4.6. Monk seal presence is reported again from continental France.

96. Objective 4.6.1. Regular monitoring of monk seal presence and awareness actions are conducted in the species' historical habitat in Corsica and continental France.

Goal Target 4.7. Monk seal presence in Libya and nearby western Egypt is repeatedly reported and permanently established.

97. Objective 4.7.1. Monk seal ecology and behaviour is monitored in Libya²⁹ (Cyrenaica) and nearby Egyptian coast³⁰ (from the border with Libya, including Sallum MPA, to Marsa Matrouh).

²⁸ Project Med-Monk seal Project: Enhancing knowledge and awareness on monk seal in the Mediterranean, supported by MSA and led by SPA/RAC, sets up a favorable framework to achieve objective 4.1.5

²⁹ Project Med-Monk seal Project: Enhancing knowledge and awareness on monk seal in the Mediterranean, supported by MSA and led by SPA/RAC, sets up a favorable framework to achieve objective 4.6.1

³⁰ Project Med-Monk seal Project: Enhancing knowledge and awareness on monk seal in the Mediterranean, supported by MSA and led by SPA/RAC, sets up a favorable framework to achieve objective 4.6.1

98. **Objective Target 4.7.1.1.** Full survey of monk seal habitat in the Libyan easternmost coast bordering with Egypt is conducted and long-term cave monitoring is established in this area as well as in the caves identified in previous projects.

99. **Objective Target 4.7.1.2.** Awareness actions are conducted in Libya, targeting local residents and most notably fishermen, with the aim of fostering respect and data collection on sightings.

100. **Objective Target 4.7.1.3.** Full survey of monk seal presence through data collection on sightings and awareness actions organised in Egypt (from the border, including Sallum MPA, to Marsa Matrouh) by 2025.

101. **Objective Target 4.7.1.4.** Full survey of monk seal habitat in the Egyptian areas characterised by recurrent sightings and a geomorphologically suitable coast is conducted, and long term cave monitoring is established.

Goal Target 4.8. Monk seal presence is reported from Malta.

102. **Objective 4.8.1.** Regular monitoring of monk seal presence and awareness actions are conducted in the species' historical habitat in Malta.

Goal Target 4.9. Implementation of Goal Targets 4.1 - 4.8. is enabled through appropriate capacity building activities and sub-regional cooperation.

103. **Objective 4.9.1.** Capacity building: training courses are organised in locations listed in Goal Targets 4.1-4.8, with the support of the -MSAC (see Objective Target 1.2.2.1).

104. **Objective 4.9.2.** The implementation of Goals 4.1-4.8 is carried out, as much as possible, through the development of international collaboration frameworks, directed at guaranteeing sharing of expertise and monitoring results amongst neighbour countries for the purpose of sub regional status assessments and conservation goal attainment (see Objective 3.7.4)

3. Revision of the Strategy

105. The suggested time horizon of this Strategy is six years, to be concluded in 2030, when a comprehensive review of the Strategy's accomplishments and failures, with a consideration for potential actions to be taken beyond 2030, should be conducted. Such timing also coincides with the process requiring EU Member States to report concerning the Habitats and Marine Strategy Framework Directives, thereby facilitating the implementation of the Strategy's actions by such States.

106. A mid-term assessment of the implementation results in 2028 is also recommended, to evaluate up-to-date attainment of Goals and Objectives within the Strategy's timeframe and to identify, if needed, moderate adjustments.

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Annex VI

Draft updated Action Plan for the conservation of the Coralligenous and Other Calcareous Bio-concretions in the Mediterranean Sea

Acronyms list

CA	: Coralligenous Assemblages
CI	: Common Indicator (from IMAP)
CITES	: Convention on International Trade of Endangered Animal and Plant Species
COP	: Conference of the Parties
CP	: Contracting Party (Barcelona Convention)
EcAp	: Ecosystem Approach under the Barcelona Convention
EC	: European Commission
EEC	: European Economic Community
EMODnet	: European Marine Observation and Data Network
EO	: Ecological Objective
EU	: European Union
EUNIS	: European Nature Information System
FAO	: Food and Agriculture Organisation of the United Nations
FRA	: Fisheries Restricted Area
GES	: Good Environmental Status
GFCM	: General Fisheries Commission for the Mediterranean
IG	: Intergovernmental meetings/documents/decisions
IMAP	: Integrated Monitoring and Assessment Programme
IUCN	: International Union for Conservation of Nature
MAP or PAM	: Mediterranean Action Plan
MBES	: Multi-Beam Echo Sounder
MHW	: marine heat wave
MPA	: Marine Protected Area
MSFD	: Marine Strategy Framework Directive
NGO	: Non-Governmental Organisation
NFP	: National Focal Point
OFB	: Office Français de la Biodiversité
POST-2020	: Post 2020 Strategic Action Programme for the Conservation of Biodiversity
SAPBIO	and sustainable management of natural resources in the Mediterranean Sea
ROV	: Remotely Operated Vehicle
RMB	: Rhodolith and Maerl Bed
SfM	: Structure from Motion
SPA/BD	: Protocol on Specially Protected Areas and Biological Diversity (Barcelona
Protocol	Convention)

SPAMI : Specially Protected Areas of Mediterranean Interest

SPA/RAC or : Specially Protected Areas /Regional Activity Centre

RAC/SPA

SSS : Side Scan Sonar

UNEP or **PNUE** : United Nations Environment Programme

WG : Working Group meetings/documents

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1. BACKGROUND

1. The Contracting Parties to the Barcelona Convention, within the framework of the Mediterranean Action Plan, give priority to the conservation of the marine environment and to the components of its biological diversity. This was confirmed by the adoption of the new 1995 Barcelona Convention Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean ([SPA/BD Protocol](#)) and of its Annexes, among them a list of endangered or threatened species.
2. The development and implementation of action plans for the conservation of a species or group of species is an effective way of guiding, coordinating and reinforcing the efforts of Mediterranean countries to protect the natural heritage of the region.
3. Although not legally binding, these action plans have been adopted by the Contracting Parties as regional strategies setting out priorities and actions to be undertaken. In particular, they call for greater solidarity between the States of the region, and for coordination of efforts to protect the species concerned. This approach has been proved to be necessary to ensure the conservation and sustainable management of the species and habitats concerned in each Mediterranean area of their distribution.
4. These Action Plans are medium-term regional strategies that should be updated every five-year on the basis of an evaluation of their implementation at regional and national level.
5. The 2008 Ordinary Meeting of the Contracting Parties in Almeria (Spain) adopted the Action Plan for the Conservation of Coralligenous and other Calcareous Bio-concretions in the Mediterranean Sea (Decision IG17/15-2008), which resulted from the work programme drawn up at the ad hoc meeting held in Tabarka (Tunisia) on May 6th and 7th, 2006. The last update of the Action Plan dates back to 2016 (Decision IG.22/12-2016).
6. For the 2024-2025 biennium, the Contracting Parties to the Barcelona Convention requested SPA/RAC, during COP 23 (Portorož, Slovenia, 5-8 December 2023), to update (i) the Action Plan for the Conservation of the Coralligenous and Other Calcareous Bio-concretions in the Mediterranean Sea, (ii) the Action Plan for the Conservation of Mediterranean Marine Turtles, (iii) the Action Plan for the Conservation of Cartilaginous Fishes (Chondrichthyans) in the Mediterranean Sea, and (iv) the Regional Strategy for the Conservation of Monk Seal in the Mediterranean Sea, for consideration at COP 24.

2. HABITAT TYPES CONCERNED BY THE ACTION PLAN

7. The Action Plan is devoted to coralligenous assemblages and rhodolith/maerl^{1,2} beds as defined here after:

- **Coralligenous:** a typical Mediterranean underwater seascape comprising coralline algal frameworks that grow in dim light conditions and relatively calm waters.
- **Mediterranean rhodolith/maerl beds:** sedimentary bottoms covered by free-living calcareous algae growing in dim light.

8. Therefore, surface bio-concretions are not covered here, as they are already included in the Action Plan for the Conservation of Marine Vegetation in the Mediterranean Sea.

9. Coralligenous and other calcareous bio-concretions are biogenic constructions of calcareous algae, as well as erect invertebrates, complexing the assemblage, providing multiple micro-habitats for many species and harbouring high biological diversity (UNEP/MAP-SPA/RAC, 2015a).

10. Coralligenous and other calcareous bio-concretions develop on vertical cliffs, rocky reefs, and biodetritic horizontal or subhorizontal bottoms (Basso *et al.*, 2016a; Ingrosso *et al.*, 2018; Romagnoli *et al.*, 2021; UNEP/MAP – SPA/RAC, 2021b; Angiolillo *et al.*, 2022; Innangi *et al.*, 2024). They can be found all around the Mediterranean Sea.

11. Coralligenous assemblages (CAs) show high spatial, morphological, and biological variability (Basso *et al.*, 2022) and due to great environmental variability, several different assemblages can coexist in a reduced space. They are considered among the most important assemblages of the Mediterranean (Ingrosso *et al.*, 2018) with slow growth, developing on both vertical and horizontal substrates (Basso *et al.*, 2022). Several species forming the CAs are endemic of the Mediterranean (Ferrigno *et al.*, 2023). Further, CAs provide habitat and food for many species and represent some of the most productive assemblages (Constantini *et al.*, 2018).

12. Rhodolith and/or maerl beds (RMBs) develop on horizontal or sub-horizontal surfaces, with water motion (either currents or waves) keeping the rhodoliths unburied and are generally composed of several coralline species (Basso *et al.*, 2016a).

13. The classification units concerned by the Action Plan are as follows:

In the revised Barcelona Convention classification system (Montefalcone *et al.*, 2021):

- Coralligenous assemblages. Infralittoral : **MB1.55** Coralligenous (enclave of circalittoral). Circalittoral: **MC1.5** Circalittoral rock/**MC1.51** Coralligenous cliffs, **MC1.52** Continental shelf /**MC1.52a** Coralligenous outcrops/**MC1.52b** Coralligenous outcrops covered by sediment, **MC2.5** Circalittoral biogenic habitat/**MC2.51** Coralligenous platforms.
- Rhodolith/maerl beds. Infralittoral: **MB3.51** Infralittoral coarse sediment mixed by waves/**MB3.511** Association with maerl or rhodoliths, **MB3.52** Infralittoral coarse sediment under the influence of bottom currents/**MB3.521** Association with maerl or rhodoliths. Circalittoral: **MC3.5** Circalittoral coarse sediment/**MC3.52** Coastal detritic bottoms with rhodoliths/**MC3.521** Association with maerl.

¹ As written in Collin's Dictionary but can often be found spelled *maërl*. In this document the orthograph *maerl* is used except for references where it is spelled *maërl*.

² "Maerl beds" are included in the larger term of "rhodolith beds", but there is still debate on the exact definitions of rhodolith and maerl beds which should not be considered as synonyms. It was therefore decided to refer to this habitat as rhodolith/maerl beds (RMBs).

In the revised EUNIS classification system:

- Coralligenous assemblages. Infralittoral: **MB151a** Facies and association of coralligenous biocenosis (in enclave). Circalittoral: **MC151** Coralligenous biocenosis, **MC251** Coralligenous platforms, **MC252** Mediterranean circalittoral biogenic habitat.
- Rhodolith/maerl beds. Infralittoral: **MB3511** Association with rhodoliths in coarse sands and fine gravels mixed by waves. Circalittoral: **MC351** - Association with rhodoliths on coastal detritic bottoms, **MC352** - Assemblages of Mediterranean coastal detritic bottoms biocenosis with rhodoliths, **MC3523** - Association with maerl (*Lithothamnion corallioides* and *Phymatholithon calcareum*) on coastal dendritic bottoms.

3. STATE OF THE ART

14. Annual publications on coralligenous assemblages and rhodolith/maerl beds have increased significantly since 2015, especially from north-western Mediterranean countries but not only (Ferrigno *et al.*, 2023). These publications are related to spatial and bathymetric distribution, composition and structure, environmental status assessments, ecosystem conservation and management, and anthropogenic impacts.

15. There are about four times as many documents on Coralligenous Assemblages (CAs) as on Rhodolith and Maerl Beds (RMBs).

3.1. Scientific knowledge

3.1.1. Geographic and bathymetric distribution

16. Coralligenous and other calcareous bio-concretions develop on vertical cliffs, rocky reefs, and biotrititic horizontal or sub-horizontal bottoms from 10 to 180 meters (Basso *et al.*, 2016a; Ingrosso *et al.*, 2018; Romagnoli *et al.*, 2021; UNEP/MAP – SPA/RAC, 2021b; Radicioli *et al.*, 2022; Innangi *et al.*, 2024), but occur most frequently between 50 and 150 m depth. Depth ranges of coralligenous on sub-horizontal to horizontal bottoms for different areas can be found in the document RAC/SPA (2003).

17. Light is an important factor controlling the vertical distribution of coralligenous assemblages as their main builders are macroalgae, which require sufficient light to grow, but low levels of irradiance (Pérès & Picard, 1964 and Laubier 1966 in RAC/SPA, 2003). In areas of high turbidity, coralligenous assemblages can thrive in shallow waters, whereas in areas of high-water transparency, these assemblages are typically found at greater depths (RAC/SPA, 2003 and reference therein).

18. Other variables, such as nutrient availability, hydrodynamics, temperature and salinity, also play an important role in the geographic and bathymetric distribution of coralligenous assemblages.

19. An attempt to collate recent available data at Mediterranean scale is presented in the following table:

Table 1 Available recent data relative to geographic distribution of coralligenous assemblages and rhodolith/maerl beds by country

Country/Region	Area/Specificities	Coralligenous	Rhodolith/maerl beds
Mediterranean Sea (maps)	Mediterranean Sea (maps)	- Martin <i>et al.</i> (2014)	- Martin <i>et al.</i> (2014) - Basso <i>et al.</i> (2016a)
	Habitat forming invertebrates of Coralligenous Assemblages	- CorMedNet website - Linares <i>et al.</i> (2020) - Linares <i>et al.</i> (2022)	
	NE Mediterranean Coralligenous formation with <i>E. cavolini</i>	- Sini <i>et al.</i> (2019)	
	Modelled spatial distribution	- EMODnet (2021) see here	- EMODnet (2021) see here
Albania	National Marine Park of Karaburun-Sazan	- Giménez <i>et al.</i> (2022a) - Andromede Oceanology (2016)	
Algeria	Taza MPA	- Belbacha, Semroud, & Ramos-Esplá (2011)	
	Rachgoun island	- PNUE/PAM-CAR/ASP (2016)	
	Plane (Paloma) island in Oran Bay and Habibas islands	- Hussein & Bensahla-Talet (2019) - UNEP/MAP-SPA/RAC (2020b)	
Croatia	National	- A preliminary map is available in RAC/SPA-UNEP/MAP (2014) - Updated map that gives more precise distribution is publicly available in Croatian: https://biportal.hr/gis/ . (project “Mapping of coastal and seabed habitats in the Adriatic Sea under the national jurisdiction” (2018-2023))	- Updated map that gives more precise distribution is publicly available in Croatian: https://biportal.hr/gis/ . (project “Mapping of coastal and seabed habitats in the Adriatic Sea under the national jurisdiction” (2018-2023))
	<i>E. cavolini</i> , <i>E. singularis</i> , <i>P. clavata</i> (compilation 2019)	- Ponti <i>et al.</i> (2019)	
Cyprus	Cyprus UK Overseas Territories Mesophotic zone (50-200m)	- Programme : Cyprus UK Overseas Territories Mesophotic zone (50-200m) exploring (2024-2025) see here	- Programme : Cyprus UK Overseas Territories Mesophotic zone (50-200m) exploring (2024-2025) see here
France	French Mediterranean	- A map of coralligenous assemblages in the French Mediterranean is available on the OFB site here - The network of coralligenous sites and monitored sites	- Inventory of available data on maerl beds in French Mediterranean is available on the OFB site : here

Country/Region	Area/Specificities	Coralligenous	Rhodolith/maerl beds
		RECOR maps their state of conservation here	
Greece	All Aegean Sea	- Sini <i>et al.</i> (2017) - Governmental site on selected species and habitats geographic distribution (maps)	- Sini <i>et al.</i> (2017) - Governmental site on selected species and habitats geographic distribution (maps)
Italy	National	- Ingrosso <i>et al.</i> (2018)	- Ingrassia et al. (2023)
	Coralligenous key species all around Italy, litter distribution on coralligenous outcrops	- Ponti et al. (2019) - Angiolillo <i>et al.</i> (2023)	
	South-eastern area of Lampedusa		- Maggio <i>et al.</i> (2022)
Lebanon	Sayniq area St George area	- Aguilar <i>et al.</i> (2018)	- Aguilar <i>et al.</i> (2018)
	Batroun Medfoun Byblos	- SPA/RAC-UN Environment/MAP (2017)	- SPA/RAC-UN Environment/MAP (2017)
Malta	North East Malta rhodolith/maerl beds interpolation		- ERA data viewer here - Deidun <i>et al.</i> (2022)
	South East Malta rhodolith accumulations		- LIFE BAHAR for N2K viewer - Tabone et al. (2024)
Monaco	Roches profondes du plateau	- Fourt et al. (2015)	
Montenegro	All Montenegro coast	- Petović & Mačić (2021) - UNEP/MAP-PAP/RAC i MEPU (2021) - UNEP/MAP-PAP/RAC-SPA/RAC and MSDT (2019).	- No rhodolith/maerl beds
Morocco	El Hoceima National Park	- UNEP/MAP-SPA/RAC (2020a)	- UNEP/MAP-SPA/RAC (2020a)
	Jbel Moussa MPA	- SPA/RAC - ONU Environnement/PAM & HCEFLCD (2019)	- SPA/RAC - ONU Environnement/PAM & HCEFLCD (2019)
Spain	Key species: <i>Paramuricea clavata</i> <i>Eunicella cavolini</i>	- Ponti et al. (2019)	
	Balearic Islands (map)	- Barrientos et al. (2022a)	- Barrientos et al. (2022b) - Additional information on Formentera and Ibiza islands can be found in the original study (Domínguez et al., 2014)
	Minorca Channel (Balearic Islands)	- Barberá <i>et al.</i> (2012)	- Farriols <i>et al.</i> (2024) - Barberá <i>et al.</i> (2012)
	Costa Brava	- See poster here	

Country/Region	Area/Specificities	Coralligenous	Rhodolith/maerl beds
	Southeastern Iberian Peninsula (map)		- REGINA-MSP Project in Murcia Region has mapped RMBs in some areas and potential overlapping with aquiculture activities
	Seamounts of the Mallorca Channel (Balearic Islands)		The presence of RMBs has been documented by Marín <i>et al.</i> (2011) and by Massutí <i>et al.</i> (2022). A preliminary spatial distribution model has been developed by Frank <i>et al.</i> (2024), with further analyses currently in preparation.
Tunisia	Tunisian coast (table)	- Mustapha <i>et al.</i> (2002)	- Ghanem <i>et al.</i> (2022)
	Cap Negro-Cap Serrat	- Torchia <i>et al.</i> (2016)	- Torchia <i>et al.</i> (2016)
Türkiye	Aegean Sea Levantine Sea	- Çinar <i>et al.</i> (2020)	
	Foça Special Environmental Protection Area	- UNEP/MAP-SPA/RAC (2020c)	
	Marmara Sea	- IUCN Red list of habitats (A4.26) (see Gubbay <i>et al.</i> , 2016)	

3.1.2. Composition and structure

20. The primary builders of coralligenous assemblages are encrusting red algae (Bracchi *et al.*, 2022), on which other species may develop, forming secondary and tertiary layers and creating a three-dimensional structure. Various environmental factors shape the composition and structure of both coralligenous and rhodolith/maerl assemblages (Piazzi *et al.*, 2021; Basso *et al.*, 2022). These variables also influence the geographic and bathymetric distribution of these assemblages.

21. Using an ecosystem-based approach, the associated mobile fauna can also be considered as being part of the composition of these assemblages. Such approaches are increasingly being developed. However, characterising the composition and structure of coralligenous and rhodolith/maerl assemblages is challenging due to the difficulty of accessing and assessing them, which are often deeper than 20-30 m, and due to the lack of taxonomic expertise.

22. According to the latest assessment of the implementation of the Action Plan (document under review), only five Member States have characterised coralligenous assemblages at the national scale, while six others are in the process of doing so. However, the characterisation of the composition and structure of coralligenous assemblages and rhodolith/maerl beds at national or sub-regional scales is essential to assess their vulnerability to anthropogenic pressures and the impacts of climate change.

23. Several documents are available to assist in defining the composition and structure of coralligenous and rhodolith/maerl assemblages:

- [RAC/SPA. 2003. The coralligenous in the Mediterranean Sea. Definition of the coralligenous assemblage in the Mediterranean, its main builders, its richness and key role in benthic ecology as well as its threats. By Ballesteros E. RAC/SPA, Tunis.](#)
- Ballesteros, E. 2006. Mediterranean coralligenous assemblages: A synthesis of present knowledge. *Oceanography and Marine Biology*, 44: 123–195.
- [UNEP-MAP RAC/SPA. 2015. Standard methods for inventorying and monitoring coralligenous and rhodoliths assemblages.](#)
- SPA/RAC-UNEP/MAP, 2021. Mediterranean coralligenous assemblages: a synthesis of present knowledge. By E. Ballesteros. Ed. SPA/RAC, Tunis: 149 pp.
- [SPA/RAC-UN Environment/MAP. 2019. Updated Classification of Benthic Marine Habitat Types for the Mediterranean Region.](#)
- [UNEP/MAP. 2021. Interpretation manual of the reference list of marine habitat types in the Mediterranean Sea.](#)

3.1.3. Population dynamics of typical/key species

24. The typical/key species of coralligenous assemblages, such as calcareous algae, gorgonians, sponges or bryozoans, are generally long-lived species with low growth, natural mortality, and recruitment rates. For these sessile species, dispersal generally occurs at the larval stage.

25. The key species of the most studied coralligenous assemblages in terms of population structure and dynamics are conspicuous anthozoans such as *Paramuricea clavata*, *Eunicella cavolini* and *Eunicella singularis*.

26. Palma *et al.* (2018) describe and test a Structure from Motion (SfM) based method for the estimation of gorgonian population structure (e.g. height, density, fan surface etc.). Although this method seemed more accurate for medium to low population densities than for dense populations, it may contribute to a more efficient assessment of the dynamics of large three-dimensional coralligenous species.

27. The dispersal potential of anthozoans had already been studied in the past (e.g. Linares, 2006; Linares *et al.*, 2007), and several recent studies contribute to further understand the dynamics of these key structuring species (e.g. Pilczynska *et al.*, 2016 for *Paramuricea clavata* in Italy; Padrón *et al.*, 2018 for *Eunicella singularis* in the Gulf of Lions; Sciascia *et al.*, 2022 for *P. clavata*).

28. Although larval dispersal of sessile benthic species depends on many variables (e.g. environmental factors such as currents or larval characteristics such as pelagic larval duration etc.), modelling of larval dispersal and gene flow studies to better capture connectivity processes between populations under climate change context could be efficient in designing a network of protected areas capable of maintaining connectivity between populations (see Padrón *et al.*, 2018b; Sciascia *et al.*, 2021). An interesting study by Blouet (2023) highlights the role of artificial reefs in enhancing connectivity between populations of structuring anthozoans, compensating for the absence or degradation of natural hard substrates.

29. Straight forward guidelines for larval dispersal simulations have been drawn by Sciascia *et al.* (2021), which could be useful for studies and simulations in other areas. However, connectivity predictions for gorgonian species require specific precautions (Sciascia *et al.*, 2022).

30. Pilczynska *et al.* (2016) studied the genetic diversity and connectivity of *P. clavata* in Italy. Their findings showed that larval exchange between sites supported the hypothesis that deeper subpopulations unaffected by

marine heat waves (MHWs) could provide larvae for shallower populations and allow recovery after mortality events. However, more recent scientific publications on this topic are less optimistic.

31. Key species of Rhodolith and Maerl Beds have been less studied, especially concerning population dynamics. Research remains mainly focused on species inventories, such as calcareous red algae in Southern Spain (see Del Río *et al.*, 2022), sponge species in RMBs in Ustica, Italy (see Longo *et al.*, 2020). Research must be encouraged to better understand the dynamics and functioning of RMBs.

3.2. Legislation, regulation and conservation

32. Listing the legal texts, regulations, and strategic action plans concerning Mediterranean coralligenous assemblages and rhodolith/maerl beds (Table 2) highlights the lack of conservation and protection measures for these assemblages.

Table 2 Legislation and regulations relevant to coralligenous and other calcareous bio-concretions' protection in the Mediterranean Sea.

International	Bern Convention on the conservation of European wildlife and natural habitats Council decision (98/746/EC) of 21 December 1998 amended Appendices II and III (Protected fauna species) to the Berne Convention on the conservation of European wildlife and natural habitats, and added the following species to Appendix III. The underlined species may be found in coralligenous assemblages: <u>Hippospongia communis</u>, <u>Spongia agaricina</u> (now <u>S. lamella</u>), <u>Spongia officinalis</u>, <u>Spongia zimocca</u>, <u>Antipathes</u> sp. plur., <u>Corallium rubrum</u>, <u>Paracentrotus lividus</u>, <u>Homarus gammarus</u>, <u>Maja squinado</u>, <u>Palinurus elephas</u>, <u>Scyllarides latus</u>, <u>Scyllarides pigmaeus</u>, <u>Scyllarus arctus</u>, <u>Epinephelus marginatus</u>, <u>Isurus oxyrinchus</u>, <u>Lamna nasus</u>, <u>Mobula mobular</u>, <u>Prionace glauca</u>, <u>Raja alba</u>, <u>Sciaena umbra</u>, <u>Squatina squatina</u>, and <u>Umbrina cirrosa</u> (all 22 species in the Mediterranean). Article 7 specifies that “Each Contracting Party shall take appropriate and necessary legislative and administrative measures to ensure the protection of the wild fauna species specified in Appendix III.”
	Convention on International Trade of Endangered animal and plant Species (CITES) Very few species from coralligenous and maerl assemblages are listed under this convention: <i>Scleractinia</i> spp. (e.g. <i>Leptopsammia pruvoti</i>, <i>Caryophyllia</i> spp., <i>Hoplongia durotrix</i>) and <i>Antipatharia</i> spp. (which includes <i>Antipathella subpinnata</i> and to a lesser degree <i>Antipathes dichotoma</i>) which may be found in coralligenous or maerl assemblages) are listed in Appendix II (Species that are not necessarily threatened with extinction, but trade must be controlled in order to avoid utilisation incompatible with their survival). Whereas other <i>Corallium</i> species are listed, the Mediterranean <i>Corallium rubrum</i> is not listed.
European countries	Habitat Directive (Council Directive 92/43/EEC, 1992) and Natura 2000 network The Habitat Directive does not specifically address the coralligenous and other calcareous bio-concretions. However, pursuant to the Directive (Art. 2.2), member states must “<i>maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of community interest</i>” listed in Annexes I and II of the Directive. Member States must designate, protect and manage core areas for habitat types listed in Annex I and species listed in Annex II of the Habitats Directive. Only <i>Corallium rubrum</i> which sometimes can be found in coralligenous habitats, is listed in Annex II. Annex I: <i>Natural habitat types of community interest whose conservation requires the designation of special areas of Conservation</i> includes the habitat 1170 “Reefs” which comprises coralligenous concretions as a sub-type, as long as they arise from the

	seafloor (topographically distinct from surrounding seafloor). Rhodolith/maerl beds are included in habitat 1100 “Sandbank” as long as depths do not exceed 20m depth (see the Interpretation manual of European Union Habitats listed under Annex I of the Habitats Directive). Therefore, the large majority of the Mediterranean rhodolith/maerl beds are not included in Annex I and specific protection of sub-types not being an obligation, coralligenous assemblages are not necessarily protected under this Directive. Discussions have been going on to include rhodolith/maerl beds as protected habitats under Annex I of the Habitat Directive (Aguilar <i>et al.</i>, 2018), without having yet succeeded. Annex V <i>Animal and plant species of community interest whose taking in the wild and exploitation may be subject to management measures</i> includes two corallinaceae <i>Lithothamnium coralloides</i> Crouan frat. and <i>Phymatholithon calcareum</i> (Poll.) Adey & McKibbin which are main coralligenous species but not exploited in the Mediterranean therefore not needing exploitation management. EU Marine Strategy Framework Directive (MSFD) EU countries assess and monitor coralligenous and rhodolith/maerl beds for the MSFD under D6 and to a lesser degree D1 and D10 (Italy). Good Environmental Status (GES) is to be attained or maintained. EU Biodiversity strategy for 2023 and Nature Restoration Law entered in force in August 2024 Restoration measures are requested to be put in place: • By 2030, on at least 30% of the total area of seven groups of habitats including “maerl beds” and “sponge, coral and coralligenous beds” that is not in good condition • By 2040, on at least 60% and, by 2050 on at least 90% EU Council Regulation (EC) N° 1967/2006 of 21 December 2006 concerning management measures for the sustainable exploitation of fishery resources in the Mediterranean Sea, amending Regulation (EEC) No 2847/93 and repealing Regulation (EC) No 1626/94 Under this regulation, Article 4.2 stipulates “<i>Fishing with trawl nets, dredges, shore seines or similar nets above coralligenous habitats and maerl beds shall be prohibited</i>”. Further in part 4.4 “<i>The prohibition shall (...) apply to all Natura 2000 sites, all special protected areas and all specially protected areas of Mediterranean interest (SPAMI) which have been designated for the purpose of the conservation of these habitats under either Directive 92/43/EEC or Decision 1999/800/EC</i>”. Regulation (EU) 2023/2124 of the European Parliament and of the council of 4/10/2023 on certain provisions for fishing in the General Fisheries Commission for the Mediterranean (GFCM) Agreement area Regulates the red coral (<i>Corallium rubrum</i>) harvesting in terms of depths, minimum size, gear to be used, landing points, data collection etc. Article 38 prohibits red coral retention on board, transshipment or landing of red coral for recreational fisheries. Article 39 requests national management plans for red coral that transpose this regulation.
Mediterranean Sea countries	Agreement for the Establishment of the General Fisheries Commission for the Mediterranean (GFCM) Article 8 b) iv) of the Agreement stipulates that the Commission can recommend “<i>to establish fisheries restricted areas for the protection of vulnerable marine ecosystems, including but not limited to nursery and spawning areas</i>”. Several Fisheries Restricted Areas (FRAs) have been designated since to protect Vulnerable Marine Ecosystems.

	GFCM REC.CM-GFCM/46/2023/13 on the management plan for the sustainable exploitation of red coral in the Mediterranean Sea, amending Recommendation GFCM/45/2022/2 and GFCM/43/2019/4
	Management plan on the commercial exploitation of <i>Corallium rubrum</i> (red coral). IUCN Red list (see Otero <i>et al.</i> , 2017).
Barcelona Convention	<i>Corallium rubrum</i> is listed as Endangered and <i>Paramuricea clavata</i> is listed as Vulnerable.
	Integrated Monitoring and Assessment Programme (IMAP) (Decision IG.22/7)
	Member states are requested to assess and monitor specifically three habitats including coralligenous and rhodolith/maerl beds within IMAP under EO1/EO6. Good Environmental Status (GES) of these habitats is to be attained and/or maintained.
	SPA/BD Protocol of the Barcelona convention
	- Specially Protected Areas of Mediterranean Importance (SPAMI's List) (see criteria) - <i>Corallium rubrum</i> is listed in annex III, <i>list of species whose exploitation is regulated</i> . - <i>Axinella polypoides</i> which can be found in coralligenous assemblages is list in Annex II <i>list of endangered or threatened species</i> .
	Post-2020 SAPBIO
	The updated regional action plans for the selected priority habitats and species are expected to be adopted and passed on to national planning and implementation processes in most Mediterranean countries by 2027 (Action 1 of Post-2020 SAPBIO Actions table, UNEP/MAP-SPA/RAC, 2021a see Annex III) and decline of coralligenous habitats is expected to be halted by 2030.
	Regional Action Plan for the conservation of coralligenous and other calcareous bio-concretions in the Mediterranean Sea (Decision IG.22/12)
	The following recommendations had been made regarding legislation and regulations: • Coralligenous/maerl assemblages should be granted legal protection at the same level as <i>Posidonia oceanica</i> meadows. • Coralligenous concretions and maerl beds should be priority habitat type in the EU Habitat Directive (92/43/EU) which would enhance the number of Natura 2000 sites including these habitats. • It is necessary to further protect representative coralligenous/maerl assemblages by applying the protection and management measures recommended by Articles 6 and 7 of the SPA/BD Protocol.

33. It is of high importance and priority to acquire spatial data on coralligenous assemblages and rhodolith/maerl beds at national level in order to:

- apply fishing restrictions of the [EU Council Regulation \(EC\) N° 1967/2006](#) in European Barcelona Convention Member States which prohibits fishing with trawl nets, dredges, shore seines or similar nets above coralligenous habitats and maerl beds,
- assess and monitor the state of these habitats for MSFD and IMAP,
- attain the objectives of the Restoration Law.

34. It is important to apply at national level the EU Council Regulation (EC) N° 1967/2006 relative to the prohibition of fishing with trawl nets, dredges, shore seines or similar nets over coralligenous habitats and maerl beds. Fournier *et al.* (2020) show that the intensity of bottom fishing was still high in 2019, with almost 3,700 hours over coralligenous beds and 2,280 hours occurring over maerl beds.

35. It has been suggested that the fishing restrictions of EU Council Regulation (EC) N° 1967/2006 relative to the prohibition of fishing with trawl nets, dredges, shore seines or similar nets above coralligenous habitats

and maerl beds, should be applied throughout the Mediterranean (see e.g. Aguilard *et al.*, 2018 ; Fournier *et al.*, 2020) through the Barcelona Convention - SPA/BD Protocol tools.

36.The European Habitats Directive (Council Directive 92/43/EEC, 1992) does not include Mediterranean rhodolith/maerl beds in Annex I (Natural habitat types of community interest whose conservation requires the designation of special areas of Conservation) and indirectly includes coralligenous assemblages (under habitat 1170 “Reefs”)

37.Coralligenous assemblages and rhodolith/maerl beds should benefit of increased protection, similar to conservation/protection measures for the *Posidonia oceanica* beds.

38.The conservation of coralligenous assemblages and rhodolith/maerl beds can be managed through geographically defined areas such as Marine Protected Areas (MPAs) which may ultimately be SPAMIs, but also as suggested by Enrichetti *et al.* (2019), through area-based fisheries management tools such as Fisheries Restricted Areas (FRAs). FRAs are defined as “a geographically defined area in which all or certain fishing activities are temporarily or permanently banned or restricted in order to improve the exploitation and conservation of harvested living aquatic resources or the protection of marine ecosystems in the GFCM area of application” (FAO-GFCM, 2008). Therefore, it appears that a request for an FRA can be justified by the existence of vulnerable coralligenous assemblages and/or rhodolith/maerl beds that need to be protected from relevant fishing activities. This tool is of particular interest for international cooperative management.

3.3. Main threats

39.Coralligenous assemblages and rhodolith/maerl beds provide many ecosystem services to society. However, they are under high anthropogenic pressure.

40.The integrity of coralligenous assemblages can be affected by several anthropogenic threats such as:

- anchoring,
- sedimentation due to activities like aquaculture (Piazzi *et al.*, 2019),
- eutrophication/chemical pollution and litter (e.g. Giménez *et al.*, 2022b),
- abandoned fishing gear (e.g. Enrichetti *et al.* 2019; Ferrigno *et al.*, 2021; Angiolillo *et al.*, 2023),
- fishing activities (e.g. Ferrigno *et al.*, 2018),
- diving activities (Betti *et al.*, 2023),
- various climate change impacts (i.e. increase in sea temperature, acidification (Zunino *et al.*, 2019), Marine Heat Waves (MHW) (Garrabou *et al.*, 2022; Martínez *et al.*, 2023), instalment of Non-Indigenous Species (NIS), development of mucilaginous blooms (e.g. Piazzi *et al.*, 2018)), and
- cumulative effects (e.g. Bevilacqua *et al.*, 2018).

41.It is possible to assess the impact of each pressure using different metrics (see the stressor metrics listed by Di Camillo *et al.* (2023)) and this may be of interest. However, it is essential for MPAs and stakeholders to be able to easily assess the overall condition of coralligenous assemblages.

42.Several rapid methods have been developed to assess the state of conspicuous species, such as the Mortality Rapid Assessment Method proposed by Figuerola-Ferrando *et al.* (2024). This method, applicable to several marine habitat-forming species, was applied to *Paramuricea clavata* colonies. Although such methods only provide information on the status of a selected species population within CAs, they can serve as a first assessment for stakeholders to identify vulnerable coralligenous assemblages.

43. A cumulative pressure and impact assessment (CPIA) approach was applied to coralligenous outcrops in Italy (Bevilacqua *et al.*, 2018). This approach mapped the expected cumulative pressures and impacts on CAs in six categories, but research has shown that the CPIA model needs refinement.

44. Three-dimensional structuring species of coralligenous assemblages can be severely affected by derelict fishing gear, that becomes entangled in their structures, injuring colonies and causing partial or total necrosis (e.g. as shown in Italy see Ferrigno *et al.*, 2018; Angiolillo & Fortibuoni, 2020; Enrichetti *et al.*, 2019; Giménez *et al.*, 2022b; Angiolillo *et al.*, 2023). In other cases, trawling activities may indirectly impact red coral populations by increasing turbidity (Ferrigno *et al.*, 2020).

45. However, recent scientific publications have mainly focused on the effects of climate change, such as increasing Sea Surface Temperature (SST), but especially on the effects of Marine Heat Waves (MHWs) and associated Mass Mortality Events (MMEs). These sudden events result in large-scale mortality of key species and alter the underwater landscape, particularly of coralligenous assemblages.

46. The loss of structural coralligenous species can (i) trigger a reduction in the resilience of the entire assemblages, especially at shallow depths, (ii) simplify habitat complexity, and (iii) increase vulnerability to colonisation by invasive species (Gómez-Gras *et al.*, 2021; Verdura *et al.*, 2019). The role of Marine Protected Areas in this context is crucial and should focus on mitigating local pressures, such as fishing and diving impacts (Zentner *et al.*, 2023), to reduce the vulnerability of these structural species.

47. Future scenarios of acidification impact on coralligenous and their ecosystem services have been modelled by Zunino *et al.* (2019), predicting significant changes in the near future.

48. Regarding the impact of MHWs and MMEs on coralligenous assemblages, it is important to work at sub-regional scale as highlighted by the studies of Crisci *et al.* (2017), Gómez-Gras *et al.* (2022), and Bramanti *et al.* (2023). However, agreement on definitions and common references as well as on how to determine threshold values and indices are essential at the Mediterranean scale to ensure comparability (see Hobday *et al.*, 2016; Amaya *et al.*, 2023; Martínez *et al.*, 2023). Hobday *et al.* (2016) proposed a quantitative definition of MHW3 based on a 30-year baseline value, which facilitates comparisons between different datasets across regions and seasons. However, other authors, such as Amaya *et al.* (2023), and Martínez *et al.* (2023) consider that while this approach is informative and appropriate for certain analyses, it is also necessary to use shifting baselines or detrended data.

49. TMEDNet is an initiative to develop an observational network of climate change impacts on coastal marine ecosystems through the widespread adoption of standard monitoring protocols for seawater temperature and biological indicators over large areas and long periods of time. The site provides guidance on monitoring mortality, temperature, and climate on fish. Data can be uploaded once logged in and visualized in different ways. Such initiatives at Mediterranean scale should be supported at the Mediterranean scale and could contribute to the Coralligenous Conservation Action Plan through collaboration between UNEP/MAP-SPA/RAC and TMEDNet.

50. Rhodolith/Maerl Beds are particularly vulnerable to several pressures, particularly trawling. Although they show recovery capacities (Farriols *et al.*, 2021, 2024), their resilience appears to be limited. Several studies have focused on the impacts of benthic trawling on RMBs in the Mediterranean Sea (e.g. Barberá *et al.*, 2017; Farriols *et al.*, 2021). Fragkopoulou *et al.* (2021) provide a global study of rhodolith distribution and threats, highlighting the combined impacts of climate change and benthic trawling on the distribution of rhodolith

³ Hobday *et al.*, 2016 propose to define MHW with the use of the threshold of the 90th percentile based on a 30-year historical baseline period and that lasts at least five continuous days above the threshold.

beds. Aquaculture activities have also been identified as a potential threat for RMBs off southern Iberian Peninsula (Aguado-Giménez & Ruiz-Fernández, 2012).

3.4. Assessment and monitoring

51.CAs and RMBs are elements for MSFD GES criteria D6 (seafloor integrity) and are requested to be assessed under descriptor 6 criteria D6C3, D6C4 and D6C5. However, few EU countries have reported on the extent and other parameters for these habitats (see Tornero Alvarez *et al.*, 2023).

52.CAs and RMBs are requested to assess against IMAP EO1 Biodiversity CI1 (Habitat distribution range to include habitat extent as a relevant attribute) and CI2 (Condition of typical habitat's species and communities). However, very few CPs have reported on these indicators for CAs and RMBs.

53.Surveys to map CAs and other calcareous bioconstructions generally use a variety of remote sensing techniques based on acoustic means coupled with ground truthing by means of photographs, videos or samples. Images are often acquired using Remotely Operated Vehicles (ROVs) (e.g. Pierdomenico *et al.*, 2021). The integration of multibeam and side-scan sonar data with ROV observations allows the identification of coralligenous reefs based on geomorphological and acoustic components and the characterisation of the coralligenous assemblages. Such approaches are used for example in Italy (e.g. Pierdomenico *et al.*, 2021) for MSFD assessment.

54.The spatial distribution of coralligenous cliffs appears to be more difficult to determine because cliffs are more difficult to identify from acoustic data (see Piazzini *et al.*, 2023).

55.Side scan sonar (SSS) and multibeam echosounder (MBES) are the most frequently used techniques to detect coralligenous outcrops (see Dimas *et al.*, 2022). Together with ground truthing acoustic data are processed and interpreted and classified to produce habitat maps. The use of other acoustic data such as sub-bottom profilers (SBP) has also been reported as being successful (Dimas *et al.*, 2022). These authors propose a classification scheme that may be useful for other CA spatial distribution surveys.

56.Similar methods are used for the spatial and bathymetric delineation of RMBs (UNEP-MAP-RAC/SPA, 2015; Ingrassia *et al.*, 2019). A two-step approach for the definition, identification, delimitation, description and monitoring of RMBs is proposed by Basso *et al.* (2016b). Since then, it is recognized that the use of dredges for sampling RMBs should be discouraged. However, this sampling method can be necessary to characterize this habitat and hence to estimate condition (e.g. density of rhodoliths, species composition and biodiversity, rhodoliths size and shape) in the CI2 indicator.

57.The main methods used in the Mediterranean for inventory and monitoring coralligenous and maerl habitats have been developed in several documents:

- [RAC/SPA - MedMPAnet Project \(Ed.\) 2014. Monitoring Protocol for Reefs - Coralligenous Community. By Garrabou J, Kipson S, Kaleb S, Kruzic P, Jaklin A, Zuljevic A, Rajkovic Z, Rodic P, Jelc K, and Zupan D. Tunis. 35 pp.+Annexes pp.](#)
- UNEP/MAP-SPA/RAC. 2019. Monitoring Protocols for the Ecosystem Approach Common Indicators 1 and 2 related to marine benthic habitats. Guidelines for monitoring coralligenous and other calcareous bioconcretions ([UNEP/MED WG.474/3](#), p51-98). UNEP/MAP-SPA/RAC, Tunis.
- [UNEP/MAP-SPA/RAC. 2021c. Guidelines for the assessment of environmental impact on coralligenous and maerl assemblages. UNEP/MED WG.502/Inf.3. UNEP/MAP SPA/RAC, Tunis.](#)
- SNPA 2024, Methodology sheets used in the second cycle of MSFD monitoring programmes in Italian marine waters. In fact, Italy has adopted specific standards applied on a national scale for monitoring coralligenous and rhodoliths/maerl within the MSFD and functional to the EcAp process.

- Other practical guidelines with **standard protocols** are available on the [TMEDNet](#) website for monitoring temperature conditions, mass mortality events, fish visual fish census in relation to climate change, urchin population assessment, rapid assessment of benthic habitat, rapid assessment of *Posidonia oceanica* and *Pinna nobilis*, photogrammetry tool for monitoring benthic habitat structure and dynamics. These simple protocols are available in Garrabou *et al.* (2022).

58. Furthermore, in order to assess the ecological status of coralligenous assemblages and the anthropogenic impacts on them, more than 16 indexes have been defined for the Mediterranean Sea since 2009. Di Camillo *et al.* (2023) have published a comprehensive review and comparison of these indexes, with the aim of proposing a framework to support the development of a cost-effective and practical index to assess the status of CAs.

59. Few specific indices have been developed and published to assess the status of the RMBs in the Mediterranean Sea. However, an attempt to define an ecosystem-based assessment of the RMBs has been published by Astruch *et al.* (2023). Yet, the method proposed by these authors seems complex to be applied over large areas and at many sampling sites. Another potential problem is its use deeper than 80 m depth, with moderate currents.

60. Assessment and monitoring of coralligenous assemblages and rhodolith/maerl beds should be improved at national level and based on IMAP indicators, criteria and existing protocols.

4. NEEDS, GAPS AND CHALLENGES

4.1. Scientific knowledge on spatial distribution

61. Knowledge of the spatial distribution of the two habitats has progressed. However, no data were found on the spatial distribution of coralligenous assemblages and rhodolith/maerl beds for Bosnia & Herzegovina, Egypt, Israel, Libya, Slovenia, and Syria.

62. There may be no coralligenous assemblages in Israel as suggested by RAC/SPA (2003) and Laborel (1987) and in Bosnia and Herzegovina, but the absence of these assemblages should be clearly stated. It is important to know whether the habitats are present or not and to complete the information on spatial distribution at national level for countries without available data. The comparison between the table of available data and the EMODnet modelled spatial distribution of coralligenous suggests that further data collection is needed around Cyprus, along the western coast of the Peloponnese (Greece), in front of the Nile Delta (Egypt) and along the eastern coast of Libya. Efforts are also needed to collect existing spatial data in other countries (e.g. Spain, Türkiye).

63. Several studies show the presence of coralligenous and maerl beds along the Spanish coast, but no document or large-scale map that summarises the available data for Spain. In particular, mapping of RMBs is needed along the whole continental shelf of the Iberian Peninsula and especially in the Balearic Islands where these beds are widely distributed.

64. Several studies refer to the presence of coralligenous assemblages along the Turkish coast, but no synthetic document or map was found collating spatial data on coralligenous assemblages or rhodolith/maerl beds for Türkiye.

65. Where data are lacking at national level, efforts to collect data on the distribution of CA and RMB habitats should be intensified. Comparison of current knowledge of spatial distribution with modelled spatial distribution (e.g. EMODnet) to identify areas of interest for assessment. Information on the non-existence of

these habitats is also important to improve spatial distribution models. Efforts could also be made to collate existing data at national level.

4.2. Composition and structure

66. Coralligenous and maerl assemblages are variable throughout the Mediterranean Sea. Knowledge of the composition and structure of coralligenous assemblages and rhodolith/maerl beds has increased mainly in the north-western Mediterranean and some knowledge has also been acquired through programmes in MPAs of the south-eastern Mediterranean. However, a synthetic view of the composition and structure of these habitats at a regional scale with sub-regional/national characteristics is still not possible. National factsheets based on the habitats and facies of the Classification of the Benthic Marine Habitat Types, containing information on their known spatial distribution, bathymetric distribution, further characterisation of the assemblages as well as specific threats and perhaps socio-economic values could greatly contribute to a regional view of these assemblages.

67. Knowledge acquisition on composition and structure of coralligenous and maerl assemblages is still necessary at national level together with an effort to collate available information at regional scale.

4.3. Conservation issues

68. Local anthropogenic threats to coralligenous assemblages and rhodolith/maerl beds are known and their impacts on these habitats relatively well identified. However, the long-term effects of climate change and cumulative impacts on these habitats and their key species are less well understood. In particular, repeated Mass Mortality Events due to intense Marine Heat Waves, represent currently one of the main threats to these habitats in certain areas of the Mediterranean.

69. Taking into account the rather weak international protection of the Mediterranean coralligenous assemblages and rhodolith/maerl beds, the vulnerability of these habitats, the slow growth rate of their key species, the multiple threats to which they are exposed as well as their socio-economic importance, it should be considered a priority to implement effective conservation measures at national, sub-regional and regional levels scale. The absence of complete mapping of these habitats, of coherent assessment approach and of coordinated management in the region hinders considerably the conservation efforts.

70. Contracting Parties may integrate these habitats into Marine Protected Areas by extending MPAs to include nearby coralligenous habitats, establishing new MPAs or using of FRAs (Fisheries Restricted Areas) to provide adequate protection for these habitats. In addition, national plans should be developed and improved to help reduce anthropogenic impacts on the habitats and to increase scientific knowledge and awareness. The specific inclusion of these habitats in national Environmental Impact Assessments could also contribute to a better conservation of these habitats.

71. Protection of coralligenous assemblages and rhodolith/maerl beds needs to be increased at Mediterranean and national scale.

4.4. Action Plan connexions with other policies and management tools

72. The assessment and monitoring required to better understand the habitats for an effective conservation should be carried out at national level using IMAP indicators. Existing, recognised protocols should be adopted, preferably common at least within a sub-region. The establishment of sub-regional working groups could help to homogenise protocols used and set up intercalibration exercises.

73. The data produced should be reported through the IMAP Info system. CP Reporting for the Action Plan could include a summary document on evaluation and monitoring, which could also be useful for future MED QSRs.

74. Further links could be sought with the assessment and monitoring of other benthic habitats such as *Posidonia oceanica* meadows and marine caves.

4.5. Cooperation at sub-regional scale

75. The sub-regional scale is important for the population dynamics of key species in coralligenous assemblages and rhodolith/maerl beds and for establishing a network of representative sites. In addition, assessment and monitoring methods should be similar enough to compare the status of these habitats at the sub-regional scale.

76. The development of subregional working groups could contribute to further cooperation between States on this issue, initiate international research programmes and conservation actions, and increase the interoperability of assessments through the organisation of calibration workshops.

4.6. Challenges

77. Coralligenous assemblages and rhodolith/maerl beds thrive mainly at depths between 50 and 150 meters. Therefore, access to these habitats is difficult and costly, often requiring remote acoustic sensing techniques coupled with ground-truthing methods either by diving or ROV. In general, CPs lack the resources and means to carry out such assessments effectively.

78. As these habitats exhibit considerable spatial variability in their composition and structure, the definition of baseline values or Good Environmental State (GES) at the Mediterranean or even sub-regional scale is challenging.

79. Geographical assessment data are often difficult to consolidate due to the use of heterogeneous references, scales and data quality. In addition, monitoring data are extensive and require considerable classification, organisation and storage capacity at national level and even more so at regional level. IMAP data submission, processing and analysis capacities need to be strengthened to better support the scientific knowledge required by all Action Programmes, including those for the conservation of coralligenous and other calcareous bio-concretions.

80. The integrity of benthic habitats can be affected by various local anthropogenic impacts. However, in recent years, climate change has had a significant impact on the Mediterranean Sea through rising sea temperatures, increased frequency and intensity of Marine Heat Waves causing Mass Mortality events, increased acidification and increased intensity and frequency of extreme events including flooding, affecting marine habitats even at greater depths. For vulnerable benthic habitats, such as coralligenous assemblages and rhodolith/maerl beds, which are already subject to local anthropogenic pressures, the effects of climate change may be irreversible.

5. VISION, GOALS, OBJECTIVES, PRIORTIES AND ACTIONS TIMETABLE

81. Following the structure of the Post-2020 SAPBIO and taking into account the Ecosystem Approach (EcAp)⁴, the following long-term vision, strategic goals, objectives, priorities and actions are proposed to be led by SPA/RAC and GFCM at regional/sub-regional scale and by Contracting Parties at national and sub-regional level. The proposed actions are, to the extent possible, specific, measurable, achievable, relevant and time-bound.

5.1. Proposed long-term Vision (2050)

82. By 2050, the distribution, diversity, composition, structure and functions of coralligenous and other calcareous bio-concretions are sufficiently maintained to ensure the long-term conservation of these assemblages where they occur naturally in the Mediterranean.

5.2. Proposed strategic Goals (to 2030)

- **Goal 1.** To acquire sufficient scientific knowledge of these assemblages (spatial and bathymetric distribution, composition and structure, dynamics of key species...) to be able to act efficiently, adequately and effectively for their conservation and restoration.
- **Goal 2.** To share knowledge and resources on assessment and monitoring methods and to contribute to overcoming difficulties in the national implementation of the Action Plan on coralligenous/maerl assemblages.
- **Goal 3.** To reduce, prevent and manage the vulnerability of coralligenous and other calcareous bio-concretions to local and regional risks induced by human activities and natural events (close to strategic goals 3 of EcAp) in order to allow them to recover, function fully and maintain their resilience capacities.
- **Goal 4.** Increase awareness and communication on the distribution and the importance of these habitats and develop communication actions for targeted audiences.

5.3. Proposed objectives

The proposed objectives of the *Action Plan for the Conservation of Coralligenous and other Calcareous Bioconcretions in the Mediterranean Sea* are:

- i) To improving knowledge of these assemblages (Goals 1 and 2), in particular, but not only, in relation to the impacts of climate change;
- ii) To support and enhance national and cooperative sub-regional monitoring based on IMAP (Goals 1 and 2);
- iii) To promote solidarity and scientific cooperation among Member States (Goal 2);
- iv) To support the national implementation of action plans on coralligenous and other calcareous bioconcretions (Goal 3);
- v) To increase, strengthen and improve the effectiveness of conservation actions for coralligenous and others calcareous bioconcretions in the Mediterranean Sea (Goal 3);
- vi) To increase the number and the effectiveness of Marine Protected Areas focused on the conservation of coralligenous and other calcareous bioconcretions (Goal 3);
- vii) To advocate for the extension of existing MPAs to include neighbouring coralligenous and rhodolith/maerl assemblages (Goal 3);
- viii) To consolidate available data on spatial distribution and human-induced impacts at the regional level (Goal 4).

⁴ See UNEP/MAP COP Decision IG.17/6 and Decision IG.22/7 for IMAP

5.4. Priorities

5.4.1. National level

83. Given the lack of scientific knowledge and the significant anthropogenic pressures that threaten the integrity of coralligenous assemblages and other calcareous bioconstructions, national priorities should be to:

- **Improve scientific knowledge:** Improve understanding of the geographical distribution, composition, structure and population dynamics of key species of these habitats considering current climate change conditions.
- **Conduct baseline studies and monitoring:** Establishing baseline studies and conducting continuous monitoring of a network of sites, including affected and less affected sites, and collecting data by using IMAP indicators and existing standardised protocols.
- **Centralise data collection and sharing:** Develop centralised data collection systems to facilitate data sharing and accessibility among stakeholders.
- **Strengthen habitat protection:** Strengthen habitat protection through spatial and/or management actions to mitigate natural and anthropogenic pressures.
- **Raise awareness:** Communicating the vulnerability of these habitats to target audiences (e.g. small-scale fishermen, recreational fishermen, etc.), to raise awareness and promote sustainable practices.

5.4.2. Regional level

84. Considering the scattered information available across the Mediterranean, the diversity of the habitat composition, the number of states surrounding the Mediterranean Sea, and the need to harmonise assessment methods, regional priorities should be set:

- **Coordination of exchanges and working groups:** Facilitating exchanges and organising working groups to address habitat-related challenges. A sub-regional level is recommended as an appropriate level for coordination efforts.
- **Strengthen cooperation:** Pursue further collaboration with other Mediterranean entities and policy instruments that can enhance the management of anthropogenic threats affecting these habitats at the Mediterranean level (e.g. GFCM).
- **Develop a centralised platform:** Create a platform for sharing and centralising key documents, which should be regularly updated. Cooperation with existing platforms should also be sought.
- **Support to Member States:** Assisting Member States to integrate this Action Plan at the national level by securing funding, promoting scientific exchanges, intercalibrating methods and protocols, and providing other appropriate support.

5.5. Proposed Actions for 2025-2030

Table 3 Proposed actions (2025-2030) for the Regional Action Plan for the conservation of coralligenous and other calcareous bioconcretions in the Mediterranean Sea

	Action	Deadline	Actors
Acquiring scientific knowledge			
1	Contribute to the development of research programmes on coralligenous and other calcareous bioconcretions, particularly in relation to an ecosystem approach and/or climate change impacts.	Continuously to 2050	CPs
2	Establish or develop a network of representative sites (protected/unprotected, impacted/unimpacted, deep/shallow, etc.) for monitoring coralligenous assemblages and maerl beds, and produce a fact sheet on the network and the state of these habitats.	By end of 2027	CPs
3	Assess and monitor coralligenous assemblages and rhodolith/maerl beds based on IMAP indicators EO1 and EO6 or MSFD criteria, using existing standard protocols	Continuously	CPs
Improve Knowledge Sharing and Implementation			
4	Organisation of the 5 th Mediterranean Symposium on the Conservation of Coralligenous and other Calcareous Bioconcretions	By 2026	SPA/RAC Contribution by the CPs is expected
5	Establishment of four (4) sub-regional working groups on the conservation and assessment of benthic habitats at sub-regional scale (coralligenous and maerl beds, possibly together with <i>Posidonia oceanica</i> beds). Synthesised results of meetings should be shared with National Focal Points.	By 2027 initially	<u>SPA/RAC</u> organise online meetings. <u>CPs</u> participation to WG
6	Compile and share a list of MPAs hosting coralligenous and rhodolith/maerl assemblages.	2026	<u>CPs</u>
Reducing Vulnerability and Building Resilience			
7	Work towards a ban on the use of harmful fishing gear (trawl nets, dredges, shore(bottom) seines or similar nets) over coralligenous and rhodolith/maerl beds in MPAs (including all Natura 2000 sites), all Special Protected Areas and all Specially Protected Areas of Mediterranean Interest (SPAMI) throughout the Mediterranean Sea.	By 2030	<u>SPA/RAC</u> and <u>GFCM</u> to consider elaborating a GFCM decision. <u>CPs</u> to integrate in national Action Plan or fisheries regulation.
8	Increase the representativeness of coralligenous assemblages and rhodolith/maerl beds in Marine Protected Areas and/or FRAs (Fisheries Restricted Areas)	By 2030	CPs
9	Identify (i) sites with impacted coralligenous assemblages and (ii) sites with impacted rhodolith/maerl beds where identified threats could be reduced, and restoration (passive or active) could be considered.	By end of 2027	CPs
Awareness and communication building			
10	Development of a coordination platform: Collect, make available and regularly update spatial data; bring together and update available reports, guidelines, programmes initiatives and publications on coralligenous and other calcareous bioconcretions.	By end of 2027	SPA/RAC

6. ACTION PLAN PARTNERS

85. Implementing the present action plan is the province of the national authorities of the Contracting Parties. Relevant international organisations, NGOs, laboratories, and any other entities are invited to join in the efforts necessary for the successful implementation of the Action plan. During their ordinary meetings, the Contracting Parties may, upon the recommendation of the meeting of National Focal Points for SPAs/BD, grant the status of «Action Plan Partner» to any organization or laboratory that requests it. This status will be awarded to those that carry out, or support (financially or otherwise), concrete actions (such as conservation, research, etc.) That contribute to the implementation of the present action plan, in line with its priorities. The conditions and criteria for the award of the regional action plan partner title are outlined in Annex VI to the [decision IG.26/5](#).

7. QUESTIONNAIRE FOR THE REPORTING FORMAT FOR THE IMPLEMENTATION OF ACTION PLAN FOR THE CONSERVATION OF CORALLIGENOUS AND OTHER CALCAREOUS BIO-CONCRETIONS

86. The following questionnaire is based and may need to be updated once the Action Plan has been approved by the Focal Points. It should be updated in the in the UNEP/MAP Barcelona Convention Reporting System (BCRS).

RAP for the conservation of coralligenous and other calcareous bio-concretions (COP Decision IG 22/12).

CAs: coralligenous assemblages, **RMBs:** rhodolith/maerl beds

[illegible]

Regional Plan requirements: measures and actions taken	Changes in the information provided in the previous report (Please tick the box that applies)		Status of implementation (Please tick the box that applies with an “X”)						Difficulties/Challenges (Please tick “X” to all that apply)								
	Yes	No	Not implemented	In project	Implemented at:				Not applicable	Policy framework	Regulatory framework	Financial resources	Administrative management	Technical guidance capacities			
Assess and monitor CAs and RMBs based on IMA indicators EO1 and EO6 or MSFD criteria, using existing standard protocols	If your answer is “Yes”, please update accordingly If your answer is “No”, please go to next question		If your answer is “Yes”, on a voluntary basis please provide further information (<i>Indicate website/URL link or other reference</i>) If your answer is “No”, please in the column difficulties/challenges, tick all that apply						On a voluntary basis, please briefly describe difficulties/challenges and the type of attention or assistance that is required								
Compile and share a list of MPAs hosting CAs and RMBs. Timeline: Year 2	If your answer is “Yes”, please update accordingly If your answer is “No”, please go to next question		If your answer is “Yes”, on a voluntary basis please provide further information (<i>Indicate website/URL link or other reference</i>) If your answer is “No”, please in the column difficulties/challenges, tick all that apply						On a voluntary basis, please briefly describe difficulties/challenges and the type of attention or assistance that is required								
Work towards a ban on the use of harmful fishing gear (trawl nets, dredges, shore(bottom) seines or similar nets) over CAs and RMBs in MPAs (including all Natura 2000 sites), all Special Protected Areas and all Specially Protected Areas of Mediterranean Interest (SPAMI) throughout the Mediterranean Sea. Timeline: Year 5	If your answer is “Yes”, please update accordingly If your answer is “No”, please go to next question		If your answer is “Yes”, on a voluntary basis please provide further information (<i>Indicate website/URL link or other reference</i>) If your answer is “No”, please in the column difficulties/challenges, tick all that apply						On a voluntary basis, please briefly describe difficulties/challenges and the type of attention or assistance that is required								
Increase the representativeness of CAs and RMBs in Marine Protected Areas	If your answer is “Yes”, please update accordingly		If your answer is “Yes”, on a voluntary basis please provide further information (<i>Indicate website/URL link or other reference</i>)						On a voluntary basis, please briefly describe difficulties/challenges and the type of attention or assistance that is required								

Regional Plan requirements: measures and actions taken	Changes in the information provided in the previous report (Please tick the box that applies)		Status of implementation (Please tick the box that applies with an “X”)						Difficulties/Challenges (Please tick “X” to all that apply)								
	Yes	No	Not implemented	In project	Implemented at:				Not applicable	Policy framework	Regulatory framework	Financial resources	Administrative management	Technical guidance capacities			
and/or FRAs (Fisheries Restricted Areas). Timeline: Year 5	If your answer is “No”, please go to next question		If your answer is “No”, please in the column difficulties/challenges, tick all that apply														
Identify (i) sites with impacted CAs and (ii) sites with impacted RMBs where identified threats could be reduced and restoration could be considered. Timeline: Year 3	If your answer is “Yes”, please update accordingly If your answer is “No”, please go to next question		If your answer is “Yes”, on a voluntary basis please provide further information (<i>Indicate website/URL link or other reference</i>)						On a voluntary basis , please briefly describe difficulties/challenges and the type of attention or assistance that is required								

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Annex VII

Recommendations for the way forward for the Regional Action Plans approach for selected species and habitats adopted under the SPA/BD Protocol

Introduction

1. The Contracting Parties to the Barcelona Convention, within the framework of the Mediterranean Action Plan, give priority to the conservation of the marine environment and to the components of its biological diversity. This was confirmed by the adoption of the new 1995 Barcelona Convention Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/BD Protocol) and of its annexes, among them a list of endangered or threatened species.
2. The Protocol sets out very detailed requirements for endangered or threatened species listed in Annex II and III to the Protocol.
3. Elaborating and implementing action plans to conserve one species or group of species is an effective way of guiding, coordinating and strengthening the efforts that the Mediterranean countries are making to safeguard the natural heritage of the region.
4. All the Regional Action Plans (RAPs) adopted¹ under the SPA/BD Protocol are meant to contribute to the conservation of Mediterranean Sea biodiversity and ecosystems. Three concern benthic habitats (marine vegetation, coralligenous and other calcareous bio-concretions, dark habitats), five concern the conservation of species or groups of species (monk seal, marine turtles, cetaceans, cartilaginous fish, birds of the Protocol's Annex II), one is relative to the assessment and management of invasive species, and one is a restoration programme of a species threatened by extinction *Pinna nobilis*.
5. Although they do not have a binding legal character, these action plans were adopted by the Contracting Parties as regional strategies setting priorities and activities to be undertaken. In particular, they call for greater solidarity between the States of the region, and for coordination of efforts to protect the species in question. This approach has been proved to be necessary to ensure conservation and sustainable management of the concerned species in every Mediterranean area of their distribution.
6. These Action Plans, strategies and Programme constitute midterm regional strategies which are planned to be updated generally each five-year, based on an evaluation of their implementation at regional and national levels.
7. For the biennium 2024-2025, the Contracting Parties to Barcelona Convention requested SPA/RAC during the COP 23 (Portorož, Slovenia, 5-8 December 2023) to evaluate the Regional Action Plans Approach for selected species and habitats adopted under the SPA/BD Protocol and to identify recommendations for the way forward, in the light of the new Global Biodiversity Framework, POST-2020 SPABIO and the EcAp/IMAP processes of the Barcelona convention and submit them for consideration of CoP 24.
8. The recommendations suggested hereafter derive from the assessment of Regional Action Plans (RAPs) under the SPA/BD Protocol, the comparison of their approaches and structure as well as from the feedback from national SPA/BD Focal Points and resource experts on the RAPs' strengths and weaknesses. A SWOT (Strength, Weaknesses, Opportunities and Threats) analysis was conducted, incorporating questionnaire responses, RAP assessments, identified gaps, and other regional/international strategies and policies .

¹ Regional strategy for the conservation of Monk Seal in the Mediterranean, Action Plan for the conservation of marine turtles, Action Plan for the conservation of cetaceans, Action Plan for the conservation of marine vegetation, Action Plan for the conservation of bird species listed in annex II of the SPA/BD Protocol, Action Plan for the conservation of cartilaginous fishes (Chondrichthyans) in the Mediterranean Sea, Action Plan concerning species introduction and invasive species, Action Plan for the conservation of the coralligenous and other calcareous bio-concretions in the Mediterranean Sea, Action Plan for the conservation of habitats and species associated with seamounts, underwater caves and canyons, aphotic hard beds and chemo-synthetic phenomena in the Mediterranean Sea (Dark habitats Action Plan) and, Restoration Programme of *Pinna nobilis*

Recommendations for the way forward for the Regional Action Plans approach for selected species and habitats adopted under the SPA/BD Protocol

General points:

1. The recommendations hereinafter take in account the Ecosystem Approach (decision IG.17/6 adopted by COP 15), the associated IMAP (Integrated Monitoring and Assessment Programme for the Mediterranean Sea and Coast and related assessment criteria; decision IG.22/7 adopted by COP 19) and the Post-2020 SAPBIO (Post-2020 Strategic Action Plan for the Biodiversity and sustainable management of Natural resources in the Mediterranean region; Decision IG.25/11 adopted by COP 22).
2. Appendix I presents a diagram proposed for the evaluation and updates of future Regional Action Plan (RAP) taking in account several propositions/recommendations including the creation of a RAP Working Group. It is based on the current updating process of the RAPs.
3. Appendix II details what could be included in the proposed two parts of future RAPs and which could be taken in consideration for future updates.
4. The 10 RAPs which have been developed concern the main emblematic vulnerable species, groups of species, habitats and the NIS. For the following years, it is recommended to focus on the implementation and efficiency of the current RAPs at national and regional level, before developing new RAPs on other species or habitats.
5. The fact that RAPs are not legally binding reduces the action implementation at national scale. However, if they were binding, RAPs would be adopted with more difficulty. The role of RAPs is to define an action plan and request participation of CPs to contribute as much as possible. Therefore, it is recommended that the actions requested in the RAPs remain not legally binding. However, these should be considered by the CPs as high priority conservation actions to be implemented.
6. It is recommended to persist in enforcing knowledge acquisition on species and habitats concerned throughout all RAPs, starting with geographic distribution and continuing with composition, structure and ecosystem functioning

1. Creating a Regional Action Plan (RAP) Working Group

7. It has been suggested by several questioned people but also within certain RAPs, to create a working group, advisory committee or task force for the RAP. It is recommended to consider creating a RAP Working Group (which would be the same for all RAPs), which could have an overall view of the RAPs and their difficulties and handle several points including (but not only): necessity to review or not RAPs, increase collaboration between RAPs and between RAPs and other organisations etc. The RAP Working Group should include at least one representative of each RAP expert and/or stakeholder. The frequency of meeting is to be define but once a year starting by online meetings could seem appropriate.

2. RAP structure and contents

8. When updating a RAP, it is recommended to take in consideration the Post-2020 SAPBIO requested actions and expected results for 2027 and 2030.
9. RAPs concern very different species and habitats, and it is normal to find differences between RAPs. However, it is recommended to suggest a common plan/structure when RAPs will be updated so that same type of content can be found in each RAP.
10. Further, it is recommended to consider dividing the structure of RAPs in two parts: one general part including a clear list of species or habitats concerned, a state of knowledge and related policies, threats, methods of assessment as well as vision/goals and targets etc. (see Appendix II). This part could be reviewed

less frequently. A second part containing mainly the short-term action plan would be evaluated and updated more frequently than the first part

11.If the proposition of RAP format in two parts as suggested is adopted, the first part needs to be updated less frequently than the second part is evaluated. If a RAP Working Group is created, it could decide when these parts need to be evaluated and/or updated. Otherwise, it is suggested to update Part 1 every 10 year, and that Part 2 (action plan table) be evaluated and updated every 5 years.

12.When defining the short-term actions to be implemented, it is recommended to propose as much as possible actions which are Specific, Measurable, Achievable, Relevant and Time-bound (SMART). This will facilitate their implementation as well as their evaluation.

13.The more a RAP is specific, the easiest it is to implement at national level because the object of conservation is clear. Also, species or habitats can be grouped under a same RAP if they have numerous common points and threats or are found in same ecosystems. This is not the case of deep-sea habitats and caves. Therefor it is recommended that these two types of habitats be separated in two RAPs.

14.If a RAP Working Group is created, it is recommended to discuss the creation of a RAP only on rhodolith/mäerl beds (currently this habitat is regrouped with the coralligenous habitats).

3. National implementation of the RAPs

15.It is recommended to suggest a list of priority RAPs for each CP (the most relevant species/habitats for the CP) in collaboration with the SPA/BD Focal Points and taking in account scientific knowledge.

16.At national level, it is recommended to search for further integration and connections with other relevant policies e.g. Marine/Maritime Spatial Planning (MSP), Integrated Coastal Zone Management ICZM.

17.Actions requested by RAPs are more likely to be implemented at national scale if supported by a project. It is recommended to pursue support through projects for RAP implementation at national scale.

4. Regional aspects

18.For each species or habitat considered, it is recommended to spatially identify a regional network of MCPAs which contribute effectively to their conservation. This could contribute to identify spatial/functional gaps in conservation of the species or habitat at regional scale (for reproduction, gene flow, feeding etc.). This could be a task for the RAP Working Group.

5. Connecting and cooperating

19.It is recommended to :

- maintain and develop relations between CPs and international organisations. Further, developing connections with other Protocols such as Integrated Coastal Zone Management (ICZM) Protocol would be fruitful for the RAPs implementation.
- elaborate a list of regional/international collaborators and indicate to which RAP they contribute and in what way (simple table).
- make clear reference to relevant IMAP indicators in all RAPs.

20.The creation of a RAPs Working Group could also be in charge of enforcing the relations RAPs-IMAP also by identifying RAP needs in terms of assessment and monitoring which could be covered by IMAP indicators.

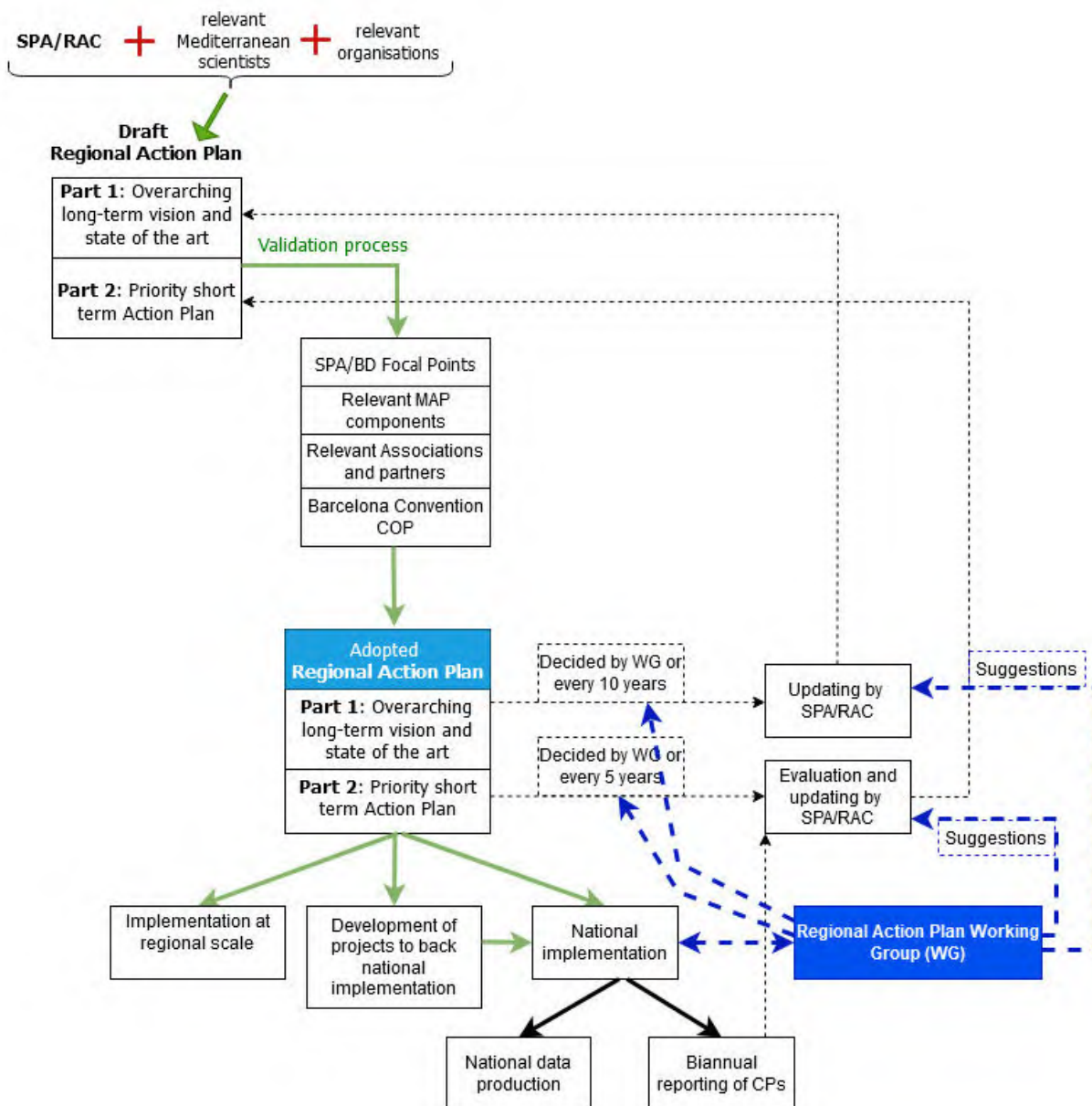
6. Evaluation and updating process (see Appendix I)

21. It is recommended to:

- suggest a common structure for the evaluations especially in the presentation of the national implementation evaluation.
- inform whether results of the national implementation should be presented by CP or more globally to assess the global implementation of the action evaluated.
- keep the format of reporting which is well known and accepted by CPs. However, reporting needs to be more systematic and enhanced.
- consider replacing in the reporting format, “under development” by more precise choice such as “under project”, “implemented at 1-25%”, “26-50%”, “51-75%”, “76-100%”.
- integrate a RAP expert Working Group (WG) in the updating process as presented in Annex B which could contribute e.g. to increase relations between RAPs, evaluate the need to update and/or evaluate a RAP, suggest priorities to the updating RAP process, identify the network of MCPAs contributing to the conservation of species/habitats for each RAP, and identify spatial gaps by sub-region for an efficient network of MCPAs to conserve the species/habitat within its distributional range

Appendix I

RAP evaluation and update process including a RAP Working Group and a RAP format in two parts



Appendix II

Proposed common format/pattern for Regional Action Plans on selected species and habitats under the SPA/BD Protocol

Regional Action Plan document

Part 1

- I. Introduction
 - a. UNEP/MAP policy context
 - b. RAP history
- II. Definition of the conservation object
 - a. List of habitats concerned using UNEP-SPA/RAC reference list of habitats (see Interpretation manual of Marine Habitat types in the Mediterranean Sea)
 - b. List of species concerned exhaustive in the case of RAPs on species or list of key taxa in the case of RAPs on habitat.
- III. Relevant international, European, regional policies and legislation presented in a table emphasising the appropriate elements.
- IV. Current state of the art in terms of knowledge on species or habitats
 - a. Geographic distribution. Summarise knowledge from previous RAP and list with references the knowledge acquired since then.
 - b. Composition and structure
 - c. Population dynamics of typical/key species
- V. Main anthropogenic threats
Describe the impact of each main threat on species or habitat.
- VI. Methods and indices used and eventual “best practices” with a list of relevant documents
- VII. Needs, gaps and challenges
 - a. In knowledge
 - b. Relative to specific or new anthropogenic threats
- VIII. Long-term vision, goals and targets
The Post-2020 SAPBIO hierarchical pattern and terminology can be used as a model.
- IX. Priorities at regional, sub-regional and national scales
- X. Action Plan active partners
A list of key Mediterranean organisms contributing to the implementation of the RAP and their contribution could be useful.
- XI. Evaluation and update process
Short paragraph on the process which can be common to all RAPs or not.

Part 2

- Present Vision, goals, targets and actions in a diagram.
- Role of each partner and of CPs should be clearly defined for the implementation of the RAP.
- Any sub-regional specificities for the implementation of the actions should be specified.
- Table of actions requested. Actions should be limited in number (e.g. no more than 15) and as much as possible Specific, Measurable, Achievable and Time-based (SMART).

Annex VIII

List of the Regional Action Plans' Partners approved by the Seventeenth Meeting of SPA/BD Focal Points/

NGB: Association Notre Grand Bleu (Tunisia)/

ERA: Environment & Resources Authority (Malta)

OCEANA: Fundación Oceana – Oceana in Europe (Spain)

ISPRA: Italian Institute for Environmental Protection and Research (Italy)

MedPAN: The Mediterranean network of Marine Protected Areas Managers (France)

WWF Mediterranean: World Wide Fund for Nature - Mediterranean (Italy)

WWF NA: World Wide Fund for Nature – North Africa (Tunisia)

List of the Regional Action Plans' Partners approved by the Seventeenth Meeting of SPA/BD Focal Points

	NGB	ERA	OCEANA	ISPRA	MedPAN	WWF Mediterranean	WWF NA
Action Plan for the management of the Monk Seal/							
Action Plan for the conservation of marine turtles							
Action Plan for the conservation of cetaceans							
Action Plan for the conservation of marine vegetation							
Action Plan for the conservation of bird species registered in annex II of the SPA/BD Protocol							
Action Plan for the conservation of cartilaginous fishes (Chondrichthyans) in the Mediterranean Sea							

	NGB	ERA	OCEANA	ISPRA	MedPAN	WWF Mediterranean	WWF NA
Action Plan concerning species introduction and invasive species							
Action Plan for the conservation of the coralligenous and other calcareous bio-concretions in the Mediterranean Sea							
Action Plan for the conservation of habitats and species associated with seamounts, underwater caves and canyons, aphotic hard beds and chemo-synthetic phenomena in the Mediterranean Sea							

Annex IX

Draft amendments to the “Common Criteria for proposing amendments to Annexes II and III of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean”

Context

1. The Protocol concerning Specially Protected Areas and Biological Diversity (SPA/BD Protocol) in the Mediterranean established a list of endangered or threatened species and a list of species whose exploitation is regulated (Article 12). These two lists respectively constitute Annexes II and III to the Protocol, which invites Contracting Parties to adopt concerted measures to ensure the protection and the conservation of animal and plant species appearing in these annexes.
2. The Protocol provides for the adoption by the Contracting Parties of common criteria for the inclusion of additional species in the annexes (Article 16).
3. At their 15th Meeting, The Contracting parties adopted the Common Criteria for proposing amendments to Annexes II and III of the SPA/BD Protocol, (Decision IG 17/14).
4. To maintain legal integrity, scientific accuracy, and operational effectiveness in species conservation, it is crucial to update Annexes II and III of the SPA/BD Protocol, in line with current taxonomy.
5. Accurate taxonomic classifications are essential for effective conservation, as they define which species require protection. When nomenclature is outdated or inconsistent, legal obligations may not match biological reality. By updating the annexes II and III of the SPA/DB Protocol in accordance with authoritative references like the World Register of Marine Species (WoRMS) and applying a rigorous, science-driven approach to taxonomy, conservation efforts can precisely target species, accurately assess their ecological status, and remain responsive to new scientific findings.
6. This alignment not only strengthens compliance with international biodiversity commitments but also enhances transboundary cooperation by fostering harmonized standards across Mediterranean Contracting parties. Periodic revisions, guided by clear rules for synonymy, splitting, and lumping of taxa, will safeguard the stability of conservation policies while enabling responsive management of species facing evolving threats.
7. Ultimately, maintaining taxonomic accuracy in Annexes II and III of the SPA/DB Protocol reinforces the Protocol's capacity to deliver effective, evidence-based protections for Mediterranean marine biodiversity in the face of rapid ecological and scientific change.

General principles

1. The present criteria will apply to the evaluation of proposals for:

- inclusion of new species in Annexes II and III of the Protocol;
- removing species from these annexes;
- transferring species from one of the said annexes to the other;
- modifying the names of species, as a result of changes occurred in taxonomy.

2. No limit is set either on the total number of species included in Annexes II and III of the Protocol, nor on the number of species that an individual Party can propose for inclusion in these annexes. However, Parties agree that species will be selected on a scientific basis and will be included in the Annexes based on their conservation status; they will therefore have to conform to the conditions laid out in the Protocol and to one or several of the following criteria:

- The IUCN Red List¹ categories and criteria developed for assessing the conservation status of species are used by most international conventions. It is recommended that they be used for assessing the status of species when examining proposals for amending Annexes II and III of the Protocol.
- A species that is threatened outside the Mediterranean region and is known to be occasionally or marginally present in the Mediterranean may be considered for inclusion in the Annexes to the Protocol unless it is a potential invasive species.
- The World Register of Marine Species (WoRMS)² is recognised as the basis on which the Annexes II and III to the SPA/BD Protocol and amendments thereto, are prepared. Parties agree to follow a conservative approach in the use of the online reference to update names of listed species.
- The following rules are adopted for the treatment of cases of synonymy, generic changes, species splitting and species aggregation (lumping) as a result of a change of standard nomenclatural reference:
 - Synonymy and generic change: corrections can be made automatically as there is no change of status for any listed population.
 - Splitting: when a listed taxon is split into two or more, each of the resulting taxa retains the listing status of the former aggregate taxon; and
 - Aggregation (lumping): if a taxon listed in either Annex II or Annex III is merged with one or more unlisted taxa, under its name or that of one of the unlisted taxa, the entire aggregate taxon will be listed in the Annex that included the originally listed, narrower taxon in all cases where the unlisted entity thus added has the same conservation status as, or a worse one than, that of the previously listed taxon.

3. The criteria listed below do not figure either in order of importance or of priority.

¹ (a) IUCN 2001. IUCN red list Categories and criteria. Version 3.1. Species Survival Commission, Gland. (b) IUCN 2003. Guidelines for the Application of IUCN red list Criteria on the regional level. Version 3.0 Species Survival Commission, Gland. The two documents can be downloaded from: <https://www.iucnredlist.org/resources/categories-and-criteria>.

² WoRMS (<https://www.marinespecies.org>) integrates databases like AlgaeBase, FishBase, MolluscaBase, and others covering marine taxa (e.g., amphipods, sponges, sea anemones). Full list at WoRMS

Common Criteria to be applied in evaluating proposals for inclusion of species in Annex II of the Protocol (as adopted by the Fifteenth Ordinary Meeting (COP 15; Almeria, January 2008))

4. A species can be included in Annex II to the Protocol if, on the basis of reliable scientific data, it is demonstrated that:

- the **species is in decline** with a substantial reduction in its numbers (observed, estimated, inferred or suspected); or that
- **important reductions** (including fragmentation) **of its habitats** have been observed in the Mediterranean; or that
- the **species or its Mediterranean population** figures on the **IUCN Red List as critically endangered, endangered or vulnerable** or appears in the **IUCN-ACCOBAMS Cetacean Red List**.

5. **Habitat building species and those at the basis of important biological formations** for the Mediterranean may be included in Annex II of the Protocol if important regressions of the said habitats or of the areas covered by the said formations have been observed, inferred or suspected over the last 10 years.

6. **A species endemic to a country, or a group of countries**, may be included in Annex II of the Protocol at the proposal of the country, or of the group of countries in question.

7. The inclusion of a species in Annex II of the Protocol may be decided if it proves necessary to the adequate **implementation of conservation measures advocated for a species already included** in the said annex.

Common Criteria to be applied in evaluating proposals for the inclusion of species in Annex III of the Protocol (as adopted by the Fifteenth Ordinary Meeting (COP 15; Almeria, January 2008))

8. A species may be included in Annex III of the Protocol if:

- **statistical data show a regression of more than 50%** of landings over the past 5 years; or
- unless its exploitation is regulated, it is likely to fall into the **category of endangered or threatened species** as defined by the Protocol.

9. A species may be included in Annex III of the Protocol if the techniques used to exploit it are destructive to biological formations or habitats listed on the reference list of habitats of conservation interest adopted within the MAP framework.

Common Criteria to be applied in evaluating proposals for removing species from Annexes II and III of the Protocol

10. A species may be removed from Annexes II or III of the Protocol if **reliable data**, especially **better available scientific data**, indicate that **the reasons that led to its initial inclusion no longer exist**.

11. However, removal can only be considered if the said species **runs no risk**, in the **short or medium term**, of finding itself in the condition that originally warranted its inclusion in the said annexes.

Procedures to be followed in proposing amendments to Annexes II and III of the Protocol

With a view to facilitating the implementation of Article 23 of the Convention and articles 14 and 16 of the SPA/BD Protocol, the following procedure is proposed to be followed:

- a) The Parties submitting proposals for inclusion of species or their removal from an Annex will submit a proposal to the Specially Protected Areas Regional Activity Centre (SPA/RAC), in conformity with the attached model, at least 90 days before the Meeting of SPA/BD Focal Points. The proposal must be submitted either in English or in French;
- b) The Centre will immediately forward the proposal, in its original version, to the other Parties and to the Coordinating Unit;
- c) The proposal, will be submitted to the meeting of SPA/BD Focal Points, which will proceed to evaluate it in the light of the above common criteria. To this end, SPA/RAC will proceed to the translation of the original version so that the proposal may be sent to the SPA/BD Focal Points and to the relevant international organisations in English and in French at least a month before the Focal Points Meeting;
- d) The proposal, by the concerned Party, accompanied by the recommendation of the meeting of SPA/BD Focal Points, will be submitted to the Contracting Parties for their consideration and adoption according to paragraph 2 letter (ii) of Article 23.
- e) Prior to each meeting of the SPA/BD Focal Points, the Centre will carry out a review of possible taxonomic changes and propose updates to Annexes II and III of the SPA/BD Protocol accordingly. These proposals will be submitted to the SPA/BD Focal Points meeting which will evaluate them in the light of the common criteria and subsequently submit them to the COP for consideration.

Furthermore, the Contracting Parties may instruct SPA/RAC to undertake evaluation exercises about the status of species with the view of proposing amendments to Annex II and or Annex III to the Protocol.

Procedure for Amending Annexes II and III of the SPA/BD Protocol



Annex X

**Draft proposals for amendments to Annex II (List of endangered or threatened species)
and Annex III (List of species whose exploitation is regulated) of SPA/BD Protocol**

1. Considering the proposed rules in the amended “Common Criteria for proposing amendments to Annexes II and III of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean” and after checking the World Register of Marine Species (WoRMS), the proposed amendments to Annex II and Annex III to SPA/BD Protocol are presented in Table I and Table II respectively.

Proposed updates in species names are in **bold**.

Symbols and abbreviations used to indicate taxonomic updates:

- The symbol '<' is used to indicate **species lumps**, i.e. taxa currently recognised as separate, but that have been grouped together under another name in the associated reference.
- The symbol '>' is used to indicate **species splits**, i.e. cases where a currently recognised taxon has been split into various taxa in the associated reference.
- The symbol '→' is used to indicate **generic changes** that otherwise do not involve a change in the scope of the taxon in question.
- The symbol '≡' is used to indicate **taxonomic or nomenclatural changes** that do not involve a change in the scope of the taxon in question.

2. The Proposals for amendment to Annexes II and III to the SPA/BD Protocol **are in red and underlined** in the Table I and Table II below.

3. The 17th Meeting of national SPA/BD focal points agreed to submit this proposal for Amendment to the MAP focal points meeting taking place in September 2025.

However, the focal points of the following Parties expressed reservations pending consultation with their relevant national instances, before the next MAP focal points meeting:

Tunisia and Libya: reservation regarding the amendment proposal for the cartilaginous species

France: reservation regarding the species *Alopias vulpinus* (Bonnaterre, 1788)

Table I: List of species of Annex II including the proposed amendments (in red and <u>underlined</u>)	Taxonomic update	Amended Annex II (List of endangered or threatened species)
Magnoliophyta		
<i>Cymodocea nodosa</i> (Ucria) Ascherson		<i>Cymodocea nodosa</i> (Ucria) Ascherson 1870
<i>Posidonia oceanica</i> (Linnaeus) Delile		<i>Posidonia oceanica</i> (Linnaeus) Delile 1813
<i>Zostera marina</i> Linnaeus		<i>Zostera marina</i> Linnaeus 1753
<i>Zostera noltii</i> Hornemann	→	<i>Nanozostera noltei</i> (Hornemann) Tomlinson & Posluszny 2001
Chlorophyta		
<i>Caulerpa ollivieri</i> Dostál	=	<i>Caulerpa prolifera</i> (Forsskål) J.V.Lamouroux 1809
Heterokontophyta		
<i>Cystoseira</i> genus (except <i>Cystoseira compressa</i>)	→	<i>Cystoseira</i> genus (except <i>Cystoseira compressa</i>), <i>Ericaria</i> genus and <i>Gongolaria</i> genus
<i>Fucus virsoides</i> J. Agardh		<i>Fucus virsoides</i> J. Agardh 1868
<i>Laminaria rodriguezii</i> Bornet		<i>Laminaria rodriguezii</i> Bornet, 1888
<i>Sargassum acinarium</i> (Linnaeus) Setchell		<i>Sargassum acinarium</i> (Linnaeus) Setchell, 1933
<i>Sargassum flavifolium</i> Kützinger		<i>Sargassum flavifolium</i> Kützinger, 1849
<i>Sargassum hornschurchii</i> C. Agardh		<i>Sargassum hornschurchii</i> C. Agardh, 1820
<i>Sargassum trichocarpum</i> J. Agardh		<i>Sargassum trichocarpum</i> J. Agardh, 1889
Rhodophyta		
<i>Gymnogongrus crenulatus</i> (Turner) J. Agardh		<i>Gymnogongrus crenulatus</i> (Turner) J. Agardh, 1851
<i>Kallymenia spathulata</i> (J. Agardh) P.G. Parkinson	→	<i>Felcinia spathulata</i> (J.Agardh) Le Gall & Vergés, 2018
<i>Lithophyllum byssoides</i> (Lamarck) Foslie (Synon. <i>Lithophyllum lichenoides</i>)	=	<i>Lithophyllum byssoides</i> (Lamarck) Foslie, 1900
<i>Ptilophora mediterranea</i> (H. Huvé) R.E. Norris	=	<i>Ptilophora dentata</i> (Kützinger) Alongi, Cormaci & G. Furnari, 2020
<i>Schimmelmannia schousboei</i> (J. Agardh) J. Agardh		<i>Schimmelmannia schousboei</i> (J. Agardh) J. Agardh, 1851
<i>Sphaerococcus rhizophylloides</i> J.J. Rodríguez		<i>Sphaerococcus rhizophylloides</i> J.J. Rodríguez y Femenías, 1895
<i>Tenarea tortuosa</i> (Esper) Lemoine		<i>Tenarea tortuosa</i> (Esper) Me.Lemoine, 1910

Table I: List of species of Annex II including the proposed amendments (in red and <u>underlined</u>)	Taxonomic update	Amended Annex II (List of endangered or threatened species)
<i>Titanoderma ramosissimum</i> (Heydrich) Bressan & Cabioch (Synon. <i>Goniolithon byssoides</i>)	→	<i>Lithophyllum woelkerlingii</i> Alongi, Cormaci & G.Furnari, 2017
<i>Titanoderma trochanter</i> (Bory) Benhissoune <i>et al.</i>		<i>Titanoderma trochanter</i> (Bory) Benhissoune, Boudouresque, Perret-Boudouresque & Verlaque, 2002
Porifera		
<i>Aplysina</i> sp. plur.		<i>Aplysina</i> sp. plur.
<i>Asbestopluma hypogea</i> (Vacelet & Boury-Esnault, 1995)	→	<i>Lycopodina hypogea</i> Vacelet & Boury-Esnault, 1996
<i>Axinella cannabina</i> (Esper, 1794)		<i>Axinella cannabina</i> (Esper, 1794)
<i>Axinella polypoides</i> (Schmidt, 1862)		<i>Axinella polypoides</i> (Schmidt, 1862)
<i>Foraminospongia balearica</i> Díaz, Ramírez-Amaro & Ordines, 2021		<i>Foraminospongia balearica</i> Díaz, Ramírez-Amaro & Ordines, 2021
<i>Geodia hydronium</i> (Jameson, 1811)	=	<i>Geodia cydonium</i> (Linnaeus, 1767)
<u><i>Haliclona poecillastroides</i> (Vacelet, 1969)</u>		<u><i>Haliclona poecillastroides</i> (Vacelet, 1969)</u>
<u><i>Leiodermatium</i> spp. Schmidt, 1870</u>		<u><i>Leiodermatium</i> spp. Schmidt, 1870</u>
<u><i>Neophrissospongia</i> spp. Pisera & Lévi, 2002</u>		<u><i>Neophrissospongia</i> spp. Pisera & Lévi, 2002</u>
<i>Petrobiona massiliana</i> (Vacelet & Lévi, 1958)		<i>Petrobiona massiliana</i> (Vacelet & Lévi, 1958)
<u><i>Pheronema carpenteri</i> (Thomson, 1869)</u>		<u><i>Pheronema carpenteri</i> (Thomson, 1869)</u>
<u><i>Poecillastra compressa</i> (Bowerbank, 1866)</u>		<u><i>Poecillastra compressa</i> (Bowerbank, 1866)</u>
<i>Sarcotragus foetidus</i> Schmidt, 1862 (synon. <i>Ireina foetida</i>)	=	<i>Sarcotragus foetidus</i> Schmidt, 1862
<i>Sarcotragus pipetta</i> (Schmidt, 1868) (synon. <i>Ireinia pipetta</i>)	=	<i>Sarcotragus pipetta</i> (Schmidt, 1868)
<i>Tethya</i> sp. plur.		<i>Tethya</i> sp. plur.
Cnidaria		
<i>Antipathella subpinnata</i> (Ellis & Solander, 1786)		<i>Antipathella subpinnata</i> (Ellis & Solander, 1786)

Table I: List of species of Annex II including the proposed amendments (in red and <u>underlined</u>)	Taxonomic update	Amended Annex II (List of endangered or threatened species)
<i>Antipathes dichotoma</i> (Pallas, 1766)	=	<i>Antipathes dichotoma</i> Pallas, 1766
<i>Antipathes fragilis</i> (Gravier, 1918)	=	<i>Antipathes fragilis</i> Gravier, 1918
<i>Astroides calycularis</i> (Pallas, 1766)		<i>Astroides calycularis</i> (Pallas, 1766)
<i>Callogorgia verticillata</i> (Pallas, 1766)		<i>Callogorgia verticillata</i> (Pallas, 1766)
<i>Cladocora caespitosa</i> (Linnaeus, 1767)		<i>Cladocora caespitosa</i> (Linnaeus, 1767)
<i>Cladocora debilis</i> (Milne Edwards & Haime, 1849)	=	<i>Cladocora debilis</i> Milne Edwards & Haime, 1849
<i>Dendrophyllia cornigera</i> (Lamarck, 1816)		<i>Dendrophyllia cornigera</i> (Lamarck, 1816)
<i>Dendrophyllia ramea</i> (Linnaeus, 1758)		<i>Dendrophyllia ramea</i> (Linnaeus, 1758)
<i>Desmophyllum dianthus</i> (Esper, 1794)		<i>Desmophyllum dianthus</i> (Esper, 1794)
<i>Ellisella paraplexauroides</i> (Stiasny, 1936)	=	<i>Ellisella paraplexauroides</i> Stiasny, 1936
<i>Errina aspera</i> (Linnaeus, 1767)		<i>Errina aspera</i> (Linnaeus, 1767)
<i>Isidella elongata</i> (Esper, 1788)		<i>Isidella elongata</i> (Esper, 1788)
<i>Leiopathes glaberrima</i> (Esper, 1792)		<i>Leiopathes glaberrima</i> (Esper, 1792)
<i>Lophelia pertusa</i> (Linnaeus, 1758)	→	<i>Desmophyllum pertusum</i> (Linnaeus, 1758)
<i>Madrepora oculata</i> (Linnaeus, 1758)	=	<i>Madrepora oculata</i> Linnaeus, 1758
<i>Parantipathes larix</i> (Esper, 1790)		<i>Parantipathes larix</i> (Esper, 1790)
<i>Savalia savaglia</i> Nardo, 1844 (synon. <i>Gerardia savaglia</i>)	=	<i>Savalia savaglia</i> (Bertoloni, 1819)
Bryozoa		
<i>Hornera lichenoides</i> (Linnaeus, 1758)		<i>Hornera lichenoides</i> (Linnaeus, 1758)
Mollusca		
<i>Charonia lampas</i> (Linnaeus, 1758) (= <i>Ch. Rubicunda</i> = <i>Ch. Nodifera</i>)		<i>Charonia lampas</i> (Linnaeus, 1758)
<i>Charonia tritonis variegata</i> (Lamarck, 1816) (= <i>Ch. Seguenziae</i>)	>	<i>Charonia variegata</i> (Lamarck, 1816)
<i>Dendropoma petraeum</i> (Monterosato, 1884)	=	<i>Dendropoma cristatum</i> (Biondi-Giunti, 1859)

Table I: List of species of Annex II including the proposed amendments (in red and <u>underlined</u>)	Taxonomic update	Amended Annex II (List of endangered or threatened species)
<i>Erosaria spurca</i> (Linnaeus, 1758)	→	<i>Naria spurca</i> (Linnaeus, 1758)
<i>Gibbula nivos</i>	=	<i>Steromphala nivos</i> (A. Adams, 1853)
<i>Lithophaga lithophaga</i> (Linnaeus, 1758)		<i>Lithophaga lithophaga</i> (Linnaeus, 1758)
<i>Luria lurida</i> (Linnaeus, 1758) (= <i>Cypraea lurida</i>)		<i>Luria lurida</i> (Linnaeus, 1758) (= <i>Cypraea lurida</i>)
<i>Mitra zonata</i> (Marryat, 1818)	→	<i>Episcomitra zonata</i> (Marryat, 1819)
<i>Patella ferruginea</i> (Gmelin, 1791)	=	<i>Patella ferruginea</i> Gmelin, 1791
<i>Patella nigra</i> (Da Costa, 1771)	→	<i>Cymbula safiana</i> (Lamarck, 1819)
<i>Pholas dactylus</i> (Linnaeus, 1758)	=	<i>Pholas dactylus</i> Linnaeus, 1758
<i>Pinna nobilis</i> (Linnaeus, 1758)	=	<i>Pinna nobilis</i> Linnaeus, 1758
<i>Pinna rudis</i> (= <i>P. pernula</i>) (Linnaeus, 1758)	=	<i>Pinna rudis</i> Linnaeus, 1758
<i>Ranella olearia</i> (Linnaeus, 1758)	=	<i>Ranella olearium</i> (Linnaeus, 1758)
<i>Schilderia achatidea</i> (Gray in G.B. Sowerby II, 1837)	=	<i>Schilderia achatidea</i> (J. E. Gray, 1837)
<i>Tonna galea</i> (Linnaeus, 1758)		<i>Tonna galea</i> (Linnaeus, 1758)
<i>Zonaria pyrum</i> (Gmelin, 1791)		<i>Zonaria pyrum</i> (Gmelin, 1791)
Crustacea		
<i>Ocypode cursor</i> (Linnaeus, 1758)		<i>Ocypode cursor</i> (Linnaeus, 1758)
<i>Pachylasma giganteum</i> (Philippi, 1836)		<i>Pachylasma giganteum</i> (Philippi, 1836)
Echinodermata		
<i>Asterina pancerii</i> (Gasco, 1870)		<i>Asterina pancerii</i> (Gasco, 1870)
<i>Centrostephanus longispinus</i> (Philippi, 1845)		<i>Centrostephanus longispinus</i> (Philippi, 1845)
<i>Ophidiaster ophidianus</i> (Lamarck, 1816)		<i>Ophidiaster ophidianus</i> (Lamarck, 1816)
Pisces		
<i>Acipenser naccarii</i> (Bonaparte, 1836)	=	<i>Acipenser naccarii</i> Bonaparte, 1836
<i>Acipenser sturio</i> (Linnaeus, 1758)	=	<i>Acipenser sturio</i> Linnaeus, 1758
<i>Aetomylaeus bovinus</i> (Geoffroy St. Hilaire, 1817)		<i>Aetomylaeus bovinus</i> (Geoffroy St. Hilaire, 1817)

Table I: List of species of Annex II including the proposed amendments (in red and <u>underlined</u>)	Taxonomic update	Amended Annex II (List of endangered or threatened species)
<i>Alopias superciliosus</i> (Lowe, 1841)		<i>Alopias superciliosus</i> Lowe, 1841
<u><i>Alopias vulpinus</i> (Bonnaterre, 1788)</u>		<u><i>Alopias vulpinus</i> (Bonnaterre, 1788)</u>
<i>Aphanius fasciatus</i> (Valenciennes, 1821)		<i>Aphanius fasciatus</i> (Valenciennes, 1821)
<i>Aphanius iberus</i> (Valenciennes, 1846)	→	<i>Apricaphanius iberus</i> (Valenciennes, 1846)
<i>Bathytoshia lata</i> (Garman, 1880)		<i>Bathytoshia lata</i> (Garman, 1880)
<i>Carcharias taurus</i> (Rafinesque, 1810)	=	<i>Carcharias taurus</i> Rafinesque, 1810
<i>Carcharodon carcharias</i> (Linnaeus, 1758)		<i>Carcharodon carcharias</i> (Linnaeus, 1758)
<u><i>Carcharhinus plumbeus</i> (Nardo, 1827)</u>		<u><i>Carcharhinus plumbeus</i> (Nardo, 1827)</u>
<u><i>Centrophorus spp.</i> (Müller & Henle, 1837)¹</u>		<u><i>Centrophorus spp.</i> (Müller & Henle, 1837)</u>
<i>Cetorhinus maximus</i> (Gunnerus, 1765)		<i>Cetorhinus maximus</i> (Gunnerus, 1765)
<u><i>Dalatias licha</i> (Bonnaterre, 1788)</u>		<u><i>Dalatias licha</i> (Bonnaterre, 1788)</u>
<i>Dasyatis Pastinaca</i> (Linnaeus, 1758)		<i>Dasyatis Pastinaca</i> (Linnaeus, 1758)
<i>Dipturus batis</i> (Linnaeus, 1758)		<i>Dipturus batis</i> (Linnaeus, 1758)
<u><i>Echinorhinus brucus</i> (Bonnaterre, 1788)</u>		<u><i>Echinorhinus brucus</i> (Bonnaterre, 1788)</u>
<i>Galeorhinus galeus</i> (Linnaeus, 1758)		<i>Galeorhinus galeus</i> (Linnaeus, 1758)
<i>Gymnura altavela</i> (Linnaeus, 1758)		<i>Gymnura altavela</i> (Linnaeus, 1758)
<i>Hippocampus guttulatus</i> (Cuvier, 1829) (synon. <i>Hippocampus ramulosus</i>)	=	<i>Hippocampus guttulatus</i> Cuvier, 1829
<i>Hippocampus hippocampus</i> (Linnaeus, 1758)		<i>Hippocampus hippocampus</i> (Linnaeus, 1758)
<i>Huso huso</i> (Linnaeus, 1758)		<i>Huso huso</i> (Linnaeus, 1758)
<i>Isurus oxyrinchus</i> (Rafinesque, 1810)	=	<i>Isurus oxyrinchus</i> Rafinesque, 1810
<i>Lamna nasus</i> (Bonnaterre, 1788)		<i>Lamna nasus</i> (Bonnaterre, 1788)
<i>Lethenteron zanandreae</i> (Vladykov, 1955)	→	<i>Lampetra zanandreae</i> Vladykov, 1955

¹ The entire genus *Centrophorus* is listed in Annex II (with no species names), and *C. granulosus* is deleted from Annex III. The listing in Annex II shall be therefore *Centrophorus spp.*, which refers to all species of this genus.

Table I: List of species of Annex II including the proposed amendments (in red and <u>underlined</u>)	Taxonomic update	Amended Annex II (List of endangered or threatened species)
<i>Leucoraja circularis</i> (Couch, 1838)		<i>Leucoraja circularis</i> (Couch, 1838)
<i>Leucoraja melitensis</i> (Clark, 1926)		<i>Leucoraja melitensis</i> (Clark, 1926)
<i>Mobula mobular</i> (Bonnaterre, 1788)		<i>Mobula mobular</i> (Bonnaterre, 1788)
<i>Myliobatis aquila</i> (Linnaeus, 1758)		<i>Myliobatis aquila</i> (Linnaeus, 1758)
<i>Odontaspis ferox</i> (Risso, 1810)		<i>Odontaspis ferox</i> (Risso, 1810)
<i>Oxynotus centrina</i> (Linnaeus, 1758)		<i>Oxynotus centrina</i> (Linnaeus, 1758)
<i>Pomatoschistus canestrini</i> (Ninni, 1883)	→	<i>Ninnigobius canestrinii</i> (Ninni, 1883)
<i>Pomatoschistus tortonesei</i> (Miller, 1969)	=	<i>Pomatoschistus tortonesei</i> Miller, 1969
<i>Pristis pectinata</i> (Latham, 1794)	=	<i>Pristis pectinata</i> Latham, 1794
<i>Pristis pristis</i> (Linnaeus, 1758)		<i>Pristis pristis</i> (Linnaeus, 1758)
<u><i>Prionace glauca</i> (Linnaeus, 1758)</u>		<u><i>Prionace glauca</i> (Linnaeus, 1758)</u>
<i>Rhinobatos cemiculus</i> (E. Geoffroy Saint Hilaire, 1817)	→	<i>Glaucostegus cemiculus</i> (Geoffroy Saint-Hilaire, 1817)
<i>Rhinoptera marginata</i> (Geoffroy St. Hilaire, 1817)		<i>Rhinoptera marginata</i> (Geoffroy St. Hilaire, 1817)
<i>Rhinobatos rhinobatos</i> (Linnaeus, 1758)		<i>Rhinobatos rhinobatos</i> (Linnaeus, 1758)
<i>Rostroraja alba</i> (Lacépède, 1803)		<i>Rostroraja alba</i> (Lacépède, 1803)
<i>Sphyrna lewini</i> (Griffith & Smith, 1834)		<i>Sphyrna lewini</i> (Griffith & Smith, 1834)
<i>Sphyrna mokarran</i> (Rüppell, 1837)		<i>Sphyrna mokarran</i> (Rüppell, 1837)
<i>Sphyrna zygaena</i> (Linnaeus, 1758)		<i>Sphyrna zygaena</i> (Linnaeus, 1758)
<i>Squatina aculeata</i> (Dumeril, in Cuvier, 1817)	=	<i>Squatina aculeata</i> Cuvier, 1829
<i>Squatina oculata</i> (Bonaparte, 1840)	=	<i>Squatina oculata</i> Bonaparte, 1840
<i>Squatina squatina</i> (Linnaeus, 1758)		<i>Squatina squatina</i> (Linnaeus, 1758)
<i>Valencia hispanica</i> (Valenciennes, 1846)		<i>Valencia hispanica</i> (Valenciennes, 1846)
<i>Valencia letourneuxi</i> (Sauvage, 1880)		<i>Valencia letourneuxi</i> (Sauvage, 1880)
Reptiles		
<i>Caretta caretta</i> (Linnaeus, 1758)		<i>Caretta caretta</i> (Linnaeus, 1758)

Table I: List of species of Annex II including the proposed amendments (in red and <u>underlined</u>)	Taxonomic update	Amended Annex II (List of endangered or threatened species)
<i>Chelonia mydas</i> (Linnaeus, 1758)		<i>Chelonia mydas</i> (Linnaeus, 1758)
<i>Dermochelys coriacea</i> (Vandelli, 1761)		<i>Dermochelys coriacea</i> (Vandelli, 1761)
<i>Eretmochelys imbricata</i> (Linnaeus, 1766)		<i>Eretmochelys imbricata</i> (Linnaeus, 1766)
<i>Lepidochelys kempii</i> (Garman, 1880)		<i>Lepidochelys kempii</i> (Garman, 1880)
<i>Trionyx triunguis</i> (Forskål, 1775)	=	<i>Trionyx triunguis</i> Forsskål, 1775
Aves		
<i>Calonectris diomedea</i> (Scopoli, 1769)		<i>Calonectris diomedea</i> (Scopoli, 1769)
<i>Ceryle rudis</i> (Linnaeus, 1758)		<i>Ceryle rudis</i> (Linnaeus, 1758)
<i>Charadrius alexandrinus</i> (Linnaeus, 1758)	=	<i>Charadrius alexandrinus</i> Linnaeus, 1758
<i>Charadrius leschenaultii columbinus</i> (Lesson, 1826)	=	<i>Charadrius leschenaultii columbinus</i> Lesson, 1826
<i>Falco eleonora</i> (Géné, 1834)	=	<i>Falco eleonora</i> Géné, 1834
<i>Gelochelidon nilotica</i> (Gmelin, JF, 1789)	=	<i>Gelochelidon nilotica</i> (Gmelin, 1789)
<i>Halcyon smyrnensis</i> (Linnaeus, 1758)		<i>Halcyon smyrnensis</i> (Linnaeus, 1758)
<i>Hydrobates pelagicus</i> ssp. <i>melitensis</i> (Schembri, 1843)		<i>Hydrobates pelagicus</i> ssp. <i>melitensis</i> (Schembri, 1843)
<i>Hydroprogne caspia</i> (Pallas, 1770)		<i>Hydroprogne caspia</i> (Pallas, 1770)
<i>Larus armenicus</i> (Buturlin, 1934)	=	<i>Larus armenicus</i> Buturlin, 1934
<i>Larus audouinii</i> (Payraudeau, 1826)	=	<i>Larus audouinii</i> Payraudeau, 1826
<i>Larus genei</i> (Brème, 1839)	→	<i>Chroicocephalus genei</i> (Brème, 1839)
<i>Larus melanocephalus</i> (Temminck, 1820)	→	<i>Ichthyaelus melanocephalus</i> (Temminck, 1820)
<i>Microcarbo pygmaeus</i> (Pallas, 1773)		<i>Microcarbo pygmaeus</i> (Pallas, 1773)
<i>Numenius tenuirostris</i> (Viellot, 1817)	=	<i>Numenius tenuirostris</i> Viellot, 1817
<i>Pandion haliaetus</i> (Linnaeus, 1758)		<i>Pandion haliaetus</i> (Linnaeus, 1758)
<i>Pelecanus crispus</i> (Bruch, 1832)		<i>Pelecanus crispus</i> Bruch, 1832
<i>Pelecanus onocrotalus</i> (Linnaeus, 1758)	=	<i>Pelecanus onocrotalus</i> Linnaeus, 1758

Table I: List of species of Annex II including the proposed amendments (in red and <u>underlined</u>)	Taxonomic update	Amended Annex II (List of endangered or threatened species)
<i>Phalacrocorax aristotelis ssp. desmarestii</i> (Payraudeau, 1826)	=	<i>Gulosus aristotelis</i> (Linnaeus, 1761)
<i>Phoenicopterus roseus</i> (Pallas, 1811)	=	<i>Phoenicopterus ruber</i> Linnaeus, 1758
<i>Puffinus mauretanicus</i> (Lowe, PR, 1921)	=	<i>Puffinus mauretanicus</i> Lowe, 1921
<i>Puffinus yelkouan</i> (Brünnich, 1764)	=	<i>Puffinus yelkouan</i> (Acerbi, 1827)
<i>Sternula albifrons</i> (Pallas, 1764)		<i>Sternula albifrons</i> (Pallas, 1764)
<i>Thalasseus bengalensis</i> (Lesson, 1831)	→	<i>Sterna bengalensis</i> Lesson, 1831
<i>Thalasseus sandvicensis</i> (Latham, 1878)	→	<i>Sterna sandvicensis</i> Latham, 1787
Mammalia		
<i>Balaenoptera acutorostrata</i> (Lacépède, 1804)	=	<i>Balaenoptera acutorostrata</i> Lacépède, 1804
<i>Balaenoptera borealis</i> (Lesson, 1828)	=	<i>Balaenoptera borealis</i> Lesson, 1828
<i>Balaenoptera physalus</i> (Linnaeus, 1758)		<i>Balaenoptera physalus</i> (Linnaeus, 1758)
<i>Delphinus delphis</i> (Linnaeus, 1758)	=	<i>Delphinus delphis</i> Linnaeus, 1758
<i>Eubalaena glacialis</i> (Müller, 1776)		<i>Eubalaena glacialis</i> (Müller, 1776)
<i>Globicephala melas</i> (Trail, 1809)		<i>Globicephala melas</i> (Trail, 1809)
<i>Grampus griseus</i> (Cuvier G., 1812)	=	<i>Grampus griseus</i> (G. Cuvier, 1812)
<i>Kogia simus</i> (Owen, 1866)	=	<i>Kogia sima</i> (Owen, 1866)
<i>Megaptera novaeangliae</i> (Borowski, 1781)		<i>Megaptera novaeangliae</i> (Borowski, 1781)
<i>Mesoplodon densirostris</i> (de Blainville, 1817)		<i>Mesoplodon densirostris</i> (de Blainville, 1817)
<i>Monachus monachus</i> (Hermann, 1779))		<i>Monachus monachus</i> (Hermann, 1779))
<i>Orcinus orca</i> (Linnaeus, 1758)		<i>Orcinus orca</i> (Linnaeus, 1758)
<i>Phocoena phocoena</i> (Linnaeus, 1758)		<i>Phocoena phocoena</i> (Linnaeus, 1758)
<i>Physeter macrocephalus</i> (Linnaeus, 1758)	=	<i>Physeter macrocephalus</i> Linnaeus, 1758
<i>Pseudorca crassidens</i> (Owen, 1846)		<i>Pseudorca crassidens</i> (Owen, 1846)
<i>Stenella coeruleoalba</i> (Meyen, 1833)		<i>Stenella coeruleoalba</i> (Meyen, 1833)

Table I: List of species of Annex II including the proposed amendments (in red and <u>underlined</u>)	Taxonomic update	Amended Annex II (List of endangered or threatened species)
<i>Steno bredanensis</i> (Cuvier in Lesson, 1828)	=	<i>Steno bredanensis</i> (G. Cuvier in Lesson, 1828)
<i>Tursiops truncatus</i> (Montagu, 1821)		<i>Tursiops truncatus</i> (Montagu, 1821)
<i>Ziphius cavirostris</i> (Cuvier G., 1832)	=	<i>Ziphius cavirostris</i> Cuvier, 1832

Table II: Proposed amendments to Annex III (List of species whose exploitation is regulated)

List of species of Annex III including the proposed amendments (in red and <u>underlined</u>)	Taxonomic update	Amended Annex III (List of species whose exploitation is regulated)
Porifera		
<i>Hippospongia communis</i> (Lamarck, 1813)	=	<i>Hippospongia communis</i> (Lamarck, 1814)
<i>Spongia</i> (<i>Spongia</i>) <i>lamella</i> (Schulze, 1872) (synon- <i>Spongia agaricina</i>)	=	<i>Spongia</i> (<i>Spongia</i>) <i>lamella</i> (Schulze, 1872)
<i>Spongia</i> (<i>Spongia</i>) <i>officinalis adriatica</i> (Schmidt, 1862)	<	<i>Spongia</i> (<i>Spongia</i>) <i>officinalis</i> Linnaeus, 1759
<i>Spongia</i> (<i>Spongia</i>) <i>officinalis officinalis</i> (Linnaeus, 1759)	<	<i>Spongia</i> (<i>Spongia</i>) <i>officinalis</i> Linnaeus, 1759
<i>Spongia</i> (<i>Spongia</i>) <i>zimocca</i> (Schmidt, 1862)	=	<i>Spongia</i> (<i>Spongia</i>) <i>zimocca</i> Schmidt, 1862
Cnidaria		
<i>Antipathes</i> sp. plur.		<i>Antipathes</i> sp. plur.
<i>Corallium rubrum</i> (Linnaeus, 1758)		<i>Corallium rubrum</i> (Linnaeus, 1758)
Crustacea		
<i>Homarus gammarus</i> (Linnaeus, 1758)		<i>Homarus gammarus</i> (Linnaeus, 1758)
<i>Maja squinado</i> (Herbst, 1788)		<i>Maja squinado</i> (Herbst, 1788)
<i>Palinurus elephas</i> (Fabricius, 1787)		<i>Palinurus elephas</i> (Fabricius, 1787)
<i>Scyllarides latus</i> (Latreille, 1803)		<i>Scyllarides latus</i> (Latreille, 1803)
<i>Scyllarus arctus</i> (Linnaeus, 1758)		<i>Scyllarus arctus</i> (Linnaeus, 1758)
<i>Scyllarus pygmaeus</i> (Bate, 1888)	=	<i>Scyllarus pygmaeus</i> (Spence Bate, 1888)
Echinodermata		
<i>Paracentrotus lividus</i> (Lamarck, 1816)		<i>Paracentrotus lividus</i> (Lamarck, 1816)
Pisces		
<i>Alopias vulpinus</i> (Bonnaterre, 1788)		<i>Alopias vulpinus</i> (Bonnaterre, 1788)
<i>Alosa alosa</i> (Linnaeus, 1758)		<i>Alosa alosa</i> (Linnaeus, 1758)
<i>Alosa fallax</i> (Lacépède, 1803)		<i>Alosa fallax</i> (Lacépède, 1803)
<i>Anguilla anguilla</i> (Linnaeus, 1758)		<i>Anguilla anguilla</i> (Linnaeus, 1758)
<i>Carcharhinus plumbeus</i> (Nardo, 1827)		<i>Carcharhinus plumbeus</i> (Nardo, 1827)

List of species of Annex III including the proposed amendments (in red and <u>underlined</u>)	Taxonomic update	Amended Annex III (List of species whose exploitation is regulated)
<i>Centrophorus granulosus</i> (Bloch & Schneider, 1801)²		<i>Centrophorus granulosus</i> (Bloch & Schneider, 1801)
<i>Epinephelus marginatus</i> (Lowe, 1834)		<i>Epinephelus marginatus</i> (Lowe, 1834)
<i>Dasyatis marmorata</i> (Steindachner, 1892)		<i>Dasyatis marmorata</i> (Steindachner, 1892)
<i>Heptranchias perlo</i> (Bonnaterre, 1788)		<i>Heptranchias perlo</i> (Bonnaterre, 1788)
<i>Hexanchus griseus</i> (Bonnaterre, 1788)		<i>Hexanchus griseus</i> (Bonnaterre, 1788)
<i>Lampetra fluviatilis</i> (Linnaeus, 1758)		<i>Lampetra fluviatilis</i> (Linnaeus, 1758)
<i>Mustelus asterias</i> (Cloquet, 1821)	=	<i>Mustelus asterias</i> Cloquet, 1821
<i>Mustelus mustelus</i> (Linnaeus, 1758)		<i>Mustelus mustelus</i> (Linnaeus, 1758)
<i>Mustelus punctulatus</i> (Risso, 1826)	=	<i>Mustelus punctulatus</i> Risso, 1826
<i>Petromyzon marinus</i> (Linnaeus, 1758)	=	<i>Petromyzon marinus</i> Linnaeus, 1758
<i>Pteroplatytrygon violacea</i> (Bonaparte, 1832)		<i>Pteroplatytrygon violacea</i> (Bonaparte, 1832)
<i>Prionace glauca</i> (Linnaeus, 1758)		<i>Prionace glauca</i> (Linnaeus, 1758)
<i>Sciaena umbra</i> (Linnaeus, 1758)	=	<i>Sciaena umbra</i> Linnaeus, 1758
<i>Squalus acanthias</i> (Linnaeus, 1758)	=	<i>Squalus acanthias</i> Linnaeus, 1758
<i>Thunnus thynnus</i> (Linnaeus, 1758)		<i>Thunnus thynnus</i> (Linnaeus, 1758)
<i>Umbrina cirrosa</i> (Linnaeus, 1758)		<i>Umbrina cirrosa</i> (Linnaeus, 1758)
<i>Xiphias gladius</i> (Linnaeus, 1758)	=	<i>Xiphias gladius</i> Linnaeus, 1758

² the entire genus *Centrophorus* is listed in Annex II (with no species names), and *C. granulosus* is deleted from Annex III. The listing in Annex II shall be therefore *Centrophorus spp.*, which refers to all species of this genus.

Annex XI

**Draft guidance document on Other Effective area-based Conservation Measures (OECM): identification and
Criteria application in the Mediterranean**

Acronyms

ABMT	Area-based management tool
ABNJ	Area beyond national jurisdiction
AGEM	<i>Ad hoc</i> Group of Experts for Marine Protected Areas in the Mediterranean
CBD	Convention on Biological Diversity
COP	Conference of Parties
EBSA	Ecologically or Biologically Significant Marine Areas
FAO	Food and Agriculture Organization of the United Nations
FRA	Fisheries Restricted Area
GFCM	General Fisheries Commission for the Mediterranean
IUCN-WCPA	IUCN World Commission on Protected Area
KBA	Key Biodiversity Area
mOECM	Marine Other Effective area-based Conservation Measure
OECM	Other Effective area-based Conservation Measure
MCPA	Marine and Coastal Protected Area
MPA	Marine Protected Area
RFMO	Regional Fisheries Management Organisation
SPA/RAC	Specially Protected Area / Regional Activity Centre (MAP)
VME	Vulnerable Marine Ecosystem
WDPA	World Database on Protected Areas
WD-OECM	World Database on OECMs

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EXECUTIVE SUMMARY

1. Other Effective Area-based Conservation Measures (OECMs) are one of five strategic pillars of the Barcelona Convention's Post-2020 Regional Strategy for Marine and Coastal Protected Areas (MCPAs) and Other Effective area-based Conservation Measures (OECMs) in the Mediterranean¹. The *Ad hoc* Group of Experts on Marine Protected Areas in the Mediterranean (AGEM) recommended that Mediterranean countries start working on existing measures that could be identified as OECMs, with the SPA/BD Focal Points facilitating and coordinating activities at the national level. The AGEM also called for the development of a guidance to support this process.

2. In fulfilment of this recommendation, the present guidance document explains the processes recommended for identifying and reporting OECMs in the marine and coastal environment, and how these might best be used in the context of the Mediterranean. It describes existing global and regional guidance, emphasising that countries should use the now well-established processes to ensure a harmonised approach, but also highlights that these processes are new and often challenging, with further guidance in preparation on the more difficult component, notably that of demonstrating that long-term in situ biodiversity conservation will be achieved at a site. The guidance covers a variety of types of potential marine and coastal OECMs, including those managed under fisheries measures, for which the FAO and GFCM have produced handbooks, and those that might be defined by other management measures (e.g. shipping, oil and gas sectors, Ramsar sites, among others).

3. The guidance recommends that Mediterranean countries use IUCN-WCPA's site assessment tool² as the basic approach (a) to ensure a harmonised approach to the wide range of area-based management initiatives that might be potential OECMs, and (b) because it includes a set of forms that allow the screening process to take place immediately in a format that is comparable to other countries and regions. The process should be complemented by the recommendations in the more specialised sets of guidance (e.g. FAO and GFCM) where appropriate.

4. The document also includes a brief overview of progress in the Mediterranean to date, as well as experiences from other regions involved in this process.

¹ https://www.rac-spa.org/sites/default/files/doc_spa/mcpa_oecm_strategy.pdf

² <https://portals.iucn.org/library/sites/library/files/documents/PATRS-006-En.pdf>

INTRODUCTION

Why is guidance to OECMs needed?

5. Other Effective Area-based Conservation Measures (OECMs) are one of five strategic pillars of the Barcelona Convention's Post-2020 Regional Strategy for Marine and Coastal Protected Areas (MCPAs) and Other Effective area-based Conservation Measures (OECMs) (UNEP/MAP - SPA/RAC, 2021). This was adopted at the COP22 of the Barcelona Convention in 2021, and the Contracting Parties were asked to take effective measures to implement it. To support this, under Output 3.1 of the Strategy (Awareness in Contracting Parties and stakeholders on OECMs enhanced and guidance for the application of OECM criteria provided), it was proposed that a tool should be developed to help with the process of applying the OECM criteria and thus identifying sites suitable for reporting as OECMs. SPA/RAC was requested, in coordination with other regional and international organizations, to provide the necessary technical assistance, with this process and to help clarify the process for the OECM identification in the Mediterranean.

What were the steps leading to the compilation of this guidance?

6. The Report of the Ad hoc Group of Experts on Marine Protected Areas in the Mediterranean (AGEM)'s work during the biennial period 2022-2023 (UNEP/MAP-SPA/RAC, 2023) recommended that Mediterranean countries start working on existing measures that could be identified as OECMs with the SPA/BD Focal Points facilitating and coordinating activities at the national level. It also stressed the need for a workshop to reflect on what should constitute a biodiversity outcome for an OECM, one of the key challenges in identifying OECMs. In December 2023, as part of the implementation of the 2022-2023 SPA/RAC Programme of Work, with the AGEM, SPA/RAC organised a workshop on Mediterranean marine OECMs to better clarify the concept of an OECM and to come up with a harmonised and coherent way to consider OECMs in the Mediterranean context. The report issued following this workshop (Agardy, 2023) recommended that guidelines on the identification of OECMs in the Mediterranean marine and coastal environment should be prepared along with guidance on how to "Improve the designation and complementarities of different conservation measures by area, including in areas beyond national jurisdiction". This guidance is in fulfilment of these recommendations.

Who is the guidance designed for?

7. The guidance is designed to assist all those responsible for, and involved, in identifying and reporting on OECMs in the Mediterranean. This must be seen as a multi-stakeholder process, involving regional bodies (including SPA/RAC, GFCM, IUCN Med and others), government agencies, NGOs, local communities, scientists and other experts.

What is the scope of the guidance?

8. The guidance covers the identification of OECMs in the marine and coastal environment, as defined under the Barcelona Convention's Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/RAC, undated). This includes: the seabed and its subsoil; the waters, the seabed and its subsoil on the landward side of the baseline from which the breadth of the territorial sea is measured and extending, in the case of watercourses, up to the freshwater limit; and the terrestrial coastal areas designated by each of the Parties, including wetlands.

9. The guidance covers a variety of types of potential marine and coastal OECMs, including those managed under fisheries measures, for which the FAO and GFCM have produced handbooks (see Section 2.2.), and those that might be defined by other management measures (e.g. shipping, oil and gas sectors, Ramsar sites among others).

10. For the northern Mediterranean countries, it is important to recognise that other guidance is available or being produced in the context of the European Union and the broader European region. Further detail on regional guidance is available in Section 2.3.

SECTION 1. BACKGROUND TO OECMs

1.1. What is an OECM?

11. The Convention on Biological Diversity (CBD, 2018a) defines an OECM as:

“a geographically defined area other than a Protected Area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the in-situ conservation of biodiversity, with associated ecosystem functions and services and where applicable, cultural, spiritual, socio-economic, and other locally relevant values”.

12. Four criteria for identifying OECMs, whether on land, in freshwater, or in the sea, were agreed by the CBD at COP16 in Montreal (CBD, 2018) (Table 1).

Table 1. Four CBD criteria for identifying OECMs

Criterion	Explanation
A: The site is not a protected area.	An OECM must be fully outside any protected area currently recognized by national government or reported by any governing entity Internationally agreed norms under the CBD, and IUCN recommendations, are that areas that meet the definition of a protected area, and are recognised as such by the governing authority, should be considered a protected area. In practice, there are many sites that meet the definition of a protected area but that are not recognised and reported as such for a variety of reasons. Although OECMs should NOT be considered an alternative to or a replacement for protected areas, which are a critical part of Target 3 (See section 2.2. of Jonas et al. (2024a), it is now recognised that a site where biodiversity conservation is the primary objective could be reported as an OECM, if the governing authority chooses not to label it as a protected area.
B: The site is bounded, governed, and managed	The area is a geographically defined space with clear and legitimate governance and management. The boundaries of the site must be defined, and the site must have sustained governance and management by a legitimate governing authority. The type of governance and management is not a factor in identifying an OECM – what is important is the effectiveness of governance and management in achieving conservation (see Criterion C).
C. The site is confirmed to contribute to sustained <i>in situ</i> biodiversity conservation.	The area must be achieving positive and sustained long-term outcomes for the <i>in situ</i> conservation of biodiversity, or be reasonably expected to achieve positive and sustained outcomes in the future. In order to carry out this function, and to be able to know that the area is having the intended impact, information and monitoring are required. The biodiversity features (also referred to as ‘biodiversity attributes’ or ‘biodiversity values’) should be clearly described and might be (a) rare, threatened or endangered species and ecosystems; (b) natural ecosystems

Criterion	Explanation
	which are under- represented in protected area networks; (c) high level of ecological integrity or intactness; (d) significant populations of range restricted species or ecosystems; (e) important species aggregations, such as spawning, breeding or feeding areas; or (f) areas important for ecological connectivity.
D. The site maintains associated ecosystem functions and services, as well as cultural, spiritual, socio-economic, and other locally relevant values	The area and its associated measures ultimately support the effective delivery of ecosystem services and functions, thus contributing to human well-being. Ecosystem functions and cultural, spiritual and socio-economic values exist where people use the products and services from a site. The CBD decision stipulates that where these values exist for an OECM, management should achieve both biodiversity conservation and the maintenance or enhancement of these other values.

13. The CBD criteria ensure that identified and reported OECM are not used for double counting (i.e. they ensure that there are no overlaps with reported protected areas) and that they are effective, as the name implies. An OECM must have a legal definition, appropriate governance, and active management that contributes to the overall conservation of biodiversity. However, biodiversity conservation should not be its primary objective. Sites which meet the definition of a protected area, and are recognised as such by the governance authorities (including local communities where relevant), should be classified as such. If an area is an already existing, managed area that is recognised as a protected area (e.g. MCPA, Natura 2000 site etc) as per the IUCN definition (Box 1.) and reported to the WDPA, it should not be assessed as an OECM. It is important to understand that OECMs should generally be “recognized”, rather than “designated”. The term OECM is thus a ‘label’ that can provide “added value” to an area.

14. In order to make assessment of potential sites easier, IUCN provides a more detailed breakdown of the four CBD criteria into eight criteria (Annex 2 of Jonas et al., 2024a) as shown in Table 2.

Box 1. Definition of the term ‘protected area’ – from Jonas et al. (2024)

The CBD defines a protected area as: “A geographically defined area which is designated or regulated and managed to achieve specific conservation objectives”.

IUCN has a more detailed definition: “A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values”.

The CBD and IUCN recognise the two as being equivalent in practice as, in both cases, these areas are intended to achieve *in situ* conservation.

Table 2. Breakdown of the four CBD criteria into eight criteria according to IUCN

	IUCN criterion	CBD	Notes
1	The site is not a protected area	A	No difference
2	There is a reasonable likelihood that the site supports important biodiversity values	C	This provides a useful early step in the identification process to ensure that CBD Criterion C will be met

	IUCN criterion	CBD	Notes
3	The site is a geographically defined area	B	CBD Criterion B requires that a site has defined boundaries
4	The site is confirmed to support important biodiversity values;	A C	This is the completion of Criterion 2, and helps to ensure CBD Criterion C is met
5	Institutions or mechanisms exist to govern and manage the site	B	CBD criterion B requires that a site has sustained governance and management by a legitimate governing authority.
6	Governance and management of the site achieve or are expected to achieve the <i>in situ</i> conservation of important biodiversity values	C	This is the third step in the process to ensure that CBD Criterion C is being met; the IUCN criteria emphasise more clearly the requirement for effective biodiversity conservation
7	<i>In situ</i> conservation of important biodiversity values is expected to be for the long term	C D	This emphasises the need to assess whether the biodiversity conservation achieved will be long-term
8	Governance and management arrangements address equity considerations	B	IUCN Criterion 8 emphasises the principle that for biodiversity conservation to be effective, the governance and management must be equitable

1.2. What are the main differences between OECMs and MCPAs?

15. There are several common misconceptions about OECMs in relation to protected areas that are important to understand (Fitzsimons et al., (2025):

- OECMs are NOT easy to identify and report. The administrative process to recognise an OECM can be lengthy and has more stringent criteria than used for designating a protected area. Unlike protected areas where areas identified as national parks, reserves, etc might automatically qualify for listing, in the case of OECMs, each potential site has to be assessed separately to determine whether it meets the CBD definition and criteria, and reflects the IUCN guidance. OECMs have additional requirements, such as a monitoring system to inform management on the effectiveness of biodiversity conservation, and processes in place to evaluate the effectiveness of governance and management, including with respect to equity.
- Like protected areas, OECMs recognized in lands or territories of Indigenous and traditional territories require the free, prior and informed consent (FPIC) of these people, a process that can take some time. In the Mediterranean, this may be not be an issue but any rights of local communities must be recognised and their consent obtained.
- OECMs are expected to be long-term conservation measures for the landscape or seascape, not temporary components that would expire after a certain period. Area-based conservation measures for a finite term (e.g. 25 years) or with no guarantee of longevity (or proof of the likelihood of longevity) should not be assessed as OECMs.
- An OECM does not need specific OECM legislation, legislative recognition or a specific designation". The 'other' in 'other effective area-based conservation measures' implies measures, mostly likely existing, that are 'effective'. Recognition of these measures, provided biodiversity conservation is being achieved, is considered sufficient. Countries may choose to enable legislation or other mechanisms to formally recognize OECMs, or develop policies to guide the achievement of the desired outcome in a coherent and effective manner, but these are not requirements.
- In the case of fisheries measures, including closures, these must be long-term and whole ecosystem-based. A closure for a single species in a management area allowing industrial fishing or seabed alteration would not be an OECM.

1.3. Why are we interested in OECMs and what is their added value?

16. Under Target 3 of the 2022 Kunming-Montreal Global Biodiversity Framework (GBF), countries are required to report on coverage, effective management and equitable governance of their OECMs. Target 3 calls on Parties to effectively conserve at least 30% of marine and coastal areas by 2030 through both protected areas and OECMs. This is one of the immediate reasons for the current interest in, and the need for guidance on reporting, OECMs. However, the more fundamental purpose of OECMs is to promote much wider attention to biodiversity conservation, and to ensure that it is not limited only to protected areas, but that all managed areas play a role in this vital role.

1.4. Who can identify and report OECMs?

17. Marine and coastal OECMs can be identified and reported by a wide range of organisations, including government agencies, scientific and heritage bodies, fisheries management authorities and bodies, other management agencies and local communities. Once a given area satisfies all CBD criteria, its final recognition as an OECM is the prerogative and responsibility of the relevant country (or countries if the OECM straddles national borders). Further details on roles and responsibilities are provided in Section 3.4.

18. The Protected Planet database (World Database on Protected Areas – WDPA) is the authoritative source of data on protected areas and OECMs, and provides the basis for monitoring and reporting on progress towards Target 3 of the GBF and the 2030 Sustainable Development Goals. At Mediterranean level, in addition to the Database on Marine Protected Areas in the Mediterranean (MAPAMED), the WDPA – CBD official source for the 30 by 30 Target, should be used also as means of verification, to ensure alignment between regional and global reporting. Every two years, the UNEP World Conservation Monitoring Centre (UNEP-WCMC), which manages the database, releases the Protected Planet Report on the status of the world's protected areas. Most countries have yet to provide data to the WD-OECM. As of August 2024, 6,464 OECMs had been reported (compared to 302,934 protected areas reported to the WDPA). Over 90% (6,253) are in the terrestrial and inland water realms, covering 1.59 million km². Only 211 OECMs are in the marine realm, covering 403,605 km² (UNEP-WCMC, 2024). Section 4.2. summarises progress being made in Mediterranean countries.

SECTION 2. AVAILABLE GUIDANCE ON OECMs

19. It is strongly recommended that existing, widely used and globally accepted guidelines and handbooks are used for identifying OECMs, as laid out in Section 3, which also explains how different sets of guidelines are complementary and can be used together. This section (Section 2) summarises some of the key guidance documents currently available, as well as further materials that are in preparation. It is important to note that guidance on identifying marine OECMs (mOECMs) in general, and OECMs based on fisheries measures (section 2.2. below), is still in preparation but should be used as soon as it is available.

2.1. Global guidance

20. The basic guidance on OECMs is found in:

- IUCN-WCPA Task Force on OECMs (2019): an **overview of the CBD criteria**. The criteria have been summarised in the previous section, but it is recommended that the more detailed IUCN document is also consulted.
- Jonas et al. (2023): This is the **site-assessment tool** that has been developed by IUCN-WCPA and which is now being widely used to identify OECMs. It is recommended here that it is used as the primary tool in all Mediterranean countries to ensure consistency in both identification and reporting – see Section 3. In some cases, it is being adapted as a national tool (see Section 5.2 – Experiences from around the world).
- **IUCN-WCPA detailed guidance** (Jonas et al., 2024a). This is essential reading as it helps to clarify many of the questions that arise when using the site-assessment tool.
- A briefing note on determining whether a **Ramsar Site** meets the criteria for an OECM, has been published (Convention on Wetlands, 2025)³. It provides an overview on identification, governance and management of OECMs in a wetland context, based on interpretation of CBD Decision 14/8 and the IUCN-WCPA guidelines, and emphasises that recognising Ramsar Sites that are not protected areas as OECMs could enable a more integrated approach to wetland conservation.

2.2. Marine OECM (mOECM) guidance

21. Identifying mOECMs raises particular challenges, as noted in the **IUCN-WCPA FAQs** that answer some of the questions frequently raised about this category of OECM (Woodley, 2024). For example, for the ocean, data on important biodiversity values and their status within an area are often lacking, making it difficult to obtain the required proof of effective conservation. The FAQs give summary advice on this and other related issues. The two sets of guidance specific to mOECMs that should be used in association with the IUCN-WCPA site assessment tool are (1) the FAO handbook and associated guidance (e.g. the GFCM guidance) for sites under fisheries measures; and (2) more general guidance on identifying mOECMs being prepared by Oregon State University which helps particularly with the step involved in site assessments that requires analysis of threats to the marine biodiversity of an area. A further very helpful document is the Birdlife International position paper on mOECMs (Birdlife International, undated) which, using the IUCN-WCPA approach as a basis, summarises the steps that might be necessary to identify OECMs in a variety of marine ABMTs (summarised in Section 4.1 below).

FAO Handbook

22. The FAO handbook (FAO, 2022) for identifying, evaluating and reporting OECMs for areas that are managed under fisheries measures and with potential ability to meet OECM criteria for long term biodiversity conservation proposes a screening process. This is very similar to the IUCN-WCPA process in that it allows what could be a wide pool of sites to be narrowed down to those candidate sites that might qualify as an OECM. It then provides a 5-step method for a more in-depth evaluation of candidate sites to determine whether the outcome at the site would be *in situ* biodiversity conservation. It also describes how sectors can

³ <https://www.ramsar.org/document/other-effective-area-based-conservation-measures-oecms-conservation-wise-use-wetlands-0>

work with communities and other rights holders to improve existing spatial management that might fall short of OECM standards. Additional guidance is in preparation to demonstrate the range of conservation outcomes that can arise from the use of fisheries area-based management tools (ABMTs) (FAO in prep). The FAO guidance is also available in the form of two e-learning courses, in English, French and Spanish:

- **Introduction to other effective area-based conservation measures in marine fisheries**⁴ – provides background information on the topic.
- **Recognizing other effective area-based conservation measures in marine fisheries**⁵ - provides guidance on identifying, evaluating and reporting OECMs in marine fisheries.

Oregon State University guidance on mOECMs

23. There is a particular challenge in meeting CBD Criterion C (i.e. providing confidence that a site identified as an OECM will have a positive and sustained biodiversity outcome) in the marine environment. This led to a working group of marine experts, facilitated by Oregon State University, developing guidance for mOECMs to complement the other tools and brings clarity to the likelihood of biodiversity conservation and expected outcomes from different candidate mOECMs. This proposes assessing the potential impact of threat reduction, which may be an easier approach for areas where extensive ecological monitoring data are not available. A preliminary version of this guidance is currently out for review (Gorud-Colvert, in prep.). It is likely to be very useful for the Mediterranean and the way in which it might be used is described in Section 3.3.

2.3. Other Regional guidance

24. Several regions are developing their own guidance on identifying and reporting OECMs, thus helping to scale-up the process and also providing opportunities for knowledge exchange and experience-sharing as the OECM process moves forward.

25. Northern Mediterranean countries within the EU should be aware of and make use of the guidance being prepared for Europe as a whole. The European Commission's DG ENV has developed guidance for EU member states (European Commission 2022). For these countries, "OECMs can be counted towards the 30% target only if the area is covered by a national or international legislative or administrative act or a contractual arrangement aiming to achieve long-term conservation outcomes; conservation objectives and measures are in place; and effective management and monitoring of the biodiversity in the area is in place." Following a 2023 workshop on the role of OECMs in Europe, WCPA developed recommendations and guidance for establishing a national process for using the EU approach, and a set of steps has been identified (Stolpe et al. 2024).

26. HELCOM, the Baltic Marine Environment Protection Commission, has produced guidance for the Baltic states based on that provided by CBD, IUCN, and the EU Commission (HELCOM, 2022). The resulting 'decision support tree' is being tested at national level, and will be revisited in 2027 and, if necessary, updated. The decision tree was designed to be used as the first step in the OECM process to identify potential OECMs but does not address the actual recognition and management of OECMs. It is very similar to the early steps in the IUCN-WCPA site assessment tool and might prove a useful process for some Mediterranean countries.

27. For the North-east Atlantic, OSPAR has initiated a process to identify fisheries based OECMs⁶ with the Northeast Atlantic Fisheries Commission (NEAFC). In 2021, OSPAR committed to expanding its network of MPAs and OECMs to cover at least 30% of OSPAR's Maritime Area by 2030. NEAFC will set out fisheries measures which deliver conservation benefits, and OSPAR will complement these by providing measures

⁴ <https://elearning.fao.org/course/view.php?id=1124>

⁵ <https://elearning.fao.org/course/view.php?id=1125>

⁶ www.ospar.org/site/assets/files/37958/nea-fc-ospar-joint-oecm-narrative-final_clean.pdf

under its competence in the same areas and in providing relevant biodiversity and environmental data to NEAFC's scientific advisor, ICES. The NEAFC OECM (the first to be reported to the WD-OECM) covers the 20 individual sites closed to bottom fishing to protect Vulnerable Marine Ecosystems (VMEs) in areas beyond national jurisdiction (ABNJ), which do not lie within MPAs⁷. The sites are managed individually but have been identified collectively as an OECM. They cover approximately 7% of the ABNJ, a much smaller area than the closed area fisheries measure itself, a large part of which is in designated MPAs. This is the first ABNJ OECM to be submitted by a Regional Fisheries Management Organisation (RFMO).

28. For the East Asian Seas, COBSEA has initiated a process to develop guidance (COBSEA, 2024), which will complement the broader IUCN-WCPA guidance produced for Asia as a whole (Sharma and Pasha, 2024). For the Arctic, Conservation of Arctic Flora and Fauna (CAFF) and Protection of the Arctic Environment (PAME) are initiating a process, starting with an overview of the range and understanding of international and national criteria used for the identification of OECMs⁸. A process has also started this year in the Pacific region⁹.

2.4. Additional potentially useful guidance

29. Several other initiatives, existing or underway, are likely to prove very helpful in identifying OECMs, particularly when assessing Criterion C, and attempting to demonstrate whether potential sites have or might have positive biodiversity outcomes. These include:

- The many tools for assessing the management effectiveness of protected areas and determining whether these are having positive biodiversity conservation outcomes, as required under Target 3 (Wells et al., in prep).
- The IUCN Green List Standard and associated indicators. These are designed to apply to OECMs as well as protected areas, although the current focus is on the latter. The Interreg Euro-MED Green List for Mediterranean Marine Protected Areas project (GreenList4MMPAs) is exploring how to apply the IUCN Green List Standard in the Mediterranean, and the results of this work will help to inform the process for identifying OECMs.
- The WCPA Marine Task Force on Fisheries and MPAs is initiating a process to develop more in-depth guidance on understanding the impacts of different gear types and fishing intensity on MPAs, and thus potentially sites that might be considered for OECMs. Similarly, the outputs of the IUCN Fisheries and Biodiversity Task Force, which is preparing a synthesis and overview of impacts of fishing on marine biodiversity, will be very useful.

2.5. Experience from around the world

30. Many countries are now producing their own national guidance, and this experience might be useful if Mediterranean countries are considering developing a national process. This section will be reduced in length in the final guidance, but the examples given below may prove useful, given that there are few case studies from the Mediterranean.

Canada: One of the first countries to develop guidance (Government of Canada, 2022; Pathway to Target 1, 2021), Canada applies a two-level criterion for assessing whether a site is effectively managed: 1. There must be a mechanism for preventing incompatible activities and managing all other activities; 2 The mechanism should compel all governing authorities to prohibit incompatible activities. Such a high standard is useful in ensuring that OECMs meet the effectiveness criterion. The Lophelia Coral Conservation Area, a measure

⁷ <https://www.neafc.org/oecm>

⁸ <https://www.caff.is/work/projects/other-effective-area-based-conservation-measures-oecm-in-the-arctic-marine-environment/>

⁹ <https://www.tiakimoana.org/>

established in 2004 to protect Canada's only known living *Lophelia pertusa* reef complex, which had suffered significant damage from previous fishing activities, has been assessed.

Norway: 61 lobster reserves, 18 coral reef protected areas, 17 protected bottom habitat areas, 5 conservation zones, 492 kelp harvesting areas, and a range of other area-based fishery measures were assessed using the IUCN-WCPA site assessment tool (Dunshea et al., 2024). Of these, 25 lobster reserves and four coral reef protected areas were found to meet the CBD/IUCN OECM criteria. It was considered that the protected bottom habitat areas (nearly 30% of Norway's total ocean area) could not be considered OECMs because: they are vertically zoned and only protect a subset of biodiversity from a single threat (bottom fishing); "new fishing areas" could be opened to bottom trawling in the future; petroleum facilities overlap with parts of the areas and new exploration leases are being granted within the areas; and large areas overlap and/or are adjacent to the large areas now at risk from deep-sea mining exploration and exploitation.

Philippines (case study 10 in Jonas et al., 2024): The Philippines Department of Environment and Natural Resources (DENR) has prepared a draft administrative order (yet to be approved) which, among other things:

- Clarifies the relationship of OECMs to protected areas, which are already regulated through the country's National Integrated Protected Areas System (NIPAS) Act.
- Recognises that the 'governing authority' of an OECM is the institution, individual, a communal group, or other body acknowledged as having responsibility, accountability and authority in protecting, restoring and managing, including decision-making in their resource management unit.
- Adopts guiding principles on OECMs, including that they have a documented contribution to biodiversity conservation, that they are recognised through a rightsbased process, and that their identification considers ecological representativeness and connectivity.
- Adopts a three-stage process for identification of OECMs, based on IUCN's guidance for potential OECMs and then candidate OECMs which are subject to full assessment.
- References the country's KBA inventory as a key source of potential sites.
- Establishes a national OECM registry, to hold information relevant to OECMs.
- Establishes a national institutional framework for implementation of the order, by expanding the role of the existing National NIPAS review committee to become the National NIPAS and OECM Review Committee (NNORC), including expanding the remit of the committee's technical working group.
- Provides for support to capacity-building, monitoring, evaluation and reporting for the governing authorities and the institutions involved in the assessment of OECMs.
- Addresses the need for on-going funding and support to recognised OECMs through an 'adopt an OECM' scheme to encourage private sector partnerships, and by mandating DENR to put in place programs to support recognised OECMs, including annual awards, technical assistance, certification and assistance to explore potential climate/ carbon payments. –

South Africa (Case study 7 in Jonas et al., 2024). Four principles are considered central to an inclusive and robust process.

- Principal stakeholders, e.g. state ministries, environmental NGOs, and representative bodies of Indigenous Peoples and local communities, to be engaged one-on-one to familiarise them with the OECM concept.
- Stakeholder workshops to be inclusive and representative of all affected stakeholders (especially previously marginalised groups).
- A policy and technical review to be undertaken by professionals (e.g. environmental lawyers) to better align the national legal frameworks to support the OECM criteria.
- Potential OECMs identified and a sample assessed at ground level against the OECM definition using the IUCN site-level tool.

Australia. The National Other Effective area-based Conservation Measures (OECMs) Framework provides guidance on recognition of land-based OECMs in Australia (DCCEEW, 2024). The framework identifies principles to guide OECM recognition, provides information on implementation of these principles, and includes a site assessment tool. Identifying and recognising OECMs in marine areas may be considered in

future. Fitzsimons et al. (2024) identified that the number of categories/mechanisms that would meet the OECM definition is relatively small; there is a high risk of potentially perverse outcomes in classifying an area as an OECM.

India: criteria and guidelines have been developed by the Ministry of Environment, Forest and Climate Change (MoEFCC), National Biodiversity Authority of India (NBA) and United Nations Development Programme (UNDP), to identify OECMs in India (UNDP, 2022). A 14-category classification, clustered under three broad groups- terrestrial, waterbodies, and marine, was developed covering a broad spectrum of potential OECMs including unique agricultural systems, biodiversity parks, industrial estates, coastal waterbodies, and important marine biodiversity areas.

Experiences in **Indonesia** identifying marine and coastal OECMs have been well documented (Estradivari et al., 2022 and 2024.)

SECTION 3. GUIDANCE FOR MEDITERRANEAN OECMs

31. Discussions on identifying and reporting OECMs in the Mediterranean took place in 2020 at a workshop organised by the IUCN Centre for Mediterranean Cooperation (IUCN/WCPA, 2020), with an initial focus on the Southern and Eastern Mediterranean and covering both terrestrial and marine contexts. Section 4.2 (below) provides a summary of some of the work underway since this workshop.

32. Considerable effort has also been directed at the assessment of fisheries management areas as OECMs. Since 2019, the General Fisheries Commission for the Mediterranean (GFCM) of the Food and Agriculture Organization of the United Nations (FAO) has been supporting countries in the Mediterranean and Black Sea to identify potential fisheries-related OECMs. An FAO/GFCM expert meeting was organised in February 2022 to define a way forward for identifying fisheries-related OECMs in the region and to provide technical inputs for the development and testing of FAO's practical guidelines (FAO, 2023).

33. This section lays out the recommended process for countries to identify and report their OECMs, building on knowledge and experience gathered from the previously mentioned examples, and the guidance that has already been developed.

3.1. How to start: designing a national process

34. Before starting to identify OECMs, it is recommended that a country defines the steps involved in the full process. The following is a combination of recommendations from IUCN (Jonas et al., 2024) and Agardy (2023) and might provide a useful basis.

1. Clarify why there is a need to identify OECMs (e.g. as an incentive for different sectors to improve management for biodiversity; to contribute to the network of MCPAs, etc) and thus whether some OECMs might have greater priority than others.
2. Decide whether OECMs be recognised on a whole sector (e.g. fisheries) or site-specific basis (e.g. following a review of key marine and coastal biodiversity areas within a country).
3. Decide on the financing mechanism for the process and who will be responsible for financing both the process and the subsequent monitoring and long-term oversight.
4. Determine the expertise and institutions that will be required to identify, report, monitor and strengthen OECMs, and that will provide the guarantee that the OECMs fulfil the criteria when recognized, and in the long-term. Bring together these bodies (including universities, other research institutes, NGOs and local communities) and individuals together to introduce the process.
5. Establish a list of potential OECMs to be included in the consultation, consent and identification processes, with reference to existing analysis, priority setting and policy. Sources of information might include national lists of threatened species and ecosystems, the National Biodiversity Strategy and Action Plan, protected areas network planning, A locally relevant category of governance – such as areas managed by local communities – might also be adopted as a starting point for a list of potential OECMs. IUCN guidance on connectivity (Hilty et al., 2020), privately protected areas (Mitchell et al., 2018), geo-conservation (Crofts, 2020) and transboundary conservation (Vasilijevic et al., 2015) may also be relevant.
6. Identify opportunities in national and subnational legislation and policy for the management and conservation of OECMs to be recognised and strengthened.

3.2 How to identify OECMs

35. It is recommended that Mediterranean countries use IUCN's site assessment tool (Jonas et al., 2024) as the basic approach as (a) this will ensure that it can be used for a wide range of area-based management initiatives that might be potential OECMs, and (b) because it includes a set of forms that allow the screening process to take place immediately in a format that is comparable to other countries and regions. The tool should be complemented by the other sets of guidance described in Section 2, as appropriate.

36. The site assessment tool comprises three steps: an initial screening to identify a **potential** OECM; obtaining consent for a full assessment to identify a **candidate** OECM; and a full assessment of a candidate OECM to identify it as a **confirmed** OECM.

STEP 1: SCREENING - IDENTIFYING A POTENTIAL OECM

37. This requires recording basic information about the site, to determine whether it qualifies as a **potential OECM** according to two of the IUCN screening criteria (1 and 2) – that the area is not a protected areas and that it protects important biodiversity. The form on p.3 of the tool is used. To qualify, a site must score 'yes' for both screening criteria. Information is required on site name, location, designation. Ask the question: "Does available information suggest that the site supports at least one of the following important biodiversity values?"

- Rare, threatened or endangered species and ecosystems
- Natural ecosystems that are under-represented in protected area networks.
- High level of ecological integrity or intactness
- Significant populations/extent of endemic or range-restricted species or ecosystems
- Important species aggregations, such as spawning, breeding or feeding areas
- Importance for ecological connectivity, as part of a network of sites in a larger area.

38. Key Mediterranean-specific biodiversity features must be considered, including endemic fauna and flora, and ecosystems such as *Posidonia oceanica* meadows and coralligenous assemblages. The Annex to the Protocol on Specially Protected Areas and Marine Biodiversity of the Mediterranean provides initial guidance on regionally important species, and there are a range of more recent sources providing relevant information (e.g. Rodriguez-Rodriguez, D and Malak, D.A, 2022).

STEP 2. CONSENT FOR FULL ASSESSMENT - IDENTIFYING A CANDIDATE OECM

39. This step is designed to confirm that the governing authority, local communities, and (as appropriate) other rights-holders have agreed to proceed with the full assessment. It requires recording basic information on the stakeholders (representatives of the categories directly concerned by the specific OECM) and governance of the site. The documentation required includes (a) dates and description of the consultation process, (b) information provided to the parties giving consent, (c) input received from parties giving consent, (d) name and position of representatives participating, and (e) proof of consent, such as a signed letter or agreement. (Use form on p.6).

40. The recognition of a site as an OECM is not expected to result in any changes to ownership, management, or use, unless perhaps new OECMs are created with a new governance and management structure, or where governance or management are strengthened to meet OECM criteria. Both governing authorities and local communities must agree that a site be assessed, identified and reported as an OECM, including accepting or rejecting such a proposal when made by another party. The governing authority, which is the group or groups that make decisions about the overall purpose, long-term management policies and sometimes also the day-to-day use of the site. In many sites the mandates and rights of two or more groups overlap, and the governing authority will be made up of representatives of all these groups working together. In some sites, dialogue and negotiation may be required before all rightsholders share the same understanding of which groups have governance rights and responsibilities. Under the CBD, Parties have agreed that the rights of local communities must be recognised and protected under the process of free, prior and informed

consent (FPIC), which is a mandatory component of the OECM identification and reporting process; under FPIC principles, local communities may withdraw their support for the process at any time. (see Jonas et al., 2024 for further detail).

41. Steps 1 and 2 can be carried out separately or together but must be completed before step 3 is undertaken. Once both Steps 1 and 3 are completed, the site is considered a **candidate OECM**.

STEP 3: THE FULL ASSESSMENT: IDENTIFYING A CONFIRMED OECM.

42. The full assessment uses a further six criteria (Criteria 3-8 – see above) to confirm that the site meets the definition of an OECM. This step requires confirmation of all the important biodiversity values, as far as possible based on available information, and that the site has defined boundaries that are agreed upon by the governing authority or a local community, where relevant, as identified in step 2. This step also has questions to confirm that the effect of governance and management activities should be that pressures and threats on the site are known and that pressures on the site's important biodiversity values are controlled, so that these values are conserved *in situ*. It should be confirmed that there should be a reasonable likelihood that the *in-situ* conservation of biodiversity values will be permanent, and that the governance and management arrangements will be able to mitigate future threats, or will be able to do so with additional support that is expected to be provided.

43. There are guiding questions for each criterion:

- A site with a 'yes' response to every criterion is a confirmed OECM, subject to any stakeholder consent and approval by the governing authority.
- A site with a combination of 'yes' and 'uncertain/partial' responses, or with all 'uncertain/partial' responses, remains a candidate OECM, until further information or other changes allow it to be confirmed as an OECM.
- A site with one or more 'no' responses is not currently an OECM but might be re-assessed in the future if information suggests that the situation has changed.

44. The IUCN site assessment tool includes a table (p.17) to summarise the results of the screening and full assessment.

3.3. Determining if there will be a positive biodiversity outcome

45. Criterion C is a particular challenge in the OECM identification process. OECMs have been reported on that do not technically meet this criterion and this is causing concern. Globally agreed metrics to assess whether management of a site is having a positive outcome have yet to be agreed, even for protected areas. CBD Decision 14/8 defined achieving biodiversity outcomes very generally as the successful conservation of “*in situ species, habitat and ecosystems and associated ecosystem functions and services and by preventing, reducing or eliminating existing, or potential threats, and increasing resilience*” and that there should either be evidence of biodiversity outcome or a realistic expectation of biodiversity outcome; efforts to measure this are thus accelerating. Quantifying marine biodiversity is particularly difficult due to the open and fluid nature of marine systems, the geographically wide nature of connections between ecosystems, patchy information, and the difficulty and cost in monitoring in the marine environment, particularly in for offshore areas and pelagic systems (Agardy, 2024). Much what is known about 'success' comes from predictive models and from findings extrapolated from case studies in one location to situations in similar ecosystems in other locations. For this reason, it is important to give more recognition to the validity of truly realistic expectations of biodiversity-positive management measures, particularly since in many countries there are no monitoring regimes in place, limited or no capacity for analysis, and often no baseline against which to measure change (Agardy, 2023).

46. Biodiversity outcomes can be roughly related to species and biomass (species richness) increases, improvements in habitat coverage and condition, and ecosystem functioning (food web integrity but also the delivery of ecosystem services). Demonstrating such outcomes requires scientific monitoring or evidence that the prohibition of certain practices would be expected to have a positive impact on biodiversity with a high level of certainty (theory of change) (Stolpe et al., 2024).

47. Agardy (2023) suggests that in the absence of monitoring data and/or baseline, a risk-based approach can be taken. This entails assessing current / imminent threats to biodiversity and determining whether those threats are addressed by all the existing management measures in the potential OECM, with a focus on reasonably manageable threats/ pressures. It requires a full understanding of the existing management of the area, and the rates of compliance with regulations, as well as other kinds of management that exist. If there is adequate prohibition of activities causing significant adverse impacts and there is clear compliance with regulations, then there can be a reasonable expectation of biodiversity outcome. Proxy studies, with good before and after and control monitoring data (BACI studies) can provide some idea of the qualitative and quantitative biodiversity outcomes, although these require caution.

48. For fisheries-based OECMs, FAO's supplemental guidance (FAO, in prep) suggests how surveys and monitoring data being collected in priority areas (i.e., areas with distinctive biodiversity features or attributes) can be used to demonstrate biodiversity-positive outcomes. In the case of an FRA being considered as a potential OECM, sufficient evidence would be needed to demonstrate that the FRA is able to achieve biodiversity conservation outcomes by only managing fisheries. There would need to be evidence that no other impacts existed, which would require consultation with the agencies dealing with different sectors (e.g. fisheries, environment, productivity and infrastructure) (GFCM, 2024).

49. For mOECMs, it may be particularly difficult to determine if there is likely to be a positive biodiversity outcome for:

- **Area-Based Management Tools (ABMTs) that protect single species only:** For sites where management is aimed at maintaining or enhancing single stocks, populations or species there needs to be an assessment of whether this adequately contributes to biodiversity conservation. This will vary on a case by-case basis, as it will depend on whether that stock, population or species plays a particularly important ecological role. A fisheries measure that merely maintains a target species abundance or increases the catch per unit effort should not qualify as an OECM, unless an ecosystem approach and ecosystem-based management are fully implemented so that all ecosystem components are equally taken in consideration by the management measure (Stolpe et al, 2024).
- **ABMTs with vertical zoning:** Fisheries management areas tend to apply only to the seabed or a portion of the water column). Such an approach has already proven controversial in MPAs. If the protection applies only to a two-dimensional area (such as a benthic closure) must also account for the third (vertical) dimension. For an OECM, whether benthic closures provide effective conservation must be considered on a case-by-case basis. For example, if a VME is impacted by oil and gas drilling, or environmentally damaging intensive fisheries operate in the water column above, then such benthic closures should not qualify as OECMs because the vertical connectivity is demonstrated to have a fundamental role in the ecosystem functioning (Stolpe et al, 2024). There are benthic marine communities, for instance, which are of outstanding biodiversity value but where the adjacent water column is not particularly noteworthy. Similarly, there are offshore areas such as upwelling areas or ephemeral oceanographic fronts where the ecological value of the pelagic waters is very high, but the adjacent benthos is not distinctive. Flagging a portion of the three-dimensional space as an ecological priority can be the basis for highly effective management, whether that is through focused ABMT or by broader marine spatial planning, but it creates challenges for databases and mapping of measures.

50. Agardy (2023) and FAO (in prep) propose a set of steps that might be taken in various scenarios, depending on whether data is or is not available:

1. Describe
 - the biodiversity attribute(s)
 - the threats to them
2. Anticipate the kind of biodiversity outcomes arising from the management measures in place or planned
3. Determine if studies exist to show biodiversity outcomes:
 - If information exists, summarise to present supporting documentation
 - If information is not readily available, do a study
 - If studies are not possible, look at proxies and make inference with compliance data

51. Grorud-Christensen et al. (in prep) propose the following three steps:

a. What is the biodiversity that the area is protecting

52. Areas already recognised for their biodiversity value, including Key Biodiversity Areas (KBAs) and Ecologically or Biologically Significant Marine Areas (EBSAs), that are not already classified as MCPAs and that are subject to a management measure of some kind, might be among the first ABMTs to assess. 15 EBSAs have been identified in the Mediterranean (Mackelworth et al., 2024), as well as a large number of marine and coastal KBAs. An analysis at country level is ideally required to identify these areas, and some countries are starting to consider the need for this, or may have preliminary information. This step will need further review.

b. What are the threats and pressures in the ABMT and the known sensitivities of the key biodiversity features to these?

53. For mOECMs, the guidance being prepared by Oregon State University will help with understanding threats and pressures and identifying the likelihood of biodiversity conservation in candidate marine OECMs (Grorud-Colvert et al., in prep). It should be used with the IUCN WCPA guidance. Thirteen groups of activities are recognised, and evidence provided on whether each activity might have a positive or negative impact on biodiversity within the ABMT. Table 3 summarises these activities and the extent to which they might be considered incompatible with an OECM. At present a full analysis of these threats in relation to their impact in the Mediterranean has not been undertaken and it is recommended that further discussion of this is held in the course of testing this guidance. Further attention is also needed to threats such as land-based sources of pollution (LBS) from plastics and solid waste, untreated or inadequately treated wastewater, and agricultural run-off, and the impacts of desalination plants, artificial structures and renewable energy.

Table 3. Thirteen groups of activities that might have a positive or negative impact on biodiversity within the ABMT

	Activity	Incompatible
1	Mining, mineral, oil and/or gas prospecting or exploitation	No activities compatible with an OECM; all activities have a high negative impact on biodiversity
2	Shipping	Large-scale oil and cargo spills, marine accidents resulting in toxic discharges, dumping of large quantities of food and vessel wastewater, pollution and waste generated during shipbreaking activities, high propagule pressure via ballast water, and frequent shipping routes with high underwater noise and high speed vessels

	Activity	Incompatible
3	Dredging, dumping, pollution	Sediment suspension, habitat destruction, pollution from harmful substances that have a moderate to large impact on biodiversity considering location, type, frequency, intensity, and scale
4	Anchoring	Anchoring with a moderate or large impact based on frequency, duration, and scale via sedimentation and direct damage to species or ecosystems, particularly in sensitive habitats like seagrass beds, coralligenous habitats.
5	Renewable energy	Installations that severely impact marine biodiversity resulting in species mortality due to collisions with physical structures, disturbance of spawning grounds, noise generated during construction/ decommissioning phase, and destruction of habitat of marine species
6	Recreation, tourism	Large scale, frequent boating, diving, snorkeling, and other activities that have moderate or large impact, such as via direct damage to species or ecosystems, disruption of important behavior, or introduction of pollutants
7	Artificial structures	Structures made of materials that adversely affect surrounding area (e.g., that leak pollutants); facilities with moderate to high impact, e.g.. via impeding migration and other movement; altering food webs; disrupting animal behavior via noise or light pollution; and destruction of benthic habitats
8	Fishing	Large number of fishing gears, unsustainable fishing intensity, and/or use of fishing methods with high negative impact, such as bottom trawls, longlines, gillnets, purse seines, electric or dynamite fishing
9	Aquaculture/ mariculture	Fed aquaculture or aquaculture that is unfed but at semi-intensive to intensive scale with moderate to large impact; aquaculture that leads to: introduced invasive species through escapes, transmission of disease to wild species, <i>or increased risk of antibiotic resistance??</i> ; aquaculture activities that result in eutrophication and subsequent harmful algal blooms and oxygen depletion; conversion to aquaculture of key ecological areas such as mangroves and wetlands;.
10	Security/military activities	Large-to-medium scale military activities, that generate excessive noise and chemical pollution (including degrading shipwrecks) severely impacting marine ecological processes in species; cause mass mortality due to explosions; and destruction of habitat and physical injury to marine organisms
11	Restoration	Activities with direct negative impacts such as introduction of disease, physical destruction of surrounding ecosystems due to inappropriate restoration activity that may cause moderate to large impact on biodiversity considering location, type, frequency, intensity, and scale of restoration
12	Research and monitoring	Large scale, highly destructive research and monitoring practices such as trawling, seismic surveys, or destructive seabed exploration that cause harmful and often irreversible impacts on sensitive marine environments.
13	Stewardship and sustainable cultural activities	None?

c. What management measures are in place?

54. This will depend on the type of ABMT being assessed. A site where management is non-extractive or low impact, such that the site retains its important biodiversity values, is potentially an OECM. Sites managed for industrial exploitation of natural resources will generally not qualify as OECMs because there are likely to have been major changes in the natural ecosystem and depletion of biodiversity values (Site-level tool for identifying OECMs, Criterion 6). If production is ecologically sustainable, these sites may be appropriately reported under Target 10 of the GBF. However, if areas are permanently set aside from harvest

within an area managed for industrial exploitation, it is possible that they could qualify as OECM as long as they meet all the criteria (including that they have important biodiversity values, are of sufficient size, are governed and managed, and are long term in nature) (Jonas et al., 2024). A site where the prevailing management approach is focused on maximum sustainable use, or causes the loss or depletion of the site's important biodiversity values, will not qualify as an OECM. In general, if the site is being harvested under sustainability standards, it should be counted under GBF Target 10.

55. Mitigating multiple threats requires the harmonization of all sector controls within an ABMT (e.g., multiple fisheries, oil and gas, shipping), such that all risks to biodiversity are effectively managed in a coherent and mutually reinforcing way, even if via different legal authorities (FAO, 2022; Stolpe et al., 2024). An area where there is no multisectoral management regime in place, e.g. areas in the high seas where only sectoral management is currently possible, is not an OECM, even if its biodiversity may remain intact for now. (Stolpe et al; 2024).

3.4. How do you report OECMs, once they have been confirmed?

56. Once a given area satisfies all CBD criteria, its final recognition as an OECM is the prerogative and responsibility of the relevant country (or countries) (see also question 2) with no external auditor or verification organism involved in the process (see also question 7) (GFCM, 2024). Marine and coastal OECMs could potentially be recognised and reported by a range of actors, including RFMOs, fisheries, scientific bodies, heritage bodies, and local communities. While their recognition is a country entitlement, reporting and submission can be made either by the involved countries themselves or in the case of fisheries-OECMs (most notably those in international waters) by RFMOs, under mandate or request of their CPs (see also question 7).

57. Where a site meets all the OECM criteria, the next steps are:
- The result of the final assessment, with documentation, is communicated formally to the governance and management authority(ies), and to local communities and other rights-holders and stakeholders (they should have been involved throughout the process but formal communication of the result is still required).
 - Information on the assessment process and results, including supporting data, is securely stored for future reference. Establishment of a national database is advised.
 - Where initial consent (step 2) was only for undertaking the assessment, further consent should be obtained for the identification of the site as an OECM and for its reporting to the WD-OECM.
 - Coordinate planning and identify a strategy for strengthening OECMs (Section 8 of Jonas et al., 2024)).
 - Reporting to the CBD - submission is done online through the Protected Planet database.

58. More detailed guidance is currently being prepared on reporting OECMs to complement the manual that is available (UNEP-WCMC, 2019). Spatial data and associated attributes, either a polygon boundary or the central latitude and longitude point for each OECM should be sent to UNEP-WCMC as explained in the Manual. UNEP-WCMC then confirms if the upload of the requested information has been completed or notifies the sender of any problems, and notifies the relevant CBD country focal point(s) of the OECM submission, requesting comments with a 28-day deadline. If no comments are received the proposed OECM is implicitly considered valid. An OECM can be withdrawn from the database at any time as per country decisions. If an intergovernmental organisation (IGO), such as an RFMO secretariat, submits an OECM, it must sign and return a Data Contributor Agreement, and it is assumed that there has been communication at the national level between concerned ministries in order to pre-inform/notify the CBD focal points about the OECM submission.

3.5. How do you ensure that OECMs continue to protect biodiversity in the long-term?

59. Once an OECM has been recognized, it should be managed, monitored and tracked using appropriate indicators to ensure that it is effective and having a positive outcome. These processes should be being developed for all MCPAs in a country and it is recommended that they are also followed for OECMs. Section 3.1 (designing a national process) describes key activities and the IUCN-WCPA guidance (Jonas et al., 2024) covers this in more detail.

SECTION 4. WHAT AREAS MIGHT BE SUITABLE FOR OECD ASSESSMENT?

60. This section considers the types of areas in the marine and coastal environment, that might be considered for OECD assessment, and summarises progress being made in the Mediterranean.

4.1. Managed areas that might be suitable for assessment

Fishery ABMTs

61. These include sites with permanent fishing restrictions or perennial seasonal closures to protect spawning sites. Fishery Regulation Areas (FRAs) (geographically defined areas in which all or certain fishing activities are temporarily or permanently banned or restricted in order to improve the exploitation and conservation of harvested living aquatic resources or the protection of marine ecosystems) are of particular interest. Many FRAs have the potential to be candidate OECDs due to their contribution to the conservation of deep-sea, vulnerable marine ecosystems (VMEs) and sensitive species. The Birdlife International (undated) guidance on Area-based fisheries management measures (ABFMs) and fisheries closures identifies the two concerns about such areas: (a) lack of a guarantee of the long-term persistence of measures; and (b) lack of a means to regulate or exclude other harmful activities from occurring within these areas.

62. At the GFCM 2022 workshop, participants noted that a possible starting point for identifying marine OECDs in the Mediterranean could be FRAs that overlap with EBSAs since they provide evidence of important biodiversity components in areas that are already managed (FAO, 2023). The workshop resulted in the compilation and discussion of the main challenges related to the application of the criteria, with initial recommendations on how to address them; agreement on next steps to undertake a more in-depth evaluation of the case studies presented for discussions during GFCM subregional committee meetings; and the assessment of the implications, opportunities and potential difficulties that arise from identifying fishery-related OECDs in the Mediterranean (FAO, 2023). It was suggested bringing that the results of the expert meeting should be brought to the GFCM Subregional Committee for the Adriatic Sea, the Subregional Committee for the Central Mediterranean and the Working Group on Vulnerable Marine Ecosystems and Essential Fish Habitats to discuss the possibility of proceeding with a full assessment of proposed areas (see below).

63. Some areas that have been suggested by AGEM reviewers - Oysters culture areas, privately managed coastal zones, Rotational harvesting areas if they meet biodiversity conservation outcomes.

Regulated shipping areas

64. Particularly Sensitive Sea Areas (PSSAs) and Areas To Be Avoided (ABTAs): See Birdlife International (undated) guidance on such areas which identifies the main barriers for these areas as: Negative impacts on certain habitats and (groups of) species from shipping activity; and Non-legally binding nature of the measure may undermine the level of compliance.

Cable protection zones:

65. See Birdlife International (undated) guidance on such areas which identifies the main barriers for these areas as: Areas of insufficient size to deliver meaningful biodiversity benefits; Negative impacts on certain habitats and (groups of) species from the installation and presence of cables

Renewable energy areas, such as wind farms, tidal energy and wave power plants.

66. The exclusion of fishing around offshore wind turbines may have biodiversity benefits if the ABMT is a sufficient size.

67. The Birdlife International (undated) guidance identifies the main barriers for these areas as ‘Significant negative impacts on certain habitats and (groups of) species, including shifts in ecological communities, during construction, operation (and potentially decommissioning); Potential for the loss of ecological gains following the end of life of the wind farm’ (Birdlife International, undated).

Military zones:

68. See Birdlife International (undated) guidance on such areas which identifies the main barriers for these areas as: likely significant negative impacts from military activities occurring in these areas; Lack of access to restricted areas to implement biodiversity monitoring.

Cultural and archaeological sites - ship wrecks, battles areas ...

69. See Birdlife International (undated) guidance on such areas which identifies the main barriers for these areas as: Areas of insufficient size to deliver meaningful biodiversity benefits; Feasibility of establishing biodiversity monitoring to cover such small sites. sensitivity about disclosing such kind of information on such sites: risks of looting and trafficking in archaeological objects (sites in the open sea are difficult to guard).

Areas of potential interest

70. On a case-by-case basis and further to an in-depth analysis of the OECMs criteria satisfaction, works of identification and designation may be applied to areas and sites of special value as acknowledged by international designation such as Global Geopark and RAMSAR sites. This should be considered when the area does not benefit from a protection status.

4.2. Progress being made in the Mediterranean to identify OECMs

71. The GFCM and FAO OECM process included an initial screening of eight Mediterranean fisheries management areas as mentioned above. The results for these sites, some of which cross international boundaries or including high seas waters are as follows:

- The Jabuka/Pomo Pit FRA (Adriatic Sea, within the jurisdiction of both Italy and Croatia): considered to be suitable for a full assessment.
- Three FRAs in the Strait of Sicily (West of Gela Basin; East of Adventure Bank; East of Malta Bank), partly in Italian waters and in part beyond in an area which is currently High Seas: Two (the East of Adventure Bank and the West of Gela Basin) merit a full assessment with the provisos that: this will need to take governance changes into account, especially those related to the ongoing discussions around Italy’s EEZ; given that FRAs are renewed every four years, the question of what constitutes a sustained outcome needs to be decided in the Mediterranean context; and questions remain as to the extent to which other (non-fishing) pressures could undermine the FRA’s contribution to conservation.
- The Velebit Channel demersal fishing ban in Croatia (see below):
- Three fisheries ABMTs in Lebanon (see table below):
- The GFCM 1,000 m FRA: assessed as being inappropriate for OECM designation, given the lack of dedicated management for the entire area and a specific monitoring plan. The GFCM however (FAO, 2023) suggested that the portions of the FRA falling under territorial seas could be potential OECMs, and in-depth assessments of these areas were undertaken by the countries concerned. Areas that could be assessed in this way might be those overlapping with EBSAs, sea mounts and their summits, mud volcanoes and other areas hosting VME indicators, if suitable protection measures restricting all potentially harmful human activities are in place.

72. The Pelagos Sanctuary for Mediterranean Marine Mammals and the Cetacean corridor in the Western Mediterranean were suggested by FAO (2023) but both are now recognised as SPAMIs, and are listed in the WDPA, and are thus excluded for listing as OECMs.

73. Other areas considered worth screening included the Eratosthenes Seamount, and the Palmahim Disturbance Cold Water Coral Gardens and Cold Seeps (proposed FRA).

74. Progress being made on identifying areas suitable for assessment of OECMs in some Mediterranean countries is summarised in Table 4.

Table 4. Areas suitable for assessment of OECMs in some Mediterranean countries

Country	Current progress in identifying OECMs
Algeria	Five terrestrial OECMs have been reported to the WD-OECM, including Permanent Hunting Reserves (e.g. M'Hamid El Ghizlane) and Biosphere Reserves. There is considered to be potential for assessment of marine and coastal sites such as cultural Parks (e.g. Ahaggar Cultural Park), artificial reefs, and regulated or controlled fisheries areas as OECMs (IUCN-WCPA, 2020).
Croatia	The Velebit Channel demersal fishing ban (see above): designated as a special habitat under the Marine Fisheries Law (i.e. categorised as an important spawning, feeding sites etc.). Requires an in-depth analysis to clarify how the measures contribute to the biodiversity in the area in the context of the four pillars of ecosystem services.
Egypt	Some potential OECM sites on the Mediterranean coast have been 'pre-identified' including Al Shewaila- Matruh, Ras Al Hekma – Matruh, Sunken City (Port East Alexandria), Bardaweel Lake- North Sinai Ramsar Wetland, Selective Oil platforms (in coordination with Oil Sector), Nile Delta Fan; Nile Delta cold hydrocarbon seeps FRA. There is also scope for fisheries OECMs, through the FAO-GFCM process (IUCN-WCPA, 2020; SPA/RAC –UN Environment/MAP, 2022)
France	National guidance has been prepared (Comité français de l'UICN, 2022). Potential marine and coastal OECMs that could be assessed include: artificial reefs managed by the city of Marseille; community-led fisheries long-term closures/artisanal fishing zones; fisheries reserve managed by community (prudhomie) of small scale fishers in Cap Roux (France), wind farms (e.g. in the Gulf of Lion)
Italy	In early 2024, the government applied to the CBD Secretariat for recognition of the "Area identified under Law 83/2012" as an OECM. This area has established "for the protection of the environment and the ecosystem ... will prohibit prospecting, exploration as well as the cultivation of liquid and gas hydrocarbons at sea ... in the sea areas located within 12 miles from the coastlines along the entire national coastal perimeter and from the outer perimeter of the above-mentioned protected marine and coastal areas ..." as revised by the new D.L. 18/11/2022, no. 176 'Urgent support measures in the energy sector and public finance'. Spatial data and other information on how the site meets the CBD Criteria were also supplied. As yet, this site is not listed on the WD-OECM.
Lebanon	Three fisheries ABMTs were assessed as part of the GFCM process: an artificial reef deployed in 2021 off the village of Barbara in the Keserwan-Jbeil governorate; pilot measure to limit bycatch and illegal fishing that is not yet in place; the Batroun Conserved Area, an area under direct jurisdiction of the Ministry of Agriculture of Lebanon. Further information is required for an initial assessment of these sites. Other areas considered to have potential for assessment include Jabal Moussa Biosphere Reserve, as well as private protected areas; ecotourism trails, areas with fisheries restrictions, buffer zones of Biosphere Reserves not declared as protected areas, and community-managed "Himas" (IUCN-WCPA, 2020)

Country	Current progress in identifying OECMs
Morocco	338 terrestrial OECMs have been identified, primarily in the form of Hunting Reserves and Biosphere Reserves. The process may be continued for marine sites.
Tunisia	Sites suggested for initial assessment include El Bibane lagoon and Ramsar site; other important wetlands; oases; voluntary no-take fishing areas, artificial reefs. The GFCM process recommended assessment of areas where clams are collected by women in Tunisia.

SECTION 5. CONCLUSION

5.1. Additional challenges to identifying OECMs

5.1.1. Duration of management measures and changes in governance at a site

75. Fisheries management measures are rarely in place in perpetuity, so the question of what constitutes “long-term” for an mOECM may be subjective. A commercial fishing closure that stays in place only until an overfished area recovers, is not an OECM. The FAO (2023) guidance states that: “Short-term regulatory instruments are expected to be renewed regularly, thus providing continuous conservation Seasonal measures can be considered when they are perennial and where they are part of a long-term overall management regime that results in the year-round in-situ conservation ...”. In the case of aquaculture, the public domain use authorisation is usually time-bound (20 to 30 years). So, although an aquaculture zone may have positive outcomes for biodiversity conservation, it may not be an OECM unless measures are in place from the beginning, for keeping the conservation values after the potential end of the aquaculture operations (Stolpe et al, 2024).

76. In principle, anything that could change the answer to any of the CBD criteria should trigger a new assessment, including the extent of maritime jurisdiction over given marine areas. A change in the national competence, such as through the case of the establishment of an exclusive economic zone, would trigger a new assessment, should there still be the willingness to ensure the OECM label be maintained once the previous defined spatial measure would fall into a new maritime jurisdiction (GFCM, 2024).

5.1.2. Applying the CBD Criteria over large areas:

77. Regional fisheries management organisations (RFMOs) are able to recognize and report OECMs on behalf of their Member States, where the Secretariats have been instructed to do so. The RFMOs operate over large areas. For a whole RFMO managed areas to qualify as an OECM, there would need to be appropriate measures throughout the area; in the case of the 1000m FRA management was not considered adequate for recognising the FRA as an ABMT (see below). If a cluster of valuable sites exist in a larger marine environment that contain significant areas not fulfilling OECM criteria, individual areas should be identified as OECMs rather than recognising the whole area, as is the case with the NEAFC OECM (Stolpe et al., 2024).

5.1.3. Novel biodiversity

78. Another issue which may need debating is whether “novel” biodiversity – i.e., or an assemblage of species that inhabits an area following some human intervention which was not there prior to the intervention, should be included as contributing to positive biodiversity outcomes. This issue is relevant to offshore wind platforms and their colonizing species, and their role as fish attraction devices. Artificial structures often result in the appearance of species that were not in the original ecosystem, and some feel that this novel biodiversity should not be counted as a conservation outcome (the idea here being that it is the natural assemblage that should be conserved and thus the target for management). Whether OECM end up conserving existing marine communities or creating new ones in that location, if the net effect is an increase in species numbers and enhanced ecological processes, it should be considered “biodiversity-positive”. In these cases, to determine whether something is biodiversity positive requires consideration of trade-offs between any biodiversity disrupted through initial construction or submersion of the artificial structure and the ways that the structure may support new biodiversity (FAO in prep).

5.2. Next Steps

79. Despite the plethora of guidance and initiatives on OECMs, there continue to be a number of issues that need better resolution (Agardy, 2023; Stolpe et al., 2024). Countries need to recognise these when embarking on the process, but this does not mean that there should be a delay in initiating actions to identify OECMs. Political risks must be recognised including those of diverting attention from MCPAs that either need to be established or that need more effective management. A key risk is the potential misuse of the OECM designation as a means to meet conservation targets without delivering real outcomes – often referred as “blue-washing” (Claudet et al., 2022). It is crucial to ensure that OECMs are not used as a substitute for effective marine protection or to legitimize activities incompatible with biodiversity conservation, such as industrial fishing or oil extraction.

80. The immediate next step involves the pilot-testing of this guidance in a country, which will allow for fine-tuning of the approach and the identification of any modifications that are needed to the guidance.

81. National authorities also need to start to integrate the identification and management of OECMs into their marine spatial planning and other conservation planning processes. Close regional co-operation will be necessary to strengthen collaboration and knowledge sharing among the Mediterranean countries and, for OECMs to have long-term benefits and to be sustainably managed, there must be involvement of all stakeholders and local communities at all stages in the process.

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Annex XII
Proposal of Common Indicators of the EcAp Ecological Objective 4 on Marine Food Webs
under the Barcelona Convention

Proposal of Common Indicators of the EcAp Ecological Objective 4 on Marine Food Webs under the Barcelona Convention.

1. Introduction:

1. The Contracting Parties (CPs) to the Barcelona Convention agreed to implement the Ecosystem Approach (EcAp) process. In their 19th COP (Athens 2016), the CPs adopted the Integrated Monitoring and Assessment Programme of the Mediterranean Sea (IMAP) (Decision IG.22/7). However, regarding the Biodiversity component, the current IMAP did not yet cover the development (i.e., proposals of indicators, Good Environmental Status (GES) description and related targets) of the ecological objective 4 (EO4) on marine food webs. The EO4 deals with: “Alterations to components of marine food webs caused by resource extraction or human-induced environmental changes do not have long-term adverse effects on food web dynamics and related viability”.

2. As a first step towards the development of EO4 on food webs, SPA/RAC has initiated a desk review study to inventory data sources, best practices, and methodologies for monitoring and assessing marine food webs in the Mediterranean (UNEP/MED WG. 592/Inf.3). The desk review consists of the following sections: scientific publications; existing and potential data sources; methodologies for monitoring and assessment (under the MSFD and other Regional Sea Conventions, such as OSPAR, HELCOM); relevant ongoing/concluded initiatives/projects at regional, sub-regional, or national levels; regional/national institutions and key experts working on monitoring and assessment of food webs in the Mediterranean; knowledge gaps. This review was presented during the first meeting of the Biodiversity Online Working Group (BWG) for Marine Food Webs on 4 December 2024 where IMAP gave other keynote presentations: an overview of the indicators used in the Marine Strategy Framework Directive on marine food webs Descriptor 4 (D4) Italian project led by ISPRA and a summary of scientific knowledge and methodological applications related to indicators of marine food webs in the Mediterranean showed by other scientists.

3. Following the first meeting of the BWG on Marine Food Webs, a multidisciplinary group of voluntary experts was established. Its role is to provide technical expertise, strategic advice, and practical recommendations to enhance the development of IMAP common indicators for Ecological Objective 4. A coordinator was designated to deliver backstopping services to both the Biodiversity Working Group and the voluntary experts' group and to facilitate their work. The BWG for Marine Food Webs is supported by the Italian Working Group under the Marine Strategy Framework Directive (MSFD).

4. The main purpose of the BWG is to facilitate the contribution of the country scientists to the process of finalization of the EO4 through the application of the following key points:

- Scoping the most relevant approaches to develop IMAP common indicators for the Ecological Objective 4 on Marine Food Webs under the Barcelona Convention.
- Establish common indicators to assess marine food webs in alignment with existing frameworks such as the Marine Strategy Framework Directive (MSFD) and regional conventions like OSPAR and HELCOM.
- Define targets and criteria for assessing the Good Environmental Status (GES) of marine food webs.
- Identify data gaps regarding marine food webs in the Mediterranean.
- Propose innovative approaches to improve monitoring and assessment based on best practices and methodologies.
- Harmonize data collection processes at national and regional levels to ensure their integration into Mediterranean environmental assessments (e.g., MED QSR).
- Develop guidelines for collecting, interpreting, and using food web data.

5. The Biodiversity Online Working Group met online on December 4, 2024, and February 20, 2025, while the voluntary expert groups met online on February 3, 2025. These meetings and discussions led to the following considerations and recommendations.

2. Outcomes of the Biodiversity Online Working Group for Marine Food Webs

6. The BWG stated that multiple pressures impact food webs and affect their dynamics in complex ways. Therefore, it is challenging to link changes in indicators to pressures. Fishing pollution, eutrophication, climate change and non-indigenous species affect multiple levels of the food web simultaneously in ways that are specific to a given ecosystem and have only recently been investigated. With the current knowledge-base, it is impossible to construct a single general indicator to assess the impacts of these pressures. On the other hand, several indicators are adopted to assess the impact of specific pressures whose effects are better known, for instance fisheries impacts on the food web. One of the most used indicators is the Mean Trophic Level (MTL), which originally assessed the average trophic level of a marine system from the trophic position of harvested species in the food web (Pauly et al. 1998) and tends to decrease with increasing fishing impact. MTL is currently used in ecosystem modelling to investigate the effects of fishing based on the trophic position of species (Agnetta et al. 2024) coming from both catches and biomass at sea. In addition, Gascuel et al. (2005) suggested the Trophic Spectrum of total consumer biomass as an indicator of trophic structure in a fisheries context. To characterise food webs and their status in general, authors suggested a single indicator based on feeding guild assessment (Thompson et al. 2020) as well as a set of operational indicators (Tam et al. 2017, Machado et al. 2021) also using outputs of Ecological Network Analysis (Safi et al. 2019) to propose food web indicators.

7. To build indicators and GES, the BWG identified key research gaps. The gaps included uncertainties regarding top predator production, limited data on highly dynamic plankton communities and processes, inadequacy of size-based indicators, poor reliability of abundance trends, lack of data on feeding habits, and long-term data time series in general, need for adopting operational ecosystem-based indicators versus single species-focused ones. Long-term effects of global change, impacts of invasive alien species, nutrient changes, habitat loss, and baseline data deficiencies further challenge food web assessment. Additional gaps encompass limited trophic level estimations, especially for non-fish organisms, lack of data on invertebrates and non-indigenous species, temporal and spatial coverage limitations, not uniform and consistent sampling strategies and frequencies, and uncertainties in assessing the impact of future changes on food web structure and function.

8. Nevertheless, various ecological analyses, such as those using biomass and gut contents or stable isotope-based ones (Berto et al. 2024), from linear mixing to Bayesian ones, help assess the feeding habits of several consumers and features of food webs and establish the trophic position of marine species. Analysis of these data and their integration into more complex models (McCormack et al. 2019) such as OSMOSE, ATLANTIS and ECOPATH represent a way forward to exploring scenarios of food web changes in relation to disturbances with notable Mediterranean case studies like Coll & Libralato (2012), Piroddi et al. (2015) and Agnetta et al. (2022). An intermediate level of complexity in such analysis is represented by the cumulative trophic spectra suggested by Link et al. (2015, 2024), which also offers valuable insights.

9. Based on the experience of the BWG and the desk review, it has been confirmed that there is an extreme heterogeneity of approaches for studying marine food webs in the Mediterranean. The topic has been extensively explored in the last few decades, with reference to single species, trophic guilds, or the analysis of whole food webs using indicators or modelling. Various methodologies are used for monitoring and assessing marine food webs, which is crucial for understanding ecosystem health and fulfilling objectives outlined in the Barcelona Convention. Each method has its advantages and limitations, emphasising the importance of combining approaches to study marine food webs and assess their ecological status comprehensively.

10. The BWG reviewed advancements in the application of food web indicators in the European context. The MSFD sets out objectives for achieving and maintaining good environmental status in the marine environment, including D4 focusing on food webs. According to the decision EU 2017/848, laying down criteria and methodological standards on good environmental status, for D.4-Food Webs, trophic guilds are selected under criteria elements which meet the following conditions: (a) include at least three trophic guilds; (b) two should be non-fish trophic guilds; (c) at least one should be a primary producer trophic guild; (d)

preferably represent at least the top, middle and bottom of the food chain. Primary and secondary criteria are adopted, including indicators for the diversity of the guild (D4C1), the balance in abundance and biomass within the guild (D4C2), size distribution within the guild (D4C3) and productivity of the guild (D4C4). In contrast, assessment results are not independent from the different criteria. Other indicators have been identified for D4 of the MSFD, such as the performance (production) of key predator species, the biomass of large fish, and abundance trends of selected groups and species (European Commission 2010/477/EU). However, these indicators are intended as surveillance indicators and, in many cases, are not directly related to a specific pressure.

11. Development of indicators usable for food webs (such as D4) poses challenges due to the complexity of marine ecosystems, leading to improved ecological models and discussions around indicator selection and operationalization. In the Baltic Sea region, HELCOM has established an expert group on food webs (EG FOODWEB) within its biodiversity working group (WG BioDiv) to develop quantitative, indicator-based assessments supporting MSFD objectives. The expert group contributed to the 2016-2021 HELCOM Holistic Assessment (HOLAS 3). Besides data-based indicators, such as “Seasonal succession of functional phytoplankton groups” and Integrated Trend Analysis on food webs, they also presented a methodology for assessing MSFD indicators associated to the criteria D4C2 and D4C4 using the Ecopath with Ecosim model (EwE). However, a quantitative evaluation of the Baltic Sea's food web status remains challenging due to a lack of harmonized data and regionally agreed-upon indicators, as noted in the HOLAS 3 assessment. OSPAR, as Regional Sea Convention, conducts thematic assessments in the context of MSFD regional implementation, including food webs assessment, with common indicators like changes in phytoplankton and zooplankton communities, size composition in fish communities, change in average trophic level of marine predators, and proportion of large fish. OSPAR has initiated pilot assessments in various assessment areas using Ecological Network Analysis, feeding guild assessments, and trophic level changes of marine consumers. Several further research projects and initiatives exist in Europe concerning assessing and monitoring marine food webs (OSPAR ICG COBAM 2012, Preciado et al. 2023). However, the Mediterranean region appears to be less active in leading such projects than other regions. Food web studies focusing on indicator development are relatively recent and less developed, in the Mediterranean despite the production of several scientific papers on Mediterranean case studies. At present, significant gaps exist in data collection, reliable indicators, and setting thresholds, hindering the establishment of common targets and harmonized monitoring initiatives.

12. Considering all this information, the BWG suggests adopting a stepwise approach to implement EO4, from basic to complex methods and indicators. Biomass, abundance, diet, and trophic levels of marine species, as well as commercial catches of fisheries and fishing activities, are primary variables that can be used to start estimates of useful and common indicators. These variables and parameters are immediately available for all CPs on open-source websites (for example, GFCM, FishBase, FishStatJ, Global Fishing Watch), although the information is mainly related to fish species and suffers variable degrees of aggregation and may be referred to different geographic domains. Moreover, marine inshore ecosystems are generally not adequately included in these datasets.

13. In light of these considerations, the BWG proposes to adopt the following operational objectives and indicators (Table 1). Instead, GES and targets will be discussed at the next meetings of the Working Group as soon as other progress from EU experience (MSFD, OSPAR, HELCOM) or other pilot assessments allow a proposal to be made.

Table. 1. Proposal of operational objectives and indicators for the Ecological Objective 4 on Marine Food Webs under the Barcelona Convention

Operational objective	Indicator
4.1 Diversity of ecosystem and dynamics across all trophic groups can ensure long-term biomass-abundance of the species	4.1.1 Biomass or abundance of species/genera/taxa or trophic groups
	4.1.2 Average of Mean Trophic Level of species/genera/taxa or trophic groups from biomass and/or catches
	4.1.3 Biodiversity indices
4.2 Proportion of selected group of species is balanced as in healthy food webs	4.2.1 Pelagic/Demersal ratio
	4.2.2 NIS/Demersal ratio
	4.2.3 Zooplankton/phytoplankton ratio
	4.2.4 Size distribution of trophic groups
	4.2.5 Production of Megafauna (*Megafauna variables from EO5)

14. Trends and/or comparisons across spatial scales of the food web indicators proposed (Table.1) can be performed at least at regional or subregional level, depending on the availability of three groups of data (A, B, C). A) Biomass (i.e. Kg/km²), abundance (i.e. Number of individuals/km²) and size (i.e. total length of body) of species can be obtained for example for many demersal species from MEDITS data and GFCM stock assessment reporting datasets. B) commercial catches of target species and production of fisheries can be obtained for example by using FAO data (FishstatJ). C) Trophic level of species can be obtained from large dataset such as Fishbase and Lifebase. Indicators belonging to objective 4.1 are useful for a first evaluation of potential anthropogenic impact on the structure of food webs as a whole system by specifically looking at simple data such as biomass or abundance of species groups (indicator 4.1.1), trophodynamics (indicator 4.1.2) and diversity such as alpha and beta indices (indicator 4.1.3). Indicators belonging to operational objective 4.2 focus on some food web compartments to have more specific evidence of potential anthropogenic impacts such as detrimental effect of bottom fisheries and/or eutrophication (indicator 4.2.1), increase of non-indigenous species (indicator 4.2.2), changes in net primary production affecting the base of food webs (indicator 4.2.3 and 4.2.4), depletion of large megafaunal organisms (indicator 4.2.5)

15. The BWG proposed to (i) complete the list of experts, laboratories, institutions and organisations involved in the work on EO4 established in the desk study and (ii) update and complete the lists of marine food web projects carried out at the national and regional level that could contribute to the development of EO4. To this end, the SPA/RAC has prepared and sent a questionnaire to the Contracting Countries to collect the necessary information. In addition, it is important to (iii) exchange experiences with other working groups on food webs in the context of the MSFD, HELCOM and OSPAR.

16. 11 countries and partners were represented in the BWG for marine food web. SPA/RAC will invite the Contracting Parties who have not yet appointed members to the BWG of experts to do so as soon as possible to allow to take advantage of the diversity of skills and expertise across the region.

17. Given the importance of monitoring marine food webs, especially considering multifactorial disturbances on the Mediterranean ecosystem, SPA/RAC will continue to develop IMAP Ecological Objective 4 on marine

food webs, drawing on the results of the desk review study as provided for in the SPA/RAC work program for 2024-2025 and the new achievements the WG will have. WG and SPA/RAC have planned to have other two meetings in 2025 after the CORMON meeting. At least one of these will be organized to have representative participation of Spain and Croatia for D4, to identify data gaps regarding food webs in the Mediterranean and innovative approaches to improve monitoring and assessment based on best practices and methodologies. Moreover, it was proposed to share a database between the country representatives and the SPA-RAC to collect information on the availability of field samples relevant for the development of food web indicators at regional level.

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Annex XIII

Draft EcAp Ecological Objective 6 on sea-floor integrity under the Barcelona Convention

Draft EcAp Ecological Objective 6 on sea-floor integrity under the Barcelona Convention

1 Background

1. The Contracting Parties (CPs) to the Barcelona Convention (BC) adopted the *Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria* (IMAP; UNEP/MAP, 2016) within the Ecosystem Approach (EcAp) process. The IMAP requirements focus on agreed Ecological Objectives (EOs) and their related Common Indicators and have been developed in coherence with the European Union's (EU) Marine Strategy Framework Directive (MSFD¹).
2. The current IMAP covers the ecological objectives related to biodiversity (EO1), non-indigenous species (EO2), eutrophication (EO5), hydrography (EO7), coast (EO8), contaminants (EO9), and marine litter (EO10). Each has one or more agreed Common Indicators (CI).
3. Ecological objectives for marine food webs (EO4) and sea-floor integrity (EO6) are not yet included in the IMAP. They were discussed in the early stages of the EcAp implementation process, with initial proposals made in 2013 for a description of Good Environmental Status (GES), associated common indicators and related targets (UNEP/MAP, 2013b). However, it was agreed at the time that EO4 and EO6 needed further development, considering the lack of data and the knowledge gaps on these two topics in the Mediterranean Sea region.
4. This present report focuses on the further development of **EO6 on sea-floor integrity**. It was prepared during 2022-2023 under contract No. 01_2022_SPA/RAC for the Mediterranean Action Plan of the United Nations Environment Programme (UNEP/MAP) and its Regional Activity Centre on Specially Protected Areas (SPA/RAC), with the support of the EU-funded ABIOMMED project "*Support coherent and coordinated assessment of biodiversity and measures across the Mediterranean for the next 6-year cycle of the MSFD implementation*" and the Mediterranean Trust Fund (MTF).
5. The report was presented to the Biodiversity Online Working Group (OWG) on benthic habitats on 9 December 2022, to the CORMON Biodiversity and Fisheries meeting on 9-10 March 2023, Athens (UNEP/MED WG.547/10), to the SPA/BD Focal Points meeting on 22-24 May 2023, Malta (UNEP/MED WG.548/inf.12), and to the Ecosystem Approach Coordination Group (EcAp CG) meeting on 11 September 2023, Istanbul (UNEP/MED WG.567/Inf.17). Comments received from these meetings were incorporated into the latest version (UNEP/MAP SPA/RAC, 2023a). The report was also presented to the final meeting of the ABIOMMED project on 11-12 December 2023, Athens.
6. The report was updated for presentation to the CORMON Biodiversity and Fisheries meeting on 6-7 June 2024 (UNEP/MAP SPA/RAC, 2024) and has been further updated for the CORMON Biodiversity and Fisheries meeting on 7-8 April 2025. The present version takes account of comments received from the 2024 and 2025 CORMON meeting and presents the conclusions of that meeting on the EO6 proposal (Section 14).
7. Development of EO6 has been undertaken in coherence with the EU MSFD Descriptor 6 and, in particular, the work of the Technical Group on seabed habitats and sea-floor integrity (TG Seabed). It also takes account of recent policy developments, with a view to ensuring EO6 is relevant in the context of Mediterranean, European and global policies on environmental protection and climate change.

2 Objectives, scope and tasks

8. The aim of this report is to develop, within the framework of the Ecosystem Approach process of the Barcelona Convention, the IMAP Ecological Objective 6 on sea-floor integrity:
 - a. GES definitions;
 - b. related environmental targets, and

1 [Directive 2008/56/EC](#)

- c. list of the common indicators.

9. It has the following tasks:

- a. Examine the proposal of the EO6 (GES description, related Targets and indicators) elaborated in 2013, as set out in the document UNEP(DEPI)/MED WG.382/15: “Proposed GES and Targets regarding Ecological Objectives on biodiversity and fisheries (Joint session of the Eleventh Meeting of Focal Points for SPAs and COR-GEST on Biodiversity & Fisheries)”;
- b. Provide a revised and further developed proposal of the IMAP EO6 on sea-floor integrity (i.e., GES description, related environment targets and the list of the common candidate indicators), that should include also:
 - i. the broad benthic habitats to be considered based on the Updated Reference List of Marine Habitat Types for the Selection of Sites to be Included in the National Inventories of Natural Sites of Conservation Interest in the Mediterranean;
 - ii. the human activities (sources of pressures) to be considered;
 - iii. information about the existence (or not) of baseline data in relation to each indicator;
 - iv. the linkages (direct or indirect) with the other EO.

3 Policy context

3.1 Mediterranean Sea regional policies

10. The Mediterranean Action Plan (MAP), the first Regional Sea Programme under the auspices of UNEP, with the Barcelona Convention for the protection of the Marine Environment and the Coastal Region of the Mediterranean, focuses on conservation, management and sustainable practices, actions and strategies to be endorsed and implemented at national level by the 22 Contracting Parties (21 countries surrounding the Mediterranean Sea plus the EU). It is a unique legal framework in the region which aims to ensure coherence and regional cooperation. UNEP/MAP and its Regional Activity Centres (RACs) also assists countries in implementing national environmental policies and enhances the acquisition and exchange of scientific knowledge and data. The overall objective is to achieve sustainable development, at present and in the future, in a healthy Mediterranean.

11. **Seven protocols** are associated to the Barcelona Convention, each with a specific focus:

- a. Dumping Protocol from ships and aircrafts;
- b. Prevention and Emergency Protocol (concerning oil and other harmful substances);
- c. Land-Based Sources Protocol;
- d. Specially Protected Areas and Biological Diversity Protocol;
- e. Offshore Protocol (pollution from exploration and exploitation);
- f. Hazardous Wastes Protocol and
- g. Protocol on Integrated Coastal Zone Management.

All seven have relevance, to varying degrees, to the protection and conservation of the Mediterranean sea-floor.

12. Following the recommendations of the Convention on Biological Diversity (CBD) on principals for implementing the **Ecosystem Approach (EcAp)** (CBD, 2000), the Contracting Parties of the Barcelona Convention adopted the **Ecosystem Approach Strategy and Roadmap** (UNEP/MAP, 2008), with the objective of achieving and maintaining Good Environmental Status (GES) for the Mediterranean Sea and coasts². Implementation of this integrative approach was further detailed in subsequent years (UNEP/MAP, 2012, 2013a).

² <https://www.unep.org/unepmap/what-we-do/ecosystem-approach> and <https://www.rac-spa.org/ecap>

13. The **Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria (IMAP)** was adopted by CPs in 2016 (UNEP/MAP, 2016). It results from implementation of the Ecosystem Approach and defines strategies, Ecological Objectives (EO) and Common Indicators (CI) to assess and monitor the Mediterranean Sea and coasts.

14. The 2017 **Quality Status Report for the Mediterranean** (MedQSR) (UNEP/MAP, 2017) was the first assessment for the Mediterranean Sea based on the Ecosystem Approach, and the Ecological Objectives and Common Indicators defined within the IMAP framework. National data reporting was not yet sufficient, so the report was based on best available information (UNEP/MAP, 2017). At the time, Ecological Objective EO6 on sea-floor integrity had not been developed and was therefore not specifically assessed in the 2017 MedQSR.

15. The 2023 **Quality Status Report for the Mediterranean** (UNEP/MED WG.567/Inf.3, UNEP/MED IG.26/Inf.10) was undertaken with a more data-driven approach and included an assessment of three seabed habitat types (Coralligenous habitat, Maerl and rhodoliths habitat, *Posidonia oceanica* meadows) for EO1 (<https://medqsr2023.info-rac.org/mediterranean-quality-status-report/>). To provide a broader perspective on the state of the Mediterranean seabed, a complementary initial assessment was provided for EO6, together with a pilot assessment of EO6 for the Adriatic Sea (UNEP/MAP, 2023).

16. UNEP/MAP SPA/RAC strengthened its commitment towards sea-floor protection through the **Post-2020 Strategic Action Programme for the Conservation of Biological Diversity and Sustainable Management of Natural Resources in the Mediterranean Region** (UNEP/MAP 2021a) and the **Post-2020 Regional Strategy for marine and coastal protected areas and other effective area based conservation measures in the Mediterranean** (UNEP/MAP 2021b).

17. Alongside UNEP/MAP's goals to protect Mediterranean sea-floor biodiversity lie those of the General Fisheries Commission for the Mediterranean (GFCM). Key amongst GFCM actions to protect the seabed are its ban on bottom fishing below 1000m depth throughout the Mediterranean (GFCM, 2005) and protection of certain sensitive seabed habitats through establishment of Fisheries Restricted Areas (FRAs) (e.g., GFCM 2005, 2006, 2013, 2019, 2021a, b, c). GFCM has published a new strategy covering the period up to 2030, in which Target 1 focuses on healthy seas and productive fisheries (FAO, 2021).

3.2 European Union policies and initiatives

18. The **Marine Strategy Framework Directive** (MSFD) is applied by the 8 Mediterranean countries who are EU Member States (MS) (Croatia, Cyprus, France, Greece, Italy, Malta, Slovenia and Spain).

19. The directive aims to achieve “Good Environmental Status” (GES) of the EU marine waters. It requires the EU Member States to manage human activities which have an impact on the marine environment by implementing national marine strategies for their waters in cooperation with neighbouring countries in the Mediterranean Sea region. Five steps are included in the strategy³:

- a. Assess the environmental status of the sea and the impacts upon it from human activities;
- b. Determine the characteristics of good environmental status (GES);
- c. Establish a series of environmental targets and associated indicators;
- d. Establish and implement a monitoring programme for ongoing assessment and updating of targets;
- e. Develop a programme of measures to achieve or maintain GES.

20. These steps are implemented within 6-year cycles and are reviewed and updated for the following cycle. The Member States report their marine strategies to the European Commission (EC), who has the responsibility to assess their adequacy and provide guidance on how they should be improved.

3 https://ec.europa.eu/environment/marine/eu-coast-and-marine-policy/implementation/reports_en.htm

Implementation of the MSFD is currently being evaluated, with the possibility that the EC will propose⁴ that it is amended.

21. The MSFD is supplemented by **Commission Decision (EU) 2017/848** (hereafter as ‘GES Decision’) which provides the criteria and methodological standards for determining GES and assessing the extent to which it has been achieved. The 2017 Decision provides a major update of the initial Commission Decision (2010/477/EU) including a much clearer framework for MSFD implementation. It is accompanied by a **revised MSFD Annex III**⁵. For the assessment of GES threshold values which are defined at EU level are now available for some descriptors and criteria, including for seabed habitats (EC, 2024, **C/2024/2078**).

22. The **Water Framework Directive** (WFD⁶) establishes a framework for the protection of waters with the objective of achieving and maintaining good water status for all European waters. The directive applies to transitional and coastal waters and the sea-floor up to 1 nautical mile from the coastline. For assessment of good status, a number of Quality Elements (QE) are defined in WFD Annex V.1.2, some of which are particularly relevant for IMAP EO1 (biodiversity) and EO6 (sea-floor integrity).

23. The **Habitats Directive** (HD⁷) aims to ensure the EU’s biodiversity, including in the marine environment, is restored and conserved. Specified species and habitats of Community interest should reach favourable conservation status (FCS) such that their long-term survival in their natural range within Europe is secured. Special Areas of Conservation (SACs) are designated by MS for this purpose. SACs, together with the Special Protection Areas (SPAs) of the Birds Directive (BD⁸), form the Natura 2000 network. The habitats to be protected are listed in HD Annex I and include 8 marine habitats of which one (*Posidonia beds Posidonia oceanica*) is treated as a priority habitat (EC, 2013).

24. The EU **Common Fisheries Policy** (CFP⁹) aims to ensure the negative impacts of fishing activities on the marine ecosystem are minimised (CFP Article 2(3)). This is supported, amongst others, by the Mediterranean Regulation¹⁰, and reinforced through the Technical Measures Regulation¹¹ which requires EU fisheries to reduce their environmental impacts to levels compatible with ‘good environmental status’ under MSFD and ‘favourable conservation status’ under the Habitats Directive goals.

25. The **EU Biodiversity Strategy for 2030** (BDS2030¹²) is a plan to protect nature and reverse the degradation of ecosystems. It contains specific commitments and targets including:

Target 1 Legally protect a minimum of 30% of the EU’s land area and a minimum of 30% of the EU’s sea area, and integrate ecological corridors, as part of a true Trans-European Nature Network.

Sub-target A1.2 Legally protect a minimum of 30% of the EU sea area:

Indicator A1.2.1 Marine protected area coverage. Percentage of marine waters, per each European Country and at European level (EU 27), covered by protected areas. The indicator is calculated by the sum of nationally designated protected areas and the areas of Natura 2000 sites.

⁴ MSFD Article 23 states that the Commission shall review the directive by 15 July 2023; however, the evaluation phase (2022) has concluded that the review should await the outcomes of other key policy developments and so is likely to be announced later than 2023.

⁵ [Commission Directive \(EU\) 2017/845](#)

⁶ [Directive 2000/60/EC](#)

⁷ [Directive 92/43/EEC](#)

⁸ [Directive 92/43/EEC](#)

⁹ [Regulation \(EU\) No 1380/2013](#)

¹⁰ [Council Regulation \(EC\) No 1967/2006](#)

¹¹ [Regulation \(EU\) 2019/1241](#)

¹² [Commission Communication COM/2020/380](#)

26. The BDS2030 has led to two initiatives of particular relevance to the sea-floor:

a. Regulation on Nature Restoration

The Nature Restoration Regulation (NRR¹³) requires Member States to adopt nature restoration plans, with a 2030-2050 timeline for the restoration of particular ecosystems, including marine ecosystems. The NRR includes in its Annex II a specified list of marine habitat types to be restored: seagrass beds, macroalgal forests, shellfish beds, maerl beds, sponge, coral and coralligenous beds, vents and seeps, and soft sediments (not deeper than 1,000 metres of depth), based on the EUNIS typology (European Environment Agency, 2022). This list includes seagrass beds, coastal saltmarsh, and macroalgal forests, all of which are habitats with very high rates of carbon sequestration, and soft sediment habitats which, due to their very large extent¹⁴, would provide the largest store of carbon if restored to their natural state. Restoration targets are proposed to be achieved by 2030 and 2040, ultimately restoring all ecosystems in need of restoration by 2050. The Regulation came into force in 2024.

b. Action Plan: Protecting and restoring marine ecosystems for sustainable and resilient fisheries

The Action Plan (EC, 2023b) aims to build bridges between environmental and fisheries policy and will specifically address protection of the sea-floor from damage by bottom fishing, given that the BDS2030 acknowledges bottom fishing to be the most damaging activity affecting the seabed in the seas around Europe. The Action Plan seeks to eliminate bottom fishing within all marine protected areas (MPAs) by 2030, and to implement MSFD Descriptor 6 (sea-floor integrity) threshold values for the maximum allowable extent of seabed that can be lost or adversely effected¹⁵.

3.3 Global policies

27. The Mediterranean and EU policies described in sections 3.1 and 3.2 are complimented and strengthened by a variety of global policies which aim to protect biodiversity and address impacts of climate change. These include UNCLOS, which requires protection of all seabed resources of Contracting Parties and in the high seas, and the Convention on Biological Diversity (CBD) which adopted new global targets for marine biodiversity protection at its COP-15 meeting in December 2022.

3.4 Synergies between policies

28. The array of environmental policies described above provide a complex set of objectives and implementation requirements relating to the Mediterranean sea-floor. Their implementation by UNEP/MAP and its Contracting Parties, and in particular by those Contracting Parties who are also EU Member States, will be most effective and efficient if considered together in a holistic manner, thereby avoiding redundancy and reducing costs. As these policies are ultimately aiming to achieve a good status for the marine environment, through sustainable management of human activities, harmonised approaches to assessment of environmental status, environmental monitoring, and setting of targets and measures, can help to ensure single underlying actions will deliver to multiple policies and objectives.

4 Anthropogenic pressures affecting the Mediterranean sea-floor

29. Anthropogenic pressures, stemming from activities in both the marine and terrestrial environments, can adversely affect¹⁶ the marine environment. In addition, anthropogenic climate change may lead to a number

¹³ [Regulation \(EU\) 2024/1991](#)

¹⁴ It is estimated that marine sediment habitats between 0-1000m depth cover an area of EU marine waters equivalent to about 44% of the EU land territory.

¹⁵ The threshold values were developed by TG Seabed for MSFD Descriptor 6 in 2022 and adopted by the Marine Strategy Coordination Group ([MSCG 31_2022_WP-Seabed_threshold_values_proposal](#)). They were published as a Communication from the Commission in March 2024 (EC, 2024, [C/2024/2078](#)).

¹⁶ 'adverse effect' is the term used in the MSFD; alternatively, it can be referred to as 'environmental impact'.

of effects on the marine environment which can be broadly categorised as a) ocean acidification, b) carbon sequestration changes and c) hydrological changes. These pressures have been reviewed as to their possible relevance to the Mediterranean sea-floor and its habitats, using the list of pressures provided in MSFD Annex III Table 2a¹⁷ (**Table 1**).

Table 1. Anthropogenic pressures, including from climate change, which can adversely affect the marine environment, with an indication of their relevance to the Mediterranean sea-floor and its habitats.

Yes = widespread relevance, known impacts; Possible = limited relevance due to restricted nature of pressure (and associated human activities) or potential for impacts but limited knowledge. List of pressures derived from MSFD Annex III Table 2a (Commission Directive (EU) 2017/845), with climate change added.

Theme	Pressure	Possibility to affect sea-floor
Biological	Input or spread of non-indigenous species	Yes; non-indigenous species (NIS) are widespread and may be abundant enough to impact seabed habitats (through disturbances to habitat characteristics or loss when habitat structure or community switches to another habitat type).
	Input of microbial pathogens	Possible; effects on sea-floor not often studied as monitoring is primarily focused on coastal water quality (e.g., bathing waters).
	Input of genetically modified species and translocation of native species	Possible; unlikely to be a significant pressure on the seabed except if there is a risk of spreading by some species (e.g., from marine culture or coastal translocations by vectors like fishing or extraction discards); not often monitored.
	Loss of, or change to, natural biological communities due to cultivation of animal or plant species	Possible; seabed cultivation activities are limited in extent in the Mediterranean ¹⁸ .
	Disturbance of species (e.g. where they breed, rest and feed) due to human presence	Possible; pressure mainly affects mobile species (e.g., birds, seals, cetaceans, turtles, shark and rays), but could have very localised effects on some coastal habitats, and indirect effects due to changes in the functional use (e.g. trophic) of habitats by disturbed mobile species ¹⁹ .
	Extraction of, or mortality/injury to, wild species (by commercial and recreational fishing and other activities)	Yes; widespread and extensive effects where bottom fishing using benthic-impacting fishing gears occurs, including Illegal, Unreported and Unregulated (IUU) fishing.
Physical	Physical disturbance to seabed (temporary or reversible)	Yes; widespread and extensive effects where bottom fishing and other activities such as sand extraction offshore energy farms, offshore oil/gas platforms, underwater pipelines and cables, physically affect the sea-floor, particularly during construction phase.
	Physical loss (due to permanent change of seabed substrate or morphology and to extraction of seabed substrate) ²⁰	Yes; widespread pressure, particularly in coastal and nearshore areas; habitat loss typically has limited extent, excepting for coastal (littoral) habitats but can also target specific habitat (sub)types.

¹⁷ MSFD Annex III was updated in 2017 (Directive (EU) 2017/845), following a thorough review of the pressure types used in other fora. It aims to provide a comprehensive set of pressure types relevant to the marine environment, excepting for those related to climate change. The climate change pressures are introduced here for EO6 in recognition of the growing awareness of their importance in adversely affecting the marine (and terrestrial) environment.

¹⁸ Includes cultivation of benthic species, e.g., *Magelana gigas* which has spread from mariculture.

¹⁹ For example, Price (2008) in Lunney, Munn & Meikle (2008).

²⁰ Commission Decision (EU) 2017/848 defines 'permanent change' as a change which has lasted or is expected to last for 12 years or more.

Theme	Pressure	Possibility to affect sea-floor
	Changes to hydrological conditions	Yes; widespread pressure, particularly in coastal and nearshore areas; changes typically have limited extent, excepting when associated with loss of coastal (littoral) habitats and some specific habitat types which have particularly extensive exposure to the pressure (e.g. seagrass beds, mudflats, beaches).
Substances, litter and energy	Input of nutrients — diffuse sources, point sources, atmospheric deposition	Yes; eutrophication effects are restricted to certain coastal/nearshore areas, due to oligotrophic nature of the Mediterranean. Nutrient enrichment may lead to anoxia or hypoxia at or near the seabed leading to significant effects on the seabed communities.
	Input of organic matter — diffuse sources and point sources	Yes; localised effects in some nearshore habitats (e.g., from fish farms, fish processing or urban and industrial waste-water discharges).
	Input of other substances (e.g. synthetic substances, non-synthetic substances, radionuclides) — diffuse sources, point sources, atmospheric deposition, acute events	Possible; diffuse pollution is widespread ²¹ , but monitoring is focused on water quality or at species level; point-source pollution has potential to cause localised effects at ‘community level’.
	Input of litter (solid waste matter, including micro-sized litter) ²²	Possible; widespread with possible effects, but monitoring is currently focused on quantification of litter and effects on mobile species.
	Input of anthropogenic sound (impulsive, continuous)	Possible ²³ ; but monitoring is currently focused on quantification of noise and effects on mobile species.
	Input of other forms of energy (including electromagnetic fields, light and heat)	Possible; any effects likely to be localised, as indicated by some studies related to offshore renewable energy activities.
	Input of water — point sources (e.g. brine)	Possible; any effects likely to be localised.
Climate change	Ocean acidification	Yes; widespread and extensive, particularly for calcareous species (e.g., hard corals, molluscs and echinoderms).
	Changes to carbon sequestration processes	Yes; widespread and extensive, particularly for physically-disturbed and vegetated habitats.
	Hydrological changes (water temperature and heat waves, salinity, sea-level, wave action/storms, currents, freshwater inputs)	Yes; widespread and extensive ²⁴ , particularly for coastal and nearshore habitats.

30. From **Table 1**, it can be seen that the anthropogenic pressures causing most widespread and extensive adverse effects to the sea-floor and its habitats in the Mediterranean are:

a. Non-indigenous species

²¹ Contamination by pollutants may occur far from riverine inputs, even extending into deep-sea canyons, for example in French waters out from the River Rhône (Bonifacio et al, 2014).

²² Includes lost and abandoned fishing gear.

²³ For example, effects linked to generation of offshore renewable energy (Bonnell et al, 2022 [in French]).

²⁴ Possible wide-ranging effects on marine species, their productivity and life cycles, occurrence of NIS, changes in food webs and plankton.

- ## 5 Human activities affecting the Mediterranean sea-floor

Table 2. Human activities in the Mediterranean (based on UNEP/MAP-SPA/RAC (2022) [UNEP/MED WG. 547/Inf.4]) and their main effects (pressures) on the sea-floor.

*Organised according to the activity and pressure themes of MSFD Annex III. **Note** that only the main activity/pressure interactions are indicated (orange cells).*

[illegible]

	Pressure theme	Biological		Physical			Substances, litter & energy		Climate change		
Activity theme	Pressure Activity	Non-indigenous	Extraction of species	Physical disturbance	Physical loss	Hydrological changes (localised)	Inputs of nutrients and organic matter	Inputs of litter (including fished gear)	Acidification	Carbon sequestration	Hydrological changes (widespread)
	Small-scale and recreational fishing (incl. anchoring)										
Cultivation of living resources	Aquaculture activities										
Transport (marine)	Shipping, including anchoring, lost containers, oil spills and wreckage										
Urban and industrial uses	Urban uses; industrial uses; waste treatment & disposal										

6. Relationship between EO6 and the other EOs

32. EO6 on sea-floor integrity is closely linked to several EOs which directly deal with seabed habitats and with other EOs that address pressures that may affect the sea-floor and its habitats. These are presented in 33.

34. **Table 3**, together with comments on how these synergies could be exploited.

Table 3. Links between EO6 and other EOs and their Common Indicators (CI) and Candidate Common Indicators (CCI) (UNEP/MAP, 2016a).

Ecological Objective	Common and Candidate Indicators	Relevance to EO6
EO1 Biodiversity	CI-1: Habitat distributional range CI-2: Condition of the habitat's typical species and communities CI-3, CI-4 and CI-5 address marine birds, mammals and reptiles (Species distributional range, Population abundance and Population demographic characteristics) CI-1 and CI-2 for pelagic habitats - in progress or under development	Relevant. EO1 addresses seabed habitats (as well as species of marine birds, mammals and reptiles), thereby providing a direct overlap with EO6 in cases where the seabed addressed under each EO overlaps (see section 10.2). CI-1 and CI-2 could be reused for EO6.
EO2 Non-indigenous species	CI-6: Trends in abundance, temporal occurrence, and spatial distribution of non-indigenous species, particularly invasive, non-indigenous species,	Potentially relevant.

Ecological Objective	Common and Candidate Indicators	Relevance to EO6
	notably in risk areas, in relation to the main vectors and pathways of spreading of such species	Benthic NIS, when occurring in high abundance or when multiple NIS are present in a community, can cause adverse effects to seabed habitats. CI-6 provides an assessment of the extent and abundance of NIS. Assessments of adverse effects of NIS per habitat type, based on CI6, could be used to contribute to the assessment of EO1 and EO6.
EO3 Harvest of commercially exploited fish and shellfish	CI-7: Spawning stock biomass CI-8: Total landings CI-9: Fishing mortality CI-10: Fishing effort CI-11: Catch per unit of effort (CPUE) or Landing per unit of effort (LPUE) as a proxy CI-12: Bycatch of vulnerable and non-target species (EO1 and EO3)	Potentially relevant. The status of demersal/benthic commercially exploited fish and shellfish (derived from CI-7, CI-9 and other CIs) could be used to contribute to the assessment of EO1 and EO6, as the species status may partially reflect the status of the seabed habitat occupied by the species. CI-12 may be used to assess bycatch of macrobenthic species, including so-called 'Vulnerable Marine Ecosystem (VME) species'.
EO4 Marine food webs	In progress or under development	Potentially relevant. Food webs include interactions between the seabed, water column and marine species living in and above the sea. When CIs are being developed for EO4, it would be sensible to consider whether the data and CIs available under EO1 and EO6 could be reused for EO4 purposes, and how future CIs for EO4 could address specific functional aspects of food webs that also contribute to EO1 and EO6.
EO5 Eutrophication	CI-13: Concentration of key nutrients in water column CI-14: Chlorophyll-a concentration in water column	Potentially relevant. Eutrophication can affect the seabed as well as the water column and in the Mediterranean is mostly confined to coastal waters; CI-13 and CI-14 relate to the water column; in cases where their assessment indicates high pressure levels it may indirectly indicate there may be eutrophication problems on the seabed.
EO7 Hydrography	CI-15: Location and extent of habitats impacted directly by hydrographic alterations	Relevant. Hydrographical alterations to seabed habitats are directly relevant to EO6 (and EO1). Assessments of CI-15 need to provide the extent of adverse effect per habitat so results can feed into assessments of EO-6 and EO-1. CI-15 is closely linked to CI-16 which assesses habitat loss.
EO8 Coastal ecosystems and landscapes	CI-16: Length of coastline subject to physical disturbance due to the influence of man-made structures CCI-25: Land use change	Relevant. If assessment of CI-16 provides results on the extent of effects to littoral rock and sediment habitats, the results can be directly used under EO6 to reflect habitat loss. In addition to the direct loss of littoral habitats by construction on the coast (CI-16), artificialisation of coastline can lead to dispersal of material in the near-shore zone, thereby causing smothering and loss of near-shore habitats.
EO9 Pollution	CI-17: Concentration of key harmful contaminants measured in the relevant matrix	Potentially relevant. CI-17 assesses contamination in seabed sediment, while CI-18 and CI-20 assess contamination in species,

Ecological Objective	Common and Candidate Indicators	Relevance to EO6
	CI-18: Level of pollution effects of key contaminants where a cause-and-effect relationship has been established CI-19: Occurrence, origin (where possible), extent of acute pollution events (e.g. slicks from oil, oil products and hazardous substances), and their impact on biota affected by this pollution CI-20: Actual levels of contaminants that have been detected and number of contaminants which have exceeded maximum regulatory levels in commonly consumed seafood CI-21: Percentage of intestinal enterococci concentration measurements within established standards	some of which may be benthic. The quality thresholds for these CIs are typically not set to detect 'community-level' changes in habitat condition; however, chronic pollution (e.g., from point source discharges) can adversely affect habitat condition. CI-21 tends to address water quality issues and is generally not suitable to indicate pollution problems for benthic habitats. CI-19 could potentially be used for EO6 and EO1 assessments, if results are oriented towards specified seabed habitat types.
EO10 Marine litter	CI-22: Trends in the amount of litter washed ashore and/or deposited on coastlines (including analysis of its composition, spatial distribution and, where possible, source) CI-23: Trends in the amount of litter in the water column including microplastics and on the seafloor CCI-24: Trends in the amount of litter ingested by or entangling marine organisms focusing on selected mammals, marine birds and marine turtles	Limited relevance at present. CI-22 and CI-23 can yield results on the amount of litter on the shore (coast) and seabed; this quantification is of only limited use in assessing whether the litter is adversely affecting the seabed habitats because litter/habitat interactions are not well understood. Areas where litter accumulates (litter sinks) offer more possibilities to assess the impacts of litter at the habitat/community level.
EO11 Energy including underwater noise	CCI-26: Proportion of days and geographical distribution where loud, low, and mid-frequency impulsive sounds exceed levels that are likely to entail significant impact on marine animals CCI-27: Levels of continuous low frequency sounds with the use of models as appropriate	Not currently relevant. The CIs for EO11 are focused on quantifying the distribution and intensity of underwater noise, calibrated to their effects on certain marine species (e.g., cetaceans, fish). Effects of underwater noise on benthic species are reported in scientific literature, but the CIs are not currently of direct use to assess effects to seabed habitats.

35. From the analysis in **Table 3**, it can be concluded that there is a direct overlap in the areas of seabed addressed by EO6 (as sea-floor integrity) with EO1 (as seabed habitats) and EO8 (as coastal habitats), which all focus on the state of biodiversity and ecosystems. There are also links to EO4 through the broader consideration of food webs and to EO3 through demersal/benthic commercially exploited fish and shellfish.

36. There are strong links to EOs which address specific pressures that can yield a measurable footprint of impact on the sea-floor and its habitats: EO2 (non-indigenous species), EO5 (eutrophication) and EO7 (hydrography). EO9 (pollution), EO10 (litter) and EO11 (underwater noise) can all have effects on seabed habitats or species, but their direct use (at least at present) for EO6 is limited.

37. These inter-relationships provide an opportunity to reuse indicators, data and assessments from other EOs for EO6 purposes. This is especially valid when their outputs are made with direct use for EO6 in mind

(e.g., producing footprints of impact per habitat type for a given pressure). However, the CIs for some EOs are not currently fully adapted for use under EO6 but could be useful if further developed.

7. Relationship between EO6 and MSFD descriptors and criteria

38. UNEP/MAP has sought to maintain close relationships between the IMAP and the MSFD to help ensure IMAP implementation can be of direct relevance to those Contracting Parties who are also EU Member States. Implementation of IMAP and the MSFD started about the same time (2008) and has progressed in parallel since then. There is, consequently, a close relationship between the IMAP Ecological Objectives and the MSFD Descriptors, and also between the IMAP Common/Candidate Indicators and the criteria and indicators provided in [Commission Decision 2010/477/EU](#) which aims to allow assessment of the extent to which GES has been achieved under the MSFD. This 2010 ‘GES Decision’ was replaced in 2017 by [Commission Decision \(EU\) 2017/848](#) which provides a more structured and detailed set of criteria, benefitting from the increased understanding and scientific developments that took place in the early years of the MSFD implementation process. The correspondence between the criteria/indicators of the 2010 GES Decision and the criteria of the 2017 GES Decision is given in Annex I of the MSFD 2018 reporting guidance (EC, 2019).

39. Building upon the analysis in **Table 3**, **Table 4** shows the correspondence between the EOs and their Common/Candidate Indicators and the MSFD Descriptors and their criteria.

Table 4. Correspondence between the EOs and their Common Indicators (CI) and Candidate Common Indicators (CCI) (UNEP/MAP, 2016a) and the MSFD Descriptors and their criteria ([Commission Decision \(EU\) 2017/848](#)).

IMAP Ecological Objectives	Common and Candidate Indicators	MSFD criteria Primary criteria (in bold); secondary criteria (not in bold)	MSFD Descriptors
EO1 Biodiversity	CI-1: Habitat distributional range		D1 Biodiversity
	CI-2: Condition of the habitat’s typical species and communities	D1C6 Pelagic habitat condition	
	CI-3: Species distributional range (birds, mammals, turtles)	D1C4 Population distributional range and pattern (Mammals, turtles, HD²⁵ fish) (Birds, non-HD fish, cephalopods)	
	CI-4L Population abundance of selected species (birds, mammals, turtles)	D1C2 Population abundance	
	CI-5: Population demographic characteristics (birds, mammals, turtles)	D1C3 Population demographic characteristics (Mammals, turtles, commercial fish & cephalopods, HD fish) (Birds, non-commercial fish & cephalopods)	
		D1C5 Habitat for the species (Mammals, turtles, HD fish) (Birds, non-HD fish, cephalopods)	
EO2 Non-indigenous species	CI-6 (in part)	D2C1 Newly-introduced NIS	D2 Non-indigenous species
	CI-6: Trends in abundance, temporal occurrence, and spatial distribution of non-indigenous species, particularly	D2C2 Established NIS	

25 HD refers to species listed under the Habitats Directive.

IMAP Ecological Objectives	Common and Candidate Indicators	MSFD criteria Primary criteria (in bold); secondary criteria (not in bold)	MSFD Descriptors
	invasive, non-indigenous species, notably in risk areas, in relation to the main vectors and pathways of spreading of such species		
		D2C3 Adverse effects of NIS on species and habitats	
EO3 Harvest of commercially exploited fish and shellfish	CI-7: Spawning stock biomass	D3C2 Spawning stock biomass (SSB)	D3 Commercial fish and shellfish
	CI-8: Total landings		
	CI-9: Fishing mortality	D3C1 Fishing mortality rate (F)	
		D3C3 Population age and size distribution	
	CI-10: Fishing effort		
	CI-11: Catch per unit of effort (CPUE) or Landing per unit of effort (LPUE) as a proxy		
	CI-12: Bycatch of vulnerable and non-target species	D1C1 Mortality rate from incidental by-catch	D1 Biodiversity
EO4 Marine food webs	Indicators to be developed.	D4C1 Trophic guild species diversity	D4 Food webs
		D4C2 Abundance across trophic guilds	
		D4C3 Trophic guild size distribution	
		D4C4 Trophic guild productivity	
EO5 Eutrophication	CI-13: Concentration of key nutrients in water column	D5C1 Nutrient concentrations	D5 Eutrophication
	CI-14: Chlorophyll-a concentration in water column	D5C2 Chlorophyll a concentration	
		D5C3 Harmful algal blooms	
		D5C4 Photic limit	
		D5C5 Dissolved oxygen concentration	
		D5C6 Opportunistic macroalgae of benthic habitats	
		D5C7 Macrophyte communities of benthic habitats	
		D5C8 Macrofaunal communities of benthic habitats	
EO6 Sea-floor integrity	For possible indicators refer to section 10.3 of this paper.	D6C1 Physical loss of the seabed	D6 Sea-floor integrity
		D6C2 Physical disturbance to the seabed	
		D6C3 Adverse effects from physical disturbance on benthic habitats	

IMAP Ecological Objectives	Common and Candidate Indicators	MSFD criteria Primary criteria (in bold); secondary criteria (not in bold)	MSFD Descriptors
		D6C4 Benthic habitat extent	
		D6C5 Benthic habitat condition	
EO7 Hydrography		D7C1 Permanent alteration of hydrographical conditions	D7 Hydrographical conditions
	CI-15: Location and extent of habitats impacted directly by hydrographic alterations	D7C2 Adverse effects from permanent alteration of hydrographical conditions on benthic habitats	
EO8 Coastal ecosystems and landscapes	CI-16: Length of coastline subject to physical disturbance due to the influence of man-made structures		
	CCI-25: Land use change		
EO9 Pollution	CI-17: Concentration of key harmful contaminants measured in the relevant matrix	D8C1 Contaminants in environment	D8 Contaminants
	CI-18: Level of pollution effects of key contaminants where a cause-and-effect relationship has been established	D8C2 Adverse effects of contaminants on species and habitats	
	CI-19: Occurrence, origin (where possible), extent of acute pollution events (e.g. slicks from oil, oil products and hazardous substances), and their impact on biota affected by this pollution	D8C3 Significant acute pollution events (in part) D8C4 Adverse effects of significant pollution events on species and habitats (in part)	
	CI-20: Actual levels of contaminants that have been detected and number of contaminants which have exceeded maximum regulatory levels in commonly consumed seafood	D9C1 Contaminants in seafood	D9 Contaminants in seafood
	CI-21: Percentage of intestinal enterococci concentration measurements within established standards		
EO10 Marine litter	CI-22: Trends in the amount of litter washed ashore and/or deposited on coastlines (including analysis of its composition, spatial distribution and, where possible, source)	D10C1 Litter (in part)	D10 Litter
	CI-23: Trends in the amount of litter in the water column including microplastics and on the seafloor	D10C1 Litter (in part) D10C2 Micro-litter (in part)	
	CCI-24: Trends in the amount of litter ingested by or entangling marine organisms focusing on selected mammals, marine birds and marine turtles	D10C3 Litter ingested (in part) D10C4 Adverse effects of litter on species (in part)	
EO11 Energy including	CCI-26: Proportion of days and geographical distribution where loud,	D11C1 Anthropogenic impulsive sound	

IMAP Ecological Objectives	Common and Candidate Indicators	MSFD criteria Primary criteria (in bold); secondary criteria (not in bold)	MSFD Descriptors
underwater noise	low, and mid-frequency impulsive sounds exceed levels that are likely to entail significant impact on marine animals		D11 Energy, including underwater noise
	CCI-27: Levels of continuous low frequency sounds with the use of models as appropriate	D11C2 Anthropogenic continuous low-frequency sound	

40. From **Table 4**, it can be seen that there is a high degree of correspondence between IMAP EOs and indicators and the MSFD Descriptors and criteria of the 2017 GES Decision (bearing in mind that the IMAP indicators were developed considering the 2010 GES Decision). There are some notable differences:

- a. EO1 Biodiversity addresses habitats via indicators CI-1 and CI-2, while the 2017 GES Decision has merged the seabed habitat aspect of Descriptor 1 with sea-floor integrity under Descriptor 6, placing all criteria under Descriptor 6, to reduce redundancy;
- b. EO3 Commercial fish and shellfish includes CI-12 on bycatch, while the equivalent criterion is placed under Descriptor 1 for MSFD (criterion D1C1 on species mortality from bycatch mirrors criterion D3C1 on fish and shellfish mortality under Descriptor 3);
- c. EO8 Coastal ecosystems and landscapes has no equivalent descriptor under MSFD. The Barcelona Convention includes the coastal (land) zone of the Mediterranean within its scope and consequently this zone is included in the IMAP, thereby supporting integration objectives across the land-sea boundary. The MSFD scope extends to the top of the shore where the sea has influence but not onto the coastal land above this;
- d. EO9 Pollution includes indicators CI17-CI19 which are addressed under MSFD Descriptor 8 (contaminants in the environment) and CI-20 which is addressed under Descriptor 9 (contaminants in seafood), effectively treating contaminants under a single pollution EO. EO9 also includes CI-21 on microbial pathogens for which there is no equivalent criterion under MSFD. Microbial pathogens are, however, included in the list of pressures in Table 2 of MSFD Annex III and so may be considered in environmental assessments;
- e. At the indicator/criteria level, there is a high degree of correspondence between IMAP and MSFD, but both systems cover topics that are not addressed by the other. Indicators are not yet developed for EO4 (food webs) and EO6 (sea-floor integrity) – the latter are considered in this paper (see section 10.3). As noted in section 4 (pressures on seabed) and section 6 (relationship of EOs and indicators to EO6), there is a need and possibility to use indicators from other EOs to contribute to assessments for EO6, particularly to assess the extent of impacts from specific pressures.

41. As noted above, treatment of seabed habitats under MSFD Descriptor 1 and sea-floor integrity under Descriptor 6 has been brought together in the 2017 GES Decision via a single set of criteria (D6C1 to D6C5). This recognises the close relationship between the two descriptors which essentially address the same part of the marine environment (seabed) and have similar aims (to achieve good condition for benthic species and communities and ecosystem functioning). It is also the intension of the 2017 GES Decision that treating seabed habitats and sea-floor integrity together will remove redundancies by having single processes for defining GES, undertaking monitoring and assessments, setting targets and introducing measures.

8. Scope of the sea-floor and seabed habitats to be addressed

42. The sea-floor and its marine habitats extend from the littoral zone, periodically uncovered by the tides each day²⁶, down to the abyss at depths of 5000 m or more. This entire area falls within the scope of EO6. The scope of the Barcelona Convention extends to the coastal zone above the high-water mark; this lies outside the scope of EO6 but is addressed under EO8.

43. In the context of MSFD Descriptor 6 on sea-floor integrity, the International Council for the Exploration of the Sea (ICES, 2014) gives the following definition for the sea-floor: “*a key compartment for marine life. It includes both the physical and chemical parameters of seabed (e.g., bathymetry, roughness (rugosity), substratum type, oxygen supply, etc.) as well as the biotic composition of the benthic community. Different kinds of habitats for sedentary and mobile marine species are formed inside and above the seabed*”.

44. The biotic and abiotic characteristics of the sea-floor vary according to depth, substrate type and hydrological conditions, including temperature and salinity regimes, wave action, currents and other factors. TG Seabed provides further details on habitat characteristics in a paper on assessing adverse effects on the seabed for MSFD Descriptor 6 (TG Seabed, 2021a). Particular combinations of abiotic characteristics support recognisable communities of benthic species, such as *Posidonia* seagrass meadows and maërl beds. These are referred to as habitats (or more technically as biotopes or bioceonoses). The Barcelona Convention has defined a typology (classification) of the marine habitats present in the Mediterranean (UNEP/MAP SPA/RAC, 2019; Montefalcone et al. 2021); this typology is partially included in the European EUNIS habitat classification (European Environment Agency, 2022).

8.1 Habitat to be assessed – broad and specific types

45. Protection of seabed habitats by the Barcelona Convention has mostly focused on specific habitat types which are considered to be under particular threat, such as *Posidonia* meadows, maërl beds and coralligenous beds. For IMAP and application of EO1, monitoring methods have been defined for these three habitat types (UNEP/MAP, 2019, 2021c) and data flows into the IMAP Info System were initiated in 2020. Discussions within the CORMON Biodiversity Online Working Group (OWG) have considered a longer list of habitat types for application under EO1, but a final list has not yet been agreed. A review of monitoring and assessment elements for EO1 common indicators was recently undertaken (UNEP/MAP SPA/RAC, 2023b) and a proposal for updating these elements presented to CORMON Biodiversity and Fisheries in 2025 (UNEP/MAP SPA/RAC, 2025).

46. The scope of EO6 is broad, referring more generally to ‘sea-floor integrity’. Under MSFD, the equivalent Descriptor 6 is being applied to a set of 22 ‘broad habitat types’ (BHT) as listed in Table 2 of Commission Decision (EU) 2017/848. Together these cover the entire seabed from the littoral zone down to abyssal depths with the aim of achieving GES across a full range of seabed habitats. **Figure 1** shows the level-2 structure of the marine habitat typology of the Barcelona Convention and the European Environment Agency’s (EEA) EUNIS habitat typology (note, for BC habitats add ‘.5’ to the EUNIS code, e.g., ‘MB1.5’ for Infralittoral rock). The MSFD ‘broad habitat types’ equate directly to these BC/EUNIS level-2 types, although some are aggregations of these types, as indicated by the thick red boxes. This reduces the number of habitat types to be assessed from 42 to 22.

²⁶ And by wave action and changes in atmospheric pressure.

	Level 2	Hard/firm		Soft			
		Rock*	Biogenic habitat (flora/ fauna)	Coarse	Mixed	Sand	Mud
Phytal gradient/ hydrodynamic gradient	Littoral	MA1	MA2	MA3	MA4	MA5	MA6
	Infralittoral	MB1	MB2	MB3	MB4	MB5	MB6
	Circalittoral	MC1	MC2	MC3	MC4	MC5	MC6
Aphytal/ hydrodynamic gradient	Offshore circalittoral	MD1	MD2	MD3	MD4	MD5	MD6
	Upper bathyal	ME1	ME2	ME3	ME4	ME5	ME6
	Lower bathyal	MF1	MF2	MF3	MF4	MF5	MF6
	Abyssal	MG1	MG2	MG3	MG4	MG5	MG6

MSFD Broad Habitat Types

Figure 1. Level 2 structure of the Barcelona Convention/EUNIS marine habitats classification, showing the MSFD broad habitat types as directly relating to a BC/EUNIS level 2 class or aggregations of classes (bold red borders) (from TG Seabed, 2021a). For BC codes add '.5' to the EUNIS code (e.g., 'MB1.5' for Infralittoral rock).

47. In addition to the BHTs, EU Member States may choose to protect more specific habitats, referred to as 'other habitat types' (OHTs), such as those listed by Regional Sea Conventions (RSC) and under the Habitats Directive. This allows Member States to focus more specific attention under the MSFD on certain habitats which are under threat. This approach is similar to that followed for EO1.

48. The Nature Restoration Regulation (NRR) includes a specified list of marine habitat types in its Annex II; these are a mixture of specific habitats with high carbon storage capacity (macroalgal forests, shellfish beds, seagrass beds, sponge, coral and coralligenous beds and maërl beds) and soft sediments down to 1000 m depth as their carbon sequestration processes are disrupted by bottom fishing and other activities which physically disturb the seabed.

49. **Table 5** provides a list of the BHTs to be addressed for MSFD Descriptor 6 and a correlation with the Barcelona Convention and EUNIS habitat classes. It also includes the habitats which are being considered under EO1 (UNEP/MAP SPA/RAC, 2023b) and the NRR, and lists these against the relevant BHT (i.e., they lie within a BHT in the hierarchical Barcelona Convention/EUNIS classifications).

Table 5. Benthic Broad Habitat Types relevant for MSFD Descriptor 6 and their correspondence with benthic habitats in the Barcelona Convention (UNEP/MAP SPA/RAC, 2019) and EUNIS (EEA, 2022) habitat classifications, plus specific habitats within these broad habitat types that are proposed for use under EO1 and for restoration under the Nature Restoration Regulation.

MSFD broad habitat type (BHT) Decision (EU) 2017/848 (Table 2)	Barcelona Convention habitat (UNEP/MAP SPA/RAC, 2019)	EUNIS habitat (EEA, 2022)	IMAP EO1 habitats (UNEP/MAP SPA/RAC, 2023b)	Mediterranean marine habitats in Nature Restoration Regulation (Annex II)
Littoral rock and biogenic reef	MA1.5 Littoral rock MA2.5 Littoral biogenic habitat	MA1 MA2	MA2.5 Littoral biogenic habitat	Macroalgal forests: MA1548 Shellfish beds: MA1544

MSFD broad habitat type (BHT) Decision (EU) 2017/848 (Table 2)	Barcelona Convention habitat (UNEP/MAP SPA/RAC, 2019)	EUNIS habitat (EEA, 2022)	IMAP EO1 habitats (UNEP/MAP SPA/RAC, 2023b)	Mediterranean marine habitats in Nature Restoration Regulation (Annex II)
Littoral sediment	MA3.5 Littoral coarse sediment MA4.5 Littoral mixed sediment MA5.5 Littoral sand MA6.5 Littoral mud	MA3 MA4 MA5 MA6		Soft sediments (<1000m depth): MA35, MA45, MA55, MA65
Infralittoral rock and biogenic reef	MB1.5 Infralittoral rock MB2.5 Infralittoral biogenic habitat	MB1 MB2	MB1.51 Algal-dominated infralittoral rock MB1.51a Well-illuminated infralittoral rock, exposed MB2.53 Reefs of <i>Cladocera caespitosa</i> MB2.54 <i>Posidonia oceanica</i> meadow	Seagrass beds: MB252, MB2521, MB2522, MB2523, MB2524 Macroalgal forests: MB1512, MB1513, MB151F, MB151G, MB151H, MB151J, MB151K, MB151L, MB151M, MB151W, MB1524 Shellfish beds: MB1514; infralittoral oyster beds Sponge, coral & coralligenous beds: MB151E, MB151Q, MB151a
Infralittoral coarse sediment	MB3.5 Infralittoral coarse sediment	MB3	MB3.511 Association with maerl or rhodoliths	Maerl beds: MB3511, MB3521, MB3522 Soft sediments (<1000m depth): MB35
Infralittoral mixed sediment	MB4.5 Infralittoral mixed sediment	MB4		Soft sediments (<1000m depth): MB45
Infralittoral sand	MB5.5 Infralittoral sand	MB5	MB5.521 Association with indigenous marine angiosperms	Seagrass beds: MB5521, MB5534, MB5535, MB5541, MB5544, MB5545 Soft sediments (<1000m depth): MB55
Infralittoral mud	MB6.5 Infralittoral mud	MB6		Soft sediments (<1000m depth): MB65
Circalittoral rock and biogenic reef	MC1.5 Circalittoral rock MC2.5 Circalittoral biogenic habitat	MC1 MC2	MC1.5 Circalittoral rock MC2.51 Coralligenous platforms	Macroalgal forests: MC1511, MV1512, MC1513, MC1514, MC1515, MC1518 Shellfish beds: circalittoral oyster beds Sponge, coral & coralligenous beds: MC1519, MC151A, MC151B, MC151E, MC151F, MC151G, MC1522, MC1523, MC251
Circalittoral coarse sediment	MC3.5 Circalittoral coarse sediment	MC3	MC3.52 Coastal detritic bottoms with rhodoliths	Macroalgal forests: MC3517 Maerl beds: MC3521, MC3523

MSFD broad habitat type (BHT) Decision (EU) 2017/848 (Table 2)	Barcelona Convention habitat (UNEP/MAP SPA/RAC, 2019)	EUNIS habitat (EEA, 2022)	IMAP EO1 habitats (UNEP/MAP SPA/RAC, 2023b)	Mediterranean marine habitats in Nature Restoration Regulation (Annex II)
				Soft sediments (<1000m depth): MC35
Circalittoral mixed sediment	MC4.5 Circalittoral mixed sediment	MC4		Soft sediments (<1000m depth): MC45
Circalittoral sand	MC5.5 Circalittoral sand	MC5		Soft sediments (<1000m depth): MC55
Circalittoral mud	MC6.5 Circalittoral mud	MC6		Sponge, coral & coralligenous beds: MC6514 Soft sediments (<1000m depth): MC65
Offshore circalittoral rock and biogenic reef	MD1.5 Offshore circalittoral rock MD2.5 Offshore circalittoral biogenic habitat	MD1 MD2		Sponge, coral & coralligenous beds: MD151, MD25
Offshore circalittoral coarse sediment	MD3.5 Offshore circalittoral coarse sediment	MD3		Soft sediments (<1000m depth): MD35
Offshore circalittoral mixed sediment	MD4.5 Offshore circalittoral mixed sediment	MD4		Soft sediments (<1000m depth): MD45
Offshore circalittoral sand	MD5.5 Offshore circalittoral sand	MD5		Soft sediments (<1000m depth): MD55
Offshore circalittoral mud	MD6.5 Offshore circalittoral mud	MD6		Sponge, coral & coralligenous beds: MD6512 Soft sediments (<1000m depth): MD65
Upper bathyal rock and biogenic reef	ME1.5 Upper bathyal rock ME2.5 Upper bathyal biogenic habitat	ME1 ME2	Bathyal	Sponge, coral & coralligenous beds: ME1511, ME1512, ME1513
Upper bathyal sediment	ME3.5 Upper bathyal coarse sediment ME4.5 Upper bathyal mixed sediment ME5.5 Upper bathyal sand ME6.5 Upper bathyal mud	ME3 ME4 ME5 ME6	Bathyal	Sponge, coral & coralligenous beds: ME6514 Soft sediments (<1000m depth): ME35, ME45, ME55, ME65
Lower bathyal rock and biogenic reef	MF1.5 Lower bathyal rock MF2.5 Lower bathyal biogenic habitat	MF1 MF2	Bathyal	Sponge, coral & coralligenous beds: MF1511, MF1512, MF1513

MSFD broad habitat type (BHT) Decision (EU) 2017/848 (Table 2)	Barcelona Convention habitat (UNEP/MAP SPA/RAC, 2019)	EUNIS habitat (EEA, 2022)	IMAP EO1 habitats (UNEP/MAP SPA/RAC, 2023b)	Mediterranean marine habitats in Nature Restoration Regulation (Annex II)
Lower bathyal sediment	MF6.5 Lower bathyal mud	MF3 MF4 MF5 MF6	Bathyal	Sponge, coral & coralligenous beds: MF6511, MF6513 Soft sediments (<1000m depth): MF35, MF45, MF55, MF65
Abyssal	MG1.5 Abyssal rock MG6.5 Abyssal mud	MG1 MG2 MG3 MG4 MG5 MG6		

9 Assessment scales and areas

50. Assessments of whether GES and targets have been achieved, as needed for the periodic Mediterranean Quality Status Reports, for national purposes and to inform management actions, need to be made for specified areas within the Mediterranean Sea region. The scale used for assessment has a direct and marked influence on assessment outcomes (i.e., whether a habitat has achieved GES or not), due to the distribution and extent of impacts, which vary according to the situation in different parts of the Mediterranean. For example, a habitat may be deemed to be below GES in one (part of a) country, as it is subject to extensive pressures and impacts in this area but is in GES in another country where the impacts are less extensive. Also, if the habitat is assessed at the whole Mediterranean Sea scale its GES status could differ to that at national scale because of the overall extent of pressures and impacts across the region.

51. To date, assessment scales and areas for the Mediterranean region have not been formally agreed for either EO6 or EO1.

52. Assessments could be undertaken at a variety of scales, such as at the whole region scale or one of its four subregions. However, these are too large to be meaningful for management purposes, as actions needed to achieve GES and targets typically need to be taken at finer scales, such as at national or subnational level.

53. According to the GES Decision, assessments of broad habitat types for MSFD Descriptor 6 are to be undertaken at the scale of ‘subdivision of region or subregion, reflecting biogeographic differences in species composition of the broad habitat type’. TG Seabed provides guidance on defining assessment scales and areas in its MSFD Article 8 assessment guidance (EC, 2023a²⁷). Further consideration of the issue of assessment scales and their effects on the outcomes of assessments and for management²⁸ indicates the importance, within this biogeographic approach, of national (or sub-national)-level assessments (reporting) because responsibilities for taking management actions (if GES has not been achieved) would lie at national level²⁹.

²⁷ [MSFD GD19, version 12-12-2023](#); further elaborated in TG Seabed’s extended guidance (latest draft: TG Seabed, 2024, [SEABED_19-2024-04](#)).

²⁸ [SEABED_12-2022-02](#)

²⁹ This should not preclude countries taking collective action, through regional or subregional cooperation, on activities which are transnational in character (e.g., some types of bottom fishing).

54. Under the MSFD, the assessment areas for D6 assessments have been defined by each Member State for the purposes of Article 8 reporting³⁰; however, a harmonised set of scales/areas for application by the Member States in the Mediterranean has not yet been developed.

55. TG Seabed proposed possible subdivisions of the Mediterranean Sea region (and other regions), based only on biogeographic considerations³¹. These proposals were further developed by the EC's DG Environment for the purposes of a study on the distribution and intensity of bottom fishing (STECF, 2022³²) and modified following comments from the OWG/CORMON (**Figure 2**).

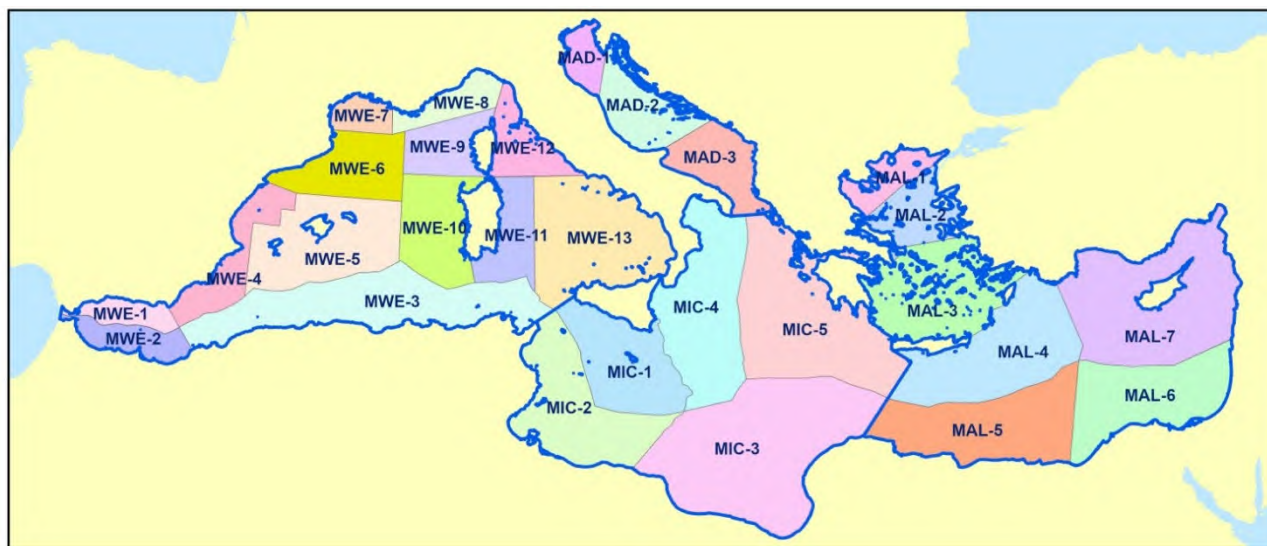


Figure 2. Proposed subdivisions of the Mediterranean Sea region for use under EO6. Subdivisions are numbered within each subregion (blue lines) with codes: MWE-Western Mediterranean Sea; MAD-Adriatic Sea; MIC-Ionian Sea and the Central Mediterranean Sea; MAL-Aegean-Levantine Sea. This map is for assessment purposes only and shall not be considered as an official map representing marine borders. This map shall be used without prejudice to the agreements made between countries under international law in respect of their marine borders.

56. While the subdivisions shown in **Figure 2** were developed specifically for the STECF study, they were developed to also be of relevance to implementation of MSFD D6 and IMAF EO6 as they are based on:

- The four subregions of the Mediterranean Sea region, as adopted by UNEP/MAP and MSFD;
- Biogeographic considerations, primarily temperature and salinity regimes (at the sea bottom and sea surface, in summer and in winter)³³;
- National borders of marine waters³⁴;
- Management considerations, such as the management of the bottom-fishing sector, including use of some GFCM geographical sub-area boundaries.

57. **Annex II** provides more specific information on the subdivisions shown in **Figure 2**. In particular, it indicates the long-term average sea temperature and salinity in each subdivision (surface and bottom; summer and winter) which influence the biological characteristics of water column and seabed communities.

³⁰ The MSFD reporting is done according to nationally-defined Marine Reporting Units (MRUs); for Article 8 assessments these were last updated for the 2018 reports.

³¹ TG Seabed (2021b) [SEABED_8-2021-04](#)

³² Undertaken to support preparation of the [EU Action Plan: Protecting and restoring marine ecosystems for sustainable and resilient fisheries](#) for the EU Biodiversity Strategy for 2030.

³³ Mapping data used to define the subdivisions are given in TG Seabed (2021b; [SEABED_8-2021-04](#)) and presented in Annex II.

³⁴ Some marine borders of EU Member States, according to UNCLOS, were used.

The annex indicates the ‘origin’ of the boundaries of each subdivision, indicating whether they have an ecological basis (based on temperature and salinity regimes) or a ‘management’ basis (i.e. the coastline, a national marine border, a GFCM sub-area boundary).

58. Note that assessments for the 2023 MedQSR were undertaken through centralised processes (i.e., via the RACs and their contracted experts), using data provided by Contracting Parties and from other sources. This more centralised approach makes it feasible to undertake such transboundary assessments in an efficient manner. For EO6, the results could be presented for each Contracting Party within the subdivision, thereby identifying seabed areas which are adversely affected and in need of management action by the relevant Contracting Party. For the 2023 MedQSR, a chapter on seabed habitats, addressing both EO1 and EO6, was prepared (Connor et al., 2023); this included a pilot assessment for the Adriatic Sea using the assessment areas in **Figure 2**. The approach was further tested to illustrate the results per Contracting Party³⁵.

59. It should be noted that these subdivisions currently have no formal status.

10 Assessment of sea-floor integrity for EO6

10.1 Assessing a sea-floor affected by multiple pressures and impacts

60. Section 4 highlights that the sea-floor may be subject to a variety of anthropogenic pressures, some widespread throughout the Mediterranean Sea region, others more localised. Section 0 provides an overview of the main human activities that may lead to such pressures. Any given area of seabed may consequently be subject to multiple pressures and their impacts on seabed habitats, but because the range of activities and pressures varies across the region, so too varies the possible extent of pressures and their impacts. The approach to assessing the state of the sea-floor for EO6 needs to accommodate this variation across the region. **Figure 3** illustrates a possible scenario for an assessment area which contains multiple broad habitat types and is subject to a variety of activities and pressures. The intensity, frequency and duration of each pressure will determine the extent to which the seabed is adversely affected (impacted) by each pressure.

61. To make an assessment of each assessment area requires:

- a. A map of the distribution of seabed habitats;
- b. Maps of the distribution, extent and intensity of each pressure, based on the relevant human activities;
- c. Interfacing the habitat maps with the pressure maps to give the extent of pressure per habitat type;
- d. Assessment of the extent of impacts (adverse effects) to the seabed from each pressure, derived from assessment of a Common Indicator(s) and the threshold value which distinguishes whether the habitat is in good condition or adversely effected (impacted);
- e. Aggregation of assessment results to determine the extent of impact per habitat type in the assessment area, taking account of data on the state of the habitat in areas considered to be in a good or reference state.

³⁵ [SEABED_16-2023_Presentation_ScalesReporting](#).

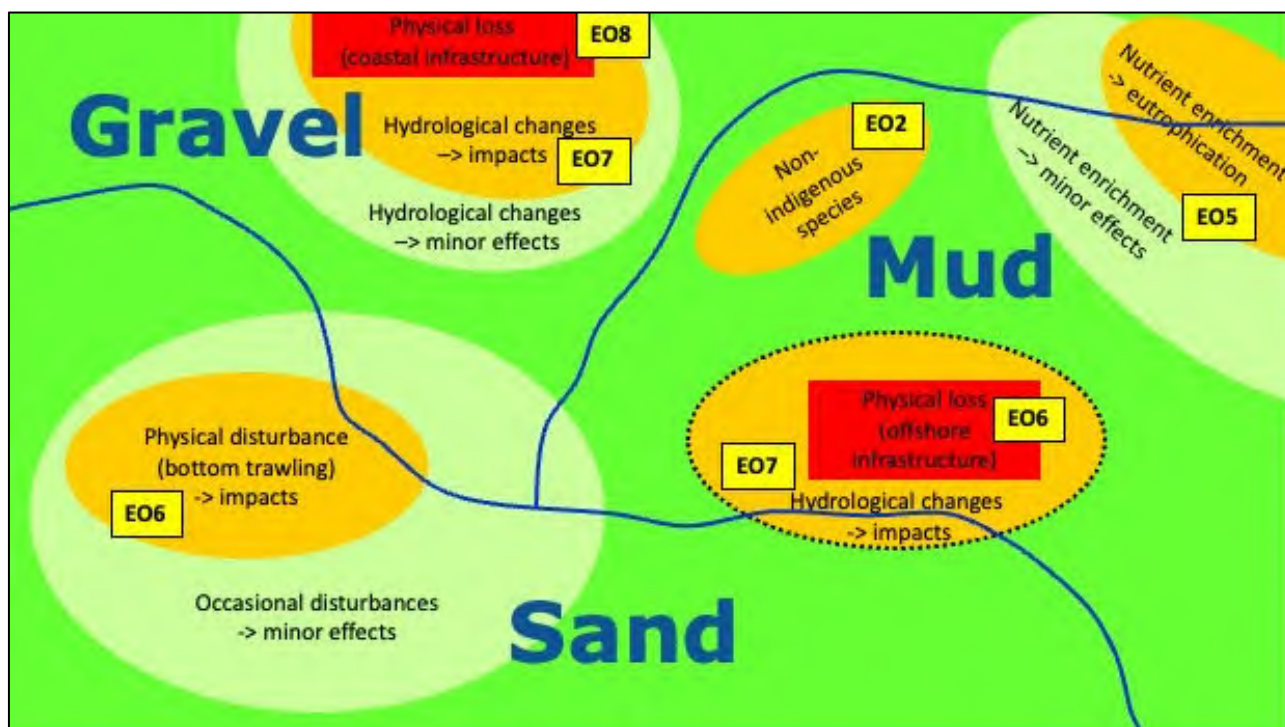


Figure 3. Scenario for an assessment area with several habitat types and subject to multiple activities and pressures.

Red = lost habitat (due to infrastructure); orange = impacted areas (due to pressures – physical disturbance, hydrological change, NIS, nutrient enrichment); light green = areas only slightly affected by pressures, but still in good condition; dark green = areas in reference state (largely without effects of pressures). Yellow boxes show the related Ecological Objective. (Modified from Connor & Canals, 2021, *SEABED 7-2021-16*).

62. This process focuses on assessing the activities and their pressures considered to be most affecting the seabed. Data from mapping the distribution of human activities and modelling their pressures provides a cost-effective approach to enable assessment across the very large areas of the Mediterranean seabed in a systematic data-driven way. Gridded mapping data of activities and pressures suitable for such assessments have been compiled for the Mediterranean by the European Environment Agency (Korpinen et al., 2019). However, for EO6 purposes (for a MedQSR) it would be necessary to interface such data with the broad habitat types (to derive the extent of pressure per habitat) and to assess impacts using suitable indicators. Impact assessment can be undertaken through a mixture of modelling and ground-truth data, such as from grab samples or direct observations.

10.2 Availability of IMAP indicators to assess sea-floor integrity

63. As described in section 6, some impacts to the seabed are, or potentially could be, assessed using CIs from other EOs. There are however certain pressures, notably physical loss and physical disturbance, which are not addressed by other EOs and would need new indicators for application under EO6. In addition, climate change effects, particularly carbon sequestration rates, should be assessed. **Table 6** summarises the main pressures affecting the sea-floor (see section 4) and the indicators currently available (CIs, see section 6) or needing to be developed for EO6 purposes.

Table 6. Main pressures affecting sea-floor integrity and the availability of IMAP Common Indicators or identification of need to develop new indicators.

Theme	Pressure	Ecological Objective	Common Indicators	Application for EO6
Biological	Non-indigenous species	EO2 Non-indigenous species	CI-6: Trends in abundance, temporal occurrence, and spatial distribution of non-indigenous species, particularly invasive, non-indigenous species, notably in risk areas, in relation to the main vectors and pathways of spreading of such species	CI-6 provides an assessment of the distribution and extent of NIS. For use under EO6, it would need to focus particularly on benthic NIS which occur in high density and are thus likely to be impacting natural communities (i.e. invasive NIS). The output from CI-6 could then be used to assess the extent of adverse effects per habitat type (= MSFD criterion D2C3). Due to potentially high costs for more generalised NIS monitoring, assessment of NIS impacts for EO6 should be highly focused on specific NIS in selected vulnerable areas.
	Extraction of wild species	EO3 Harvest of commercially exploited fish and shellfish	CI-7: Spawning stock biomass CI-9: Fishing mortality CI-10 Fishing effort	If demersal/benthic commercially exploited fish and shellfish species are in poor status (derived from CI-7, CI-9 and other CIs) this species-level assessment could be used to contribute to the assessment of EO6, reflecting partially the status of the seabed habitat occupied by the species. May be particularly useful for demersal/benthic species fished using bottom-contacting gears such as trawls and dredges. CI-10 could provide information on the distribution and extent of bottom fishing (if this type of fishing is distinguished in the data) and thereby give data on the extent of physical disturbance to the seabed for use under EO6.
Physical	Physical disturbance to the seabed	EO6 Sea-floor integrity	Not yet developed	Physical disturbance to the seabed is the most widespread and extensive pressure affecting the sea-floor. It is caused by a range of human activities (e.g., bottom fishing, aggregate dredging, ship anchoring) and affects the seabed from the coast down to 1000m depth (below 1000m, bottom fishing is banned by GFCM and other relevant activities are rare). An indicator is needed for physical disturbance, possibly assessed according to the different contributing activities.
	Physical loss of the seabed	EO8 Coastal ecosystems and landscapes	CI-16: Length of coastline subject to physical disturbance due to the influence of man-made structures	Assessment of CI-16 provides results on the extent of human-made structures along the coastline. The results could be directly used under EO6 to represent the amount of habitat loss for littoral rock and littoral sediment combined. Data on the substrate type (rock or sediment) in front of the coastal structure could provide a proxy for loss of littoral rock and littoral sediment separately.

Theme	Pressure	Ecological Objective	Common Indicators	Application for EO6
				Application of CI-16 is currently restricted to the coastal (littoral) zone under EO8. The CI needs to be extended to subtidal areas (under EO6) where the placement of infrastructures or removal of natural habitat (such as by aggregate extraction) has led to habitat loss.
	Hydrographical changes	EO7 Hydrography	CI-15: Location and extent of habitats impacted directly by hydrographic alterations	Hydrographical alterations to seabed habitats are directly relevant to EO6 (and EO1). Assessments including use of modelling, such as from environmental impact assessments (EIAs) for new developments or estimates based on footprint of infrastructures, of CI-15 would need to provide the extent of adverse effect per habitat for results to feed into assessments of EO6 (and EO1). Hydrographical changes are often directly associated with infrastructures (on the coast or in the subtidal zone). The assessment of CI-15 therefore is closely linked to CI-16.
Substances, litter and energy	Inputs of nutrients (and organics)	EO5 Eutrophication	CI-13 and CI-14 address the water column	Eutrophication can affect the seabed as well as the water column; eutrophication problems in the Mediterranean are confined to certain areas (e.g., mouth of River Po). The assessment of CI-13 and CI-14, which assess the water column, may indirectly indicate there may be eutrophication problems on the seabed. However, there are currently no IMAP indicators focused on eutrophication effects on the seabed itself. The following MSFD criteria cover seabed eutrophication: D5C4 (photic limit), D5C5 (oxygen levels near seabed), D5C6 (opportunistic macroalgae), D5C7 (macrophyte communities) and D5C8 (macrobenthic communities).
	Inputs of litter (including lost or abandoned fishing gear)	EO10 Marine litter	CI-22: Litter on coastline CI-23: Litter in water column and on sea-floor	CI-22 and CI-23 are currently focused on quantifying the amount of litter on the coastline and on the sea-floor. Further development of these indicators would be needed to relate litter quantities to impacts on seabed habitats; this could be focused, in the first instance, on areas where litter accumulates in high quantities on the seabed and leads to smothering effects.
Climate change	Acidification		Not yet developed	Ocean acidification is a widespread pressure on the marine environment, and potentially affects benthic species, particularly those with calcareous skeletons. OSPAR undertook an assessment of ocean acidification for its 2023 QSR ³⁶ ; its suitability for application under EO6 needs consideration.

Theme	Pressure	Ecological Objective	Common Indicators	Application for EO6
	Carbon sequestration		Not yet developed	Disruption of carbon sequestration processes are widespread due to losses of seagrass beds and other macrophyte communities (high carbon stores) and widespread physical disturbance, especially from bottom fishing. An indicator needs to be developed to quantify the carbon stored per unit area per habitat, and how this is affected by physical disturbance.
	Hydrological changes (widespread)		Not yet developed	Hydrological changes, resulting from climate change effects, may include changes to sea temperature, sea level rise, increased storminess, and alterations to freshwater inflows (both from droughts and increased flooding). All these have the potential to significantly affect seabed habitats but are not currently assessed with dedicated indicators. This should be considered as part of a wider strategy to monitor the effects of climate change.
State (habitat condition)	All	EO1 Biodiversity	CI-1: Habitat distributional range CI-2: Condition of the habitat's typical species and communities	EO1 addresses seabed habitats, thereby providing a direct overlap with EO6 in cases where the seabed addressed under each EO overlaps. CI-1 and CI-2 provide useful indicators for application under EO1 in relation to specified habitat types (list under consideration by Biodiversity OWG). Note that metrics and threshold values for use with the data collected for CI-2 are being developed (UNEP/MAP SPA/RAC, 2025); therefore, some additional development and testing is required under EO1. CI-2 could be applied in the broader context of EO6 to provide information about the state/condition of seabed habitats. If sampled in areas of little or no pressures, the data could provide valuable information on reference state, and so help benchmark the indicators focused on specific pressures.

64. From **Table 6**, it can be concluded that there is a need to use CIs from other EOs to contribute to the assessment of EO6. While some may be directly usable in their current form (e.g., CI-15 hydrography, CI-16 coastal loss), others would need to be further developed to give outputs of direct use for EO6 (e.g., CI-6 NIS) or extended in their application to EO6 habitats (CI-1, CI-2, CI-16). There remain gaps in indicator coverage related to eutrophication, physical disturbance and climate change (particularly carbon sequestration) (see section 10.3).

10.3 Possible new indicators

65. Further development of indicators, including adaptation of existing indicators from other EOs for application under EO6, should take account of the scale of effects of the different pressures on the seabed, which will vary across the Mediterranean and between different habitat types. It is likely that the key pressures will vary between coastal, offshore and deep-sea zones and this can help determine the need for

particular indicators in each assessment area. This prioritisation is important to ensure implementation of EO6 in a cost-effective manner.

10.3.1 Impacts from non-indigenous species

66. The importance of NIS in the Mediterranean is widely acknowledged and has been extensively studied. There is a large body of data relating to the occurrence and distribution of NIS, and to identifying the source and pathways of their introduction to the Mediterranean Sea region. CI-6 is focussed on further developing this approach, with particular attention on invasive species and hotspots for their occurrence and introduction. CI-6 thus aims to provide an assessment of the scale of the NIS pressure and its source, with a view to reducing further introductions of NIS, and preventing their spread across the region.

67. For the purposes of EO6, data on the occurrence of NIS (from CI-6) needs to be used to assess the impacts of NIS on seabed habitats. This would require a new indicator under EO2 which would be equivalent to MSFD criterion D2C3.

68. Operational indicators focused on NIS impacts are generally less advanced than monitoring introductions and spread of NIS. However, a 'bio-pollution index' has been developed (Olenin et al., 2007) and applied in Germany (Wittfoth & Zettler, 2013) and other areas of the Baltic Sea region. The index is based on quantification of NIS and their effects on seabed habitats and could, in principle, be applied to the Mediterranean. The biotic index ALEX (Çinar & Bakir, 2014) could also be considered for this purpose. More recently, impacts of selected NIS on sensitive habitats have been assessed by Galanidi & Zenetos (2023) for the 2023 Med QSR, following the Cumulative Impact (CIMPAL) methodology of Katsanevakis et al. (2016).

69. As previously indicated, due to the potential costs of monitoring, such an indicator is best considered for high-risk areas where NIS occur in high densities and are likely to be an important pressure on the seabed.

10.3.2 Physical disturbance and its impacts

70. For sea-floor integrity, this is the most important pressure to assess, given the range of human activities causing the pressure, how widespread and extensive the pressure is in the Mediterranean, and how damaging it can be to seabed habitats and the carbon cycle.

71. Due to the importance of the pressure, it has received considerable attention for MSFD implementation purposes (to assess criteria D6C2 and D6C3), including by HELCOM, OSPAR and ICES. A number of operational indicators have been developed, focused particularly on physical disturbance from bottom-fishing gears (e.g., OSPAR's BH3, ICES' PD and PDsens), but extended to include a number of other relevant activities (e.g., HELCOM's CUMI). These indicators have been applied at regional scale and to MSFD broad habitat types, making them potentially very suitable to consider for IMAP EO6 purposes. ICES undertook a review of these, and other seabed habitat indicators (ICES, 2022b), leading to technical advice to DG Environment (ICES, 2022a [eu.2022.11](#)). ICES evaluated the performance of a selection of these reviewed indicators (WKBENTH3 workshop, ICES, 2022c), and provided advice to DG Environment on the suitability and shortcomings of the tested indicators for MSFD Descriptor 6 purposes. It is recommended to consider the ICES advice and the possible need for further evaluation of indicators, ongoing studies (e.g. ABIOMMED project, ICES' WG-FBIT reports), and the data requirements and data availability, in order to identify the most suitable indicator(s) for IMAP EO6.

10.3.3 Physical loss

70. Under EO8 (Coast), IMAP has adopted CI-16 which assesses the length of coastline which has been artificially modified and expresses this as a proportion of the total length of coastline per country. Results from application of the indicator are presented in the Med QSR 2017 for Italy, France and Montenegro and expanded to other countries for the 2023 MedQSR 2023 (Baučić, Morić-Španić & Gilić, 2023).

71. CI-16 provides an estimate of the length of natural coastline which has been lost due to the building of infrastructures and other coastal developments and modifications. For EO6 purposes, it could act as a proxy for the extent of loss of littoral habitat (rock and sediment habitats combined), by transforming the coastline length into a nominal area value.

72. The principals of CI-16, centred on measurement of the extent of artificialisation of natural habitat, could be extended to other broad habitat types to assess physical loss for EO6 although the results should be expressed by area (km² and % of each habitat) rather than by length of coast (km) as currently used for CI-16. The ABIOMMED project (2021-2023) developed guidance for such assessments. This would provide outputs suitable for MSFD criteria D6C1 and D6C4.

73. A similar indicator has been developed for the North-East Atlantic (OSPAR's BH4 indicator in ICES, 2022a) with a pilot assessment prepared for the North Sea as part of OSPAR's QSR 2023³⁷. ICES reviewed the main causes of physical loss and disturbance in the Mediterranean (ICES, 2019b, c, d) leading to ICES Advice for MSFD criteria D6C1 and D6C4 (ICES, 2019a, sr.2019.25).

10.3.4 Eutrophication

74. Nutrient enrichment and its eutrophication effects are mostly generated from land-based sources which affect the sea via riverine inputs and coastal run-off. WFD assessments of transitional and coastal waters are oriented towards these issues, with indicators developed to assess eutrophication status for several quality elements (macrophytes, macrobenthos) relevant to the seabed. The WFD indicators are defined at national level with threshold values provided in the WFD Commission Decision (EU) 2018/229 (EC, 2018). The indicators and assessment processes are generally well established in EU Member States and could be applied to non-EU states in areas where eutrophication may be a problem (such as river mouths), guided by results of the 2023 MedQSR. In some areas, it may be necessary to extend the assessments beyond the 1nm zone of coastal waters.

75. In the north-east Atlantic, OSPAR has demonstrated reuse of the WFD assessments for the purpose of assessing eutrophication of the seabed (indicator BH2a. OSPAR 2023 QSR). This reuse of WFD results is a cost-effective approach to seabed eutrophication assessment. TG Seabed explored how WFD benthic assessment results can be integrated with other assessments at the habitat level (TG Seabed, 2021c).

76. Nutrient enrichment can lead to areas of hypoxia and anoxia at or near the seabed, which can have marked effects on seabed habitats. Indicators to assess oxygen levels in the water column near the seabed are available under WFD, OSPAR and HELCOM.

10.3.5 Habitat condition

77. As noted in section 10.3.2, ICES reviewed a range of available indicators for sea-floor integrity, relevant both for MSFD criteria D6C3 (physical disturbance) and D6C5 (habitat condition). The resulting ICES advice (ICES, 2022b; eu.2022.18) should be taken into account when selecting the most suitable indicator(s) for IMAP EO6.

78. EO1 includes CI-2 on habitat condition; this indicator is in principle suitable for use under EO6 and could be applied to other habitat types than currently considered under EO1. It should be noted that implementation of CI-2 is currently focused on data collection for three specific habitat types (*Posidonia oceanica* meadows, maërl beds, coralligenous habitats); methods for analysing the data and threshold values that would allow an assessment of whether the habitat is in GES are currently being developed (UNEP/MAP SPA/RAC, 2025).

³⁷ <https://oap.ospar.org/en/ospar-assessments/quality-status-reports/qsr-2023/indicator-assessments/area-habitat-loss-pilot/>

10.3.6 Carbon sequestration capacity and rates

79. **Annex I** provides a review of blue carbon and the importance of seabed habitats in storing vast stocks of carbon through natural sequestration processes, acting as a sink for carbon absorbed into the ocean from the atmosphere. Oceanic carbon sequestration is increasingly important to help mitigate the rising levels of atmospheric carbon stemming from greenhouse gas emissions. **Annex I** also indicates how physical disturbance to the seabed can significantly affect the carbon stocks and sequestration rates. While the highest concentrations of carbon are held in coastal macrophyte-dominated habitats (e.g., seagrass beds, saltmarshes), such habitats cover only a small fraction of the seabed. In contrast, seabed sediment habitats cover the vast majority of the seabed³⁸, and their widespread disturbance, by bottom trawling and other activities, can have a major effect on carbon sequestration rates; the disturbance causes carbon to be released back into the water column, adding to ocean acidification and potentially reducing the ocean's capacity to absorb atmospheric carbon.

80. Given that climate change is such a widespread global problem, and that the seabed plays such an important role in carbon sequestration, it is important to monitor and assess seabed carbon stocks and, in particular, how physical disturbance is affecting the natural carbon processes. This issue is attracting increasing attention of research scientists, as demonstrated in **Annex I**, but is less well known for environmental status perspectives. However, assessment of carbon stocks and sequestration rates, linked to the extent and intensity of physical disturbance pressures, would provide valuable information on climate change effects in the marine environment. Such efforts would also contribute to the EU Nature Restoration Regulation.

81. Further work would be needed to develop an indicator on seabed carbon stocks and sequestration rates, to provide a quantified assessment per habitat type. The European Commission launched a study in 2024³⁹, to support implementation of the BDS2030 Action Plan, which aims to quantify the EU's seabed carbon storage capacity and possible impacts of bottom fishing activities on this capacity (EC, 2023b).

10.4 Assessing adverse effects

82. The pressure/impact indicators in **Table 6**, together with CI-2 on habitat condition and others considered in section 10.3 aim to provide an assessment of whether a seabed habitat is adversely affected (either by a specific pressure, or more generally by multiple pressures). This is done by:

- a. defining the parameters used in the indicator to assess habitat condition, such as species composition, species diversity, carbon content;
- b. specifying the degree of change in habitat condition from natural⁴⁰ conditions (reference state) through defining a threshold value, that distinguishes a habitat area in good condition from an area that is adversely affected.

³⁸ It is estimated that marine sediment habitats between 0-1000m depth cover an area of EU marine waters equivalent to about 44% of the EU land territory.

³⁹ Study on the seabed's natural carbon sequestration capacity and related impacts from seabed-disturbing activities (**CINEA study**); contract awarded to Nature Bureau.

⁴⁰ To define a habitat under natural conditions (reference state) it is best to focus on data from areas that are largely free of anthropogenic pressures (acknowledging that there is likely to be some influence from widespread diffuse pressures such as pollution in most parts of the Mediterranean Sea), rather than seek to use historic data as these are generally not available. It is also better to consider a habitat recovering to a state which reflects the 'prevailing physiographic, geographic and climatic conditions' (terminology of MSFD Descriptor 1) rather than expecting it to recover to an historic ecosystem state, as this is unlikely to be realised (TG Seabed, 2021). In cases where habitats are currently considered to be degraded (i.e. there are no data for areas in good state), the characteristics of good state will only become apparent after pressures are removed or sufficiently reduced for the habitat to fully recover.

83. TG Seabed reviewed the topic and provides a paper which sets out the basis for defining change in habitat condition (TG Seabed, 2021a), including:

- a. characteristics of natural habitats;
- b. influence of biogeography on natural habitats;
- c. how different pressures affect habitats in different ways;
- d. use of models and empirical data to assess change;
- e. defining reference condition/state as the basis from which to assess change;
- f. considerations on how to set a quality threshold, below which the habitat is considered to be adversely affected.

84. TG Seabed is in the process of defining a quality threshold for habitat condition for MSFD criterion D6C5, based on the following qualitative description: A benthic broad habitat type is adversely affected in an assessment area if it shows an unacceptable deviation from the reference state in its biotic and abiotic structure and functions (e.g., typical species composition, relative abundance and size structure, sensitive species or species providing key functions, recoverability and functioning of habitats and ecosystem processes)⁴¹. This description has been further elaborated (TG Seabed, 2023) to guide the development of a more quantitative threshold, linked to use of specific indicators. TG Seabed expects the boundaries between 'good' and 'not good' state for different indicators to be between 60% and 90% of reference state.

85. The assessment of quality, through various indicators, is scientifically complex, partly because of the wide variation in habitat characteristics (shallow to deep, across the four regional seas around Europe) and partly because of the complex relationship between pressures and their impacts, which vary according to pressure intensity, duration and frequency and by habitat type, due to varying sensitivities of the habitats. To overcome this complexity, TG Seabed has proposed to develop a benchmarking framework to which the different indicators are calibrated. A framework is being developed by ICES and was tested using a number of sample datasets and currently available indicators at the [WKBENTH3](#) workshop (ICES, 2022c). Datasets tested include pressure gradients across the seabed for physical disturbance from bottom fishing, eutrophication and pollution. From this ICES published its Advice to DG Environment in December 2022 (ICES, 2022b; [eu.2022.18](#)).

86. The indicators to be used under EO6 require similar considerations, including the definition of reference state, the setting of quality threshold(s) to define what is adverse effect, and how various indicators can be used (e.g., depending on the pressure) whilst ensuring they each give equivalent results on habitat condition (i.e., the threshold values used are not markedly different between pressures, habitats and areas).

11 GES and targets for EO6

11.1 Overall goals of IMAP's Ecological Objectives

87. Under the IMAP, each EO has a stated objective (**Table 7**), and the EOs collectively contribute to the overall goal of achieving GES for the Mediterranean Sea region. The EOs and their objectives are closely aligned with the MSFD Descriptors, but with some differences: EO8 has no MSFD equivalent, and the wording of the objectives/descriptors differ to varying extents, excepting for EO2/D2.

Table 7. Goals expressed in the Ecological Objectives of IMAP (UNEP/MAP, 2016a).

Ecological Objective	Definition
EO1 Biodiversity and ecosystem (birds, mammals and turtles)	Biological diversity is maintained or enhanced. The distribution and abundance of coastal and marine species are in line with prevailing physiographic, hydrographic, geographic and climatic conditions.

⁴¹ MSCG_31-2022_WP-Seabed threshold values proposal (12/12/2022).

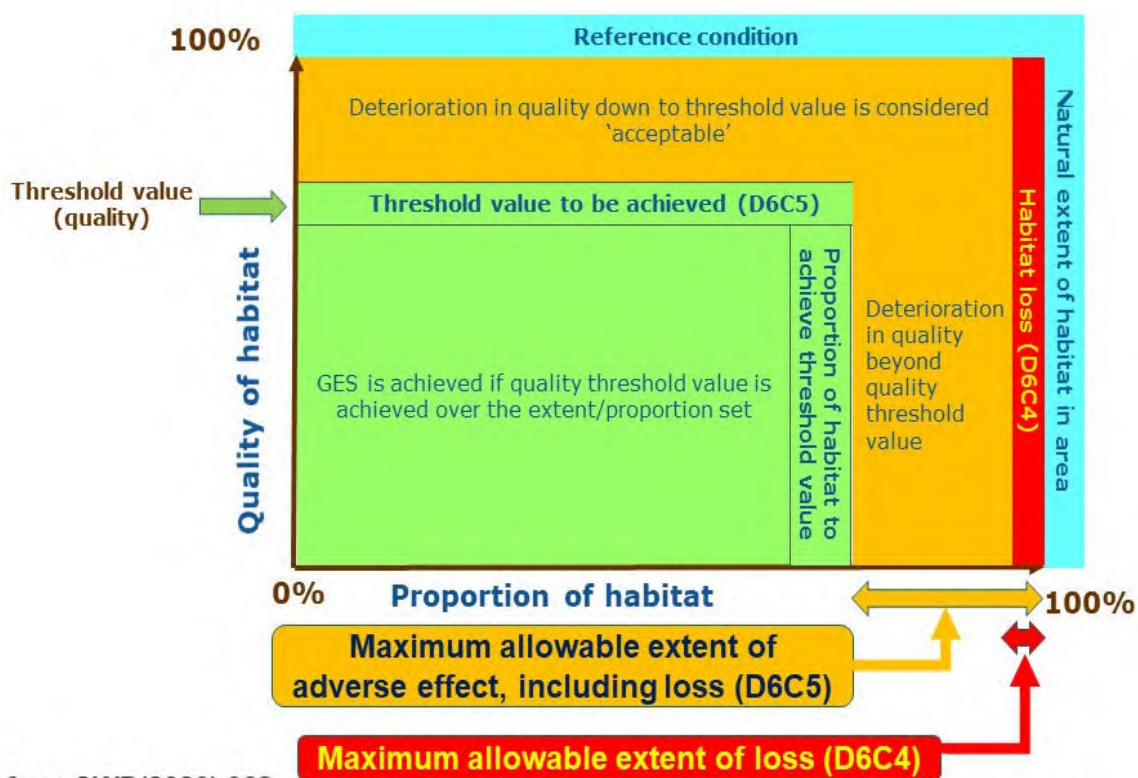
Ecological Objective	Definition
EO1 Biodiversity and ecosystem (habitats)	Biological diversity is maintained or enhanced. The quality and occurrence of coastal and marine habitats are in line with prevailing physiographic, hydrographic, geographic and climatic conditions.
EO2 Non-indigenous species	Non-indigenous species introduced by human activities are at levels that do not adversely alter the ecosystem.
EO3 Harvest of commercially exploited fish and shellfish	Populations of selected commercially exploited fish and shellfish are within biologically safe limits, exhibiting a population age and size distribution that is indicative of a healthy stock.
EO4 Marine food webs	Alterations to components of marine food webs caused by resource extraction or human-induced environmental changes do not have long-term adverse effects on food web dynamics and related viability.
EO5 Eutrophication	Human-induced eutrophication is prevented, especially adverse effects thereof, such as losses in biodiversity, ecosystem degradation, harmful algal blooms and oxygen deficiency in bottom waters.
EO6 Sea-floor integrity	Sea-floor integrity is maintained, especially in priority benthic habitats.
EO7 Hydrography	Alteration of hydrographic conditions does not adversely affect coastal and marine ecosystems.
EO8 Coastal ecosystems and landscapes	The natural dynamics of coastal areas are maintained and coastal ecosystems and landscapes are preserved.
EO9 Pollution	Contaminants cause no significant impact on coastal and marine ecosystems and human health
EO10 Marine litter	Marine and coastal litter do not adversely affect coastal and marine environment
EO11 Energy, including underwater noise	Noise from human activities cause no significant impact on marine and coastal ecosystems.

88. The goals of the EOs can be broadly categorized as follows:

- a. Maintain ecosystem structure and functions (EO1, EO4, EO6, EO8)
- b. Achieve healthy and sustainable populations of species (EO1, EO3)
- c. Ensure anthropogenic pressures are at levels that do not cause impacts (adverse effects) to marine ecosystems (EO2, EO5, EO7, EO9, EO10, EO11).

11.2 Achieving GES whilst accommodating ‘sustainable’ uses of the sea-floor

89. As already outlined in section 0, the sea-floor is subject to a wide range of activities, many of which by their very nature are damaging the seabed – such as through physical abrasion (e.g., bottom fishing, anchoring) or placement of infrastructures on coastal and marine habitats (e.g., coastal defences, ports and offshore installations). The approach adopted under the MSFD is to manage such human activities so as to minimise their impacts such that a balance is struck between protection of the marine environment and the use of its resources. For Descriptor 6, the 2017 GES Decision provides for this objective by specifying the need to set maximum extents for habitat loss (D6C4) and adverse effects (D6C5), thereby enabling certain human activities, which by their very nature cause impacts to the seabed, to continue but within specified limits. This approach is described and visualised in the MSFD horizontal issues document [SWD\(2020\) 62](#) (European Commission, 2020), and further developed by TG Seabed in a paper which sets out the basis for defining thresholds (**Figure 4**) (TG Seabed, 2022a).



Modified from SWD(2020) 062

Figure 4. Generic quality and proportion framework for determining GES (from TG Seabed, 2022a).

Modified from Figure 12 in *SWD (2020) 62* according to the needs of the GES Decision for D6. The threshold and proportion values shown are purely for illustrative purposes only. These values are to be set by Member States through Union, regional or subregional cooperation, as set out in the GES Decision (see boxed text for explanation).

Explanation of **Figure 4** (from TG Seabed, 2022a):

The GES Decision requires threshold values for the 'quality' to be achieved for each habitat, which must be set in relation to reference condition (GES Decision Art. 4(1)(c)). The threshold value typically accommodates an 'acceptable deviation' from reference condition, i.e., allowing for some degree of perturbation/change from an unimpacted/fully natural state (orange area across top of figure). The Y axis represents this quality aspect of a habitat, with 100% representing reference condition and the quality threshold for D6C5 set as a reduced level of habitat quality compared to the reference condition. The extent of the habitat in an assessment area is represented on the X axis, with 100% representing the total natural extent of the habitat in the area. The GES Decision then requires two extent values to be set: the 'maximum allowable extent of habitat loss' (D6C4) (vertical red bar in the figure) and the 'maximum allowable extent of adverse effects' (vertical orange bar in the figure), both being set as a proportion of the total natural extent of the habitat type. If the quality threshold is achieved over the defined proportion of the habitat (i.e., 100% less the value set for adverse effects, including loss) (green area in the figure), then the habitat is considered to be in a GES in this assessment area. By setting values for the maximum allowable extent of adverse effect and loss, the GES Decision is indicating that specified proportions of the habitat can be impacted or lost and still the habitat can be in GES. The MSFD and GES Decision is therefore not requiring the habitat to be in good quality throughout its distribution (100%) in each assessment area, which allows for activities which cause damage to the habitat to continue, but within specified limits.

11.3 Proposal for GES and targets for EO6

90. A proposal for GES and targets for EO6, following the structure adopted for presenting proposed GES and targets for other EOs in 2013 (UNEP/MAP, 2013a), is given in **Table 8**. The proposed GES description follows closely that for criteria D6C4 and D6C5 of the MSFD GES Decision. However, instead of

encompassing the maximum extent of loss and adverse effect per habitat type as part of the GES definition, it is proposed to treat these values as IMAP targets which, if already exceeded, could be achieved in steps through management actions to reduce the causative pressures.

91. Note also that MSFD criteria D6C1 and D6C2 relate to assessing the extent of physical pressures (loss and disturbance, respectively) and criterion D6C3 relates to assessing the extent of impacts from physical disturbance. For IMAP EO6 it is proposed that these aspects of assessing sea-floor integrity can be incorporated into the overall assessment process (i.e., extent of pressures, section 10.1) and as a specific indicator on physical disturbance under the general ‘habitat structure and function’ objective (**Table 8**).

92. The proposed GES and targets for EO6 (for broad habitat types) (**Table 8**) need to be considered in relation to those already agreed for EO1 (for other habitat types).

Table 8. Proposed GES and targets for EO6 sea-floor integrity.

Operational objective	Indicator	Proposed GES description	Proposed targets
All benthic broad habitat types maintain their natural extent, with limited loss due to anthropogenic pressures	Extent of physical loss of natural habitat	The extent of loss of each habitat type, resulting from anthropogenic pressures, does not exceed a specified proportion of the natural extent of the habitat type in the assessment area.	Extent of physical loss per habitat type does not exceed [X%] of each habitat's natural extent.
All benthic broad habitat types maintain their natural structure, functions and biodiversity	Extent of adverse effects on benthic habitat (this may comprise several indicators which address specific pressures)	The extent of adverse effects from anthropogenic pressures on the condition of each habitat type, including alteration to its biotic and abiotic structure and its functions (e.g., its typical species composition, absence of particularly sensitive or fragile species or species providing a key function, size structure of species; carbon sequestration capacity), does not exceed a specified proportion of the natural extent of the habitat type in the assessment area.	Extent of adverse effects from anthropogenic pressures ⁴² per habitat type does not exceed [Y%] of each habitat's natural extent.

93. In December 2022, the following TG Seabed proposal on threshold values for X (maximum extent of habitat loss) and Y (maximum extent of adverse effects) was adopted by MSCG (TG Seabed, 2022b; EC, 2024, [C/2024/2078](#)):

- The maximum proportion of a benthic broad habitat type in an assessment area that can be lost is **2%** of its natural extent ($\leq 2\%$) (D6C4).
- The maximum proportion of a benthic broad habitat type in an assessment area that can be adversely affected is **25%** of its natural extent ($\leq 25\%$). This includes the proportion of the benthic broad habitat type that has been lost (D6C5).
- A benthic broad habitat type is adversely affected in an assessment area if it shows an unacceptable deviation from the reference state in its biotic and abiotic structure and functions (e.g. typical species composition, relative abundance and size structure, sensitive species or species providing key functions, recoverability and functioning of habitats and ecosystem processes) (D6C5).

94. The scientific basis for these values was discussed at length by TG Seabed. It is widely recognised that these values cannot currently be defined based strictly on scientific data but are more a policy decision. In contrast, it is considered that the quality threshold value, set to distinguish a habitat in good condition from

⁴² Value Y% for adverse effects includes value X% for physical habitat loss. Value Y% encompasses any loss of biogenic habitat and changes to habitats at EUNIS level 2 that are defined as habitat loss under MSFD ([MSFD GD19, 2022, version 12-12-2023](#)) because such losses can be more much extensive than losses due to physical structures.

one that is adversely affected, can and should be more clearly based on scientific data, as represented through various suitable indicators.

11.4 Reporting on status of habitats per assessment area

95. Assessment of sea-floor integrity for EO6 should identify the extent to which each broad habitat type is in good condition in each assessment area. Such assessments should be undertaken through a structured methodology which integrates results from the available CIs on the extent of impacts from certain (most important) pressures, the extent of any habitat loss and any more general assessment of habitat condition. The methodology could follow a similar approach to that used under MSFD Descriptor 6 for the integration of criteria (Figure 5.7-1 in *MSFD Guidance Document 19* version 12-12-2023). An outline table of illustrative results is given in **Table 9**. The overall results per assessment area could be expressed as the proportion of habitats, by number and by area, in GES (compared to total number of habitats present in the area and the total extent of habitats in the area).

Table 9. Outline table of assessment results for EO6 (for a single assessment area – see **Figure 2** and selected habitats), showing how assessments of main pressures contribute to an overall assessment of status. These are mock results for illustration purposes only.

Assessment area	e.g. MWE-11 (East Sardinia)				
Habitat (only (circalittoral types shown))	Circalittoral rock & biogenic reef	Circalittoral coarse sediment	Circalittoral mixed sediment	Circalittoral sand	Circalittoral mud
Extent of habitat in assessment area (%)	2	12	10	15	10
Physical disturbance	0	15%	20%	60%	65%
Physical loss	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%
Hydrological changes	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%
Total extent of impacts*	<0.1%	15%	20%	60%	65%
Habitat status**	GES	GES	GES	Not in GES	Not in GES
Overall status – proportion of habitats	60% of habitats (3 out of 5) in GES [circalittoral zone only]				
Overall status – proportion of area	24% of area (out of 49%) in GES [circalittoral zone only]				

* Following pressures not considered significant for circalittoral habitats in this assessment area: NIS, inputs of nutrients; following pressures may be significant, but not assessed (no common indicator available): extraction of wild species, climate change (carbon sequestration).

** Based on extent of habitat impacted or lost in relation to target values (if target value for extent of impact is [25%] and extent of loss is [2%]).

12 Data sources for EO6 assessment

96. Assessment of EO6 for a MED QSR needs a number of data sets covering the following:

- Map of the distribution of habitat types;
- Map of the assessment areas;
- Maps of the distribution and extent of key human activities;
- Maps of the key pressures from those human activities;
- Data or models on the quality (condition) of seabed habitats either related to specific pressures or more generally.

97. **Table 10** provides an initial list of data sets that could support an EO6 assessment at the Mediterranean Sea region scale. This gives an initial indication of the feasibility of undertaking assessments for EO6 purposes; however further consideration of the suitability of each dataset is needed once the selection of indicators is more advanced, recognising that indicator selection and data availability are intricately linked.

98. Further data sets may be available at subregional, national or subnational scales that could be used to supplement the regional datasets. These may be particularly valuable in providing data of higher quality (e.g., more accurate, more recent, higher density) or not available as region-wide datasets and thus complement the regional datasets and help improve the overall confidence in the assessments.

Table 10. Datasets for the Mediterranean Sea region for potential use to assess EO6 sea-floor integrity.

Topic	Data set	Source
Habitat classification and maps	Barcelona Convention typology of Mediterranean seabed habitats EUNIS typology of European marine habitats EUNIS, Barcelona Convention and MSFD habitat maps (EUSeaMap, 2023); selected local maps; maps of <i>Posidonia</i> , maërl and coralligenous habitats (MEDISEH)	UNEP/MAP SPA/RAC (2019); Montefalcone et al. (2021) European Environment Agency (2022) EMODnet seabed habitats
Assessment areas	GIS data set for Mediterranean Sea region, subregions and possible subdivisions	D. Connor
Human activities	Bottom fishing: a. distribution per month (2014) – AIS data b. distribution/intensity (FDI database on landings per grid cell) c. distribution/intensity (VMS & other data) Distribution of: a. Aggregate extraction b. Algae production c. Aquaculture d. Cables e. Cultural heritage (shipwrecks) f. Desalination g. Dredging h. Ocean energy/wind farms i. Oil & gas j. Pipelines k. Vessel density (all ships, fishing, etc)	IDEM WebGIS (cnr.it) STECF (2022) ICES request from DG Environment (eu.2024.05) and WKD6ASSESS for Mediterranean; WGFBIT 2024 report . EMODnet human activities and EMODnet geoviewer
Pressures	Physical disturbance: a. Anchoring (VesselFinder) b. EU MSFD reports for D6C2/D6C3 (WISE Marine) c. Bycatch from bottom fishing d. Physical disturbance (demersal fishing, dredging, sand and gravel extraction, anchorage sites, windfarms, oil platforms, aquaculture, Shipping in shallow water)	VESSELFINDER (see UNEP/MAP SPA/RAC, 2022) WISE Marine (MSFD) ETC/ICM Technical Report 4/2019 ETC/ICM Technical Report 4/2019

Topic	Data set	Source
	Physical loss: a. EU MSFD reports for D6C1/D6C4 (WISE Marine) b. Physical loss of seabed (dredging, dumping, oil and gas rigs, ports, sand and gravel extraction, windfarms). Hydrographical pressure a. WFD data b. MSFD data	<u>WISE Marine (MSFD)</u> <u>ETC/ICM Technical Report 4/2019</u> <u>ETC/ICM Technical Report 4/2019</u> <u>WISE Marine (MSFD)</u>
Habitat condition and impacts from pressures	Eutrophication: a. EU WFD reports on benthic quality elements for coastal and transitional waters b. Blue2 models for Mediterranean Physical disturbance: a. MEDITS surveys for fish stock assessment include benthic invertebrate sampling – possible use as condition indicator (cf similar use of Atlantic fisheries survey data by IEO, Spain) General condition: a. Benthic data for <i>Posidonia</i>, maerl and coralligenous habitats under EO1	<u>WISE Freshwater (WFD)</u> <u>JRC Blue2, Macias Moy et al., 2018</u> <u>MEDITS</u> INFO/RAC and SPA/RAC

13 Relationship between EO6 and EO1

99. The relationship between EO6 and EO1 can be characterised according to different aspects of the IMAP process (**Table 11**), thereby helping to understand their similarities and differences.

Table 11. Similarities and differences between EO1 and EO6.

	EO1 Benthic habitats	EO6 Sea-floor integrity
Habitats	Specific habitats (EUNIS level 4 & 5), subject to significant threats	Wider sea-floor via broad habitat types (EUNIS level 2), subject to a range of widespread pressures
Threats (pressures)	Same range of pressures	
Focus of measures	Targeted protection measures (e.g. MPAs, Action Plans)	Broader management measures addressing widespread pressures, marine spatial planning
Common Indicators	CI-1 Habitat distribution (extent) CI-2 Habitat condition	Same as EO1 proposed
Scale of assessment	Same as EO6 proposed	28 subdivisions of Mediterranean Sea region
Data for assessment	Specific monitoring methods and sites, focused on biological observations. Reuse of data for EO6, wherever possible.	Data on distribution of activities and pressures, used also for EO1. Reuse of EO1 data on state of seabed.

	EO1 Benthic habitats	EO6 Sea-floor integrity
		Reuse of assessments from other EOs (EO1, EO2, EO5, EO7, EO8)

100. The 2024 meeting of CORMON considered the relationship between EO1 and EO6 and, in particular, whether there was merit in merging the two Ecological Objectives, given that they both address seabed habitats. It was highlighted that implementation of EO1 and EO6 should exploit their synergies as much as possible, including through use of a common assessment framework (assessment areas, common indicators, assessment criteria and methods) and reuse of the data collected for assessments (e.g. on benthic habitat state and impacts, and on activities and pressures).

14 CORMON conclusions on the EO6 proposal

101. The most-recent version of this EO6 proposal (UNEP/MAP SPA/RAC, 2024) was presented to the CORMON Biodiversity and Fisheries meeting on 6-7 June 2024. At this meeting, the CORMON agreed on the texts presented in boxes at relevant sections in the proposal. These are presented in paragraphs 102-109 below.

102. Framework for EO6:

- a. **Seabed habitats addressed:** EO6 should have a broad scope, addressing all seabed habitats in the Mediterranean from the littoral zone down to the abyss. EO6 should be assessed for 22 broad habitat types, aligned with those used under MSFD Descriptor 6.
- b. **Assessment areas:** the 28 subdivisions shown in **Figure 2** should be used as the assessment areas for application of EO6.
- c. **Extent and quality thresholds to determine GES:** GES for an EO6 habitat should be defined as a quality threshold for habitat condition with limits set on the extent of habitat loss and extent of adverse effects, thereby allowing human activities which cause damage to the habitat to continue, but within specified limits; GES should be achieved for each habitat in each assessment area in order to achieve the overall goal of EO6 Sea-floor integrity.
- d. **Operational objectives, indicators and GES descriptions:** The operational objectives, indicators and GES descriptions for EO6 are set out in **Table 8**. Note that the 'extent of adverse effects' indicator is a broad indicator which should comprise several more specific operational indicators and that the indicators equate to CI1 and CI2 under EO1 and to criteria D6C4 and D6C5 under the MSFD.
- e. **Targets:** The targets for EO6 are set out in **Table 8**. Possible values for these targets are still to be determined. Note also that under MSFD Descriptor 6 these target values are incorporated as part of the GES determination.

103. **Pressures:** The IMAP process for Ecological Objective 6 on sea-floor integrity should focus on the main pressures (**points a-h in paragraph 30**) which are widespread and have potential to cause extensive adverse effects to seabed habitats and sea-floor integrity in the Mediterranean. Contracting Parties may wish to additionally consider other pressures, as noted in **Table 1**, in cases where these pressures are considered particularly relevant to specific areas and/or habitats in a national context.

104. **Actions and measures:** actions and measures to achieve GES for EO6 should be prioritised towards certain habitats, areas or pressures/activities within an overall programme to achieve GES for EO6, to reflect the EO6 wording 'especially in priority benthic habitats'.

105. **Links to other EOs:** EO6 should be implemented in close association with other state-based EOs (EO1, EO3, EO8) by making use of their Common Indicators, data and assessments when suitable. EO6

should also make use of the pressure-based EOs (EO2, EO5, EO7) by using their Common Indicators, data and assessments when suitable. The Common Indicators from other EOs described in **Table 6** and **section 10.3** should be considered for further developed (according to priority pressures) to enable their use under EO6. For this, it is important to provide results per seabed habitat or as a spatial layer to enable their reuse for EO6 assessments.

106. **Relationship between EO1 and EO6:** CORMON recognised the strong links between EO1 and EO6 (**Table 11**) but recommended that they should continue to be treated as separate EOs within the IMAP. However, the synergies between EO1 and EO6 should be exploited as much as possible, such as through aligning the scales and areas for assessment (section 9), reusing indicators and the underlying data (section 10) and aligning GES and targets (section 11).

107. **Relationship to MSFD:** CORMON noted the close relationships between the IMAP Ecological Objectives and Common/Candidate Indicators and the MSFD Descriptors and criteria, and that these synergies support use of IMAP in implementation of the MSFD for those Contracting Parties who are also EU Member States. CORMON recommended that the specificities of the Mediterranean region be taken into account in the development of Ecological Objective 6, while ensuring coherence with other regional seas conventions and the MSFD. CORMON further noted that for the MSFD, the 2017 GES Decision brought together the criteria relevant for seabed habitats under Descriptor 1 Biodiversity and those for sea-floor integrity under Descriptor 6, to reduce redundancy in implementation processes by requiring a single set of assessments of seabed habitat types to cover both descriptors.

108. **Further development of EO6:** Further development of EO6 should be undertaken in close association with relevant aspects of EO1 implementation (and other relevant EOs) to ensure optimal use of data and resources. It should take account of ongoing developments (e.g. of indicators and assessment methods) within other RSCs, particularly OSPAR and HELCOM. Use of indicators developed elsewhere may need data and testing/calibration in a Mediterranean context and should be prioritised towards indicators for those pressures most affecting sea-floor integrity. CORMON noted the ongoing work by TG Seabed to agree a quality threshold value for application in MSFD criterion D6C5 and the ongoing work by ICES to develop a framework for assessment of habitat impact and condition indicators and to test threshold values.

109. **Continued engagement with OWG:** It is important to continue engaging with the CORMON's OWG on benthic habitats to ensure the development of EO6 benefits from their experiences and addresses the specificities of EO6 implementation across the region.

15 Summary

110. This paper provides an initial outline for IMAP's Ecological Objective 6 on sea-floor integrity, giving details of the human activities and associated pressures that most likely affect sea-floor integrity, on the possible links to other EOs and the potential to use assessments from their Common Indicators, and on the key gaps in indicator coverage that need to be addressed. Finally, some potential indicators and data sets are identified, noting that advice on the performance and suitability of seabed indicators was published by ICES (2022b).

111. The framework for EO6 proposed here benefits from the recent work undertaken for MSFD Descriptor 6 purposes by TG Seabed; following this framework would help ensure that implementation of EO6 would be in line with MSFD needs and thereby support Contracting Parties who are also EU Member States.

112. Agreement on the overall scope and framework for EO6, including GES definitions, targets and common indicators, through the IMAP and EcAp processes, will help identify the next steps needed to operationalise the indicators for assessment (MedQSR) purposes.

113. Implementation of the proposed EO6 framework will need to be undertaken in stages, depending on data availability on pressures, impacts and state which will vary across the range of habitat types and between countries.

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Annex I. Activities and pressures affecting the Mediterranean sea-floor

1. The following review is reproduced from the EO1/EO6 chapter prepared for the 2023 MedQSR (UNEP/MAP SPA/RAC, 2023a), largely based on Fourt (UNEP/MAP-SPA/RAC, 2022). It provides an overview of the main activities affecting the sea-floor in the Mediterranean Sea region and a review of the main pressures.

A1 Introduction

2. The Mediterranean maritime economy has been growing and is expected to grow during the upcoming years. Sectors such as tourism, shipping, aquaculture and offshore oil and gas but also new sectors such as renewable energy, seabed mining and biotechnology are expected to develop in the Mediterranean Sea (Piante & Ody, 2015). A downward trend may only be envisaged for the professional fisheries (Piante & Ody, 2015).

3. The ranking of the activities causing habitat loss and/or disturbance proposed for the Mediterranean Sea by ICES (2019) was used as a starting point and a reference document concerning the impact of anthropogenic activities on Mediterranean sea-floor.

A2 Main human activities

A2.1 Bottom-trawling fishing activities

4. Bottom trawling fisheries use gears of differing nature depending on the target species, the fishing depth and area. All bottom trawlers (otter trawlers, beam trawlers and dredges) drag or pull heavy gear on the seabed to collect target species but each type leaves different footprints on the sea-floor (Eigaard et al., 2016, 2017).

5. In the Mediterranean Sea, bottom trawling fishing is recognised as being the major activity creating disturbance to the sea-floor (ICES, 2019) with large areas physically disturbed by this fishing practice (PERSEUS, 2013). Korpinen et al. (2019) estimate that bottom trawling is the most extensive anthropogenic activity impacting sea-floor. Gubbay et al. (2016) for IUCN reports that more than 25% of marine benthic habitat types are under threat from benthic trawling. The degree of damage caused to the sea-floor is dependant of the type of gear, on the frequency at which an area is submitted to trawling, the substrate and the benthic habitats and ecosystems of the area.

6. Benthic biogenic habitats and species are particularly sensitive to bottom trawling such as macrophyte dominated habitats such as *Posidonia oceanica* (González-Correa et al., 2005), *Laminaria rodriguezii* (Žuljević et al., 2016), maerl beds (Bordehore et al., 2000), coralligenous habitats, cold-water corals (e.g., D'Onghia et al., 2017) especially *Isidella elongata* (e.g., Maynou & Cartes, 2011), and other benthic assemblages. They are either threatened directly by the mechanical abrasion or by the plume of sediment that is suspended in the water column following the fishing event.

7. Of the total Mediterranean fishing fleet, 7.9% are bottom trawlers; these are mainly concentrated in the Adriatic Sea and the Western Mediterranean (FAO, 2020). At the Mediterranean scale, the bottom trawlers represent 27% of the landings but the highest revenue per year (39.4% of the fisheries), while only ranking third in terms of employment (15.9%) (FAO, 2020).

8. GFCM has defined Fisheries Restricted Areas (FRAs) where towed dredges and nets are regulated. Key amongst GFCM actions to protect the seabed are its ban on bottom fishing below 1000m depth throughout the Mediterranean (GFCM, 2005) and protection of certain sensitive seabed habitats (Vulnerable Marine Ecosystems -VMEs) through establishment of Fisheries Restricted Areas (FRAs) (e.g., GFCM 2005, 2006, 2013, 2019, 2021a, b, c; **Figure 5**). Despite the extensive area of seabed covered by the FRAs below 1000m depth (approximately 1,470,000km², 58% of the Mediterranean Sea region), the majority of the soft-bottom benthic habitats of the continental shelf and slope are threatened by bottom trawling activities.

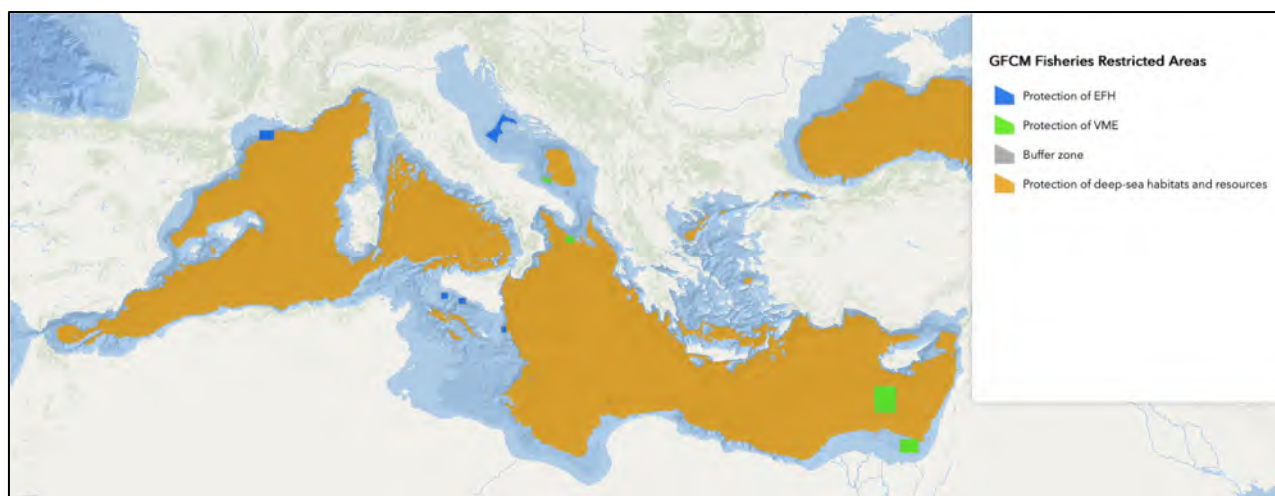


Figure 5. Distribution of GFCM Fisheries Restricted Areas (EFH = Essential Fish Habitat, VME = Vulnerable Marine Ecosystem) (from <https://www.fao.org/gfcm/data/maps/fras/en/>, accessed 20/04/2023)

9. Some Mediterranean areas, such as the Aegean Sea, Adriatic Sea and Western Mediterranean Sea are subject to multi-annual fisheries plans under the EU CFP. These provide important spatial, temporal and gear controls, which offer protection to some areas to protect sensitive seabed habitats and essential fish habitats. This makes monitoring and control very challenging (Petza et al., 2017).

A2.2 Bottom otter trawling fishing activities

10. Bottom otter trawling is generally used on sandy and muddy sediment sea-floor. It consists of a large conical net kept open on the sea-floor by two large panels (doors) and dragged by a boat (see Eigaard et al., 2016). The boats and gear are of different sizes giving them the ability to fish at depths from 10m to 2,500m (Eigaard et al., 2016). In practice, in the Mediterranean, trawlers fish mainly between 200 to 500m depth (Eigaard et al., 2017), as in the Gulf du Lion where trawling traces were observed between 150 and 600 m depth, mainly on sandy-muddy substrate (Fourt et al., 2014). But Eigaard et al. (2017) estimate that in the Mediterranean, around 40% of macrophyte-dominated sediments and biogenic habitats have been trawled. Hiddink et al. (2017) consider that 6% of the biota are removed per pass of a trawl.

11. In the Western Mediterranean (GFCM geographical subareas (GSA) 1, 5 and 6) there is a great fishing effort on the continental shelves (< 200m depth) and middle slopes (> 500m depth) (Farriols, M.T., Spanish Institute of Oceanography, pers.comm.). The data on fishing effort in number of fishing days and by depth strata are shown for these areas in **Figure 6**. The only area where fishing effort is higher in stratum D (200-500m) is GSA1. For GSA6 the stratum with higher fishing effort is stratum B (50-100m) and for GSA5 it is stratum E (500-800m).

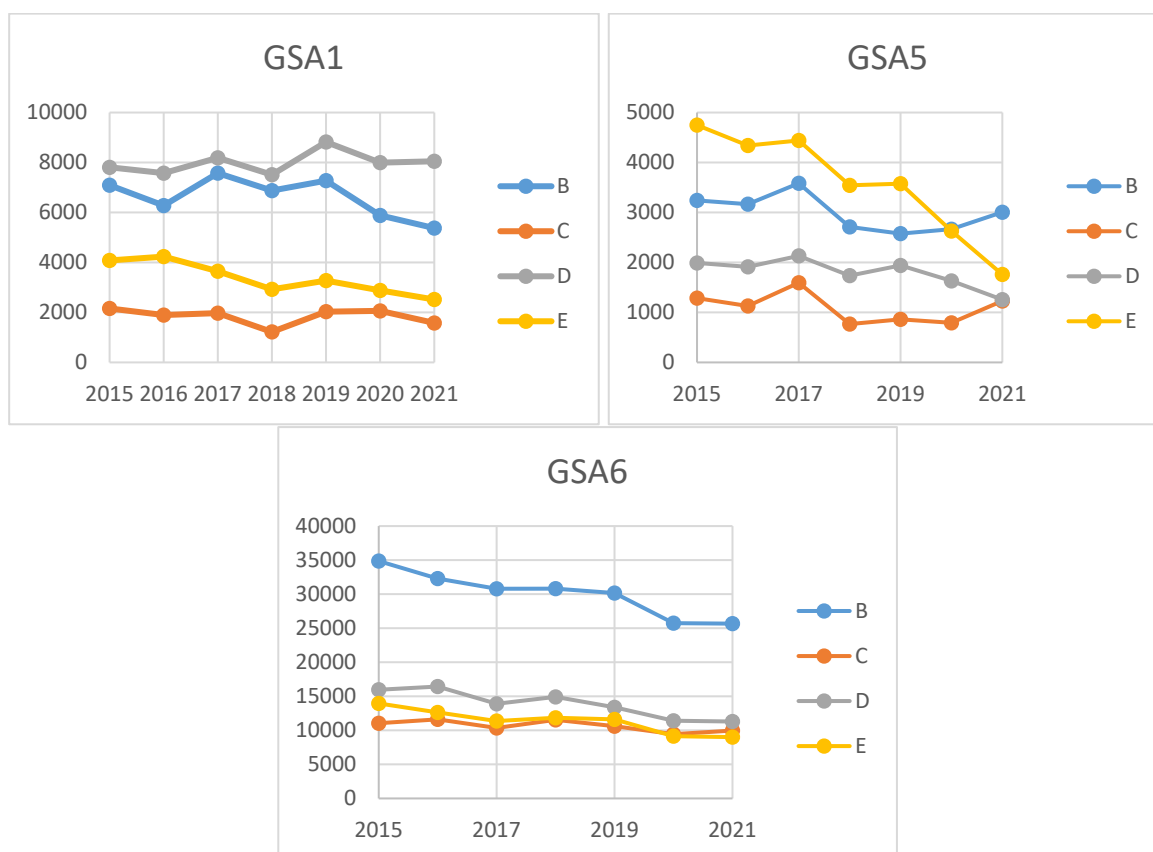


Figure 6. Fishing effort in number of days of the bottom-trawl fleet in GSA1, GSA5 and GSA6 (western Mediterranean) calculated from VMS data by depth strata (B: 50-100m; C: 101-200m; D: 200-500m; and E: 500-800m) (Farriols, M.T., Spanish Institute of Oceanography, pers.comm.).

12. The continental shelf and the top part of the continental slope are the most impacted by trawling fisheries. In the Mediterranean Sea available information concerns mainly European countries where bottom trawling activities (otter trawling, beam trawling and dredges) are concentrated along the north-eastern coast of Spain, south of Sicily, along the Italian coast in the Tyrrhenian Sea and with the highest effort concentrated in the western Adriatic Sea (Korpinen et al., 2019).

13. Depending on the depth and the area, bycatch and discards from trawling fisheries in the Mediterranean are important, amounting to between 35% and 70% by weight (European Parliament, 2014; Damalas et al., 2018; Tiralongo et al., 2021). Targeted species can constitute much less than the discard in weight, highlighting the low selectivity of this fishery. Amongst the species constituting the discards, there are many benthic invertebrates (e.g., corals, sponges, echinoderms) and algae (Sacchi, 2008).

14. Otter trawlers smoothen the sea-floor surface, constantly modifying the first surface centimetres of sediment and disrupting benthic habitat complexity, ecosystems and species (PERSEUS, 2013). Some parts of the gear (doors) can penetrate the seabed to depths up to 30cm or more while other parts cause abrasion (Lucchetti and Sala, 2012). The physical impact of otter trawlers depends on the penetration of some parts of the gear, the collision and abrasion and the sediment mobilisation (Rijnsdorp et al., 2016).

15. The high frequency of fishing activity on the same grounds causes:

- severe physical damage to large areas of the sea-floor, to sessile fauna and to the associated benthic ecosystems (Lucchetti and Sala, 2012; PERSEUS, 2013);
- persistent reduction of available organic matter even after two months of closure (Paradis et al., 2021a) (see section A3.9 on blue carbon);

- c. sediment resuspension and increase which also affect deeper benthic habitats in the areas with submarine canyons (Martin et al., 2014; Arjona-Camas et al., 2021; Paradis et al., 2021b).

16. In different parts of the Mediterranean Sea as in Crete (Greece, SE Mediterranean) and Palamos canyon (Spain, NW Mediterranean), management strategies with periodic closures of trawling activities are insufficient to allow the recovery of the benthic fauna and the restoration of the sea-floor (Smith et al., 2000; Paradis et al., 2021a).

A2.3 Beam trawlers and dredges

17. Generally, beam trawlers and fishing dredges are used in shallow waters, less than 100m depth (Eiggard et al., 2017). Also, the boats and the gear are of smaller size than otter bottom trawlers. The targets and gear of the beam trawling fisheries varies between Mediterranean areas and the fisheries are named differently.

18. *Gangui* were used in France but were banned in 2002 because of the damage they caused mainly on *Posidonia oceanica* meadows (RAC/SPA, 2003). However, 17 fishing vessels in France currently have derogations to the ban on using gangui; some Croatian vessels use similar gear⁴³.

19. The use of benthic *Kiss* in Tunisia has been banned but in practice over 400 boats using this gear practice around the Kerkennah Islands and the Gulf of Gabes, often at a few meters' depth, contributing largely to the depletion of the *Posidonia oceanica* meadows and the surrounding ecosystems (Zaouali, 1993; Zerelli, 2018; Mosbahi et al., 2022). The boats and gear are rather small but the mesh size of the nets used is also much smaller (18mm compared to 28mm of other trawlers) (Mosbahi et al., 2022).

20. In the Adriatic Sea, fisheries using *Rapido* beam trawlers target scallops in sandy areas and flatfish in muddy inshore areas. The use of *Rapido* is forbidden within 3-miles limit from the coast (Pranovi et al., 2000).

21. **Dredges** and especially **hydraulic dredges** for shellfish cause significant sea-floor surface disturbance by higher penetration of the gear into the sediment (Pitcher et al., 2022). The degree of penetration in gravel and muddy sea-floors is similar but is less in sandy sediments (Pitcher et al., 2022). It is estimated that hydraulic dredges cause depletion of 41% of the biota on each pass (Hiddink et al., 2017). In shallow sandy sediments in the northern and central Adriatic (3 to 12m depth), about 380 boats operate dredges that plough up to 15-16cm into the sea-floor to collect shellfish (Lucchetti & Sala, 2012; Hiddink et al., 2017). Many studies show that in the Adriatic Sea where the number of vessels using dredges is high, the sea-floor and macrobenthos suffer severe changes especially in shallow coastal areas (e.g., Morello et al., 2005; Lucchetti and Sala, 2012).

22. **Discard** from beam trawling and dredging is important, as underlined by many authors. For non-target species, mortality is high and many species such as fragile echinoderms are severely damaged (Pranovi et al., 2001; Morello et al., 2005; Urra et al., 2019; Ezgeta-Balić et al., 2021). By causing more damage and mortality to certain species compared to others, beam trawlers and dredges most probably contribute to important shifts in soft-sediment community composition (Pranovi et al., 2001).

A2.4 Non-trawling small-scale fisheries and recreation fishing

23. Non-trawling small-scale fisheries and recreational fishing (mainly gillnets, trammel nets, long lines and various bottom traps) may locally have an impact on habitats, in particular from bycatch and mechanical damage by entanglement creating derelict fishing gear. Cold-water corals are bycaught by gillnets and longlines in depths between 200 and 700m as reported by Mytilineou et al. (2012) for the Ionian Sea where *Isidella elongate* and *Leiopathes glaberrima* appeared as the most often reported cold-water coral bycatch. Observations by remotely operated vehicles (ROV) of mechanical damage caused to gorgonians, maerl beds and corals by entanglement with derelict fishing gear have often been reported (e.g., Bo et al., 2014; Giusti et al., 2019; Betti et al., 2020; Rendina et al., 2020; Özalp, 2022).

⁴³ DG Environment, pers. comm., September 2022.

A2.5 Coastal artificialisation

24. Coastal artificialisation implies direct physical loss of sea-floor but also indirect disturbance to the surroundings by changing hydrographical conditions or increasing turbidity during construction.

25. Coastal artificialisation or urbanisation affects mainly the littoral and upper infralittoral sea-floor and habitats. Littoral constructions such as ports, quays and dams, and beach management lead to sea-floor sealing and physical disturbance but also changes in hydrographical conditions that change substrate and disturb habitats. The result is a physical loss of the sea-floor and its habitats and a fragmentation of the habitats that lose connectivity despite the existence of marine protected areas (MPAs) (Santiago-Ramos & Fera-Toribio, 2021). The increasing urbanisation and touristic development of the coastal zone in the Mediterranean is expected to lead to an increase in development of artificial coastal infrastructures. Coastal artificialisation is especially prevalent along Spanish and French coasts where in many areas, more than 15% of the coast has been artificialized (Piante & Ody, 2015).

26. Under EO8 for the 2023 Med QSR, a general overview of the scale of coastal artificialisation is provided, based on reporting by 17 countries⁴⁴ which cover 57% of the Mediterranean's 54,992km of coast. These data show that 4,625km (14.8% of the reported coastline or about 8% of the total coastline of the region) is artificial (UNEP/MAP PAP/RAC, 2023).

A2.6 Dredging and dumping

27. Dredging generally concerns littoral and infralittoral sea-floor habitats but dumping may occur on circalittoral habitats.

28. Dredging can be carried out for the following reasons⁴⁵:

- a. to create or extend littoral infrastructure (e.g., a port). The dredging of seabed that has never been dredged is called **capital dredging**;
- b. to remove sea-floor substrate that has gathered and is an obstruction to navigation such as in ports, canals and river mouths. In these areas dredging is recurrent and is called **maintenance dredging**;
- c. to extract minerals such as sand, which is termed **mineral dredging**;
- d. to remove material purely for environmental reasons, such as from an old industrial site (**remedial dredging**).

29. **Capital and maintenance dredging** mainly affect soft sediments (but not only) that are removed and dumped in another place in the sea from a barge. Capital dredging impacts the sea-floor that has never been dredged and often precedes coastal constructions. The main threat of maintenance dredging resides in the degree of pollution of the material dredged and the area where it will be dumped.

30. Capital and maintenance dredging with associated dumping is undertaken in most Mediterranean countries and has been increasing during the last decade (Depe et al., 2018). The growing pressure of tourism in the Mediterranean region will most probably intensify such activities. Concerns are therefore arising about more efficient management of these activities. Depe et al. (2018) underline the threats of dredging and dumping activities in a context of a poor regulatory framework in the Mediterranean and the lack of a unified framework at a regional or sub-regional scale. UNEP/MAP's MED POL published a Guide on Management of Dredged Materials to help Mediterranean countries in their decision making, characterisation of materials, assessment, sampling and monitoring (see [Decision IG. 23/12](#)). Mikac et al. (2022) studied the impacts of the innovative ejectors plant technology which seems to reduce damage from maintenance dredging.

⁴⁴ Data were not available for Cyprus, Greece, Syria and parts of Croatia.

⁴⁵ [European Dredging Association](#)

31. **Mineral dredging**, which in the Mediterranean generally concerns extraction of sand (also called sand mining), is collected in areas away from the coast to nourish depleted beaches (e.g., Sardà et al., 2000).

32. Distant impacts of mineral dredging on the seabed are not well known. It nevertheless consists of a physical removal (therefore loss) of sea-floor, meaning an initial loss in abundance of the benthic community and a modification of the sea-floor topography and hydrographical conditions (Van Dalssen et al., 2000; Trop, 2017). Following such sand extraction activities, recovery of the impacted sea-floor and associated fauna depends, amongst others, on the local hydrography, the frequency of extraction and on the depth (Van Dalssen et al., 2000).

33. Some national guidance documents exist such as in Italy (ICRAM & APAT, revised version 2007).

34. Capital dredging disturbs the dredged surroundings, also with an increase in turbidity, and represents a physical loss of sea-floor especially since it is done to construct and therefore seal the area concerned. In the Mediterranean, mineral dredging consists mainly of sand extraction and is therefore strictly speaking a physical loss of sea-floor but depending on the frequency in an area, it may be considered as a physical disturbance since recovery of the seabed habitat seems possible. Dumping areas of dredged materials should be managed with more attention. Whilst being illegal, the dumping of sewage sludge material is known to occur in some countries.

A2.7 Anchoring

35. Anchors mechanically damage habitats by digging into the sea-floor, uprooting benthic species and creating depressions which result in a patchiness of the habitat. The damage can be a disturbance but locally also a physical loss. In the Mediterranean Sea, damage caused by anchoring has deteriorated habitats such as *Posidonia oceanica* meadows, as depressions become weak points for the entire meadow. Furthermore, the chains by turning around the anchor on the sea-floor, cause abrasion. To better manage anchoring damage, modelling tools have been developed and applied such as the accounting model applied on *Posidonia oceanica* meadows in Portofino, Italian MPA to assess the quantitative net impact of anchoring on this sensitive habitat (Dapuerto et al., 2022).

36. The study of damage caused by anchors has been mainly on fragile, long-to-recover habitats where the impact is long lasting. Nevertheless, along the French coast between 0 and 80m depth, almost a third of the seabed habitats were subject to anchoring pressure between 2010 and 2015 (Deter et al., 2017). The most important in descending order were: circalittoral soft bottom, infralittoral soft bottom and *Posidonia oceanica* meadows. This study used Automatic Identification System (AIS) data and showed the seasonality of the touristic anchoring pressure (mainly concentrated between May and September) but also the geographic distribution of this pressure that also concerns commercial vessels.

37. Efforts have been made along French Mediterranean coast to protect especially *Posidonia oceanica* meadows from anchor damage, including through local laws that ban anchoring on *Posidonia* meadows.

38. For French coasts a freely accessible application DONIA can be downloaded to mobile phones (MEDTRIX, 2019). It gives access to bathymetrical maps with very detailed information on habitat's geographic distribution down to 50 m depth, especially vulnerable habitats such as *Posidonia* meadows. Through this application, the navigation and anchoring regulations are mapped as well as other facilities and information.

A2.8 Aquaculture activities

39. Aquaculture (brackish and marine) in the Mediterranean Sea has grown rapidly since the 1970's (Piante & Ody, 2015). The development is expected to steadily grow up to 100% by 2030 in terms of production and value (Piante & Ody, 2015). Aquaculture releases organic matter creating bacterial mats and inorganic wastes

that deposit on the sea-floor (Knight et al., 2021). The impacts on the sea-floor are localised under and in the close vicinity of the cages and are mainly: sediment anoxia and chemical changes, macrofaunal changes as well as severe effects on *Posidonia* meadows (Plan Bleu, 2015).

40. Physical loss due to aquaculture activities is limited to the anchoring gear of the structure. Increased turbidity under and in the close vicinity of the cages disturbs biogenic habitats especially macrophytes, the disturbance may result in a loss of habitat.

A2.9 Gas and oil exploration and exploitation

41. The oil and gas production in the Mediterranean Sea is relatively limited compared to other areas (Piante & Ody, 2015). Nevertheless, the demand for oil and gas continues to increase. Therefore, exploration is taking place in large areas of the Mediterranean Sea (PERSEUS, 2013; Piante & Ody, 2015; Kostianoy & Carpenter, 2018).

42. Offshore platforms exist in various Mediterranean countries where in 2005 over 350 offshore wells were drilled (Kostianoy & Carpenter, 2018). Exploitation, development and/or exploration for oil and gas currently occurs in the waters of Algeria, Cyprus, Egypt, Greece, Italy, Lebanon, Libya, Malta, Spain, Tunisia and Türkiye (Kostianoy & Carpenter, 2018). A large concentration of gas platforms is in operation in the North-Eastern part of the Adriatic and Ionian Sea with over 100 installations (Piante & Ody, 2015).

43. For the Mediterranean Sea, experts consider that once platforms are installed, the actual physical damage to the sea-floor (physical loss in this case) is relatively limited in terms of surface area compared to other activities (ICES, 2019). Moreover, the platform structure offers new hard substrate that is often colonised by various benthic species, including non-indigenous species (NIS) (Manoukian et al., 2010). Gas and oil extraction has been ranked 15 on a scale that classifies 31 activities, rank 1 considered to be causing the greatest amount of physical disturbance to sea-floor in the region (ICES, 2019). Offshore oil production discharges are considered to be limited compared to other sources of inputs (Harris, 2020) and it is estimated that less than 1% of total oil pollution in the Mediterranean Sea originates from platforms (Kostianoy & Carpenter, 2018). Nevertheless, in the context of expanding oil and gas exploration and future exploitation in the Mediterranean Sea, notably in the eastern Mediterranean, drilling activities during exploration (such as anchorage of platform and drilling) represent potential increasing sources of damage to sea-floor and its geological structure. The increase in platforms will also increase the risk of accidental oil spills and the problem represented by decommissioning of offshore platforms.

44. The installation of platforms disturbs the sea-floor in the close vicinity but for a short time. Platforms though represent also a localised loss of sea-floor by sealing, even though the new artificial hard substrate (the immersed structure) represents a new substrate for sessile species. At the Mediterranean scale the UNEP/MAP offshore protocol gives recommendations for these installations so as to limit impact on the environment.

A2.10 Offshore windfarms

45. Installation of offshore wind farms impacts directly the sea-floor by loss of sea-floor habitat where the foundations are set, and by disturbance during the installation phase of the wind farms. But this impact is limited in surface area and damage can be reduced if properly planned in areas without sensitive benthic habitats. Prevention of fishing activities within the wind farm has the potential to create refuge habitats for many species including fish and increase connectivity (Boero et al., 2016).

46. Marine renewable energy is at the first stages of development in the Mediterranean Sea (Piante and Ody, 2015). Wind energy is developing with projects mainly in the EU states (Piante and Ody, 2015). The high costs of the installation in deep-sea areas and the low mean wind speed pose technical limits in the development of such energies (see the EU-funded COCONET project; Boero et al., 2016). Possibilities to associate sustainable aquaculture, for example bivalves, on the foundations could also be considered (Boero et al., 2016). Röckmann

et al. (2018) indicates that many Mediterranean countries intend to develop offshore wind farms such as Albania, Algeria, Bosnia and Herzegovina and France. Greece, Malta and Spain also intend to develop offshore renewable energy.

A2.11 Mining

47. Deep-sea mining for the extraction of metals and minerals (other than sand) is not yet developed in the Mediterranean Sea. However, mining could be started in the near future to meet the increasing global demands for metals and minerals. In France and Spain, potential areas for seabed mining have been identified (Piante & Ody, 2015), potentially providing conflicts of space with other offshore activities. Furthermore, other than the loss of sea-floor extracted by mining, the impacts of sea-floor mining on Mediterranean deep marine ecosystems are unknown.

A3 Pressures on the seabed

48. Assessing the state of the seabed can be done from two perspectives⁴⁶:

- a. Mapping and modelling the distribution, extent and intensity of anthropogenic pressures;
- b. Directly observing and sampling the seabed and its communities to provide information on its state which reflects the cumulative impacts of the current and past pressures.

49. This section provides an overview of the main pressures on the Mediterranean seabed, drawing mainly from:

- a. a Mediterranean-wide mapping and modelling of key pressures by the EEA's European Topic Centre on Inland, Coastal and Marine waters (Korpinen et al., 2019);
- b. a literature review of the effects of non-indigenous species, land-based pollution and litter (Fourt, 2022);
- c. a review of blue carbon and effects of physical disturbance by bottom fishing.

A3.1 Biological - non-indigenous species

50. The presence of non-indigenous species (NIS) in the Mediterranean has clearly increased in recent years (Zenetos et al., 2022). Over 1000 species have been reported, of which 73% are considered to have become established in the region, with the eastern Mediterranean most affected (UNEP/MAP-SPA/RAC, 2023c). Their introduction and spread is rapidly growing, as an increase in sea temperature caused by climate change favours the establishment of lesseptian species arriving through the Suez Canal. Maritime transport and aquaculture provide further sources of NIS. Some benthic NIS can develop rapidly and impact native habitats by increasing competition for space (Pergent et al., 2008). Others impact coralligenous habitats by growing on sessile species (Sempere-Valverde et al., 2021). In the Mediterranean, NIS impact marine ecosystems including benthic habitats in multiple ways (Katsanevakis et al., 2016). No loss of biogenic habitats due to NIS has been recorded in the western Mediterranean but changes due to NIS are documented for the eastern (Levant) Mediterranean (Bitar, 2008; SPA/RAC, 2018).

51. It is estimated that 98% of the Mediterranean coastline and 41% of the narrow shelf area is affected by NIS; (Korpinen et al., 2019). This estimate is based on data for 76 marine invasive species that were individually mapped against an EEA 10km-by-10km grid; the number of NIS species per grid cell (maximum 39 species in a single grid cell) was normalised to a 0-1 scale (**Figure 7**). The data show that NIS are

⁴⁶ This needs to be supported by defining thresholds for the boundary between a habitat in good condition and one which is adversely affected (in relation to each habitat, taking account of their sensitivity to different pressures).

particularly concentrated in the eastern Mediterranean. Some species may be pelagic and therefore not have an impact on benthic habitats.

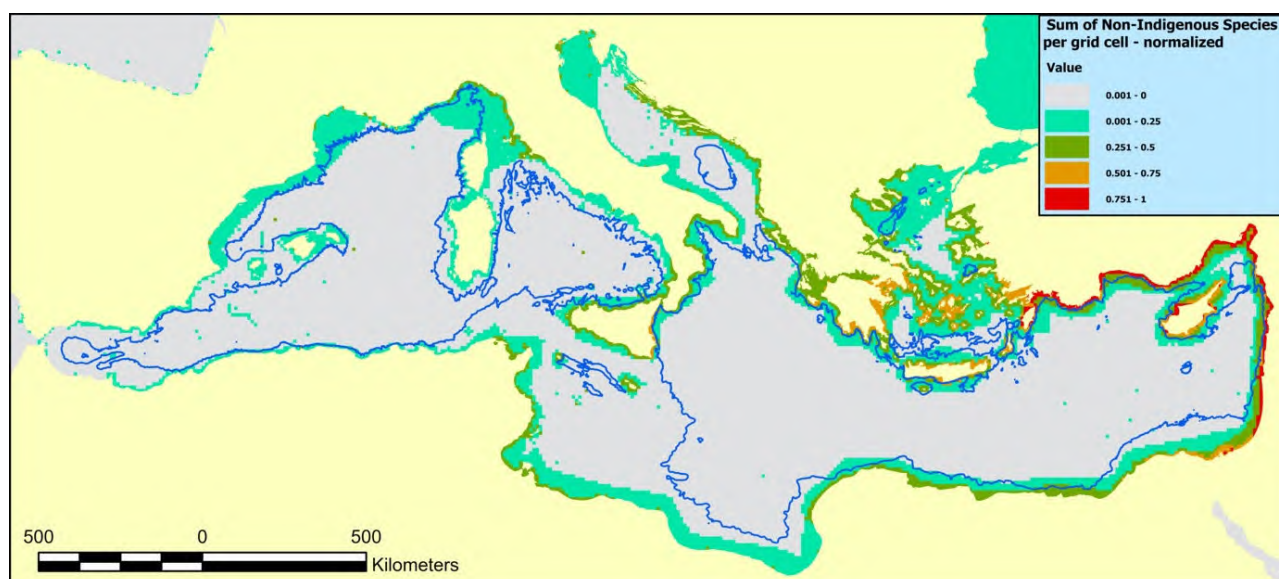


Figure 7. Number of invasive non-indigenous species per 10km-by-10km grid cell (maximum 39 species), normalised to 0-1 scale (redrawn from data in Korpinen et al., 2019).

A3.2 Biological - extraction of wild species

52. Korpinen et al. (2019) provide data on fishing effort by bottom-touching mobile fishing gears, based on the distribution and intensity of demersal fishing using Automated Identification System (AIS) data for the year 2015 (**Figure 8**).

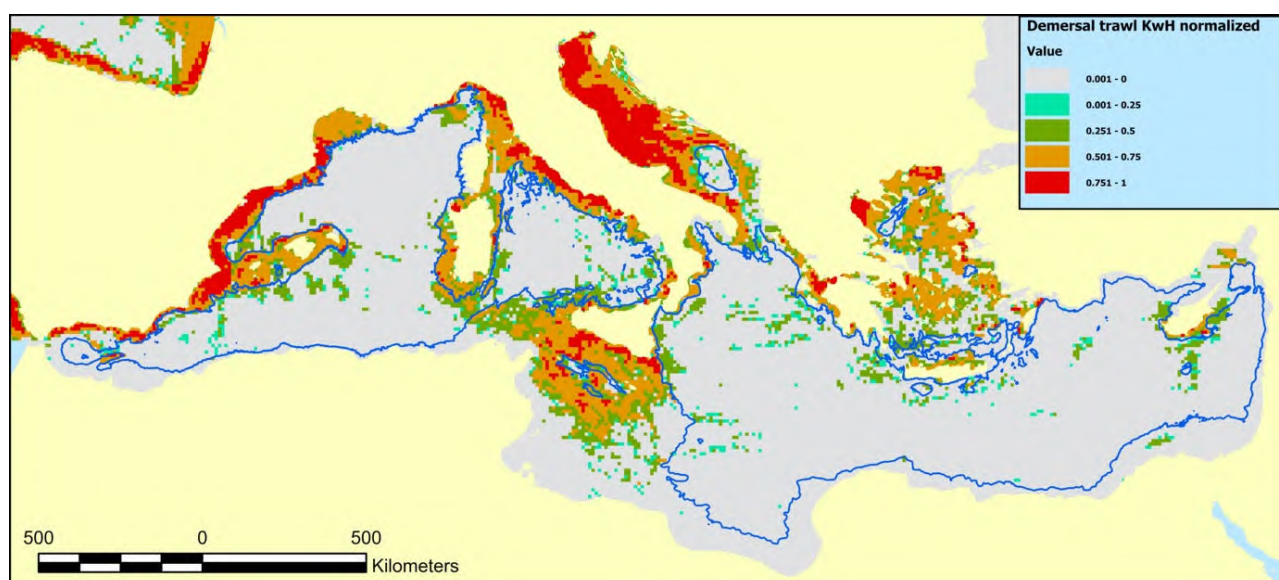


Figure 8. Distribution and intensity of demersal fishing for the year 2015, normalized to 0-1 scale, with 1 representing 1,549,089 kilowatts per fishing hour (redrawn from data in Korpinen et al., 2019). 1000m isobath also shown.

53. The data show that this type of fishing activity is widespread in the coastal and shelf zones of the Mediterranean region; below 1000m depth, use of demersal fishing gears is banned. Fishing activity was particularly intensive in the northern and western Adriatic, on the coast of Spain and on Italy's west coast. Data maybe lacking for southern and eastern waters of the Mediterranean. The general fishing pattern for 2015 (i.e., in areas above 1000m depth across the Mediterranean) (**Figure 8**), is expected to be typical for each year.

54. However, localised variation can be expected due to changes in management practices such as closures to bottom fishing following the designation of marine protected areas. For example, in the Balearic Islands an area of the Menorca Channel, Spain was excluded from bottom trawling in 2016 (Farriols et al. 2022).

55. Also EU Regulation 2019/1022 established a Multi-Annual Plan for fishing in the Mediterranean. This led to a 10% reduction in fishing effort in the first year of the plan and 30% for the second to the fifth year of the plan. To achieve these reductions, areas of temporal and permanent closure to bottom trawling have been implemented in each GSA. The decrease in fishing effort during the 2015-2021 period for GSA1, GSA5 and GSA6 (western Mediterranean) is shown in **Figure 9**.

56. Where bottom fishing ceases in specific areas (e.g., for MPA management or as part of the Multi-Annual Plan), the extent of physical disturbance is reduced and the seabed habitats can recover. However, where the fishing continues over the same area but at a lower intensity, the general reduction in fishing effort (section A3.2, **Figure 6**, **Figure 9**) does not lead to reductions in the extent of physical disturbance of the seabed, and the continued physical disturbance does not allow the seabed to recover.

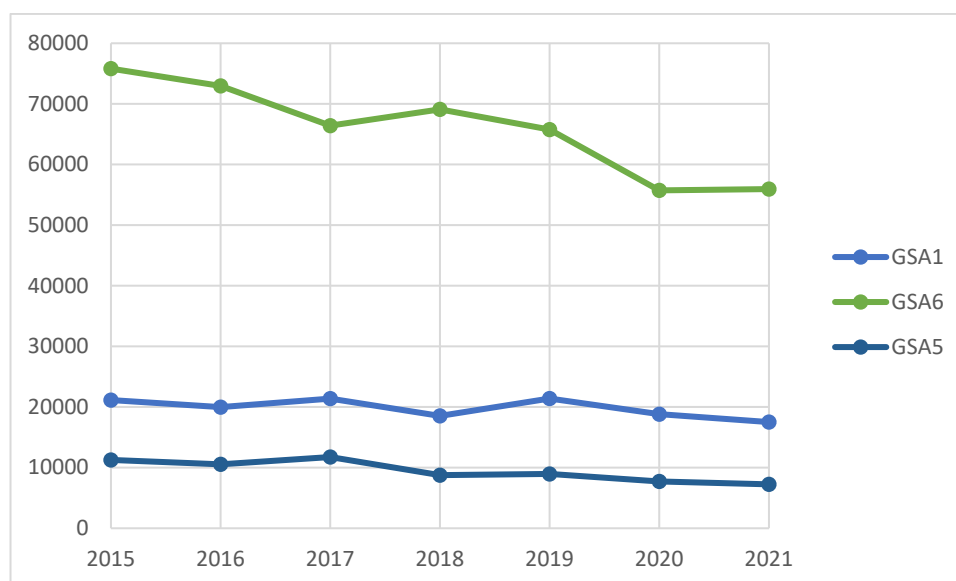


Figure 9. Total fishing effort in number of days for the bottom-trawl fleet in GSA1, GSA5 and GSA5 Mallorca and Menorca (western Mediterranean) calculated from VMS data (Farriols, M.T., Spanish Institute of Oceanography, pers.comm.).

57. Demersal fishing is a major contributor to physical disturbance of the seabed (see section A3.4).

A3.3 Physical - loss of the seabed

58. Physical loss of the seabed⁴⁷ is an extreme pressure on the marine ecosystem. Seabed habitat is lost if its substrate, morphology or topography is permanently altered. Activities causing such loss are sand and gravel extraction, removal of hard substrate or biogenic reefs, capital dredging of the seabed, disposing waste material and dredged matter and all kinds of construction activity in or over the seabed (Korpinen et al., 2019).

⁴⁷ Defined to include all impacts on the seabed which take >12 years to recover.

Persistent use of bottom-contacting fishing gears can change the seabed morphology and sediment characteristics, leading to habitat loss.

59. It is estimated that 3.7% of the Mediterranean seabed has been lost, with most of this concentrated on the coast, particularly near cities with more limited loss away from the coast, such as from offshore infrastructure (e.g., gas installations, wind farms) (Korpinen et al., 2019).

60. **Figure 10** shows the number of physical loss-causing activities⁴⁸ per 10km-by-10km grid cell, using data for:

- a. Dredging
- b. Dumping of dredged material
- c. Oil and gas rigs
- d. Ports
- e. Sand and gravel extraction
- f. Operational windfarms

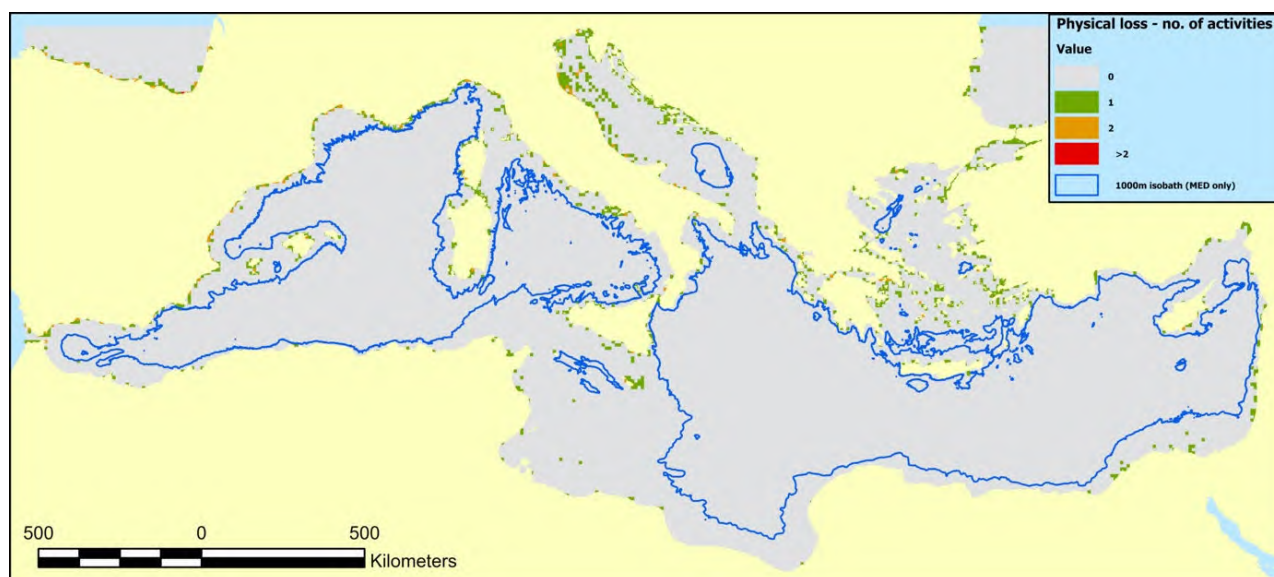


Figure 10. Number of different activities causing physical loss of the seabed per 10km-by-10km grid cell (redrawn from data in Korpinen et al., 2019). See text for further details.

61. Under EO7 and CI-15, it is estimated that about 20% of the Mediterranean coastline comprises artificial habitat, with 45% as rocky coast and 35% as sandy coast (UNEP/MAP-PAP/RAC (2023)). These proportions vary markedly between countries (e.g., Croatia has 90% rocky coastline, Libya has 65% sandy coastline and Lebanon has 40% artificial coastline).

62. Under EO8 and CI-16, from country reports covering 57% of the Mediterranean coast, about 85% of the coast is reported as natural while the remaining 15% is artificial. The majority of artificial structures are ports and marinas (UNEP/MAP-PAP/RAC (2023)).

⁴⁸ Physical loss due to persistent bottom fishing is more difficult to distinguish from physical disturbance, and so is not yet included in the data used for Figure 7.

A3.4 Physical – disturbance to the seabed

63. Physical disturbance is the most extensive pressure on the Mediterranean seabed, particularly affecting the coastal and shelf zones down to 1000m depth, where it affects most habitat types.

64. Korpinen et al. (2019) have prepared a data layer depicting the sum of all physical disturbance-causing activities per 10km-by-10km grid cell (

65. **Figure 11**), based on data from the following sources:

1. Demersal fishing effort
2. Dredging
3. Sand and gravel extraction
4. Port anchorage sites
5. Windfarms (under construction; partial generation/under construction; decommissioned; operational)
6. Deposit of dredged matter
7. Oil platforms (offshore installations)
8. Aquaculture (finfish)
9. Aquaculture (shellfish)
10. Shipping in shallow water

66. All layers were converted to presence/absence data per 10km-by-10km grid cell⁴⁹ before summing, except for demersal fishing (kw/h) and shipping in shallow waters (derived from a shipping CO₂ emissions model from the Finnish Meteorological Institute, cropped to 0-25 meters depth zone). Demersal fishing was log-transformed and normalized to 0-1 before summing. Shipping in shallow waters was normalized before summing, but not log-transformed.

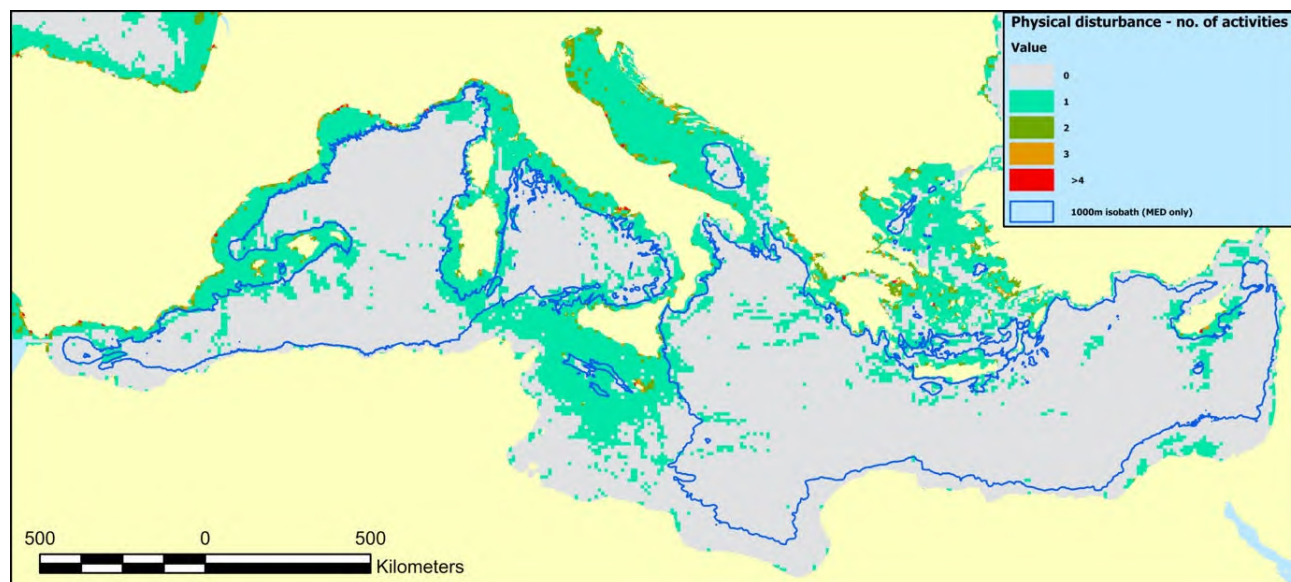


Figure 11. Number of different activities causing physical disturbance to the seabed per 10km x 10km grid cell (redrawn from data in Korpinen et al., 2019). See text for further details. 1000m isobath also shown.

⁴⁹ At the scale of the entire Mediterranean Sea region, the use of a 10km-by-10km grid provides a relatively fine level of detail. However, this scale has limitations in relation to assessing seabed habitats from the following perspectives: a) the distribution and extent of seabed habitats, particularly in shallow waters near the coast, can be complex and occur at much finer scale, and b) activities and their pressures are particularly concentrated on the continental shelf area which, for most of the Mediterranean, is quite a narrow zone. The interaction between seabed habitats and the pressures would therefore be improved if the data were available on a finer grid, at least for the nearshore zone.

67. The number of activities causing physical disturbance is typically highest in the coastal zone, whilst further offshore, on the shelf areas down to 1000m depth, the majority of physical disturbance is from demersal fishing activity, some of which can occur multiple times per year (see **Figure 8**).

A3.5 Physical – hydrographical pressures

68. Korpinen et al. (2019) have mapped the distribution and intensity of hydrographical pressures, based on data reported under the EU Water Framework Directive. The presence of different hydrographical pressure types was mapped and summed per 10km-by-10km grid cell (

69. **Figure 12**). Equivalent data for non-EU countries is not available.

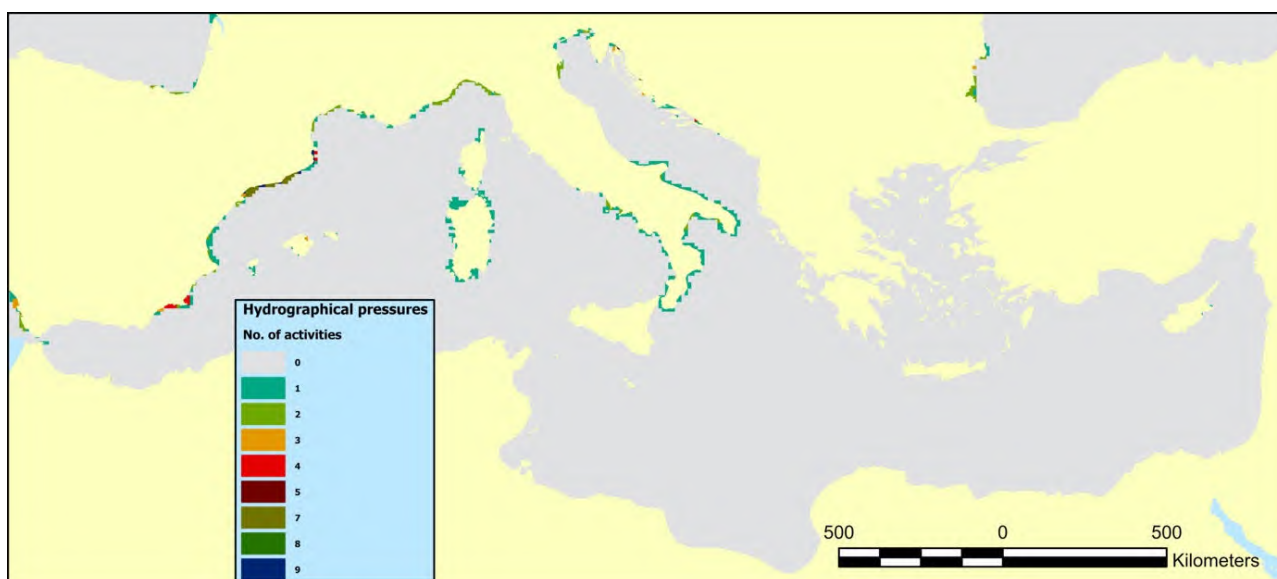


Figure 12. Number of different hydrographical pressures per 10km-by-10km grid cell, as reported by EU Member States (by Croatia, France, Italy, Slovenia and Spain) for the Water Framework Directive in 2016 (redrawn from data in Korpinen et al., 2019). Similar data for non-EU countries are unavailable.

A3.6 Land-based pollution – nutrient enrichment and contaminants

70. It is estimated that 80% of the marine pollution, by nutrients, heavy metals and Persistent Organic Pollutants (POPs), comes from land-based human activities (Piante & Ody, 2015). In the Mediterranean, the main sources of pollution are industries, untreated urban and domestic waste-waters, surface run-off, dumping grounds and river discharges to the sea. Sea-based aquaculture facilities may also provide a source of pollution, particularly nutrients.

71. Impacts on the sea-floor affect coastal areas in particular, with chemical contamination in the sediment considered to decrease when moving offshore (Gómez-Gutiérrez et al., 2007). Benthic communities of soft sediments seem strongly affected by heavy metals which accumulate over time in the sediment (Chatzinikolaou et al., 2018).

72. In the Mediterranean Sea, annual Nitrogen (N) and Phosphorus (P) inputs have been estimated as 1.3 Tg N and 126 Gg P (PERSEUS–UNEP/MAP, 2015). In the region, 50% of N and 75% of P inputs come via rivers and the rest from atmosphere and coastal point sources to the sea. In general, the northern rivers discharge more nutrients than the southern rivers of the sea region (Strobl et al., 2009). The largest riverine inputs (accounting for 25 % of the total discharge) are from the Rhone and the Po (Korpinen et al., 2019).

73. Eutrophication is generally restricted to the coastal zone and is much less of a problem in the Mediterranean compared with other marine regions around Europe. 16% of sites assessed in the Mediterranean were subject to eutrophication, although there are large data gaps (Korpinen et al., 2019). A 2018 assessment of eutrophication, produced using the HELCOM eutrophication assessment tool (HEAT), indicates that the Mediterranean is mainly in a good state, but eutrophication occurs in coastal areas in the western and north-western Adriatic, off the Egyptian coast, Gulf of Gabès, northern Aegean Sea, and outside bigger cities in Spain and France.

74. For the 2023 Med QSR under EO5, a eutrophication assessment was undertaken using a simplified assessment method (the G/M or good/moderate boundary method) based on Chlorophyll-a data from the COPERNICUS satellite, excepting in the Adriatic Sea subregion which used the NEAT assessment tool for CI-13 (N and P) and CI-14 (Chlorophyll-a) (UNEP/MAP-MEDPOL, 2023) (**Figure 13**).

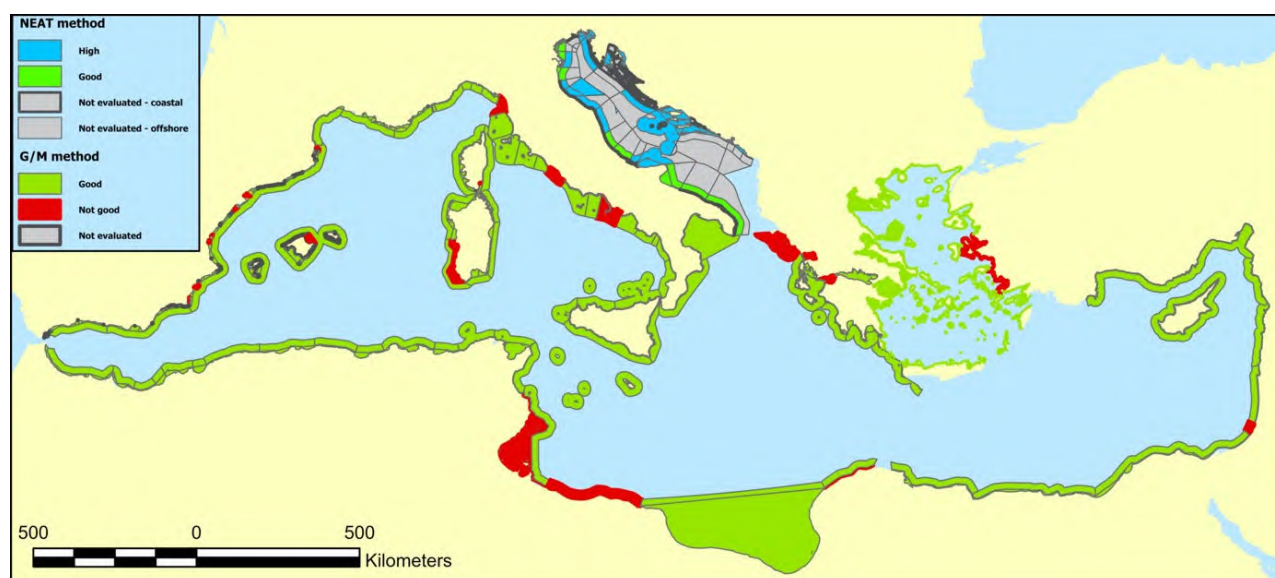


Figure 13. Assessment results for EO5, based on CI-14 using the simplified G/M method on satellite-derived COPERNICUS data for Chlorophyll-a for all subregions, except in the Adriatic Sea subregion where the assessment is based on CI-13 and CI-14 using the NEAT method (redrawn from UNEP/MAP-MEDPOL, 2023).

75. The results for the Adriatic Sea indicate there is good to high overall status for all the coastal areas assessed (offshore areas were not assessed), based on CI-13 (N and P) and CI-14 (Chlorophyll-a), although several areas on the Italian coast are in moderate status for Total Phosphorus (TP) (UNEP/MAP-MEDPOL, 2023).

76. In the other subregions, the simplified eutrophication assessment for EO5, based solely on CI-14 using satellite-derived Chlorophyll-a data, is considered to give only an indication of the possible environmental status for EO5 on eutrophication (UNEP/MAP-MEDPOL, 2023). The 2023 QSR assessment for EO5 provides additional details on hotspots for eutrophication, likely due to local sources of nutrient inputs, for each subregion.

77. Nutrient enrichment can change benthic community composition in shallow rocky habitats, especially macroalgae communities (Arévalo et al., 2007). The eutrophication effects in the water column can eventually increase turbidity and thus reduce the depth to which macrophytes grow.

78. A marked effect of eutrophication on seabed habitats is due to the development of hypoxic conditions at the seabed. Such conditions have been found only in coastal areas of the Adriatic Sea, northern and western Aegean Sea, eastern Ionian Sea and the Gulf of Lion (EEA, 2019e). The eutrophication of the Adriatic Sea started in the 1970s, but the hypoxic events have become rarer since the 1990s–2000s with the decline of chlorophyll concentrations (Giani et al., 2012; Djakovac et al. 2015).

79. The eutrophication assessments under EO5 for the 2023 Med QSR are based on data about the water column (N, P, chlorophyll-a). These provide only a possible indication of eutrophication effects on the seabed, which would need to be verified by use of benthic indicators of eutrophication, such as those used under the WFD.

A3.7 Litter

80. The Mediterranean Sea, through its characteristics as a semi-enclosed sea surrounded by a highly populated coast and a major destination for tourism, is highly threatened by litter and more specifically by plastic litter. Litter has been confirmed in all compartments of marine environment and more than 50% of seabed litter in the Mediterranean is plastic litter (UNEP/MAP & Plan Bleu, 2020) and can count up to 62% in weight in some areas (e.g., Adriatic) (Pasquini et al., 2016).

81. On the sea-floor, plastic litter concentrates in specific depositional areas. Although coastal areas show higher concentrations of litter (e.g., Strafella et al., 2015), in deeper areas hotspots for plastic litter concentrations have been identified (Pasquini et al., 2016; Angiolilo & Fortibuoni, 2020). Deep-sea canyons are also impacted by litter especially when they are near the coast (Gerigny et al., 2019). Benthic species tend to be affected by entanglement with litter, whilst pelagic species are more affected by ingestion of litter (Abdul Malak, D., ETC-UMA, pers. comm.).

82. Recent concerns focus further on pollution by micro-plastics which can accumulate in marine sediments where their impacts on macrofauna are not yet known. Tsiaras et al. (2021) modelled the distribution of micro-plastics on the Mediterranean continental shelf. With this model, eastern Spain, the Gulf of Lion and the Tyrrhenian Sea appear as the areas most impacted by micro-plastics.

A3.8 Climate change

83. Impact of climate change on Mediterranean benthic species has been widely studied since the 1980's, although effects in eastern Mediterranean are known from the decades before 1980. Since then, frequent and drastic mortality events have occurred (e.g., Pérez et al., 2000; Garrabou et al., 2001, 2003; Lejeusne et al., 2010; Galassi & Spada, 2014; Paireaud et al., 2014; Bianchi et al., 2019; Moraitis et al., 2019). The damage caused by climate change has mainly been studied on infralittoral and circalittoral hard substrate communities but impacts on deep-sea benthic ecosystems have recently also been considered (e.g., Levin & Le Bris, 2015; Danovaro, 2018).

84. Damage from climate change impacts sea-floor benthic habitats, although changes in Mediterranean hydrodynamic circulation due to climate change could induce changes in sea-floor substrate topography. Furthermore, the littoral fringe of the Mediterranean coast is expected to undergo drastic changes due to climate change with a rise in sea level and erosion of the coastline and beaches. It is difficult to assess damage on the sea-floor from climate change since these effects accumulate with other effects.

A3.9 Blue carbon and the effects of bottom fishing

85. Marine sediments are one of the most expansive and critical carbon (C) reservoirs on the planet; shallow seas (<1000m depth) (i.e. where bottom fishing is still permitted in the Mediterranean) store 15.5% of global marine carbon (360 Pg); continental shelves store more carbon per unit area (<19,000 Mg km⁻²) than the rest of the ocean provinces including the deep ocean abyssal plains and basins (~6000 Mg km⁻²) due to the higher productivity in the waters above the shelves (Atwood et al. 2020). Shelf sea sediments are the dominant component (~93%) of coastal and shelf sea carbon stores; saltmarshes and seagrass store more carbon per unit area, but their areas are small relative to shelf sediments. This emphasises that shelf sediments are an important carbon store both locally and indeed globally (Bauer et al., 2013, Luisetti et al. 2019). The amount of carbon sequestered into shelf seas is comparable to that in tropical forests (Luisetti et al. 2020).

86. Disturbance of these carbon stores can re-mineralize sedimentary carbon to CO₂, which is likely to increase ocean acidification, reduce the buffering capacity of the ocean and potentially add to the build-up of atmospheric CO₂ (Sala et al. 2021). Disturbance to the seafloor by bottom trawling results in an estimated 1.47 Pg of aqueous CO₂ emissions, owing to increased carbon metabolism in the sediment in the first year after trawling, equivalent to 15–20% of the atmospheric CO₂ absorbed by the ocean each year (Sala et al. 2021). Demersal fisheries could have the greatest impacts on the carbon sink through trophic cascades as described in the Baltic Sea (Casini et al., 2008 in Cavan & Hill, 2021) and physical disturbance of the seabed (Duarte et al., 2020 in Cavan & Hill, 2021; Luisetti et al., 2019; Pusceddu et al., 2014). Trawling impacts up to 75% of continental shelf sediments globally, with almost 20 million km² of sediments subject to trawling once or more per annum (Kaiser et al., 2002). Bottom trawling affects sedimentary carbon storage through remineralisation of the resuspended sedimentary organic carbon, altering the depth and rate of organic carbon burial and by changing the seabed communities involved in bioturbation and bio-irrigation (Duplisea et al., 2001) (Liusetti et al. 2019). Overall, the dominant control on net release of carbon to the atmosphere was found to be the intensity of trawling (a function of the depth to which carbon was disturbed, the POC content of the sediment, and the fraction redeposited without mineralisation) (Liusetti et al. 2019). Effectively all organic carbon oxidised will be released to the atmosphere as CO₂ (Liusetti et al. 2019).

87. Trawling affects sediments to a depth of 10 cm with a 52% reduction in organic carbon storage, slower carbon turnover and reduced meiofauna abundance and biodiversity (Pusceddu et al., 2014). A recent study found 30% less organic carbon in deep-sea (500m) sediment continuously trawled for shrimp compared to sediment where trawling had been banned for 2 months (Paradis et al., 2021). However, the slow rate of sediment accumulation means a longer ban (decades) on trawling than 2 months is required to restore sediment organic carbon (Paradis et al., 2021).

88. Fishery disturbance is not yet factored into forecasts of future changes to the global carbon cycle (Laufkötter et al., 2016 in Cavan & Hill, 2021) and carbon sequestration in shelf sea sediments should be considered within the scope of both IPCC inventory and environmental–economic accounting methodologies (Luisetti et al. 2020). In a scenario of increased human and climate pressures over a 25-year period, the present value of damage costs from carbon release ranging are estimated between US\$1.7 billion using the social cost of carbon approach (Tol, 2005) and US\$12.5 billion using the UK's abatement cost approach (BEIS, 2017 in Liusetti et al. 2019), with an intermediate US\$5.2 billion using Nordhaus' mixed approach of social cost of carbon and abatement cost (Nordhaus, 2017). Protecting the carbon-rich seabed is a potentially important nature-based solution to climate change (Sala et al. 2021).

A3.10 Cumulative effects

89. Sea-floor damage is often the result of multiple threats that add but may also interact and create more damage than the sum of impacts, increasing the risk of damage on sea-floor and its vulnerability. It is difficult to assess the cumulative impacts due to scattered data (Bevilacqua et al., 2020). Although little is known about the impact of cumulative pressures, littoral Mediterranean habitats are subject to a greater accumulation of pressures than others. Micheli et al. (2013) estimated that 20% of the entire Mediterranean basin is heavily impacted by cumulative impacts. In a more recent study, more than 30% of the Mediterranean Sea is considered to be highly impacted (Med-IAMER, 2015). The intensity of individual pressures varies across the region, yet the drivers are similar in the whole Mediterranean Sea. Furthermore, the number of pressures is spatially heterogeneous, showing that cumulative impacts tend to aggregate in specific areas to create hotspots where the intensity of human activities is likely to produce negative effects on the environment (Med-IAMER, 2015).

90. A methodology and model for mapping the Risk of Cumulative Effects (RCE) on benthic habitats has been developed based on previous works (e.g., Halpern et al., 2008) and applied to the French coastal region (0-200m depth) by Quemmerais-Amice et al. (2020). In this work, the contribution of bottom trawling to RCE is by far the most important.

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Annex II. Basis for assessment areas proposed for EO6

A5 Introduction

1. A proposal for a set of assessment areas for EO6 application was introduced in Section 9 and **Figure 2**.
2. In **Figure 14**, the subregions and subdivisions are labelled/numbered to link to the data provided in **Table 12** on the characteristics of each assessment area (subdivision of the marine region).
2. It should be noted that these subdivisions currently have no formal status.

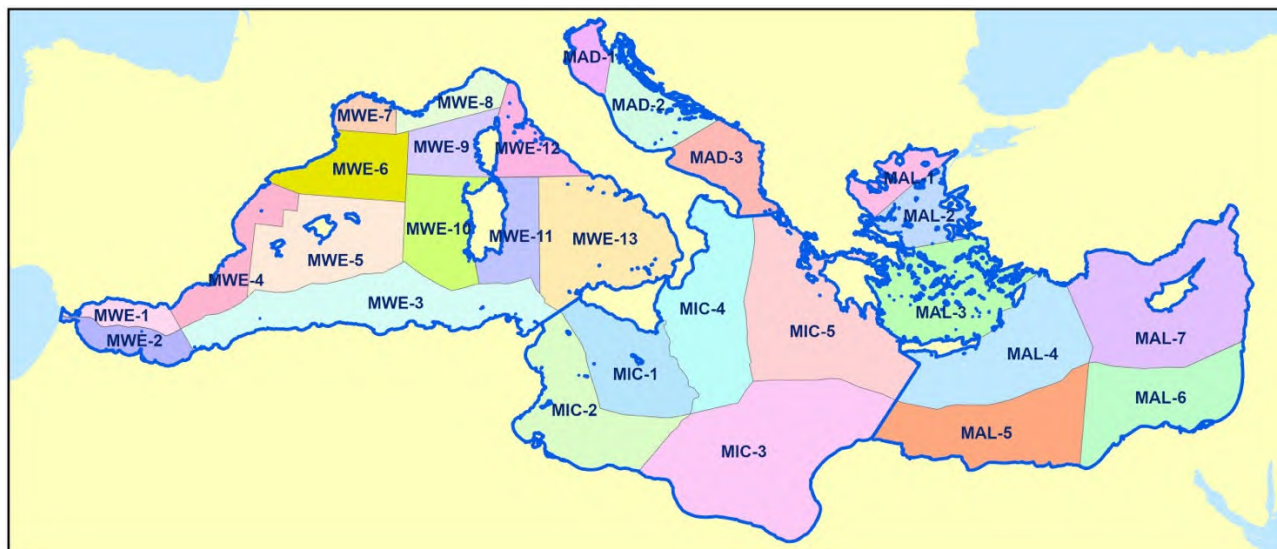


Figure 14. Subdivisions proposed for EO6 application. Subdivisions are numbered within each subregion (blue lines) with codes: MWE-Western Mediterranean Sea; MAD-Adriatic Sea; MIC-Ionian Sea and the Central Mediterranean Sea; MAL-Aegean-Levantine Sea. This map is for assessment purposes only and shall not be considered as an official map representing marine borders. This map shall be used without prejudice to the agreements made between countries under international law in respect of their marine borders.

3. These 'subdivisions' of the Mediterranean Sea are based on:
 - a. The four subregions of the Mediterranean Sea region, as adopted by UNEP/MAP and MSFD;
 - b. Biogeographic considerations, primarily temperature and salinity regimes (at the sea bottom and sea surface, in summer and in winter);
 - c. National borders of marine waters⁵⁰;
 - d. Management considerations, such as the management of the bottom fishing sector, including use of some GFCM geographical sub-area boundaries.

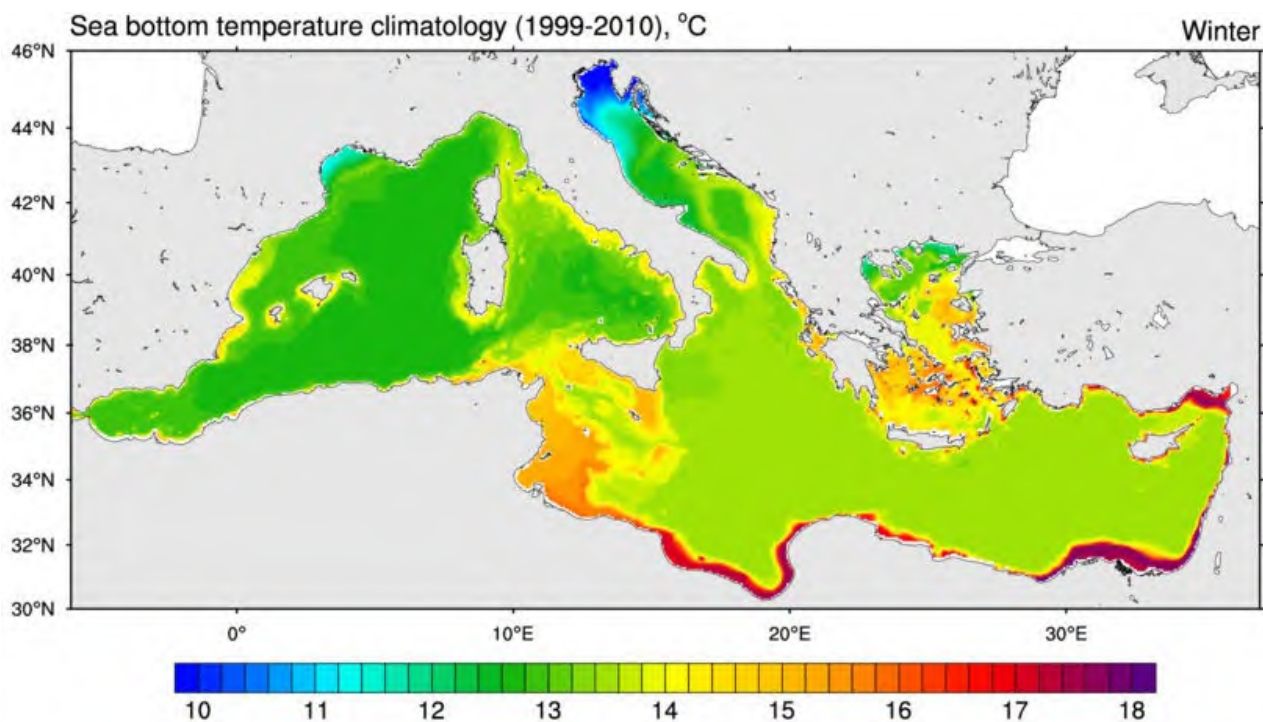
A6 Temperature and salinity data used

4. Long-term average sea temperature and salinity (climatology) play a key role in determining biogeographic characteristics of marine communities. The species become accustomed to the long-term characteristics of the sea in which they live, and this is reflected in the biological communities of both the water column and the seabed (TG Seabed, 2019).

⁵⁰ Boundaries for some assessment areas are based on marine borders of EU Member States, according to UNCLOS. This map is for assessment purposes only and shall not be considered as an official map representing marine borders. This map shall be used without prejudice to the agreements made between countries under international law in respect of their marine borders. In cases where the boundaries of certain subdivisions are based on national marine borders and these borders are modified, such as through new agreements with neighbouring countries, the subdivision boundaries should be updated.

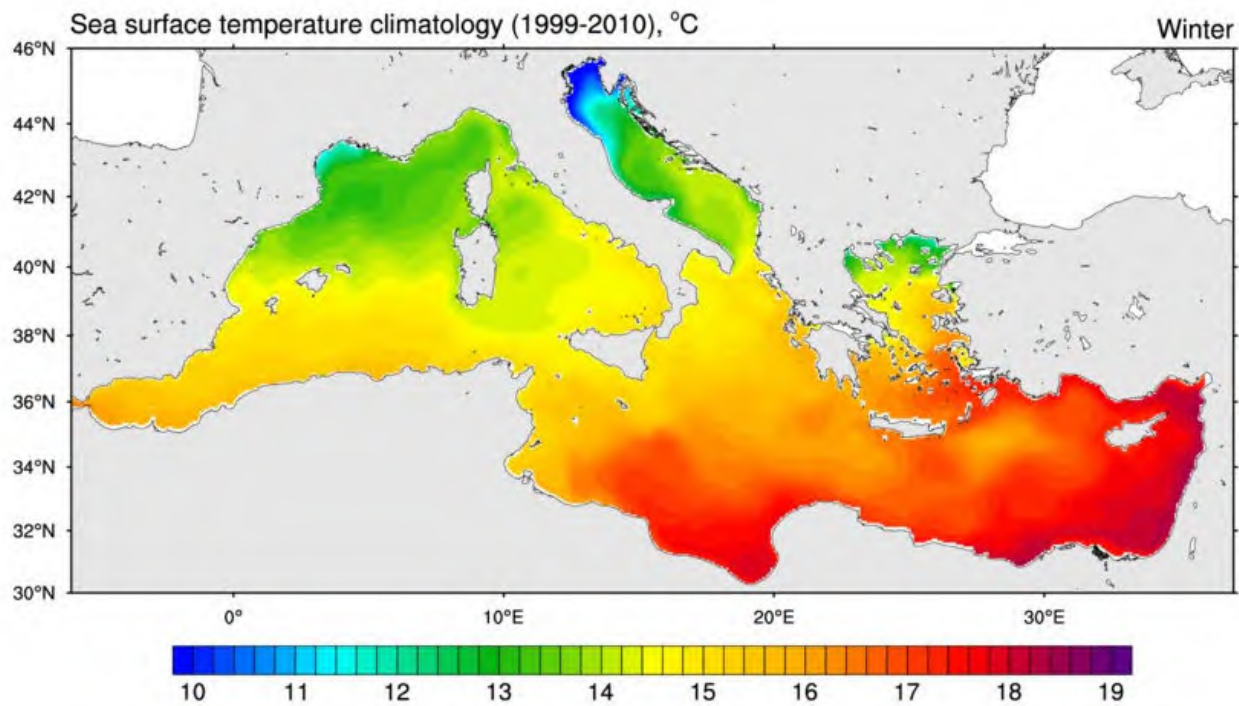
5. Long-term data on sea temperature and salinity reveals broad patterns in the characteristics of the sea and can help identify biogeographic variation across the Mediterranean Sea. Data on sea temperature and salinity at the surface and at the bottom and in summer and winter seasons was considered. The most distinct changes in temperature and/or salinity are likely to give more marked variations in biological communities, particularly for bottom temperature and salinity conditions. Data from MyOcean (accessed via Eye-on-Earth November 2013) for the period 1999-2010⁵¹ was used to define the subdivisions used in STECF (2022) and proposed here (see figures below, from TG Seabed 2021b; [SEABED_8-2021-04](#)).

A6.1 Mediterranean Sea bottom temperature - winter (average 1999-2010)

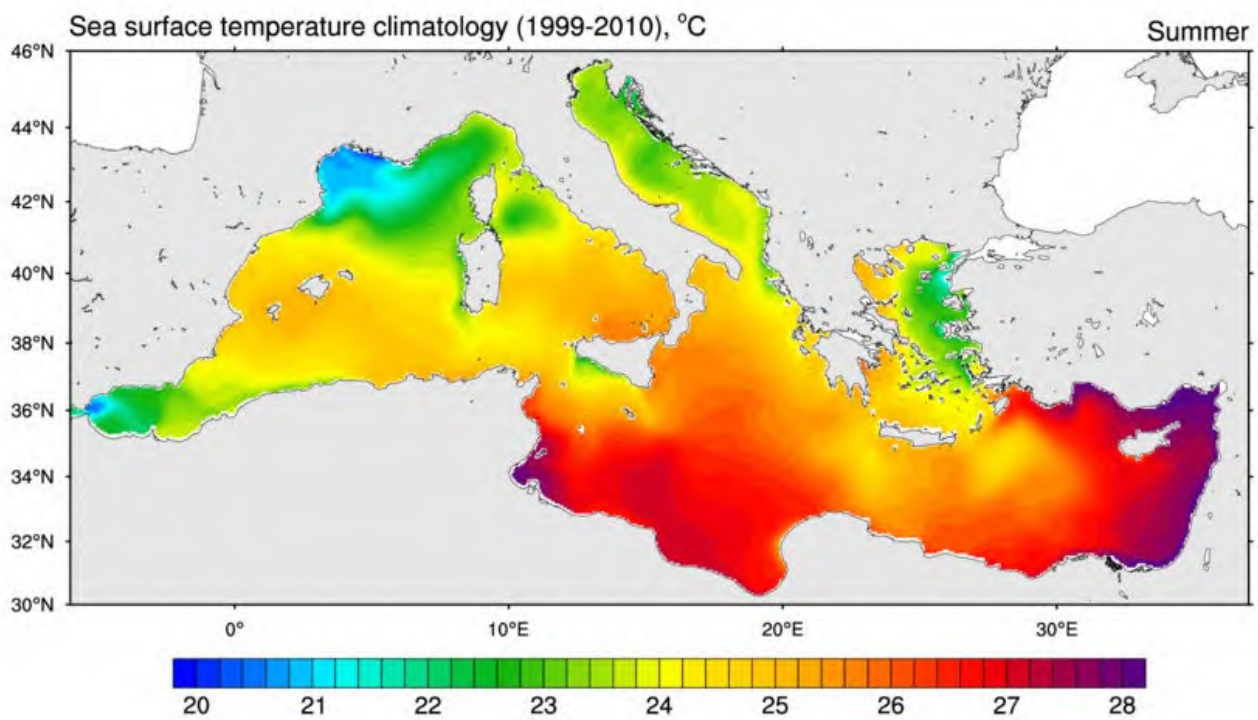


⁵¹ More recent data on long-term averages for temperature and salinity may be available. However, for the purposes of defining assessment areas for benthic habitats the 1999-2010 data sets are considered to be adequate.

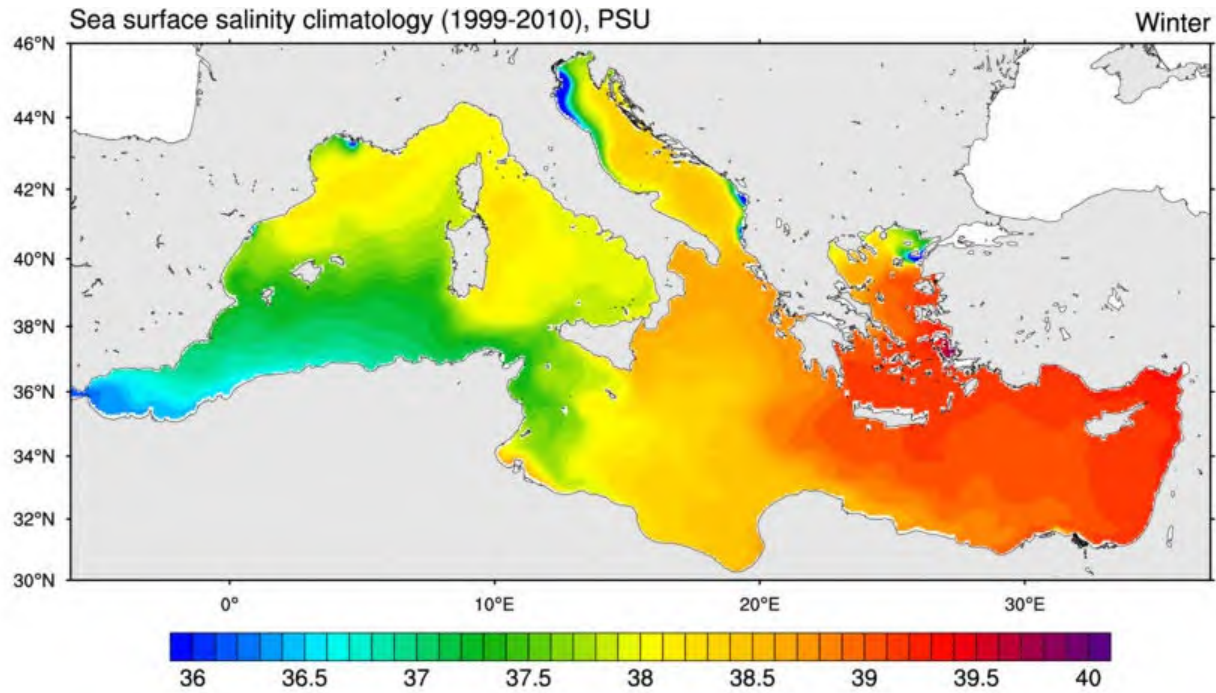
A6.2 Mediterranean Sea surface temperature – winter (average 1999-2010)



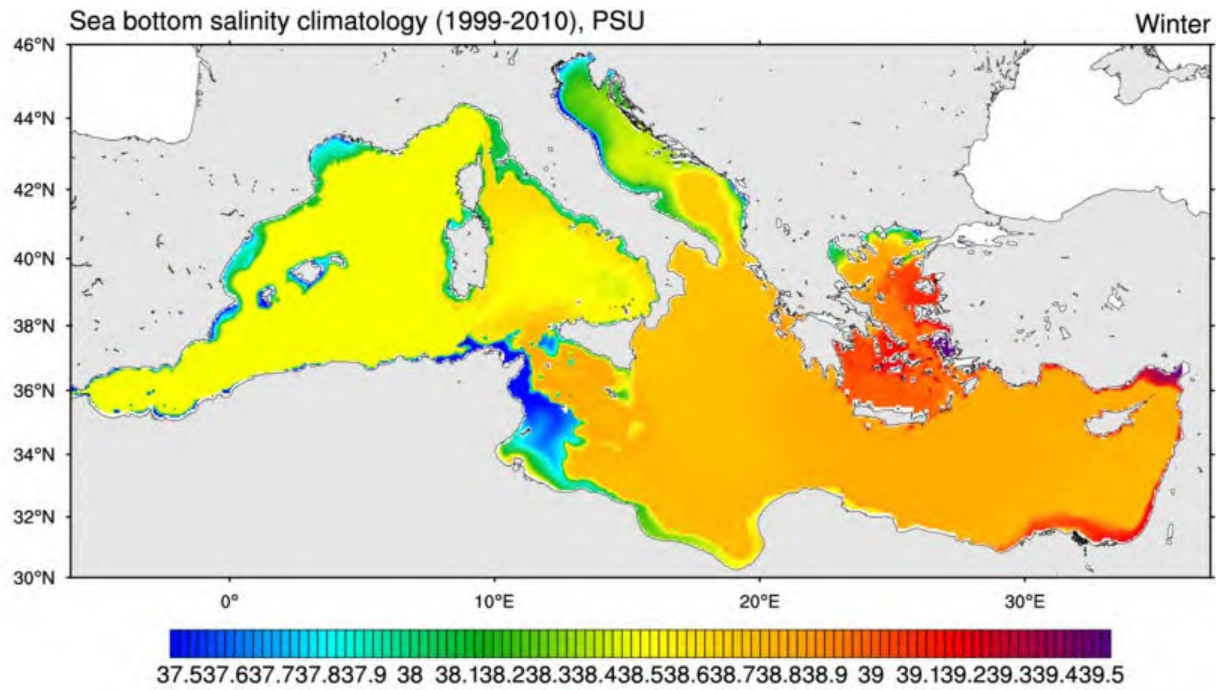
A6.3 Mediterranean Sea surface temperature – summer (average 1999-2010)



A6.4 Mediterranean Sea surface salinity – winter (average 1999-2010)



A6.5 Mediterranean Sea bottom salinity – winter (average 1999-2010)



A6.6 Characteristics of each subdivision

6. More specific information on the subdivisions shown in **Figure 14** is provided in **Table 12**. In particular, it indicates:

- a. the long-term average sea temperature and salinity in each subdivision (surface and bottom; summer and winter), and
- b. the ‘origin’ of the boundaries of each subdivision, indicating whether they have an ecological basis (based on temperature and salinity regimes) or a ‘management’ basis (i.e., the coastline, a national marine border⁵², a GFCM subarea boundary).

⁵² National borders of relevant EU Member States, defined in accordance with UNCLOS, were used where needed.

Table 12: Characteristics of subdivisions proposed for EO6.

Subregions: MWE - Western Mediterranean Sea; MAD – Adriatic; MIC – Ionian Sea and the Central Mediterranean Sea; MAL – Aegean-Levantine Sea. Temperature and salinity values are 1999-2010 climatology averages from MyOcean ('coast' here mainly refers to the shelf zone above 200m depth); the main basis for boundaries is indicated as ecological (green) or management (beige).

Assessment area		Countries	Temperature (C)			Salinity (ppt)		Basis for boundary of subdivision			
Sub-region	Sub-division	Codes	Surface Summer	Surface Winter	Bottom Winter	Surface Winter	Bottom Winter	North	East	South	West
MWE	1	ES	20-23	14.5-15.5	12-13	36.2-36.5	38.5	Coast ES	Ecological	Marine border ES	BC limit (subregion)
MWE	2	MA, DZ	20-23	15.5-16	12-13	36.2-36.5	38.5	Marine border ES	Ecological	Coast MA, DZ	BC limit (subregion)
MWE	3	DZ, TN	23-24.5	14.5-15.5	12-13	36.5-37.3	38.5	Marine border ES, IT	Ecological (subregion)	Coast DZ, TN	Ecological
MWE	4	ES	24-25	14.5-15	12-13 (coast14-15)	37.3-37.8	38.5 (coast 37.8-38.2)	Coast ES	GFCM	Marine border ES	Ecological
MWE	5	ES	24-25	14.5-15	12-13	37.3-37.5	38.5 (coast 38-38.2)	GFCM, ecological	GFCM, ecological	Marine border ES	GFCM
MWE	6	ES, FR	22-23	12.5-13.5	12-13	37.5-38.5	38.5 (coast 38-38.2)	Ecological	GFCM	GFCM, ecological	Marine border ES
MWE	7	FR	20-21	12.5-13.5 (coast 11-11.5)	12-13 (coast 11)	37-38	37.5-38.5	Coast FR	Ecological	Ecological	Coast FR
MWE	8	FR, IT	22-23	13-14 (coast 14-14.5)	12-13	38	38.5	Coast FR, IT	Ecological	Management	GFCM
MWE	9	FR	22-23.5	12.5-13.5	12-13 (coast 13-13.5)	37.5-38	38.5	Management	Coast Corsica	Ecological (GFCM)	GFCM
MWE	10	IT	24-25	14-14.5	12-13 (coast14-15)	37 (coast 38)	38.5 (coast 37.8-38.2)	Ecological (GFCM)	Coast Sardinia	Marine border IT	GFCM
MWE	11	IT	24-25	14	12-13 (coast14-15)	38	38.5 (coast 37.8-38.2)	GFCM (ecological)	GFCM	Marine border IT	Coast Sardinia
MWE	12	IT	22-24	14-15	13-15	38	38.5 (coast 37.8-38.2)	Coast IT	Coast IT	GFCM (ecological)	Ecological, coast Corsica
MWE	13	IT	24.5-25.5	14.5-15	12.5-13.5 (coast14-15)	37.6-37.8	38.5 (coast 37.8-38.2)	GFCM (ecological)	Coast IT	Subregion, coast IT	GFCM

Assessment area		Countries	Temperature (C)			Salinity (ppt)		Basis for boundary of subdivision			
Sub-region	Sub-division	Codes	Surface Summer	Surface Winter	Bottom Winter	Surface Winter	Bottom Winter	North	East	South	West
MAD	1	IT, SI, HR	23-24	10-11.5	10-11	36-38	37.5-38.1	Coast IT	Coast SI, HR	Ecological	Coast IT
MAD	2	IT, HR	22-24.5	12-13	12-13	37.5-38.5	38.1-38.5	Ecological	Coast HR	Ecological	Coast IT
MAD	3	IT, HR, BA, ME, AL, EL	23-24.5	13.5-14.5	12-14.5	38-38.5	38.6-38.7 (coast 38)	Ecological	Coast HR, BA, ME, AL, EL	Subregion (ecological)	Coast IT
MIC	1	IT, MT	23-25	14.5-15.5	14-15	37.5-38	37.5-38.8	Subregion, coast IT	Ecological	Marine border IT, MT	Ecological (subregion)
MIC	2	TN, LY	25.5-28	15-16.5	14.5-15.5	37.2-38.2	38.8 (shelf 37.5-38.2)	Marine border IT, MT	Ecological	Coast TN, LY	Ecological (subregion)
MIC	3	LY	26.5-27	17-18	13.5 (coast 16-17)	38-38.5	38.8 (shelf 38.2-38.5)	Marine border IT, EL	Subregion (ecological)	Coast LY	Ecological
MIC	4	IT, MT	25-26	14.5-15	13-13.5	38.5-38.8	38.7	Coast IT, subregion	Marine border IT/EL	Marine border IT, MT	Ecological, coast IT
MIC	5	EL, AL	24-25	15.5-16	13-13.5 (coast 14-14.5)	38.7-39	38.7-38.8	Subregion (ecological)	Coast AL, EL, subregion	Marine border EL	Marine border IT/EL
MAL	1	EL, TR	23.5-25.5	12.5-14.5	12.5-13.5	36-38.5	38.1-38.8	Coast EL	Coast TR	Ecological	Coast EL
MAL	2	EL, TR	22-24.5	14.5-15.5	13.5-14.5	38.7-39	38.8-39.1	Ecological	Coast TR	Ecological	Coast EL
MAL	3	EL, TR	24-25.5	15.5-16.5	13.5-15	39.2-39.4	39.1-39.2	Ecological	Coast TR	Coast EL, ecological	Ecological (subregion, coast EL)
MAL	4	EL, TR	24-26.5	16.5-17	13-13.5	39-39.3	38.8	Coast EL, ecological	Ecological	Marine border EL, LY, EG	Subregion (ecological)
MAL	5	LY, EG	25.5-26.5	16.5-17.5	13.5 (coast 16-17)	38.5-39	38.8 (coast 38.5)	Marine border EL, LY, EG	Ecological	Coast LY	Subregion (ecological)
MAL	6	EG, IL	27-28	17.5-18	13.5 (coast 17-18)	39-39.4	38.8 (coast 39.2)	Marine border, TR, CY, LB	Coast IL	Coast EG	Ecological

Assessment area		Countries	Temperature (C)			Salinity (ppt)		Basis for boundary of subdivision			
Sub-region	Sub-division	Codes	Surface Summer	Surface Winter	Bottom Winter	Surface Winter	Bottom Winter	North	East	South	West
MAL	7	TR, CY, SY, LB	27-28	16.5-18	13.5 (coast 16-17)	39-39.4	38.8 (coast 39.3-39.5)	Coast TR	Coast SY, LB	Marine border TR, CY, LB	Ecological

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Annex XIV

Proposal of Indicators based on phytoplankton and zooplankton for relevant IMAF biodiversity indicators.

Proposal of Indicators based on phytoplankton and zooplankton for relevant IMAP biodiversity indicators.

1. Introduction

1. The Contracting Parties (CPs) to the Barcelona Convention agreed to implement the Ecosystem Approach (EcAp) process. In their 19th COP (Athens 2016), the CPs adopted the Integrated Monitoring and Assessment Programme of the Mediterranean Sea (IMAP) (Decision IG.22/7). To this end, the CPs decided to further strengthen their collaboration to reach a dual long-term goal: a. the achievement and maintenance of Good Environmental Status (GES) of the Mediterranean Sea and Coast, and b. achieving sustainable development through the SDGs and living in harmony with nature (MED QSR, 2023).

2. In relation to the achievement of GES, the Contracting Parties had adopted since 2012 the 11 Mediterranean Ecological Objectives (EOs). The EO1- Biodiversity of the IMAP Ecological Objectives defines that: **“Biological diversity is maintained or enhanced. The quality and occurrence of coastal and marine habitats and the distribution and abundance of coastal and marine species are in line with prevailing physiographic, hydrographic, geographic and climatic conditions”**. In order the CPs to assess the extent of GES or non-GES exists or achieved, 5 IMAP Common Indicators related to EO1 were also defined:

- **Common Indicator 1:** Habitat distributional range (EO1) to also consider habitat extent as a relevant attribute;
- **Common Indicator 2:** Condition of the habitat's typical species and communities (EO1);
- **Common Indicator 3:** Species distributional range (EO1 related to marine mammals, seabirds, marine reptiles);
- **Common Indicator 4:** Population abundance of selected species (EO1, related to marine mammals, seabirds, marine reptiles);
- **Common Indicator 5:** Population demographic characteristics (EO1, e.g., body size or age class structure, sex ratio, fecundity rates, survival/mortality rates related to marine mammals, seabirds, marine reptiles).
- Among the 5 Common Indicators listed above, only CI1 and CI2 can be relevant for the study and assessment of plankton communities.

3. At this point it must be noted that the CPs to the Barcelona Convention at COP 22 (Antalya, 2021) nominated a multidisciplinary group of experts with the aim to define parameters allowing to use phytoplankton and zooplankton for relevant IMAP biodiversity indicators and elaborate the List of Reference of Pelagic Habitat Types in the Mediterranean Sea. The conclusions and recommendations were adopted at COP 23 (Slovenia, December 2023) and presented at the Meeting of the Ecosystem Approach Correspondence Group on Monitoring (CORMON)-Biodiversity and Fisheries in June 2024.

4. The main pressures on pelagic habitats have been identified, namely hydroclimatic conditions and shifts in light of climate change, eutrophication, biological invasions, contaminants (chemicals and marine litter), overfishing, aquaculture, physical disturbance due to the influence of man-made structures, acidification and maritime traffic. In order to effectively use phytoplankton and zooplankton as indicators of ecosystem health, the following parameters have been proposed to be monitored: abundance of species/genera or groups (for both phytoplankton and zooplankton) Chl-a concentration, dry weight for zooplankton, and size/biovolume.

5. At the same time, it was requested to continue the work to advance knowledge using phytoplankton and zooplankton for relevant IMAP biodiversity indicators, based on the outcomes of relevant recent projects in the region (i.e., ABIOMMED project). Although progress has been made in developing indicators based on phytoplankton and zooplankton, continued research and development are needed to define these indicators and improve their usefulness for assessing pelagic habitats. Liaison with OSPAR commission was discussed and with the Joint Research Centre (JRC) of the European Commission, in order to be in coherence with the EU Marine Strategy Framework Directive (MSFD).

6. Following these activities SPA/RAC organized the first meeting of the Biodiversity Working Group (BWG) on pelagic habitats to provide technical expertise and recommendations and agree on the indicators for Ecological Objective 1-Pelagic Habitats, using phytoplankton and zooplankton. A coordinator has been nominated to deliver services to the BWG and organize the work.

7. The aim of the BWG is to facilitate the contribution of the CPs' scientists to the finalization of the EO1 in relation to Pelagic Habitats and more specifically to:

- Agree on the use of different components of plankton assemblages (phytoplankton and zooplankton) to assess the biodiversity status, in alignment with existing frameworks such as the Marine Strategy Framework Directive (MSFD) and regional sea conventions like OSPAR and HELCOM;
- Discuss targets and threshold values that could be defined for those components in relation to ecologically relevant assessment areas for assessing the Good Environmental Status (GES) of pelagic habitats;
- Identify data gaps and needs in the Mediterranean Sea;
- Propose innovative approaches to improve monitoring and assessment;
- Harmonize methodologies and data collection processes at national and regional levels.

8. At this point we need to state that in order to determine the most relevant approach to develop IMAP common indicators using phytoplankton and zooplankton for the Ecological Objective 1 on Pelagic Habitats, it is necessary to review/study, for example, existing international and European directives/guidelines, the consistency of methodological recommendations contained in other Regional Marine Conventions, EU projects, international and regional organizations related to the assessment of marine ecosystems. Such a harmonized roadmap also aims towards the identification of the appropriate policy interventions, support EU and UNEP/Map policy framework implementation and also improve synergies between them. This "harmonization" process relates to the definition of monitoring, the Descriptors/EOs and their criteria/CIs, targets and objectives, considering that IMAP and MSFD have many similarities, in terms of definitions and targets agreed upon, that makes it possible.

9. The Biodiversity Online Working Group on Pelagic Habitats first met online on both the 23rd January 2025, and 20th February 2025. These meetings led to the following discussions and recommendations, based on best practices from different European regional seas (such as HELCOM and OSPAR areas), national approaches and on the previous work done in the framework of ABIOMMED project (Funded by DG Environment, under grant agreement No 110661/2020/839620/SUB/ENV.C.2-ABIOMMED project: Support coherent and coordinated assessment of biodiversity and measures across Mediterranean for the next 6-year cycle of MSFD implementation).

2. Marine Strategy Framework Directive (MSFD)

10. In the Mediterranean there are CPs that are also EU Member States, which have to implement MSFD and according to its article 17(2), were to update their marine strategies every six years (Articles 8, 9 and 10). Therefore, and in agreement with the statement above in relation to the similarities between IMAP and MSFD, a summary of MSFD requirements regarding biodiversity and more specifically plankton diversity is presented here.

11. The Marine Strategy Framework Directive (MSFD) was adopted in 2008 as a legal instrument of the European Union aiming to protect more effectively the marine environment across Europe and to protect the resource base upon which marine-related economic and social activities depend. In 2010 with the MSFD framework a Decision on GES was achieved, which was further revised in 2017 (Commission Decision (EU) 2017/848). Moreover, the MSFD at large is currently undergoing through a review process in consultation with the EU Member States.

12. MSFD also requests that the EU Member States take the necessary measures to achieve and/or maintain a Good Environmental Status (GES) of the marine environment. GES, as targeted by the MSFD, corresponds to

the proper functioning of ecosystems (at the biological, physical, chemical and health levels) allowing the sustainable use of the marine environment.

13. The Decision 2017/848 specifies the scale of assessment to be ‘Subdivision of region or subregion reflecting biogeographic differences in species composition of the broad habitat type.’ The regions and subregions are specified in MSFD Article 4 of which a map was agreed by the MSFD Common Implementation Strategy (CIS). Since the first reporting in 2012 of the initial assessment (MSFD Article 8), it has been the practice to geographically delineate the areas used for reporting (termed Marine Units in 2012, but now referred to as Marine Reporting Units – MRUs). This is to ensure that the information reported is clearly linked to specific parts of a marine region, subregion or Member State’s marine waters, and to enable the reported information to be displayed in maps to show, inter alia, the extent to which GES has been achieved (for example in WISE-Marine). The MRUs used in the MSFD during the 1st reporting cycle (2012-2018) and those submitted to be used during the 2nd reporting cycle (2018-2024) can be found at <https://discomap.eea.europa.eu/INSPIRE/GMLMarine/atomMarineReportingUnits.xml>.

14. In relation to Biodiversity in MSFD, Descriptor D1-Marine Biodiversity is addressing it defining that: **“Biological diversity is maintained. The quality and occurrence of habitats and the distribution and abundance of species are in line with prevailing physiographic, geographic and climatic conditions”**. However, relevant information to Biodiversity on plankton components in MSFD can be derived also from the assessment of Descriptor D4 on Food webs since specifications for D4 ask: 1) Species composition shall be understood to refer to the lowest taxonomic level appropriate for the assessment; 2) The trophic guilds selected under criteria elements should consider the ICES list of trophic guilds and should meet several conditions among which one is to include at least three trophic guilds and at least one should be a primary producer trophic guild.

15. Descriptor D1 is structured around 6 primary and secondary criteria, of which the last one is related to pelagic habitats and is relevant to both CII and CI2 of IMAP.

D1C6 — Primary: The condition of the habitat type, including its biotic and abiotic structure and its functions (e.g., its typical species composition and their relative abundance, absence of particularly sensitive or fragile species or species providing a key function, size structure of species), is not adversely affected due to anthropogenic pressures.

16. MSFD (848/2017) in relation to D1C6 asks “Member States to establish threshold values for the condition of each habitat type, ensuring compatibility with related values set under Descriptors 2 (Non-Indigenous Species), 5 (Eutrophication) and 8 (Contaminants), through regional or sub-regional cooperation”. Also, criteria elements to be assessed for D1C6 refer to broad habitat types as follows: “Pelagic broad habitat types (variable salinity, coastal, shelf and oceanic/beyond shelf), if present in the region or subregion. Member States may select, through regional or subregional cooperation, additional habitat types according to the criteria laid down under ‘specifications for the selection of species and habitats’. Methodological standards define the “Scale of assessment” as: Subdivision of region or subregion as used for assessments of benthic broad habitat types, reflecting biogeographic differences in species composition of the habitat type; and for the “Use of criteria”: The extent to which Good Environmental Status has been achieved shall be expressed for each area assessed as: (a) an estimate of the proportion (percentage) and extent (in square kilometers (km²) of each habitat type assessed that has achieved the threshold value set; (b) a list of broad habitat types in the assessment area that were not assessed. Furthermore, it is explained that: 1) “Coastal” shall be understood on the basis of physical, hydrological and ecological parameters and is not limited to coastal waters as defined in Article 2(7) of Directive 2000/60/EC. 2) Assessments of the adverse effects from pressures, including under D2C3, D5C2, D5C3, D5C4, D7C1, D8C2 and D8C4, shall be considered in the assessments of pelagic habitats under Descriptor 1.

3. Definitions and Rationale for Biodiversity Common Indicators of IMAP

17. When comparing the GES definitions for pelagic habitats, the level of coherence among the eight Mediterranean MSs was assessed as low (Varkitzi et al., 2018). GES was mostly defined on a conceptual basis, and only in some of the MSs directly in relation to pelagic habitats. To define tailored GES for pelagic habitats, phytoplankton and zooplankton communities, as biotic components of the pelagic habitat, have to be included as relevant indicators. Additionally, there is a need to set threshold values for those components in relation to ecologically relevant assessment areas, and to improve the coherence of GES definition across the Mediterranean.

18. Under the EcAp and IMAP umbrellas of Barcelona convention, the two common indicators for assessing the pelagic habitat of the Mediterranean Sea are proposed (CI1: Habitat distributional range and CI2: Condition of the habitat's typical species and communities), for which a common reference list of pelagic habitat types have to be agreed. An additional challenge is posed by the fact that the status of pelagic habitat has to be assessed as the extent of habitat adversely affected in km² or as % of the total extent per habitat type, which is hardly supported by the monitoring data at present. In the preparation of such a reference list, UNEP/RAC/SPA adopted an approach of considering the distribution of primary productivity in terms of Chl-a concentrations in combination with the reporting guidance under the MSFD (European Commission 2012), which already considers a simplification of EUNIS classification (UNEP/RAC/SPA, 2013). This tentative list of pelagic habitat types has been revised in 2023 in UNEP MED WG 548/7 document and adopted at the 16th Meeting of SPA/BD Focal Points - Malta, 22-24 May 2023 (Table 1). The typology of pelagic habitats represents a general framework that can be adapted and modified by CPs to integrate local ecosystems features and dynamics.

Table 1: Reference list of pelagic habitat types in the epipelagic layer (0 – 200 m) of the Mediterranean Sea

	Pelagic Habitat Types	Water mass	Comments
A.1.	Reduced salinity water	coastal lagoons	WFD correspondence ^[1]
A.2.	Variable salinity water – high surface or subsurface CHL (>3 mg/m ³)	estuaries, river plumes	Transitional water ^[2] (values should be revised)
A.3.	Marine water: neritic - medium surface CHL (0.5-3 mg/m ³)	upwellings, re-suspension in shallow waters and outskirts of river plumes, winter mixing areas	WFD type II, type III
A.4.a	Marine water: oceanic - medium surface CHL (0.5-3 mg/m ³)	Upwellings, and winter mixing areas	WFD type III
A.4.b	Marine water: oceanic – low to medium surface CHL (~0.1- 1.0 mg/m ³)	Hydrological features (fronts and gyres)	WFD type III
A.5.a.	Marine water: oceanic - very low surface CHL (<0.2 mg/m ³) with deep CHL maximum	euphotic depth > mixed layer depth	WFD type III
A.5.b.	Marine water: oceanic - very low surface CHL (<0.1 mg/m ³) without deep CHL maximum	euphotic depth < mixed layer depth	WFD type III

*Each country should specify the range of CHLa, Salinity, depth and if annual/seasonal values are used.

^[1] <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018D0229&from=PL>

^[2] [WFD Annex 2 part 1.2.3. defines Transitional waters. see also Guidance document n.o 5 , Transitional and Coastal Waters, Typology, Reference Conditions and Classification Systems and Water Framework Directive Intercalibration Technical Report - Part 3: Coastal and Transitoial Waters](#)

19. In addition to the tentative list of habitat types in the epipelagic domain, the IMAP document provided representative sites and species to be included in the monitoring programs of the Mediterranean countries (Annex 1, UNEP/MAP, 2016). Key features from this Annex related to pelagic habitats are listed in Table 2. The minimum of monitoring requirements outlined in this document contain only general guidelines for assessing phytoplankton and zooplankton communities. Priority 1 was given to plankton communities in coastal waters, while for shelf and oceanic waters, the priority still needs to be more clearly defined. However, the classification of pelagic habitat types in the Mediterranean Sea remains incomplete and requires further collaborative efforts to reach a common comprehensive framework.

Table 2: Minimum reference list of species and habitats for monitoring programs in the part related to pelagic habitat types of the Mediterranean Sea (from UNEP/MAP, 2016).

Predominant habitat or "functional" group of species	Specific habitat type or species to be monitored	Additional information: specific representative species or habitats	Assessment monitoring scale
Water column - coastal waters	Coastal waters phytoplankton communities	HABs	national / sub-regional
	Coastal waters zooplankton communities	cf. jellyfish population dynamics and blooms	national / sub-regional
Water column - shelf and oceanic waters	Shelf and oceanic waters phytoplankton communities	HABs	sub-regional
	Shelf and oceanic waters zooplankton communities	cf. jellyfish population dynamics and blooms	sub-regional

20. In the ABIOMMED project (Francé et al., 2023; Zervoudaki et al., 2023), the partners in contact with SPA/RAC colleagues searched for opportunities to link the IMAP policy to the work already carried out for the MSFD, particularly for pelagic habitats (phytoplankton and zooplankton) for EO1. Many phytoplankton and zooplankton indicators could be used as “early warning indicator” of environmental changes and as a sentinel of changes happening in the food webs and ecosystems (surveillance indicator as defined by Bedford et al. 2018).

21. In the long process of developing the environmental assessment systems with plankton indicators there are several obstacles that have to be overcome. First, the necessary step of linking the response of plankton communities to human pressures is usually difficult to accomplish, since this linkage is often non-linear (Francé et al., 2021; Ninčević Gladan et al., 2015). Besides this, the constraints for the wider use of such indicators for the assessment of environmental status largely relate to the difficulty in establishing the reference conditions and environmental objectives for these indicators (Garmendia et al., 2013). Moreover, the applicability of diversity indices to assess the status of the marine environment in a management context depends on the objective of the study, their ecological relevance, the mathematical properties of a certain index, their sensitivity to sampling efforts and ease of interpretation by stakeholders (OSPAR, 2017).

22. On the other hand, the main advantages of using diversity indices are their advanced development within the scientific literature and their ease of calculation (OSPAR, 2017c). In the case of phytoplankton community, the diversity indices based on abundance and richness are generally calculated on the entire plankton community, which includes also heterotrophic species and can provide additional information for assessing pelagic habitats (Domingues et al., 2008) in contrast to using solely indicators based on chlorophyll-a. However, the integration of chlorophyll-a with diversity data may provide an even better understanding of environmental conditions, because the inclusion of additional metrics can increase the sensitivity of an index (Garmendia et al., 2013).

23. Regarding zooplankton indicators, within the ABIOMMED project, experts agreed that among the examined and proposed indicators there is not a disputable single indicator that would reflect all the changes in zooplankton community needed for the assessment of biodiversity status. It was also recognized that the best way forward is to test in case studies the combination of bulk indicators, taxonomy-derived indicators and lifeform-based (functional) indicators to capture the changes in zooplankton communities that could have implications for ecosystem functioning. According to the catalogue of indicators examined within the ABIOMMED project (see Table 1 in Zervoudaki et al., 2023), the development of indicators is based mainly on the following zooplankton metrics: total abundance, total biomass, copepod abundance, % copepod abundance, copepod biomass, % copepod biomass (since copepods are often the most abundant group in the mesozooplankton community), microphagous species biomass, % microphagous species biomass, cladocerans/copepods ratio, rotifers+cladocerans/copepods ratio, zooplankton mean size. However, the development of usable zooplankton indicators in the Mediterranean Sea has lagged behind other European Seas, generally hampered by slow progress in standardization of methods and metrics as well as large research efforts and long history of data collection that have favored individual approaches and low levels of synchronization among Mediterranean zooplankton research groups. Therefore, within ABIOMMED and depending on data availability the most suitable indicators agreed upon by the partners were tested in a total of 5 Mediterranean MRUs (Tyrrhenian, Adriatic, Ionian, Aegean and Levantine Seas) within the defined spatial and temporal scales.

4. Outcomes of the Biodiversity Online Working Group for Pelagic Habitats

24. D1C6 of the MSFD (pelagic habitats) include plankton communities as an important component of water column habitats and the composition of these communities can provide a good indication of the status of pelagic ecosystems. According to the criterion D1C6, the condition of the habitat type is considered as a whole of its biotic and abiotic characteristics and its functions. GES has to be defined for pelagic broad habitat types (variable salinity, coastal, shelf and oceanic/beyond shelf), and it allows for more habitat types if their need is established through (sub)regional cooperation.

25. The ABIOMMED project aimed to support the competent authorities of the Mediterranean region, as well as the UNEP/MAP for a (sub)regional cooperation. In particular, the ABIOMMED Activity 2 was related to pelagic habitat and the use of the plankton communities to properly address the status of pelagic habitat and relevant spatio-temporal scales and pressures. Under this concept, ABIOMMED provided a comprehensive input and the essential resources to contribute to the development of relevant IMAP biodiversity indicators based on phytoplankton and zooplankton.

26. To build indicators and GES, key research gaps were identified:

- The gaps include general constraints related to the nature of the pelagic domain, the biology and ecology of planktonic organisms, and the methodologies used for the monitoring.
- Expert-dependent precision in taxonomic analysis and the lack of understanding of diversity drivers and dynamics constrain the development of specific diversity indicators and functional-groups indicators.
- Even in the absence of anthropogenic pressure, phytoplankton and zooplankton communities are highly dynamic.
- As it is extremely difficult to establish reference conditions, phytoplankton and zooplankton communities must be described based on their state under completely/nearly completely undisturbed conditions, with little/no impact from human activities. A comprehensive picture of ecosystem status specifically related to climate change pressures is lacking in MSFD, although UNEP/MAP in MED QSR 2023 considers climate change one of its six objectives.
- There is a lack of monitoring data availability, at present, in order to assess the extent of habitat adversely affected in km² or as % of the total extent per habitat type. Furthermore, due to the dynamic nature of plankton the state of a plankton community should not be evaluated by comparing its composition and relative abundance to a static “reference” species assemblage. For these reasons, the

development of pelagic indicators for D1C6 criterion of the MSFD is clearly behind the degree of development of other D1 (Biodiversity) criteria and other descriptors of the MSFD.

27. Pelagic habitats are closely linked to several Ecological Objectives of the EcAp, mainly EO4 Marine Food Webs, EO5 Eutrophication. It is important to establish connections among Ecological objectives by improving data collection and sharing, data harmonization and interoperability, etc.

28. Regional sea conventions (RSC) have long considered plankton communities as a key element for integrated assessment systems and some of the approaches from other RSC could be further tested and adapted to the specificities of the Mediterranean plankton communities. In OSPAR QSR 2023 two approaches were used by Holland et al. (2023) for Pelagic Habitat indicator 1 (PH1) “Changes in phytoplankton and zooplankton communities”: a.) use of functional groups independently to assess tendencies and importance of changes in relation to environmental variables; b.) test the variability of lifeform pairs (Tett et al. 2008) to estimate changes in lifeforms using a synthetic metric, the plankton index. Lifeforms are based on traits such as size, trophic cascades, motility, and other key biological features. Such lifeforms include: diatoms/dinoflagellates, large ($\geq 20 \mu\text{m}$ diameter)/small ($< 20 \mu\text{m}$ diameter) phytoplankton, microphytoplankton/non-carnivorous zooplankton, holoplankton/meroplankton, crustaceans/gelatinous zooplankton etc. and should be adapted to the specific features of Mediterranean plankton communities (Varkitzi et al. 2018). Both abundance and biomass data can be used to inform lifeform pairs, depending on the lifeform in question and data availability from monitoring programs. In OSPAR Intermediate Assessment 2017, Pelagic Habitat indicator 2 (PH2) “Changes in Phytoplankton Biomass and Zooplankton Abundance” provides an indication of temporal deviations in total phytoplankton biomass or total copepod abundance from the assumed natural variability and Pelagic Habitat indicator 3 (PH3) “Changes in plankton diversity” identifies changes in the community structure using taxonomic diversity indices (alpha and beta diversity indices).

29. In the Baltic Sea (HELCOM), the pelagic habitat is assessed by different indicators for the open and coastal sea areas. For the open sea areas, three indices are applied: “Zooplankton mean size and total stock” as biodiversity core indicator, “Chlorophyll-a” as eutrophication pre-core indicator and “Cyanobacterial Bloom Index” as eutrophication pre-core test indicator. “Chlorophyll-a” is also applied in the coastal areas together with “Phytoplankton biovolume”. Some indicators are still under development: “Diatom/dinoflagellate index”, “Seasonal succession of dominating phytoplankton groups”.

30. In the Mediterranean Sea the only operational plankton indicator for the pelagic habitats so far is Chlorophyll- a (Chl-a) concentration (Magliozzi et al. 2023 and references there in). The Mediterranean water types, reference conditions and boundaries for Chl-a concentrations were identified in MS coastal waters by the WFD Geographical Intercalibration Group (Commission Decision (EU) 2018/229) Although there have been several studies at the sub-regional or local levels in which diverse indicators were tested, there are still several constraints that prevent an operational use of these indicators. Some of the indicators’ groups have been proposed for further testing, such as size-related metrics (the multimetric index of size spectra sensitivity ISS-phyto -Vadrucci et al., 2013), diversity and dominance metrics (Cozzoli et al., 2017) and metrics based on bloom frequency (Facca et al., 2014) to measure the dominance of a species during an algal bloom. In the case of studies at the sub-regional or local level, it is important to consider that the results obtained may be a consequence of adaptation to the specific ecological characteristics of the studied site. Therefore, the results and conclusions should not be extrapolated to a larger scale or other regions without a preliminary study confirming or refuting their applicability.

31. Monitoring and assessing phytoplankton and zooplankton communities can be a challenging task. Issues of concern include:

- the need for harmonization/ standardization of sampling devices, lab methods, strategies with a more uniform and consistent sampling frequency across CPs;
- plankton dynamics and heterogeneity of its distribution at distinct scales of observation
- data qualification for times series

- establish a centralized data depository for FAIR data that can be assessed by all CPs
- consistent data in space and time leading to use statistical methods with no uncertainties in indicator computation
- incorporate new methods and identify new tools for the observation, analysis, assessment of communities such as satellite derived products (ocean color products for Chlorophyll a concentration and Phytoplankton Functional Types), DNA metabarcoding for biodiversity communities' assessment;
- use of field instruments with online transmission of data for real time monitoring;
- integrate data from long-term ecological research (LTER) stations with data from regional monitoring stations.

5. Recommendations

32. Taking into consideration the above information, the BWG proposes to adopt the following operational objectives and indicators for the implementation of Ecological Objective 1 on Pelagic Habitats (Table 3). Phytoplankton and zooplankton abundance, biomass, communities' composition, functional groups provide good means to identify changes in key groups at the plankton community level. On the other hand, GES and Targets will be discussed during the next WG meetings for a proposal for CORMON Biodiversity and Fisheries.

Table 3

Ecological Objective 1 (EO1): EO1 Biological diversity: Biological diversity is maintained or enhanced. The quality and occurrence of coastal and marine habitats and the distribution and abundance of coastal and marine species are in line with prevailing physiographic, hydrographic, geographic and climatic conditions	
Operational objective	Indicator
The habitat type, including its biotic and abiotic structure and its functions, is not adversely affected due to anthropogenic pressures (e.g. typical species composition and their relative abundance, absence of particularly sensitive or fragile species or species providing a key function, size structure of species). Pelagic broad habitat types (variable salinity, coastal, shelf and oceanic/beyond shelf), if present in the region or subregion: 1. other habitat types could be defined by MS for the MSFD; 2. The typology of pelagic habitats represents a general framework that can be adapted and modified by CPs to integrate local ecosystems features and dynamics	CI2: Condition of the habitat's typical species and communities Proposed parameters to be monitored for the development of indices: • Abundance of Phytoplankton and Zooplankton • Biomass of Phytoplankton and Zooplankton • Taxonomic composition at a certain level (species, genera, groups) • Functional groups of Phytoplankton and Zooplankton

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Annex XIV

**Draft Assessment methodologies: assessment criteria and thresholds for biodiversity common indicators
CI1 and CI2**

Draft Assessment methodologies: assessment criteria and thresholds for biodiversity common indicators CI1 and CI2

1 Background

1. In 2008, the Contracting Parties to the Barcelona Convention (BC), through their COP 15 Decision IG.17/6, committed to progressively apply the Ecosystem Approach (EcAp) for managing human activities impacting the Mediterranean marine and coastal environment (UNEP/MAP, 2008). This approach aims to promote sustainable development and achieve Good Environmental Status (GES) for the Mediterranean Sea and its coasts.

2. A key aspect of implementing the Ecosystem Approach involves monitoring and assessing the status of the marine and coastal environment. To establish a coherent regional framework, the Contracting Parties adopted the *Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria* (IMAP), to meet eleven Ecological Objectives (EO), through COP 19 Decision IG.22/7 in 2016 (UNEP/MAP, 2016).

3. In line with further UNEP/MAP Decisions (UNEP/MAP, 2012; 2013; 2017a; 2019b; 2021a; 2021b; 2023b), Contracting Parties have updated or developed their national monitoring programmes based on the IMAP Common Indicators (CI) which are grouped into three clusters: Biodiversity and Non-Indigenous Species (NIS), Pollution and Marine Litter, and Coast and Hydrography. IMAP's 23 Common Indicators primarily focus on state and impact indicators. Contracting Parties implement their monitoring programmes according to a commonly agreed monitoring and assessment framework for each IMAP Common Indicator.

4. A significant element of this process involves defining monitoring and assessment scales and identifying key assessment elements such as criteria, thresholds, and baseline values for each IMAP cluster. Regional expertise has been used to develop these components, particularly for the biodiversity indicators under Ecological Objective EO1, using available data to establish baselines and threshold values.

5. In this context and within its Programme of Work for 2022-2023, UNEP/MAP's Specially Protected Areas Regional Activity Centre (SPA/RAC) conducted a study to evaluate the implementation status of Common Indicators CI1 and CI2 which relate to benthic marine habitats (Garrahou & Kipson, 2023; UNEP/MAP SPA/RAC, 2023b). Indicator CI1 relates to 'habitat distributional range' and indicator CI2 relates to the 'condition of the habitat's typical species and communities'. The analysis was based on extensive research of available documents and a consultation process with the national experts on IMAP and MSFD¹ implementation and specialists on the Reference list of habitats and typical species. The study assessed the possibility of proposing monitoring and assessment elements for CI1 and CI2 with the support of the Biodiversity Online Working Group (OWG) for benthic habitats.

6. This present report builds upon the study by Garrahou & Kipson (2023) by focusing on the development of a proposal for monitoring and assessment elements for the two IMAP Common Indicators for benthic habitats (CI1 and CI2) and their application to three habitat types (*Posidonia*, Coralligenous, and Maërl), with a view to using them in the next Mediterranean Quality Status Report (MedQSR), due in 2031. Across the Mediterranean Sea each of these habitat types encompasses a range of habitat characteristics, with a number of sub-types defined (see Section 3.2); for simplicity the short terms '*Posidonia*', 'Coralligenous' and 'Maërl' are used throughout this report to encompass the range of characteristics and sub-types of each habitat.

¹ The European Union's Marine Strategy Framework Directive (2008/56/EC).

2 Objectives

7. The main objectives of this study and proposal are:
 - a. To revise the existing scales of monitoring, scales of assessment, assessment methodologies, assessment criteria, and develop baseline and thresholds values for IMAP CIs related to benthic habitats for the three habitat types (*Posidonia*, Coralligenous, and Maërl) based on MedQSR 2023 recommendations;
 - a. To coordinate, moderate, and compile the results of the work conducted by the dedicated working groups² to discuss and agree scales of monitoring, scales of assessment, assessment methodologies, assessment criteria, and develop baseline and thresholds values for IMAP for CI1 and CI2 for the benthic habitats for the three habitat types (*Posidonia*, Coralligenous, and Maërl).

The outputs will be reviewed and discussed by the Meeting of the Ecosystem Approach Correspondence Group on Monitoring (CORMON) for biodiversity and fisheries in April 2025.

3 Current state of monitoring and assessment for EO1 benthic habitats

3.1 Common Indicators CI1 and CI2

8. A set of Common Indicators, each linked to a specific Ecological Objective, was developed for the IMAP, with ‘fact sheets’ for each indicator approved by the Ecosystem Approach Coordination Group (EcAp CG) in 2017 (UNEP/MAP, 2017b). The fact sheets for CI1 and CI2 are presented in **Annex I**; they are expected to be updated in the light of agreements following the proposals presented in this report.

3.2 About the three habitat types (*Posidonia*, Coralligenous and Maërl)

9. Marine habitat types in the Mediterranean region are listed in a *Reference List of Marine and Coastal Habitat Types in the Mediterranean* which was updated in 2019 (UNEP/MAP, 2019c) and published as the habitat typology for the Barcelona Convention (UNEP/MAP SPA/RAC, 2019b; Montefalcone et al. 2021).

10. The present report focuses on three habitat types which have received particular attention within the process to implement IMAP’s Ecological Objective 1 (EO1). The three habitat types, including the codes for the Info/RAC data standards (B1-3) (Section 3.5) and the relevant codes (MB and MC) from the Barcelona Convention habitat typology (UNEP/MAP SPA/RAC, 2019b; Montefalcone et al. 2021), are:

- a. B1 Coralligenous
 - i. MB1.55 Coralligenous (enclave of circalittoral)
 - ii. MC1.51 Coralligenous cliffs (with 17 sub-types)
 - iii. MC1.52a Coralligenous outcrops (with 9 sub-types)
 - iv. MC1.52b Coralligenous outcrops covered by sediment (see MC1.52a for examples of facies)
 - v. MC1.52c Deep banks (with 3 sub-types)
 - vi. MC2.51 Coralligenous platforms (with 12 sub-types)
- b. B2 Maërl
 - i. MB3.511 Association with maërl or rhodoliths³
 - ii. MB3.521 Association with maërl or rhodoliths

² This document was discussed with the OWG on 21/01/2025 and 19/02/2025 and has been updated, based on their input to these meetings and written comments.

³ MB3.511 and MB3.521 have the same habitat names but are listed under separate higher types (MB3.51 Infralittoral coarse sediment mixed by wave and MB3.52 Infralittoral coarse sediment under the influence of bottom currents).

- iii. MC3.52 Coastal detritic bottoms with rhodoliths (with 9 sub-types)
- c. B3 *Posidonia*
 - i. *Posidonia oceanica* meadow (MB2.54 with 7 sub-types⁴)

11. In the monitoring guidelines for these three habitats (UNEP-MAP 2021g), multiple habitats and sub-types are included within the scope of B1 Coralligenous and B2 Maërl. Garrabou & Kipson (2023) based their analysis of the state of monitoring programmes for these habitat types on a narrower scope: they do not include MB1.55, MC1.52a, MC1.52b and MC1.52c within the scope of Coralligenous and do not include MB3.511 or MB3.521 within the scope of Maërl.

12. To provide a clear basis for ongoing monitoring and assessments, the scope of the three habitat types needs to be confirmed. In particular, the broad scope of B1 Coralligenous and B2 Maërl (according to UNEP-MAP, 2021g) needs to be considered, especially in relation to the pressures they face and the link to monitoring and assessment processes. Whilst there is often a desire to maintain broad definitions for habitats which are listed for protection, such broad definitions can hamper subsequent monitoring and assessment processes. This may be particularly relevant when assessing data from sites with markedly different habitat and community characteristics for the same overarching ‘habitat’⁵.

13. Descriptions of the three habitat types are included in the Habitat Templates prepared by Garrabou & Kipson (2023) and are presented in **Annex II**.

14. The OWG considered the scope of each habitat and recommended their broad scope, as reflected in the typology in paragraph 10, should be retained. However, further consideration is needed on how the varying characteristics of the three habitats across the Mediterranean influence the validity of aggregating data across monitoring sites for region-wide status assessments. In particular, it would be important to limit the variation in data by consistently sampling in the same depth zones. It was also noted that Coralligenous habitat occurs across a wide range of depths, and shallow sites may be subject to differing pressures to the habitat in deeper water.

15. The term Maërl has been used throughout this report, following the term given in the original terms of reference for this study. However, the OWG and CORMON advised that the habitat should, more correctly, be referred to as Rhodolith beds (Basso et al., 2016).

Recommendation:

The characteristics (biotic and abiotic) of each habitat at monitoring sites should be reviewed to assess their degree of variance across the region and the validity of aggregating data from different sites within assessment areas and across the region for analysis and status assessment purposes.

Monitoring should focus on a limited number of subtypes and depth zones across the Mediterranean, and preferably a single subtype within each assessment area. For Coralligenous, monitoring of shallow and deep habitat is important as they can be subject to different pressures.

Assessments for IMAPII and CII2 should focus on the higher-level habitat types (i.e. *Posidonia*, Coralligenous and Maërl), unless it becomes clear during further implementation that assessment of subtypes is more appropriate.

⁴ Sub-types for a) *Posidonia* on artificial substrata and b) *Posidonia* association with *Zostera noltii* are not specifically defined in BC or EUNIS habitat classifications.

⁵ For *Posidonia*, three levels are suggested: 1) substratum (e.g. rock, sand etc.), 2) mixed/monospecific meadows (associated species) and 3) dead mat.

Consideration should be given to referring to the B2 habitat as Rhodolith beds in preference to Maërl beds.

16. There is ongoing work by SPA/RAC to consider additional habitat types that could be proposed for EO1 monitoring and assessment (UNEP/MAP SPA/RAC, 2023c). The current state of monitoring across the Mediterranean for a further eight habitat types was assessed by Garrabou & Kipson (2023).

17. It is strongly recommended that if further habitat types are to be included within the scope of EO1 that they are clearly defined (including the relevant EUNIS/BC typology codes) and the primary pressures they face (i.e. causing a threat to their status) are defined to aid subsequent monitoring and assessment processes.

18. The habitat typology adopted under the Barcelona Convention (UNEP/MAP SPA/RAC, 2019b; Montefalcone et al. 2021) has been partially incorporated into the pan-European hierarchical EUNIS habitat classification (European Environment Agency, 2022: EUNIS Marine, 2022), where the habitats are listed at EUNIS levels 4-6 under the relevant EUNIS level 3 marine biogeographic region habitats for the Mediterranean Sea region. Although the overall structure (at levels 2-4) of the two typologies is the same, and there is some correlation of habitats at levels 5-6, there remains significant differences between the two typologies. The differences relating to the three habitat types considered in this report are presented in **Annex III**.

19. Due to the reliance on use of the EUNIS habitat classification by some Mediterranean countries, including for habitat mapping purposes (such as the EUSeaMap product from EMODnet), it is recommended that the alignment of the two typologies be reviewed, in collaboration with the European Environment Agency (EEA), with a view to developing a single typology for use under both EUNIS and the Barcelona Convention. In doing this, it would be important to develop the definitions of each habitat type beyond those currently available, including both the biological community characteristics (main species) and the abiotic habitat characteristics (substrate, depth range, wave and tidal current exposure, salinity and other key parameters).

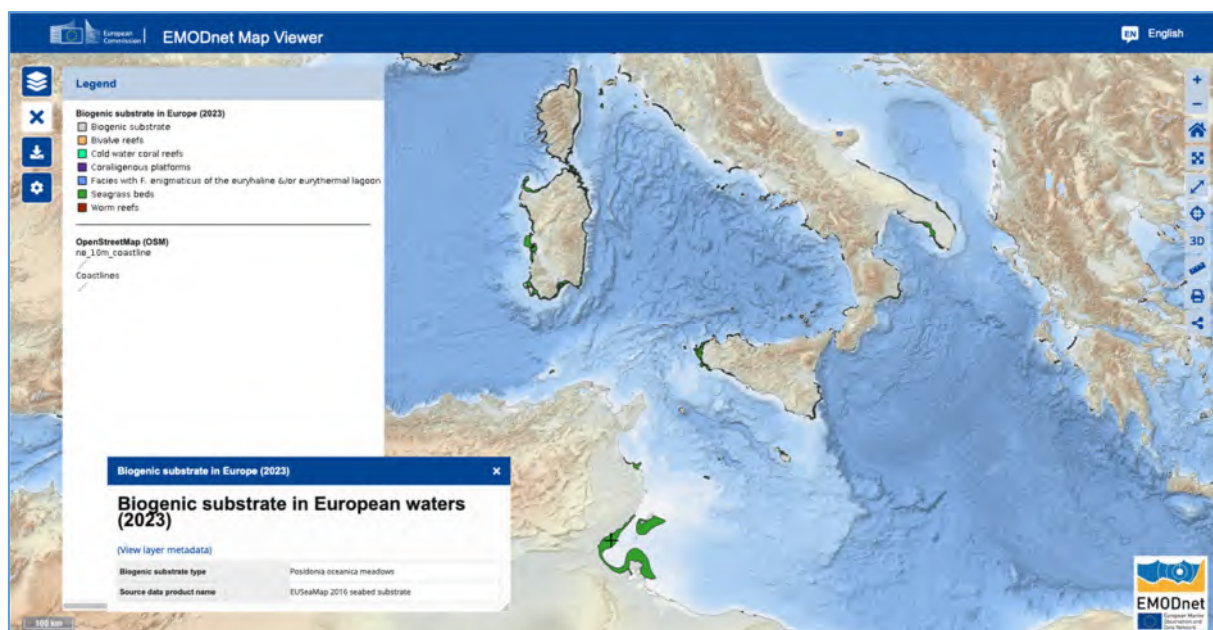
Recommendation:

The relationship between the habitat classifications of the Barcelona Convention (2019) and European Environment Agency (EUNIS 2022) should be reviewed, with a view to developing a single typology for use under both EUNIS and the Barcelona Convention.

The biotic and abiotic definitions of each habitat type in the Mediterranean Sea should be further developed, based as far as possible on field data including high resolution mapping via remote sensing and *in situ* survey, to provide a robust typology for monitoring, assessment, mapping and management purposes.

20. Maps of EUNIS seabed habitats are available in EMODnet (<https://emodnet.ec.europa.eu/geoviewer/>) (**Figure 1**) as a) maps from surveys (whole area coverage or single habitat types) and b) maps from models (whole area coverage or single habitat types). The maps provide region-wide coverage to indicate the presence and general extent of particular habitat types. However, their use at more local scales, such as for assessing habitat distribution and extent under CII, is more limited due in part to incomplete data.

Figure 1. Example of seabed habitat maps available in EMODnet for the Mediterranean region. Maps shows distribution of seagrass beds, including *Posidonia oceanica* meadows (from <https://emodnet.ec.europa.eu/geoviewer/>, viewed 04/12/2024).



3.3 Monitoring methods

21. Methods for mapping and monitoring the three habitat types were developed through IMAP's CORMON Biodiversity and Fisheries working group in 2019 (UNEP/MAP SPA/RAC, 2019a), with the latest version agreed in 2021 (UNEP/MAP, 2021g). This guidance provides detailed information about the overall approach to monitoring each habitat to provide data for CI1 and CI2, together with details about a range of possible monitoring techniques.

22. Guidelines for the assessment of environmental impact on seagrass beds were prepared in 2007 (Pergent-Martini & Le Revallec, 2007), and for coralligenous and maërl assemblages in 2021 (UNEP/MAP, 2021c).

3.4 Current state of monitoring programmes and assessment elements

23. Garrabou & Kipson (2023) provide a recent and thorough analysis of the state of implementation by Contracting Parties of CI1 and CI2 for the three habitat types (and a further 8 other habitat types). For each habitat type they prepared a 'Habitat Template' to summarise the key monitoring and assessment elements. The templates for the three habitat types considered here (*Posidonia*, Coralligenous and Maërl) are presented in **Annex II**.

24. Overall, the analysis revealed that between 11 and 14 (of 21) Contracting Parties (52-67%) are implementing or planning to implement monitoring programmes for one or more of the three habitat types (**Table 3**).

25. The parameters monitored for each habitat vary by country (**Annex IV, Table 8**) and consequently the possible use of the data (e.g. via indices) to assess habitat status also varies.

3.5 Data standards

26. Standards for the monitoring data on the three habitat types to be submitted into the IMAP Info System were agreed in 2019 (UNEP/MAP, 2019a) and are available as Excel spreadsheets for download from <http://imapinfosystem.info-rac.org/app/#/standard>.

27. The data model for each habitat differs, with each one adapted to different monitoring methods and data collected. Across the three data standards there are 297 fields spread across 17 tables (tabs). **Table 1** provides an overview of the data tables and fields in each standard.

Table 1. Overview of the data standards B1, B2 and B3 for benthic habitats, showing the number of fields per data table. Tables are characterised by the main type of information collected, but some contain fields related to other aspects.

Type	Table	B1 Coralligenous	B2 Maërl	B3 Posidonia
Location	Area	11	11	12
	Site	7	12	11
Sample	Transect_ROV	18	15	19
Seabed characteristics	ReliefSurf_ROV	14		
	Habitat_ROV		14	
	Sample		21	
	Sediment			15
Water characteristics	Physico-chemical		12	15
Community/ species characteristics	Floristic_sample		9	
	Shoots			37
	Measures			19
	Estimations			22
	Megabenthos_ROV	15		
	Megabenthos_CI_ROV	12		
	Plot-diver	35		
	Macrofauna_sample		8	
Pressure (litter)	DebType	8	8	
	Total number of fields	120	110	150

28. The data standards would benefit from a review and update, based upon experiences of their use by Contracting Parties. This should be undertaken in close cooperation between Contracting Party's habitat experts and Info/RAC data specialists, and could include:

- Harmonising the structure and content across the three habitat types; it would help Contracting Parties and data users if a common data structure was used, thus making the data standard applicable to additional habitat types that may be added to EO1;
- Simplifying the structure by bringing together similar tables and fields (e.g. tables about the habitat: ReliefSurf_ROV, Habitat_ROV, Sample, Sediment; tables about species composition: Floristic_sample, Megabenthos_ROV, Megabenthos_CI_ROV, Plot_Diver, Macrofauna_sample; fields/tables about anthropogenic influences: Site, DebType);

- c. Considering whether summary data could be provided instead of raw data, in cases where this is sufficient for further analysis and assessments; this could, for example, reduce the volume of data reported under the table ‘Physico-chemical’;
- d. Harmonising the terminology used (e.g. for litter categories) with that reported under the Marine Strategy Framework Directive (MSFD);
- e. Using a controlled list of taxa instead of reporting ‘new species’ and ‘authors’, to ensure consistency in the data reported;
- f. Adding fields to report the habitat type (and sub-type) monitored at each site, reporting the EUNIS/BC typology code (and typology version);
- g. Reviewing which fields need to remain mandatory, in the light of agreements on the minimum data needed for assessments;
- h. Improving the collection of metadata on the monitoring methods (e.g. the area covered by each sample), so that the provenance of the data is fully understandable when being interpreted; method (diver or ROV) is only specified in B3 *Posidonia*, whilst it is implied in the other standards (through having separate tabs for diver and ROV).
- i. Improving the data collected about human activities and their related pressures, both at each monitoring site and more broadly in each country. This could be combined with a similar data requirement for EO6 on sea-floor integrity;
- j. The MESH metadata reporting model, which encompasses multiple survey and monitoring techniques for the seabed and water column, could provide a basis for a harmonised IMAP benthic habitat data standard (MESH Project, 2008).

Recommendation:

Data standards B1, B2 and B3 should be reviewed and updated, in collaboration with Contracting Party’s habitat experts, as outlined in paragraph 28 and to reflect agreements on monitoring standards based on the present proposal.

3.6 Data submitted to the IMAP Info System

29. Agreements on the monitoring methods and data standards have enabled Contracting Parties to begin submitting their data on the three habitat types into the IMAP Info System (<http://www.info-rac.org/en/infomap-system>). **Table 2** summarises the data available in the IMAP Info System, as of November 2024.

Table 2. Data on the three habitat types reported by Contracting Parties to the IMAP Info System, as of November 2024. The sampling period covered by each uploaded dataset is indicated (as year or years), together with its status (C = Compliant; NC = Non-Compliant; D = Draft). Greece has indicated data are available, as detailed in footnotes, but not yet submitted to the IMAP Info System. Data from other Contracting Parties are not yet available in the IMAP Info System.

Contracting Party	B1 Coralligenous	B2 Maërl	B3 Posidonia
Egypt			2023 (D)
Israel	2019 (NC), 2021 (NC)		
Italy			2018-2019 (NC), 2018-2020 (C)
Malta		2018 (NC)	2017-2019 (NC), 2020 (D x4; NC x2), 2020-2021 (NC)
Montenegro	2019 (D)		2018 (D), 2019 (D), 2020 (C)
Morocco	2015-2019 (NC)		
Slovenia			2016-2018 (D)

Contracting Party	B1 Coralligenous	B2 Maërl	B3 Posidonia
Spain		2021 (NC)	2012-2023 (NC)
Tunisia			2023 (D)
Total no. of datasets	4	2	17

30. In total, the IMAP Info System held 23 datasets from 9 Contracting Parties for B1, B2 and B3 data standards in November 2024. The uploaded datasets are indicated as having the following status:

- Compliant (2 data sets) – data are fully compliant with the Data Standard;
- Non-compliant (11 datasets) - data failed the conformity check for the Data Standard;
- Draft (10 datasets) – data are under preparation by the Contracting Party and not yet released.

31. From **Table 2** it can be observed that there is more reporting of data for B3 Posidonia (7 countries, 17 datasets), compared with B1 coralligenous (3 countries, 4 datasets) and B2 maërl (2 countries, 2 datasets). The remaining 12 contracting parties⁶ have yet to submit data for these three habitat types.

32. An overview of the data submitted for each field within each data standard is provided in **Annex V**. The frequency of use of the different fields should be considered if the data standards are to be updated.

3.7 Overview of monitoring programmes and data submission per country

33. **Table 3** provides an overview of the state of implementation of monitoring programmes and submission of monitoring data for each habitat type. The presence or absence of the habitat type in each Contracting Party is based on information in Garrabou & Kipson (2023) and the 2023 MedQSR report on benthic habitats (Connor et al., 2023, UNEP/MAP, 2023a). The state of monitoring programmes in each Contracting Party is based on information in Garrabou & Kipson (2023), whilst the situation on data submissions is taken from the IMAP Info System, as of November 2024 and summarised in **Table 2**. The table has been updated following input by the OWG in early 2025.

Table 3. Overview of habitat presence, monitoring and data submission in each Contracting Party. For habitat presence: Y=yes, N=no, QSR=habitat present, tbc=presence to be confirmed. For monitoring, Yo=ongoing, Yp=planning, Yu=unknown, NR=not relevant (as habitat is absent). See paragraph 33 for details.

Contracting Party	B1 Coralligenous			B2 Maërl			B3 Posidonia		
	Present	Monitoring	IMAP data	Present	Monitoring	IMAP data	Present	Monitoring	IMAP data
Albania	Y	Yp	N	Tbc	N	N	Y	Yo	N
Algeria	Y	Yp	N	Y	Yu	N	Y	Yo	N
Bosnia & Herzegovina	Tbc	N	N	Tbc	N	N	Y ⁷	N	N
Croatia	Y	Yp	N	Y	Yp	N	Y	Yo	N

⁶ Excludes the European Union (EU) as a Contracting Party, as it has no marine waters.

⁷ BiH: *Posidonia* has been lost from all three sites where it was previously known. Loss of *Posidonia* in Bosnia may be connected with warmer sea last year [2024]. There were some serious heatwaves with sea temperatures even above 30°C. It is a shallow sea (up to 25 m deep). There is no detected pollution, fishery or ship activity to blame. Funds are needed to monitor (2025 or next) other parameters which can negatively influence *Posidonia* meadows. Bosnia also lost the *Pinna nobilis* population and so far it did not recover.

Contracting Party	B1 Coralligenous			B2 Maërl			B3 Posidonia		
	Present	Monitoring	IMAP data	Present	Monitoring	IMAP data	Present	Monitoring	IMAP data
Cyprus	QSR	N	N	Y	N	N	Y	Yo	N
Egypt	Y	Yu	N	Tbc	N	N	Y	Yu	Y
France	Y	Yo	N	Y	Yo	N	Y	Yo	N
Greece	Y	Yo ⁸	N	Y	Yo	N ⁹	Y	Yo	N ¹⁰
Israel	Y	Yo ¹¹	Y	QSR	N	N	N	NR	NR
Italy	Y	Yo	N	Y	Yo	N	Y	Yo	Y
Lebanon	Y	Yo	N	Y	N	N	N	NR	NR
Libya	QSR	N	N	Tbc	N	N	QSR	N	N
Malta	QSR ₁₂	N	N	Y	Yo	Y	Y	Yo	Y
Monaco	Tbc	N	N	Y	Yu ¹³	N	Tbc	N	N
Montenegro	Y	Yp	Y	Tbc	N	N	Y	Yu	Y
Morocco	Y	Yo	Y	Y	Yu	N	QSR	N	N
Slovenia	Tbc	N	N	Tbc	N	N	Y	Yo	Y
Spain	Y	Yo ¹⁴	N ¹⁵	Y	Yp ¹⁶	Y ¹⁷	Y	Yo	Y
Syria	Tbc	N	N	Tbc	N	N	N	NR	NR
Tunisia	Y	Yu	N	Y	Yu	N	Y	Yu	Y
Türkiye	Y	Yp	N	Y	Yo	N	Y	Yo	N
Total: Yes	14	14	3	13	11	2	15	14	7

⁸ EL: Currently being monitored in the 2024-2029 MSFD implementation.

⁹ EL: Available data from WFD and MSFD monitoring networks could be provided to IMAP. Existing info is collected and collated to create distribution maps and identify monitoring gaps at national level.

¹⁰ EL: There are available data from the implementation of HD, WFD and MSFD across the country that could be provided to IMAP.

¹¹ UNEP/MED WG.547/11 (Annex V, p23-27) does not indicate monitoring of this habitat type by Israel, but Israel has submitted data to the IMAP Info System.

¹² MT: Presence of Coralligenous habitat in Malta's waters is to be confirmed. Martin et al. (2014) indicates the habitat is present, based on a literature review.

¹³ UNEP/MED WG.547/11 (Annex V, p28-30) does not indicate monitoring of this habitat type by Monaco, but the underlying database spreadsheet indicates monitoring of 3 sites for shallow kurkar ridges.

¹⁴ ES: We have gathered the first extensive data sets for Coralligenous habitats, but we were not able to carry out an evaluation-assessment for the MSFD due to lack of previous data, data from very pristine areas, pressure maps, habitat maps, etc. We are at an initial stage in Spain where we are getting the first data in different sites of each assessment area and also getting a better idea on the spatial distribution of the Coralligenous habitats by exploring new sites that were never explored.

¹⁵ ES: Some info on Infralittoral Coralligenous is obtained as part of monitoring programme of Infralittoral bottoms using scuba diving and transects of 50 metres and quadrats of 50 cm x 50 cm. This monitoring is not targeting Coralligenous habitats and is including other infralittoral habitats. In Circalittoral and Bathyal bottoms, Coralligenous habitats are monitored using ROV transects of at least 100 metres.

¹⁶ ES: Within the BIODIV_A5.3 project, the mapping of RMBs (rhodolith and maërl beds) around Mallorca-Menorca (Balearic Islands) and at a few areas in southern Iberian Peninsula (Murcia Region) will be carried out. Data are being collected for the MSFD. However, at the moment, the MSFD research surveys do not have an established periodicity.

¹⁷ ES: In early 2022, data were provided from a research survey undertaken in 2021 within the MSFD along the sedimentary bottoms of the Levantine-Balearic demarcation. This information corresponds to 23 sampling stations in which the presence of RMBs was detected and it was collected from beam trawl. Data provided was hour, date, area, depth, lat./long, flora and macrofauna. The same information exists from other stations sampled during a similar MSFD research survey undertaken in autumn 2022.

Contracting Party	B1 Coralligenous			B2 Maërl			B3 Posidonia		
	Present	Monitoring	IMAP data	Present	Monitoring	IMAP data	Present	Monitoring	IMAP data
	(67%)	(67%)	(14%)	(62%)	(52%)	(10%)	(71%)	(67%)	(33%)
Total: QSR/tbc	7 (33%)			8 (38%)			3 (14%)		
Total: No	0 (0%)	8 (38%)	18 (86%)	0 (0%)	10 (48%)	19 (90%)	3 (14%)	4 (19%)	11 (52%)
Total: Not relevant								3 (14%)	3 (14%)

34. The heterogeneity in monitoring approaches, coupled with the implementation of monitoring by only a proportion of the countries, provides a significant limitation to the provision of data into the IMAP Info System (Section 3.6) and hence the possibility for region-wide assessments of habitat status in future MedQSRs.

3.8 The MedQSR assessments and recommendations

35. Assessments of the three habitat types were reported on in both the 2017¹⁸ and 2023¹⁹ Mediterranean Quality Status Reports (UNEP/MAP, 2017a; UNEP/MAP, 2023b; 2023d).

36. For the 2023 MedQSR, a chapter on benthic habitats was prepared (Connor et al., 2023). This chapter addressed the three specific habitat types being considered in this report (under EO1) and the wider seabed of the Mediterranean under EO6 on sea-floor integrity, dealing with both in relation to the Common Indicators CI1 and CI2.

- a. For CI1, the distribution and extent of each habitat was reported, based on the data submitted by Contracting Parties up to December 2022, and supplemented by information available in the scientific literature;
- b. For CI2, an assessment of the condition of each habitat could not be undertaken, as there were insufficient data and a lack of agreed assessment methods and threshold values.

37. On benthic habitats, the 2023 MedQSR (UNEP/MAP, 2023d) made the following recommendations regarding improvements needed in monitoring and assessment processes:

- a. Despite many decades of scientific study on particular habitats in specific locations, systematic assessment of seabed habitats, both broad-scale and fine-scale, for the Mediterranean Sea as a whole is generally at an early stage of development. However, the knowledge base and assessment methodologies are under rapid development and offer good prospects for future QSRs.
- b. Improvement in the availability of data is needed for:
 - i. Habitat maps – these provide the fundamental basis for habitat assessments and need to be further improved in quality and accuracy. The EUSeaMap full coverage map of broad habitat types relies on the quality of the underlying input data, especially on seabed substrates, and needs to be improved across much of the region. Countries should be encouraged to contribute mapping data to help improve the region-wide seabed mapping;
 - ii. Activities and pressures – the mapping of pressures, using activities as a basis, provides a good means to assess the wider seabed of the region. These data are generally more easily (and cheaply) collected than direct observational data of the seabed, offering a more cost-effective means to undertake assessments²⁰. Further, such

¹⁸ <https://www.unep.org/unepmap/resources/quality-status-report-mediterranean-med-qsr-2017>.

¹⁹ <https://medqsr2023.info-rac.org/>.

²⁰ FR: But more often with a poor accuracy. At least it can provide a trend and a broad context in terms of impacting activities (already useful for management).

- data are important for management of pressures (i.e., reducing pressures in areas to help achieved GES) and for marine spatial planning; further data collection is needed, particularly in the south and east, to provide an even coverage across the Mediterranean. The current region-wide datasets of activities and pressures (from the EEA/ETC-ICM²¹) are at a 10km-by-10km grid resolution – for use in relation to seabed assessments, the data need to be prepared at a finer resolution;
- iii. Monitoring data on the state of the seabed – the traditional collection of direct observations of the seabed (e.g., through video and sampling) remains an important aspect of data collection programmes, providing a means to validate pressure data to assess seabed habitat condition. Monitoring programmes are costly and need to be focused on the needs of assessment and measures to ensure good value. To facilitate pan-regional assessments, the monitoring data need to be compatible between countries, following specified data standards; further data collection is needed, particularly in the south and east, to provide an even coverage across the Mediterranean;
 - iv. Pressure-state interactions – there is continued need for study of pressure-state interactions, both at research level and through state assessments, to improve confidence in use of pressure data (such as a proxy for broad-scale state assessments);
 - v. Climate change – the effects of climate change on the seabed and its communities need to be better understood; of particular importance is assessment of the carbon storage capacity of marine habitats and the contribution this makes to mitigation of climate change effects; the importance of shallow vegetated habitats, such as *Posidonia oceanica* meadows, for blue carbon is often highlighted, but the carbon sequestration capacity of the much more extensive soft sediment habitats of the shelf zone and its disruption by physical disturbance pressures is ultimately a more important knowledge gap;
 - vi. Assessment methods – further work is needed to develop specific indicators (or test existing indicators available in other regions) for use with the monitoring data, and to bring the assessment methods to a fully operational level. Based on these methods, Contracting Parties need to agree threshold values to provide a clear means to assess the extent to which GES has been achieved;
 - vii. Assessment results – the availability of seabed assessment results, including visualisation of the extent of GES in each part of the region, provides an important output that demonstrates the work of the IMAP and Contracting Parties, stimulates improvements and helps direct actions towards achieving GES.

38. The present proposal aims to address some of these shortcomings, with a view to enabling a data-driven assessment of the three habitat types in the next MedQSR, scheduled for 2031.

4 Revision of the existing monitoring scale and further development of adequate assessment scales, assessment methodologies, and assessment criteria

4.1 Introduction

39. The development of monitoring and assessment methods for the three habitat types presented here forms part of the ongoing development of IMAP implementation for EO1, including monitoring and assessment methods for:

- a. birds (UNEP/MAP, 2022b);
- b. mammals (UNEP/MAP, 2021d; UNEP/MAP SPA/RAC, 2022);
- c. turtles (UNEP/MAP, 2021e); and
- d. non-indigenous species (UNEP/MAP, 2021f; UNEP/MAP, 2022a).

²¹ Now ETC-BE (European Topic Centre on Biodiversity and Ecosystems).

40. The Fact Sheets for CI1 and CI2 (**Annex I**), agreed in 2017, set out the overall approach to assessing each indicator, and are generally applicable to all habitat types under EO1. Conceptually the fact sheets appear to largely be sound, although they would benefit from some updating, particularly regarding:

- a. The current specifications for indicator objectives, GES and targets;
- b. The setting of baselines/reference states, reflecting natural variations in habitat characteristics across the region;
- c. The definition of the extent of each habitat that should be in a good state (or the maximum extent that can be adversely affected) for the habitat to be in good environmental status (GES);
- d. The definition of the geographical areas for assessment, to reflect biogeographic variation in each habitat (species composition);
- e. The need to clarify the relationship to pressures and how pressure data could be used in an assessment process;
- f. Specific application of the indicators to the three habitats being considered here;
- g. A need to review the range of monitoring methods (guidelines) and resulting data with a view to use of the data in future MedQSR assessments undertaken in a region-wide process;
- h. Assessment of the current state of implementation of monitoring by Contracting Parties, and the submission of data to the IMAP info system, to identify improvements needed over the next 6-year cycle of monitoring (ahead of the next QSR assessment process).

Recommendation:

The Fact Sheets for CI1 and CI2 should be updated, taking into account points raised in paragraph 40 and further development of CI1 and CI2 based on the present proposal.

41. Garrabou & Kipson (2023) analysed the status of monitoring and assessment elements for CI1 and CI2 across the Contracting Parties. Whilst there is considerable room for improvement in the implementation processes for CI1 and CI2, with some countries yet to start their monitoring for one or more of the habitat types, it is possible to identify key elements for each habitat type, based on the practices already in place in some Contracting Parties. **Annex II** summarises what is already being done for each habitat type.

4.2 Towards a harmonised region-wide approach

42. The following sections set out key elements of the monitoring and assessment processes that are needed to undertake a region-wide assessment of the status of each habitat type, based upon CI1 and CI2, in future MedQSRs. There is a focus on the data needed for undertaking a status assessment, the need for harmonised approaches based on compatible data and methods, and the need for data collection programmes in the coming years.

43. The characteristics of the three habitat types differ, necessitating some differences in how they are monitored and assessed. However, their overall assessment is within the general framework already agreed for CI1 and CI2 and there should remain as much commonality as possible to the monitoring and assessment elements used (as well as for any further habitat types included under EO1).

44. The range of possible monitoring methods currently described for each habitat type (UNEP/MAP, 2021g) leads to wide variation in the data being collected by Contracting Parties (**Annex IV** and **Table 8** shows the variety of parameters currently being monitored per habitat type) and ultimately makes it difficult or impossible to aggregate the data across the region or even within a subregion or assessment area, such that region-wide assessments are not possible. It is therefore

recommended that Contracting Parties move towards providing more harmonised data that can be readily aggregated and analysed.

Recommendation:

Contracting Parties should undertake monitoring of the three habitats according to commonly agreed methods which yield data that can be readily aggregated for region-wide assessments of CI1 and CI2.

45. CI1 and CI2 are state indicators which, when used together, aim to assess key aspects of benthic habitat status, i.e. the distribution and extent of the habitat (how much has been lost) and its condition (how much is in a good state). The current monitoring methods and data standards also focus on the state of the habitats. Monitoring habitat state alone, particularly aspects related to habitat condition, will reveal that the habitat (at each monitoring site) changes over time, because the species composition varies over time and the abundance and distribution of its key species will also vary with time. This variation in state over time may be related to:

- a. natural variation in the ecosystem (e.g. normal processes of recruitment, growth and mortality of species within communities), and/or
- b. changes in state due to the effects of anthropogenic pressures (deterioration) or management actions which reduce or remove those pressures (recovery).

46. Consequently, in the absence of contextual information, particularly about the nature and extent of pressures, it will be intrinsically difficult to interpret any changes apparent in the state-based monitoring data. It will be possible to document change and variation, but not to attribute it to natural variation or to anthropogenic pressures or management actions. This limitation in the power of the monitoring data may be further exacerbated by possible uncertainties in the quality and consistency of monitoring over time and between countries, particularly if the monitoring is undertaken infrequently and with changes in personnel between monitoring events.

47. Careful design of monitoring programmes is needed to help overcome such limitations as far as possible, including by:

- a. Providing clear definitions of the monitoring data needed and how it will be used in assessments;
- b. Reducing the complexity of monitoring (e.g. the variety of techniques used), as far as possible, so that it can be undertaken consistently across all countries;
- c. Maintaining a technical capacity in each country which provides continuity of expertise throughout the assessment period, even though all sites and habitat types are unlikely to be monitored every year;
- d. Where possible, automating the collection and/or analysis of the data to reduce inter-personal variation in the data;
- e. Collecting contextual data on the distribution and intensity/frequency/duration of relevant anthropogenic activities and their pressures, both at monitoring sites and more broadly across each country, according to standardised methods;
- f. Collecting information on management actions introduced to reduce or eliminate particular pressures on the habitat/area being monitored.

48. The data collected need to be used to assess changes in the state of the habitats, including whether they are degraded due to anthropogenic pressures, and whether they are recovering following management actions which reduce or remove pressures; from this follows the importance of monitoring aspects of each habitat that are affected by relevant pressures, thereby focusing monitoring efforts on the most relevant parameters (**Table 4**).

Table 4. Links between parameters for monitoring Common Indicators CI1 and CI2 and associated pressures. Light blue cells indicate key pressure-state interactions for focused monitoring.

Common Indicator	Parameter	Links to pressures
CI1 Habitat distribution/ extent	<u>Habitat distribution</u> - the three habitat types are widely distributed across the region and significant changes are only likely due to major oceanographic changes.	Climate change, particularly changes in sea temperature for habitat-forming species / anomalies of the summer thermocline; possibly increased ocean acidification.
	<u>Habitat extent/loss</u> – loss of the spatial extent of the habitat is a far more likely aspect of CI1.	Physical loss caused by installation of infrastructures, fish farms, dredging of the seabed, bottom fishing, anchoring.
	<u>Upper and lower depth distribution</u> – changes may occur due to water quality issues that lead to increased turbidity and/or reduced transparency – this can affect the upper and/or lower limit of growth of vegetation (<i>Posidonia</i> , less likely for maërl as it occurs more offshore).	Increased coastal run-off (sediment from rivers); land-based pollution or nutrient enrichment. Physical disturbance by bottom trawling (Maërl, possibly <i>Posidonia</i>)
	<u>Distribution pattern</u> – coastal run-off, pollution or nutrient enrichment (eutrophication) could lead, in severe cases, to significant loss of habitat in affected areas, providing gaps in the natural distribution pattern of the habitat.	Severe cases of coastal run-off, land-based pollution or nutrient enrichment (e.g. sewage disposal, fish farms).
CI2 Habitat condition	<u>Habitat structure</u> – both <i>Posidonia</i> and maërl species are key structuring species within their habitats, as are bioconstructors and erect species within Coralligenous (e.g. gorgonians, scleractinians, large sponges, Fucales). Their density and distribution within the habitat are essential aspects contributing to the overall health of the habitat.	Physical disturbance caused by bottom fishing, the construction phase of new infrastructures, dredging of the seabed, anchoring and mooring chains, and sediment plumes from such activities. ‘Pollution’ caused by increased coastal run-off (sediment from rivers), land-based pollution or nutrient enrichment. Effects of desalination plants (brine, hot water)
	<u>Condition of megafauna in coralligenous habitats</u> – individuals may be damaged by physical abrasion or litter entanglement (e.g. from ghost fishing nets).	Litter, bottom-contacting fishing gear (including static gear), anchoring and mooring chains, divers.
	<u>Species composition, abundance and diversity</u> – these parameters reflect the overall character and quality of each habitat type. Changes to these parameters may be due to natural dynamics and to various or multiple pressures, often making it difficult to interpret possible causes of change.	Multiple pressures can affect overall species diversity: physical disturbance and the ‘pollution’ pressures, non-indigenous species.
	<u>Habitat functioning</u> – amount of carbon sequestered and sequestration rates. Sequestration into marine vegetation (<i>Posidonia</i>) and sediments (maërl) plays an important role in	Physical disturbance caused by bottom fishing, the construction phase for new infrastructures, dredging of the seabed, anchoring and mooring chains.

Common Indicator	Parameter	Links to pressures
	overall ecosystem functioning and climate control ²² .	
	<u>Habitat structure and function</u> - many other aspects of habitat condition are possible to monitor ²³ , with varying effects from one or more pressures. Improvements in scientific understanding and emerging monitoring techniques may show merit in selecting other parameters to monitor.	

4.3 State/impact monitoring in the context of pressures

49. Knowledge of pressures at the monitoring sites and across each country provides a basis for understanding possible change in the state of the monitored habitats, and ultimately links to management actions that would relieve pressures on the habitats and allow for their recovery towards good status.

50. Measuring pressures in the field over large areas (nationally) is challenging, particularly when considering the wide range of possible pressures (physical, biological, chemical). Monitoring the activities which generate the main pressures affecting *Posidonia*, Coralligenous and Maërl provides a more achievable approach, particularly if focused on the monitored sites.

51. In the data standards B1, B2 and B3 there is very limited allowance for reporting of pressures at the monitoring sites:

- a. B1 Coralligenous (Tab: DebType) includes fields to report debris (litter) type and abundance;
- b. B2 Maërl (Tab: DebType) includes fields to report debris (litter) type and abundance²⁴, ²⁵;
- c. B3 *Posidonia* (Tab: Site) includes text fields (non-quantitative) for reporting Artificialisation, Anthropogenic Action and Pollution;
- d. All these fields are non-mandatory.

52. The reporting of human activities and related pressures needs to be significantly improved, including some degree of quantification, even if simply as the presence of activities/pressures in a grid cell-based report. The most appropriate way to report on activities and pressures needs further discussion, including how it links to similar data collection for other EOs. The proposal for EO6 on sea-floor integrity is of particular relevance here, because of its strong links to using pressure-based data (UNEP/MAP SPA/RAC, 2025). Note also that the pilot assessment of EO6 for the Adriatic Sea subregion (Connor et al., 2023) used the available region-wide pressure data from the EEA's European Topic Centre on Inland, Coastal and Marine Waters (ETC/ICM) (Korpinen et al., 2019).

²² Maërl and rhodolith beds may be a source rather than a carbon sink. Dead rhodoliths in the sediment act as a very long-term carbon stock (that should not be disturbed).

²³ For example, recent evidence shows *Posidonia* can be impaired by artificial light (Dalla Carbonare et al., 2023) and human-generated underwater noise (Sole et al., 2021).

²⁴ ES: Under the MSFD monitoring programme, Spain is obtaining abundance (and density) of different types of litter and human activities indicators (fishing nets, etc.) from scuba-diving techniques in 50 metres transects in the infralittoral and 100 metres ROV transects in the circalittoral and bathyal. VMS data are analysed at a 5x5 km grid (1x1 km grid in some MPAs) in order to map fishing activities such as bottom trawling, long line, among others. % cover and biomass of some invasive species have been obtained in infralittoral and circalittoral bottoms, including some areas with coralligenous bottoms...see Rueda et al (2023).

²⁵ ES: Marine litter is being reported during the monitoring surveys, both the annual MEDITS surveys (bottom trawl) and the two European Marine Strategy Framework Directive surveys developed until now (beam trawl samples and submarine images from photogrammetric sledges). In any case, there are other important pressures, such as demersal fishing and aquaculture activities, for which data should also be collected.

Key findings of this pilot study were that the pressure data need to be at a finer scale than the 10 km by 10 km grid data available from the ETC/ICM and that further data should be added, particularly for southern and eastern parts of the Mediterranean. In practice, the most relevant pressure data for EO1 monitoring data will be on physical loss and physical disturbances and much of this can readily be collected at fine scales (e.g. infrastructures mapped with 10 m or less accuracy). Data on disturbance of the seabed by bottom-contacting fishing gear is routinely collated as SAR (Swept Area Ratio) gridded data based on VMS (Vessel Monitoring System) signals: for use in assessing seabed habitats SAR data need to have a minimum resolution of 1 km by 1 km²⁶.

Recommendation:

Data on the distribution and intensity/frequency/extent of human activities and related pressures relevant to benthic habitats should be collected, using a standardised grid and methods, and at an appropriate resolution to support assessments under both EO1 and EO6. This should link to relevant data collection processes for other IMAP EOs and be done in association with similar processes by the ETC-BE and for EMODnet (human activities).

4.4 Assessment scales and areas

53. Assessments of whether GES and targets have been achieved, as needed for the periodic MedQSRs, for national purposes and to inform management actions, need to be made for specified areas within the Mediterranean Sea region. The scale used for assessment has a direct and marked influence on assessment outcomes (i.e., whether a habitat has achieved GES or not), due to the distribution and extent of impacts, which vary according to the situation in different parts of the Mediterranean. For example, a habitat may be deemed to be below GES in one (part of a) country, as it is subject to extensive pressures and impacts in this area but is considered to be in GES in another country where the impacts are less extensive. Also, if the habitat is assessed at the whole Mediterranean Sea scale its GES status could differ to that at national scale because of the overall extent of pressures and impacts across the region.

54. To date, assessment scales and areas for the Mediterranean region have not been formally agreed for either EO1 or EO6.

55. Assessments could be undertaken at a variety of scales, such as at the whole region scale or one of its four subregions. However, these are too large to be meaningful for management purposes, as actions needed to achieve GES and targets typically need to be taken at finer scales, such as at national or subnational level.

56. The assessment of habitats under the MSFD (Descriptor 6) is guided by the scale of assessment given in the GES Decision (EC, 2017) which is the ‘subdivision of region or subregion, reflecting biogeographic differences in species composition of the broad habitat type (BHT)’. TG Seabed, the MSFD expert group on seabed habitats, provides guidance on defining assessment scales and areas in its MSFD Article 8 assessment guidance (EC, 2023a²⁷). Further consideration of the issue of assessment scales and their effects on the outcomes of assessments and for management²⁸ indicates the importance, within this biogeographic approach, of national (or sub-national)-level assessments (reporting) because responsibilities for taking management actions (if GES has not been achieved) would lie at national level²⁹.

²⁶ See also Quemmerais-Amice et al (2020).

²⁷ MSFD GD19, version 12-12-2023: further elaborated in TG Seabed’s extended guidance (latest draft TG Seabed, 2024: SEABED_19-2024-04).

²⁸ SEABED_12-2022-02

²⁹ This should not preclude countries taking collective action, through regional or subregional cooperation, on activities which are transnational in character (e.g., some types of bottom fishing).

57. Taking the above considerations into account, and with a view to undertaking region-wide assessments in the next MedQSR, a harmonised set of scales/areas was proposed for implementation of EO6 on sea-floor integrity (UNEP/MAP SPA/RAC, 2025; **Figure 2**). This proposal has been considered by the CORMON Biodiversity and Fisheries working group, the SPA Focal Points and the EcAp Coordination Group during 2022-2024 (UNEP/MAP, 2023c; UNEP/MAP SPA/RAC, 2023a; 2023b; 2024). The rationale and data used to define the assessment areas are presented in UNEP/MAP SPA/RAC (2024).



Figure 2. Subdivisions proposed for EO6 application. Subdivisions are numbered within each subregion (blue lines) with codes: MWE-Western Mediterranean Sea; MAD-Adriatic Sea; MIC-Ionian Sea and the Central Mediterranean Sea; MAL-Aegean-Levantine Sea (UNEP/MAP SPA/RAC, 2025). This map is for assessment purposes only and shall not be considered as an official map representing marine borders. This map shall be used without prejudice to the agreements made between countries under international law in respect of their marine borders³⁰.

58. The rationale for defining assessment areas at this scale (i.e. subdivisions of each subregion) is equally applicable to the specific habitat types addressed under EO1. Furthermore, use of these assessment areas under both EO1 and EO6 offers coherence and consistency of approach between the two EOs that address the seabed, harmonisation of assessment methods, easier reuse of common data (such as on pressures) and facilitates a common presentation of assessment results, understandable for policy and management purposes.

Recommendation:

EO1 assessments should use the same set of assessment areas as EO6, as shown in **Figure 2**.

4.5 CI1 habitat distribution and extent

59. Baselines for distribution and extent are needed for all three habitat types, both to provide a basis for assessing CI1 and as a means to select appropriate sites for monitoring CI2.

60. Maps of the distribution of each habitat in the region are available, but these are likely to be incomplete and give only limited information on the extent of each habitat:

³⁰ In cases where the boundaries of certain subdivisions are based on national marine borders and these borders are modified, such as through new agreements with neighbouring countries, the subdivision boundaries should be updated.

- a. *Posidonia oceanica* meadows (Giakoumi et al. 2013; Telesca et al., 2015);
- b. Maërl/Rhodolith beds (Martin et al. 2014; Basso et al, 2017);
- c. Coralligenous (Martin et al. 2014).

61. The habitat monitoring guidelines (UNEP/MAP, 2021g) describe a range of possible mapping techniques and strategies for mapping which can be used to improve knowledge on the distribution and extent of each habitat type. Due to the potentially high costs of seabed mapping programmes at national level, it seems unlikely that such programmes would be undertaken for these three habitat types alone; however, full coverage seabed mapping (i.e. mapping of all habitats in an area or nationally) is a valuable pursuit, with long-term benefits for implementation of EO1 and EO6, marine spatial planning and general management of the marine environment.

62. As an intermediate approach between full-scale seabed mapping (for all habitat types or the three specified types here) and the current situation, it is recommended to build upon the existing published distribution maps by:

- a. Adding data already available in each country, e.g. national maps of *Posidonia* in Mediterranean countries (Ruiz et al. 2015; Basso et al. 2017);
- b. Collating published records of the habitats. The collation of available data could be modelled on the approach used to map the historic distribution and extent of European oyster beds (Thurston et al. 2024) which includes ways to account for uncertainties in both location and extent of the habitat;
- c. Further developing the available habitat suitability models, using key physical and hydrographic parameters for each habitat type (e.g. Agnesi et al., 2020 for Maërl) to compliment the availability of known occurrences of each habitat.

Recommendation:

Available data on the national distribution and extent of each habitat, and from published literature, using the approaches of Thurston et al. (2024) to accommodate uncertainties in the location and extent of the habitat, should be collated to prepare up-to-date maps of each habitat distribution and extent for the Mediterranean (compiling data in a common format to enable its aggregation across the region).

Supplement the data on known distribution of each habitat with further development of habitat suitability models, based on key physical and hydrographic parameters.

Use the habitat distribution maps and suitability models to inform implementation of CI1 and CI2 (e.g. selection of monitoring sites, linked to distribution of pressures, interpretation of monitoring data, management actions linked to specific pressures).

63. Habitat extent, or rather loss in habitat extent, is likely to be the most important parameter to assess under CI1. Given that it will be very difficult to assess the historic extent of each habitat (due to lack of suitably accurate data on historic extent), it is recommended to follow a more practical approach:

- a. If determining a baseline for habitat extent at a national level is unfeasible, establish a baseline through mapping the extent of the habitat at a selected range of sites through fine-scale mapping (see Section 4.6), taking into account documented losses in extent (e.g. from known activities) at these sites;
- b. Monitor the extent of the habitat against the established baseline at these sites over time, to provide an evaluation of changes in extent since the baseline period, including possible increases in extent due to recovery or restoration of the habitat;
- c. Monitoring at selected sites (reference sites and sites subject to anthropogenic pressures) offers a more achievable approach to assessing CI1 than for all countries to cover their entire marine waters.

- d. Monitoring changes in habitat extent at specified (monitoring) sites should be supplemented by knowledge of changes in extent across the country, assessment area and region, using information from the wider mapping (paragraph 62) and from ongoing monitoring of pressures (particularly habitat losses due to new infrastructure development).

Recommendation:

Where determining the extent of habitat, including loss or gain in habitat extent, at national level for CII is not feasible, determine the baseline extent of each habitat (through fine-scale mapping) at the monitored sites and document known losses and gains.

Monitor changes in habitat extent over time at monitoring sites to provide a proxy assessment of habitat loss and gain at national level and per assessment area for CII assessment purposes. Supplement this assessment with known losses and gains elsewhere in the country/assessment area (e.g. from infrastructure developments, published information).

64. This more practical approach to monitoring habitat extent would have an influence on the definition of GES and target values for CII, because the approach uses a known (recent) baseline for assessing changes in habitat extent at selected sites, rather than the historical reference state across the whole country and thus does not account for historical losses or fully account for losses across the entire country/assessment area.

65. Assessment of the vertical distribution of the habitat (upper and lower depth limits) is closely linked to habitat extent but is likely to be influenced by pressures mostly relating to water quality. This parameter is most relevant for *Posidonia* meadows. It is relatively easy to monitor and is already monitored by several Contracting Parties.

4.6 Monitoring scale

66. Section 4.2 emphasises the importance of linking the state of each habitat to known pressures. The selection of monitoring sites (stations) for each habitat should therefore include:

- a. sites which are known to be subject to one or more specific pressures and, for contrast,
- b. sites which are, as far as possible, free from pressures. This latter consideration needs to exclude widespread pressures that can effectively be considered to occur everywhere (e.g. climate-induced hydrographic changes in temperature, salinity and acidity, diffuse pollution). Sites which are designated as marine protected areas (MPAs) may be used, provided they are actually free from relevant pressures.
- c. a gradient in the intensity of the pressures should be selected, such that the sites overall range from no pressure through to high pressure.
- d. data on activities and related pressures at monitored sites should be collected in order to better quantify the nature and scale of pressures.
- e. awareness of the possible influences of particular pressures at each site will help in interpretation of the state-based monitoring data.

67. A minimum number of sites per habitat type should be selected. Sites should be distributed evenly across the habitat's geographic distribution in the region, taking account the specificities across the region (oligotrophy, turbidity and perhaps geomorphology). With a view to using the monitoring data in future region-wide QSRs, site selection should also take into account the proposed assessment areas (**Section 4.4, Figure 2**), distributing sites across each assessment area to reflect the gradients in

pressures. It is proposed that there should be at least five sites³¹ for each habitat type in each assessment area, giving a minimum of 140 sites³² per habitat type across the 28 assessment areas of the Mediterranean region. Countries may (continue to) monitor additional sites, as this will strengthen the data available for both national and regional purposes.

68. The periodicity and timing of monitoring needs to be specified within IMAP's 6-year timeframe (2024-2029) for collecting data for the MedQSR (with 2030-2031 scheduled for data analysis and preparation of the QSR).

69. It is likely that initial work is needed in some countries to collate activity and pressure data with a view to selecting suitable monitoring sites (section 4.6) and establishing locations for monitoring as well as setting a baseline for habitat extent at each site (paragraph 63). These aspects may already have been well considered in those countries where IMAP monitoring for EO1 is already underway (**Table 3**).

70. A minimum of two sampling events within the 6-year period would yield two datasets for comparison (and also allow comparison with previously collected monitoring data in countries where monitoring is already underway). These two events should ideally be 3 years apart (such as years 2 and 5, or years 3 and 6, taking account of the time needed to process the samples and submit data into the IMAP Info System ahead of its use for QSR analysis). Sampling only once within the 6-year period would give no data on habitat changes over the assessment period. Some countries may wish to sample more frequently, every two years or annually, to give greater understanding of the variation in character and condition of the habitats. For CI1, once a good baseline has been established at each site, it is probably adequate to assess changes in extent only once during the 6-year period, although assessment every 3 years is desirable³³.

71. To account for seasonal variation in habitat characteristics, monitoring events should be undertaken during the same specified time period across the region. Seasonal variation is likely to affect vegetated habitats (e.g. *Posidonia* and macroalgae in Coralligenous and Maërl/rhodolith habitats) more, such that monitoring is best undertaken during the late spring to early autumn growing periods.

Recommendations:

A minimum of five sites should be monitored per habitat type in each of the 28 assessment areas. The sites selected within each assessment area should reflect a gradient in pressures from sites most affected by one or more pressures through to sites considered largely free of human activities causing pressures on the habitats. Contracting Parties sharing an assessment area should agree on the distribution of these sites across the assessment area.

Within the 6-year data collection period for an IMAP QSR, there should be a minimum of one monitoring event for CI1 (change in extent of habitat from baseline) and two monitoring events for CI2 (habitat condition) at each site.

Monitoring should be undertaken within the same season across all sites:

Coralligenous: May to August

Maërl: May to August

³¹ ES: sometimes impacted and unimpacted sites are located far away and changes of the habitat may also be related to different environmental conditions.- impacted inshore habitats to pristine offshore-far away located habitats at similar depths. Important to know what each CP is able to do regarding number of sites and methods.

³² The overall number of sites would be less if a habitat type does not occur in particular assessment areas (e.g. *Posidonia* is not present in Israel, Lebanon and Syria).

³³ FR: 3 years is ok and enough to monitor changes of the habitats according to management except for extreme events like mass mortality event of storms for example.

Posidonia: May to September

4.7 Assessment methods and criteria

72. The habitat monitoring guidelines (UNEP/MAP, 2021g) describe methods for collecting data on many aspects of habitat quality. This report advocates focusing monitoring effort on a fewer number of parameters, and especially those that can directly reflect the possible effects of anthropogenic pressures (**Table 4**). Some Contracting Parties may wish to (continue to) collect a wider range of data; such additional data are of scientific value and will inform ongoing assessments of habitat status. Assessment of CI1 and CI2 should involve use of several parameters and metrics/indices per Common Indicator as this offers a more robust way to assess habitat status (ICES, 2022).

73. Agreement on the format of the data submitted to the IMAP Info System and the methods for processing these data are needed, making a clear link back to the data collection (monitoring) processes and which data are most important to collect. It is envisaged that the data will be aggregated across countries to enable a region-wide assessment for the next QSR. Some types of data (e.g. species composition and abundance) can be processed via a number of metrics and indices, while other metrics/indices use data in more specific ways.

74. **Table 5** sets out a proposed minimum set of parameters to be collected for each habitat type and the metrics and indices that are to be used. This minimum specification should be followed by all Contracting Parties. Additional parameters that would provide an enhanced and more optimal assessment are also indicated in **Table 5**. Contracting Parties who are already collecting these (and other) additional parameters are encouraged to continue this level of monitoring, as this greater detail will enable a more ecosystem-based assessment and possible use of several metrics, as recommended by ICES (2022).

Table 5. Proposed parameters, metrics and indices for assessing CI1 and CI2 for the three habitat types at monitoring sites.

Habitat/CI	Minimum protocol	Optimal protocol
B1 Coralligenous CI1	Habitat extent (km ²) Habitat loss and gain (m ²) Extent (km ²) and proportion (%) of habitat loss across all monitored sites	Extent of habitat loss at assessment area/national level
B1 Coralligenous CI2	For MACS (Enrichetti et al., 2019): Extent of hard bottom (% rock and biogenic) Species richness of conspicuous megabenthic sessile and sedentary species Structuring species: count, height (cm) and density (no. of colonies/individuals m ⁻²) % sediment cover % of colonies with epibiosis, necrosis and entangled in lost fishing gears for all structuring anthozoans Marine litter (density m ⁻²)	For EBQI ³⁴ and other indices (Di Camillo et al., 2023): Typical species composition Condition of key species/groups: • Filter- and suspension feeders (cover and diversity) • Detritivores abundance • Related fish assemblage biomass (distinguishing piscivores, carnivores of invertebrates, planktivores) Sensitivity level

³⁴ FR: From Ruitton et al. 2014 updated by Astruch et al. (under review). See also: https://www.researchgate.net/publication/325607434_Guide_methodologique_pour_l%27evaluation_ecosystemique_des_habitats_marins.

Habitat/CI	Minimum protocol	Optimal protocol
B2 Maërl CI1	Analysis of existing knowledge (scientific and grey literature) on the presence of maërl/rhodolith beds Habitat extent (km ²) ³⁵ Habitat loss and gain (m ²) Extent (km ²) and proportion (%) of habitat loss across all monitored sites	Extent of habitat loss at assessment area/national level
B2 Maërl CI2	Index to be defined. Rhodolith/maërl (% cover live and dead) Rhodolith/maërl density	Index to be defined. Species composition: abundance and diversity (filter-feeders, carnivores, detritivores, etc.) including echinoderms Particulate organic matter cover Detritic litter cover Rhodolith size and shape
B3 <i>Posidonia</i> CI1	Habitat extent (km ²) Habitat loss and gain (m ²) Upper and lower depth limit of meadow (to nearest 0.1m) at monitored sites Extent (km ²) and proportion (%) of habitat loss across all monitored sites Change in vertical distribution of habitat (+ or – m) at monitored sites	Extent of habitat loss at assessment area/national level
B3 <i>Posidonia</i> CI2	For PREI (Gobert et al., 2009): Leaf surface Leaf biomass Shoot density Lower limit depth and type Leaf epiphytes biomass For BiPO (Lopez y Royo et al., 2010) (same parameters as PREI but without sampling living material): Leaf surface Shoot density Lower limit depth and type For functional assessment: Sea urchin density	For EBQI (Personnic et al., 2014): Growth rate of vertical rhizomes Meadow cover Biomass density and species diversity in all compartments: • Filter- and suspension feeder density • Sea urchin <i>Paracentrotus lividus</i> density • Related fish assemblage biomass (distinguishing piscivores, carnivores of invertebrates, planktivores) • <i>Pinna</i> spp. density (not only <i>Pinna nobilis</i> now that <i>P. rudis</i> occurrence is increasing)
All sites	Parameters related to water quality (sea temperature, salinity, turbidity, transparency)	

³⁵ ES: To estimate this parameter for RMBs, firstly it will be necessary to have the maps of the benthic biocenoses throughout the entire continental shelf. Currently, these maps are only available for certain (few) areas.

75. An adequate number of replicate samples need to be taken per site to account for fine-scale variability in the habitat. Coralligenous and Maërl habitats are highly variable, with significant spatial heterogeneity, so larger sample areas and more replicates are needed to account for this complexity. *Posidonia* meadows are typically more uniform in structure compared to Coralligenous or Maërl habitats, allowing for fewer replicates and smaller sample areas while still capturing the variability at each site. For Coralligenous and Maërl habitats, it is important to account for depth-related variability even when using horizontal transects, as some degree of depth influence may still exist.

76. It is important to standardise the methods and protocols as much as possible between SCUBA-diving and remotely-operated vehicle (ROV) methods of survey to ensure data comparability if both methods are used within the same monitoring programme. Use of ROVs is likely to be necessary in some parts of the Mediterranean, especially to monitor Coralligenous and Maërl habitat that is deeper than safe SCUBA-diving depths. ROVs are becoming more affordable (e.g. <https://bluerobotics.com/store/rov/bluerov2/>) and offer a practical technology for image sampling of Coralligenous and Maërl habitats in both shallow and deeper situations. Use of ROV may also allow a greater sampling area to be taken per site, thereby increasing the robustness of the data collected. Analysis of photographic imagery to identify species requires trained scientific expertise, which may not be readily available in all countries. Consideration could be given to provision of centralised services to undertake elements of the monitoring (e.g. field sampling, image analysis). Use of automated image analysis software is also likely to become more feasible.

77. The following are recommended minimum numbers of replicates per site:

- a. Coralligenous³⁶ – For monitoring using SCUBA divers (infralittoral/upper-circalittoral zone), three areas of 4 m² located tens of metres apart should be sampled at each site. A minimum of 10 replicate photographic samples of 0.25 m² each should be collected in each area, giving a total sampling surface area of 7.5 m² per site³⁷. The photographic samples should be taken along a horizontal transect, so that variation due to depth or other physiographic parameters is avoided and it provides a better representativity of the site. For monitoring with ROVs (circalittoral zone), it is very important to have an appropriate site and area allocation strategy so that a significant number of replicates are taken (e.g. Di Stefano et al., 2024; Radicioli et al., 2022).
- a. Maërl – At each site, a minimum of 10 replicate photographic samples (using 1 m² quadrats) should be collected in each of three distinct areas which are tens of meters apart, giving a total sampling surface area of 30 m² per site. The photographic samples should be taken along a horizontal transect, so that variation due to depth or other physiographic parameters is avoided.
- b. *Posidonia* – At each site, a minimum of 10 independent replicate counts (using 20 cm × 20 cm quadrats) should be done in each of three distinct areas which are tens of meters apart. This total of 30 replicates per site is considered enough to catch the natural within-patch variability³⁸. The samples should be taken at the same depth. For consistency across the

³⁶ ES: This methodology seems to come from traditional scuba diving monitoring. Small sampling areas (ca 1-2 m²) could be good for monitoring small species from the Coralligenous but maybe is not good for getting information on the large megafauna species, threatened species and pressures from the habitat. Large sampling areas (50 m² and larger areas) may be good for monitoring both the megafauna, some threatened rare species and the pressures. The use of the same method for infralittoral and circalittoral coralligenous habitats would be ideal, or at least to define one methodology for the infralittoral coralligenous habitats and another one for the circalittoral that are as similar as possible.

³⁷ FR: The sampling should not be limited to quadrat frames (and photographs). A representative overview of a Coralligenous site needs several hundred m² and more. Along the transect, it's fine so it allows the sampling at a more suitable scale.

³⁸ FR: Using 20 x 20 quadrats involves more variability in shoot density and a potential overestimation compared to larger quadrats (40 x 40).

region, sampling should be undertaken at 15 m depth, which corresponds to the intermediate depth of the meadow throughout much of the Mediterranean. If the meadow is shallower than 15 m (e.g. in the Gulf of Lyon and Alboran Sea), the sampling can occur at a shallower depth. Correspondence grids exist, for example, to interpretate the shoot density (Pergent-Martini and Pergent, 2010).

Recommendations:

The minimum set of parameters set out in **Table 5** should be monitored at each site, so that the data can be analysed according to the indices noted in the table. Contracting Parties may collect data on the additional parameters noted in the table to enable a more optimal ecosystem-based assessment with the indices indicated in the table.

A minimum number of replicates per monitoring site should be taken:

Coralligenous by scuba diving: 10 replicates (50 cm x 50 cm quadrats) in three areas per site (total of 30 replicates covering 7.5 m² per site).

Coralligenous by ROV: 10 replicates (100 cm x 100 cm quadrats) in three areas per site (total of 30 replicates covering 30 m² per site).

Maërl by ROV: 10 replicates (100 cm x 100 cm quadrats) in three areas per site (total of 30 replicates covering 30 m² per site).

Posidonia by scuba diving: for PREI and BiPo methods, 10 replicates (20 cm x 20 cm quadrats) in three areas per site (total of 30 replicates covering 1.2 m² per site). For enhanced assessments using the EBQI method, use quadrats of 40 cm x 40 cm to give a total sample area of 4.8 m². Sample at 15 m depth (or mid depth of the meadow if the meadow depth limit is shallower than 15 m).

5 Development of baseline and threshold values

5.1 Baselines

5.1.1 CII Habitat distribution and extent

78. The definition of a baseline from which to assess changes in habitat distribution and extent can be centred around an historical baseline or a more recent baseline.

79. Using a historical baseline allows for the possibility to determine the ‘natural’ distribution and extent of a habitat and assess changes in these parameters over time. This approach can be severely limited by the availability of historic data, particularly data which are sufficiently accurate for making judgements on the degree of change over time.

80. A further consideration is the feasibility of recovering a habitat towards an historic baseline, because of the natural dynamics of marine ecosystems and how they may react to reduction or removal of anthropogenic pressures. It is therefore better to consider how a habitat might recover within the context of the ‘prevailing physiographic, geographic and climatic conditions’ (terminology of MSFD Descriptor 1) rather than to recover to an historic ecosystem state that is unlikely to be realised (TG Seabed, 2021).

81. The second approach is to set a baseline with a more recent time frame. This approach is intrinsically easier due to the greater availability of more recent data, although such data may not be evenly available across the region.

82. It has been common practice for EU countries to use the situation in 1992, when the EU Habitats Directive (HD) was adopted, to define the baseline state. This baseline year may be appropriate for EU Member States as the three habitat types considered here have been included

within the scope of the Habitats Directive (*Posidonia* is a priority habitat; coralligenous can be included under ‘reefs’ and maërl can be included under ‘sandbanks’). However, it is likely that the distribution and extent of the three habitats was not fully known in 1992, particularly for southern and eastern countries in the region (who are, anyway, not implementing the Habitats Directive).

83. For some countries it may only be feasible to establish a baseline for a more recent time period, such as the start of their IMAP monitoring programme for benthic habitats.

84. Whilst it is desirable to establish a common baseline across the whole region, limitations in the availability of data may make this unrealistic. It may help to supplement known and accurate data on a habitat’s distribution and extent with less accurate historic evidence or modelled information on possible habitat occurrence (Section 4.4).

85. To help overcome these data deficiencies, and in the light of the proposed monitoring strategy (Section 4.6), the extent of the habitat at each monitoring site should be established (using suitable mapping techniques described in UNEP/MAP, 2021g) together with an assessment of the loss in extent due to definable activities (i.e. the footprint of infrastructure on the seabed and evidence of seabed damage from activities causing physical disturbance, e.g. bottom fishing, dredging, anchoring and mooring chains). The same survey methods would then be used to assess change in extent over time, including any gain in extent due to habitat recovery or restoration measures.

86. This more focused approach to assessing CI1 (i.e. at specific monitoring sites) would lead to an assessment of the extent of habitat loss in relation to a specified baseline year and against an agreed threshold value (see Section 5.2), allowing an assessment of GES for CI1 at each site. The results should be put in the context of wider knowledge about the extent of each habitat and the activities and pressures that are leading to habitat loss.

Recommendation:

For assessment of CI1 a baseline for habitat extent should be established at each monitoring site, based on a detailed mapping of the sites (using a combination of suitable remote sensing and in situ techniques³⁹). The baseline should account for known losses in habitat extent (such as from published literature) from before this initial mapping survey, and any gains in extent due to habitat recovery/restoration.

Overall assessment of CI1 should take into account known losses in habitat extent (such as from published literature) across the wider assessment area/country/region.

5.1.2 CI2 Condition of a habitat’s typical species and communities

87. The baseline to be defined is commonly referred to as ‘reference state’, which can be considered as the state of the habitat when largely free of the influence of anthropogenic pressures. Deterioration in habitat quality from this reference state provides a means to assess CI2, with a quality threshold value set which distinguishes a habitat (at a particular location) in a good state from one in a poor state (i.e. the habitat is ‘impacted’ or ‘adversely affected’⁴⁰) (section 5.2).

88. Defining a baseline for the condition of each habitat faces similar issues about the lack of historical data to the assessment of habitat distribution and loss. In addition, natural ecosystem

³⁹ DZ: Establish baseline data for seagrass distribution, extent and biomass, taking into account historical data to assess losses. Using remote sensing is essential. It is necessary to combine *in situ* observations and remote-sensing methods (acoustic and optics).

⁴⁰ MSFD uses the term ‘adversely affected’ for a habitat which is not in a good condition (at a particular location), while others may refer to this as ‘environmental impact’. Under MSFD the boundary between a habitat in good condition and one in poor condition (i.e. it is adversely affected) is defined by a quality threshold value.

dynamics are a major influence on habitat condition, with species composition and abundance constantly changing due to variations in reproductive success of species, predator-prey dynamics, evolving environmental conditions (sea temperature, currents, etc.)⁴¹ and the influences of anthropogenic pressures.

89. Similarly to setting a baseline for habitat distribution and extent, it is best to assess reference state in relation to ‘prevailing physiographic, geographic and climatic conditions’ rather than to establish an historic reference state. The ongoing influences of the ecosystem will not allow recovery to such historic conditions, even though historic knowledge can be important in determining a suitable current baseline (e.g. knowledge of the historic presence of species in a habitat that have since been lost due to anthropogenic activities). The definition of prevailing conditions needs to focus on areas within the region which are largely free of anthropogenic pressures and account for variation in their characteristics across the region.

90. Defining reference state should therefore focus on the state of the habitat at sites which are largely free of pressures (see section 4.6 on site selection). The influences of widely dispersed pressures, such as pollution from contaminants and the presence of non-indigenous species, should be minimal at such sites. Ongoing monitoring and assessments will provide data on changes in habitat condition at these ‘reference’ sites, including the effects of natural ecosystem dynamics. To account for natural variation in both physical and biological characteristics of the habitat across the region, reference state needs to be defined specifically for each assessment area. The definition also needs to reflect the parameters and metrics being used to assess habitat condition (see section 4.7).

5.2 Threshold values⁴²

91. The setting of a quality threshold value enables an assessment of the extent (proportion) of the habitat which is in a good state (above the threshold) and in a poor state (below the threshold) in each assessment area.

92. Quality threshold values may differ between assessment areas across the Mediterranean Sea region, due to local specificities in environmental conditions which naturally influence habitat features.

93. Quality threshold values should preferably be defined on the basis of large and representative datasets for the Mediterranean region.

94. This section should be further developed once there is further agreement on the parameters and metrics to be used for each habitat type, and after testing monitoring data from across the region in the chosen indices for each habitat, noting that some quality threshold values are already defined in the IMAF monitoring guidance (UNEP/MAF, 2021g).

5.3 Integration of CI1 and CI2 to assess GES

95. Under the MSFD, specific integration rules are used to assess whether a habitat is considered to be in GES in an assessment area (TG Seabed, 2022). A similar approach is proposed for EO6 on sea-floor integrity (UNEP/MAF SPA/RAC, 2024) and, for compatibility, should also be followed for habitats under EO1.

⁴¹ FR: Ok but most important functional compartments of an ecosystem (engineer species, high level predators, primary producers, etc.) can be represented by characteristic species or group of species with a relatively more stable diversity over time.

⁴² ES: It is premature to discuss thresholds, when we don't have the habitat mapping and much less values of CI1 and CI2 indicators. In any case, with regard to CI2, estimates of the percentage of habitat adversely affected could be proposed, as is done in the MSFD. It will be more difficult in the case of CI2 quality threshold, when we do not even know the GES.

96. For CI1, a maximum extent of habitat loss in an assessment area can be set. The value adopted under the MSFD is a maximum 2% loss per MSFD broad habitat type (BHT) (European Commission, 2024)⁴³. If the metrics used for CI1 do not enable assessment of total extent (and total loss) of the habitat, then an alternative method should be developed (such as using the extent of loss at the monitoring sites as a proxy for the entire habitat in the area).

97. For CI2, several metrics are proposed for assessing habitat quality and these vary by habitat type. An integration of the metrics will determine the extent of habitat at each monitored site that is considered to be in a good state, based on the quality threshold values set for each metric.

98. For MSFD implementation of criterion D6C5 (equivalent to CI2) the maximum extent (proportion) of a habitat that can be adversely affected (impacted) has been agreed as the ‘adverse effect extent threshold’ (European Commission, 2017, 2024). Under the MSFD, a maximum of 25% of each habitat is allowed to be adversely affected; this value includes any habitat loss (as determined under criterion D6C4, equivalent to CI1).

99. Having this ‘adverse effect extent threshold’ means the habitat does not need to be in a good state across its entire distribution. Whilst a significant proportion of the habitat should be in a good state, this approach provides a balance between protection of the seabed and its continued use by human activities that may be degrading the seabed. By setting these extent threshold values (extent of loss and extent of adverse effects), a proportion of the habitat may be degraded or lost but the habitat overall can still be considered to be in GES, providing the extent of degradation remains within a specified limit (TG Seabed, 2022).

Recommendation:

Contracting Parties should set values for the maximum extent of habitat loss (for CI1) and habitat which is adversely affected per assessment area, as well as a quality threshold value (relevant for indices/indicators used) which distinguishes a habitat in good state from one in a poor state (for CI2).

Contracting Parties should consider whether the 2% loss and 25% adverse effect values adopted under the MSFD are appropriate for use under EO1 (and EO6).

Further work is needed on region-wide application of monitoring data into the indices to be used for assessment of CI2 in order to establish suitable quality threshold values (reflecting where appropriate the variation in environmental specificities across the region).

6 Summary of proposed monitoring and assessment elements

100. This report reviews a variety of key elements of the monitoring and assessment process associated with the three habitat types under EO1. The proposals should be discussed and further developed with CORMON’s OWG on benthic habitats, with a view to refining the proposals presented here. On the basis of these discussions, it may be necessary to further refine some aspects of the monitoring and assessment elements in order to provide a clear specification for Contracting Parties to use going forward. This specification will help guide monitoring and data collection in the coming 6-year period leading up to use of the data in the next MedQSR, to be prepared by 2031.

101. A summary of proposals is set out in **Table 6**.

⁴³ The Habitats Directive also defines % loss values, both within a 6-year assessment period and overall, as part of its criteria to assess Favourable Conservation Status (https://cdr.eionet.europa.eu/help/habitats_art17).

Table 6. Overview of the main aspects of monitoring and assessment elements for CI1 and CI2 for the three habitat types *Posidonia*, coralligenous and *maërl*.

Element	CI1 & CI2
Habitat types	Define more clearly each of the habitat types, including specification of which EUNIS/BC subtypes are to be considered, and the most important pressures they face
Monitoring scale: number of sites	A minimum of five sites per habitat type per assessment area (28 subdivisions of Mediterranean region) Sites to be distributed across countries within each assessment area, and represent a gradient of conditions from impacted to non-impacted locations Assess state of habitats (extent and condition) at monitoring sites as a proxy for their state across the wider assessment areas and region (to make monitoring and assessment process feasible for all Contracting Parties)
Monitoring methods: parameters	Refer to Table 5 for minimum and optimal set of parameters per habitat type.
State/impact monitoring in context of pressures	Sites selected for detailed monitoring should include a range of pressures or intensities of pressures, as well as sites which are ‘unimpacted’. Pressures (and related activities) should be reported at monitoring sites and across each country (linked to EO6), assigning data to a standardised grid system.
Assessment scale	Use same set of assessment areas (28 subdivisions of the 4 Mediterranean subregions) as proposed for EO6.
Assessment methods	Use several indicators to represent differing aspects of habitat distribution and extent (CI1) and structure and function (CI2), as given in Table 5 . The indicators need testing with data from multiple CPs to help define suitable thresholds and ensure comparability of results across the region.
Data standards	Simplify data standards to facilitate data submission and aggregation for analyses.
Baselines	Use unimpacted sites to establish the current extent and state of each habitat type in reference state (under prevailing physiographic, geographic, climatic and environmental conditions).
Quality threshold	Re-evaluate threshold once sufficient data are available to set fully meaningful threshold for the assessment area/subregion and habitat type. Ensure equivalent level of quality across assessment areas, habitats, indicators and pressures.
Extent thresholds	Set thresholds for the maximum extent of habitat loss (for CI1) and habitat which is adversely affected (for CI2) that is permitted per habitat in each assessment area.
Progress with monitoring and assessment processes	Contracting Parties should update their monitoring programmes, if necessary, based on general agreements for monitoring and assessment elements. SPA/RAC should evaluate progress in implementation of the monitoring programmes, say at a mid-point in the 6-year data collection phase. This evaluation should include the state of data submissions to the IMAP Info System and undertaking a trial region-wide assessment. Outcomes should guide further implementation of the programmes in the lead up to the next MedQSR assessment.

7 Recommendations

102. A preliminary set of recommendations is given below:

- a. Further harmonisation of the methods used by Contracting Parties is needed to ensure resulting data are comparable and support region-wide assessments of habitat status.
- b. A minimum set of parameters should be monitored in all countries, although some countries may wish to monitor additional parameters. The parameters need, as far as possible, to relate to changes caused by pressures.
- c. Use of data in indicators needs to distinguish change in habitat quality compared with natural variability. Monitoring at least two parameters/indicators offers the ability to assess different aspects of habitat health. The nature of the parameter is less important than its reproducibility, reliability and the precision of the method used for its acquisition.
- d. Support may be necessary in some countries to develop or modify their monitoring programmes. This support may be needed to establish a monitoring strategy, to identify suitable sites and for the initial set up of each monitoring site (e.g. transect and site marking). Such support could involve experts in the overall habitat monitoring and assessment process, as well as those with specific knowledge of each habitat type⁴⁴. There should be emphasis in establishing the monitoring in a consistent manner across countries, so as to ensure the data collected are harmonised and usable in subsequent region-wide assessments.
- e. Relate state to pressures – monitoring state alone, in the absence of any understanding of pressures upon each habitat, will likely reveal changes in habitat extent and condition, perhaps deterioration in one or both, but without giving indication of possible causes.
- f. There is a continued need for scientific research into the relationship between pressures and their effects on the marine ecosystem, including benthic habitats, described where possible in quantitative ways which are applicable to habitat status assessments in the Mediterranean Sea region.
- g. A mapping of pressures should be initiated. For physical damage and loss, this should build upon the datasets already available from the ETC/ICM (Korpinen et al. 2019) and link to the implementation of EO6. The resolution of the data should increase from 10 km by 10 km grid to at least 5 km by 5 km and preferably to 1 km by 1 km (noting that some source data e.g. for aggregates, oil and gas installations and anchoring, can be provided at even higher resolution and summarised to a 1 km grid). Mapping of biological and chemical pressures should use the same gridded approach (to allow cumulative pressure assessments) and draw upon data collected in implementing the other IMAE Ecological Objectives.
- h. CII – need to adopt a minimum resolution for mapping distribution, which accommodates historic data (with imprecise location data) and acknowledges some countries may not have resources to undertake detailed surveys. Suggest 1 km or 5 km grid⁴⁵.
- i. CPs to collate historic data on distribution and extent, from available scientific literature, grey literature and other sources (e.g. anecdotal public information). This should build upon the latest available maps and could be organised centrally (e.g. a literature search, questionnaires to CPs) as a starting point.
- j. CII – for extent of habitat, it seems unrealistic to expect full survey mapping to high resolution (1-5 m²) at many sites. CPs to identify selected sites for monitoring extent, choosing carefully sites which are in low-pressure and high-pressure areas, so that possible

⁴⁴ FR: For your information, in the frame of a LIFE project, Marha (Marine Habitat), we've conducted training of MPA managers to implement ecosystem-based indices. Some of them were able to implement by themselves a monitoring network on Posidonia meadow, Shallow rocky reefs and coralligenous. I've presented this work at the previous SPA/RAC Symposium in Genova back in 2022 (Astruch et al. 2022: ASTRUCH P., SCHOHN T., BELLONI B., CASSETTI O., CABRAL M., RUITTON S., MICHEZ N., MASINSKI I., HARTMANN V., BOUDOURESQUE C.F., 2022. Involving managers in the ecosystem-based assessment of marine habitats: a case study in French Catalonia. *Mediterranean Symposia on Marine Vegetation, Coralligenous, Dark Habitats, Non-Indigenous Species 19/23 September 2022, Genoa, Italy*).

⁴⁵ FR: The minimum resolution should be different according to the habitat. For example: 1 km or less could be OK for *Posidonia* and Coralligenous and 5 km for Maerl/Rhodoliths.

effects of human activities (high pressure) and climate change (low pressure) can be monitored over time.

- k. It is important to agree on a consistent format for submitting data to the IMAP information system, while defining clear methods for processing and analysing these data. A direct connection between the data collection and monitoring processes must be established to guarantee the efficiency and consistency of evaluations. In addition, it is imperative to determine the most significant types of data to be collected to ensure an accurate assessment of habitat status.
 - l. Mapping and monitoring strategies need to acknowledge the wide variation in resources and technical capabilities across the Mediterranean countries. Whilst the best practices can be highlighted and technological advances promoted, the realities of current capabilities suggest that a more modest level of ambition, that all countries could potentially achieve, should be aimed for to provide adequate data for the next MedQSR. This requires defining minimum standards to be achieved, commitment from CPs and the development of practical guides where necessary.
 - m. Additional support may be needed for some countries, such as help to establish suitable monitoring strategies and to identify monitoring sites within the context of varying pressures along the coast, initial mapping of monitoring sites (e.g. use of remote sensing to prepare fine-scale habitat maps), establishing monitoring sites (e.g. marking sites for repeat monitoring), and training in the agreed monitoring techniques. Wherever possible, the long-term sustainability of the habitat monitoring and assessment processes, and related management efforts, should be considered.
 - n. Cooperation among CPs is needed to ensure the monitoring sites in each assessment area are well distributed and represent the gradients in pressures, and that the same habitat subtypes are monitored using equivalent methods.
 - o. The development of monitoring and assessment elements described in this report is likely to need further work before it becomes fully operational (both at national level and for aggregating and analysing data for QSRs). This should be achieved through the continued involvement of the CORMON Biodiversity working group, particularly its Online Working Group on benthic habitats, helping to improve regional coordination and to strengthen synergies with other initiatives (e.g., MedPAN project for MPAs, EMODnet for seabed mapping).
103. Recommendations for data submission and management:
- a. To facilitate use of the submitted data, file names for uploaded data should be standardised and include the following information: habitat code, Contracting Party 2-letter code, year covered by the data set, date of submission YYYYMMDD (e.g. B3_ES_2018_20220912.xlsx). Datasets should cover a single year of monitoring data.
 - b. The reasons for data being non-compliant need further investigation, to identify possible causes and improve the degree of compliance with the Data Standard, or potentially to modify the Data Standard; there should be a mechanism for data providers to verify and control the data and correct any potential errors before submission.
 - c. The data portal should only show datasets that have been submitted by Contracting Parties (Compliant and Non-Compliant data sets). Draft datasets should not be visible in the data portal or downloadable by third parties; they should only become visible/accessible once submitted by the Contracting Party.
 - d. It is possible that the current status of data submissions needs updating, with some data awaiting submission. Contracting Parties who have not yet submitted data⁴⁶, or who have submitted data only for particular years, should be encouraged to submit their monitoring data.

⁴⁶ ES: Submission data spreadsheet is very complex. It should be improved with the minimum fields required and if CPs want to submit more data then could be filled in an extended version of the spreadsheet. From our experience, the file structure to compile the data is too complicated. It should be simplified as much as possible.

- e. The periodicity and timeframe for data submission should be agreed (such as an annual data submission⁴⁷ with data covering a single year per file); periodic reminders to Contracting Parties to submit their data by a specified date may be helpful.
- f. There needs to be a mechanism for Contracting Parties to report the absence of a particular habitat type in their marine waters.
- g. There is a need to report historical data which may come from scientific and other sources. Such data are unlikely to fully comply with the Data Standard but are valuable in the context of assessing CI1 to help assess the distribution and extent of each habitat.
- h. Once the assessment methods are agreed, it may be appropriate to develop modules for integrating the collected data to directly perform calculations and estimations, based on the raw data. This could facilitate countries in evaluating their own data each year, as well as contributing to the region-wide assessment process in the next QSR.
- i. To enable aggregation for regional analysis of the data from multiple CPs, the separate datasets should be downloadable as a compiled dataset (e.g. in a relational database format).

Recommendations:

The recommendations for monitoring and assessment of benthic habitats outlined in paragraph 102 and elsewhere in this report should be taken forward within the scope of the IMAP, through SPA/RAC and the Contracting Parties. SPA/RAC should be requested to develop a clear plan with timelines on how to overcome the shortcomings identified in this report so that consistent and sufficient data will become available for the next Med QSR.

Recommendations on the IMAP Info System and data submission process, outlined in paragraph 103, should be followed up via Info/RAC.

⁴⁷ The periodicity of monitoring may differ to such an annual data submission process.

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Annex I. Fact Sheets for Common Indicators CI1 and CI2

104. The Fact Sheets for Common Indicators CI1 and CI2, relevant for benthic habitats, were agreed in 2017 and are presented below (from UNEP(DEPI)/MED WG.444/6/Rev.1).

105. These Fact Sheets should be updated, where necessary, to reflect any agreements on monitoring and assessment elements from the present report. Preliminary amendments, marked in RED text, have been made following proposals by the OWG.

Common Indicator 1: Habitat distributional range (EO 1)

Indicator Title	Common Indicator 1: Habitat distributional range		
Relevant GES definition	Related Operational Objective	Proposed Target(s)	
The habitat is present in all its natural distributional range	Coastal and marine habitats are not being lost	State	Pressure
		The ratio Natural / Observed distributional range tends to 1	Decrease in the main human causes of the habitat decline
Rationale			
Justification for indicator selection The loss of habitat extent i.e. from infrastructure developments and by damage from physical activities such as trawling and possibly damage from pollution is an important factor to monitor and assess. The indicator is in principle applicable to all habitat types across the Mediterranean region and it is considered to be highly sensitive to physical pressures.			
Scientific References <i>List (author(s), year, Ref: journal, series, etc.) and url's</i> Andersen et al., 2013 ▪ Coggan, R., Populis, J., White, J., Sheehan, K., Fitzpatrick, F., Peil, S. (eds) (2007) Review of standards and protocols for seabed habitat mapping, 192pp. ▪ Coll, M., Piroddi, C., Albouy, C., Lasram, F.B.R., Cheung, W.W.L., et al. 2012. The Mediterranean Sea under siege: spatial overlap between marine biodiversity, cumulative threats and marine reserves. Glob. Ecol. Biogeogr. 21, 465–480. ▪ Giakoumi, S., Sini, M., Gerovasileiou, V., Mazon, T., Beher, J., et al. 2013. Ecoregion-based conservation planning in the Mediterranean: dealing with large-scale heterogeneity. PLoS ONE 8(10): e76449. doi:10.1371/journal.pone.0076449. ▪ Halpern, B.S., Walbridge, S., Selkoe, K.A., Kappel, C.V., Micheli, F., et al., 2008. A global map of human impact on marine and coastal ecosystems. Science 319, 948–952. ▪ Halpern, B.S., Kappel, C.V., Selkoe, K.A., Micheli, F., Ebert, C.M., et al. 2009. Mapping cumulative human impacts to California current marine and coastal ecosystems. Conserv. Lett. 2, 138–148. • Halpern, B. S., Frazier, M., Afflerbach, J., Lowndes, J. S., Micheli, F., O’Hara, C., ... & Selkoe, K. A. (2019). Recent pace of change in human impact on the world’s ocean. Scientific reports, 9(1), 11609. • Kappel, C.V., Halpern, B.S., Napoli, N., 2012. Mapping Cumulative Impacts of Human Activities on Marine and coastal ecosystems. Coastal and Marine Spatial Planning Research Report 03.NCEAS.12). Sea Plan, Boston. 109pp.			

Indicator Title	<i>Common Indicator 1: Habitat distributional range</i>
• Korpinen S., Meidinger M., Laamanen, M., 2013. Cumulative impacts on seabed habitats: An indicator for assessments of Good Environmental Status. Mar. Poll. Bull., 74: 311–319. ▪ Micheli F, Halpern BS, Walbridge S, Ciriaco S, Ferretti F, et al. 2013. Cumulative Human Impacts on Mediterranean and Black Sea Marine and coastal ecosystems: Assessing Current Pressures and Opportunities. PLoS ONE 8(12): e79889.	
Policy Context and targets (other than IMAP)	
Policy context description The CORMON Biodiversity and Fisheries Meeting (Ankara, 26-27 July 2014) recommended that loss of habitat extent is typically more important/at higher risk, with loss of distributional range only secondarily at risk.	
Indicator/Targets This indicator is an area-related indicator, i.e. proportion of the area of habitats that are permanently or for a long-lasting period lost or subject to change in habitat-type due to anthropogenic pressures. As a target, the damaged or lost area per habitat type, especially for physically defined and not biogenic habitats could be set as to not exceed an acceptable percentage of the baseline value. As an example, this target was derived from OSPAR to not exceed 15% of the baseline value and was similarly proposed by HELCOM. For habitats under protective regulations (such as those listed under the SPA/Biodiversity Protocol, EU Nature directives) the target could be set as habitat loss stable or decreasing and not greater than the baseline value. As an example, as regards the EU guidance for the assessment of conservation status under the Habitats Directive, Member States have generally adopted a 5% tolerance above the baseline to represent “stable”. However, in some cases a more stringent <1% tolerance has been attached to the maintenance of habitat extent. A list of the basic marine habitat types – at higher level – to be considered within this indicator is given below (supralittoral habitats are excluded). This list is based on the RAC/SPA Reference List of Marine and Coastal Habitat Types in the Mediterranean (see the RAC/SPA Reference List for a more detailed classification). - II.1 Mediolittoral muds, sandy muds and sands - II.2. Mediolittoral sands - II.3. Mediolittoral stones and pebbles - II.4. Mediolittoral hard beds and rocks - III.1. Infralittoral sandy muds, sands, gravels and rocks in euryhaline and eurythermal environment - III.2. Infralittoral fine sands with more or less mud - III.3. Infralittoral coarse sands with more or less mud - III.4. Infralittoral stones and pebbles - III.5. Infralittoral <i>Posidonia oceanica</i> meadows - III.6. Infralittoral biogenic and hard beds and rocks - IV.1. Circalittoral muds - IV.2. Circalittoral sands - IV.3. Circalittoral biogenic and hard beds and rocks - V.1. Bathyal muds - V.2. Bathyal sands - V.3. Bathyal biogenic and hard beds and rocks	

Indicator Title	<i>Common Indicator 1: Habitat distributional range</i>
VI.1 Abyssal muds Specific attention should be given to the types of marine habitats (defined at different levels) covered by the Updated Reference List of Marine Habitat Types for the Selection of Sites to be included in the National Inventories of Natural Sites of Conservation Interest in the Mediterranean (UNEP/MAP-RAC/SPA 2017) and EU Nature directives. Marine habitat types in <i>Annex I</i> of the EU Habitats Directive (92/43/EEC), based on MSFD Common Implementation Strategy (2012), with the exclusion of estuarine habitats, is given below: 1110 – Sandbanks which are slightly covered by sea water all the time 1120* – Posidonia beds (<i>Posidonia oceanica</i>) 1140 – Mudflats and sandflats not covered by seawater at low tide 1160 – Large shallow inlets and bays 1170 – Reefs 1180 – Submarine structures made by leaking gasses 8330 – Submerged or partially submerged sea caves * <i>Priority habitats</i>	
Policy documents <i>List and url's</i> • SPA/Biodiversity Protocol (http://www.rac-spa.org/protocol) • EU Nature directives (http://ec.europa.eu/environment/nature/info/pubs/directivesen.htm) ▪ OSPAR (http://www.ospar.org/)	
Indicator analysis methods	
Indicator Definition This area-related indicator could be described as the proportion of the area of habitats that are permanently or for a long-lasting period lost or subject to change in habitat-type due to anthropogenic pressures, and is closely linked to condition elements (i.e., if a habitat condition is sufficiently poor and irrecoverable, it is lost).	
Methodology for indicator calculation Three options have been identified for the assessment of this indicator: 1. The use of condition indices and a representative sampling and assessment in a restricted number of areas with subsequent extrapolation into the larger area 2. Modelling habitats and mapping against impacts and spatial pressure intensity data. It may also be possible to combine options 1 and 2. 3. Direct monitoring of habitats	
Indicator units The parameter/metric for the assessment of this indicator is the surface area of lost habitat for each habitat type. It is suggested to largely use cumulative impact data derived from knowledge of anthropogenic pressures.	
List of Guidance documents and protocols available • RAC/SPA Protocol for the Posidonia meadows monitoring networks⁴⁸ - update	

⁴⁸ Pergent G., 2007. Protocol for the setting up of Posidonia meadows monitoring systems. «MedPosidonia» Programme / RAC/SPA - TOTAL Corporate Foundation for Biodiversity and the Sea; Memorandum of Understanding N°21/2007/RAC/SPA_MedPosidonia Nautilus-Okianos: 24p + Annexes.

Indicator Title	<i>Common Indicator 1: Habitat distributional range</i>
• RAC/SPA Protocol for the monitoring of coralligenous community⁴⁹ - update	
Data Confidence and uncertainties The identification of habitat sites in marine areas away from the coast has to be based on more general geological, hydrological, geomorphological and biological data than is the case for coastal or terrestrial areas. Where the location of sub-littoral habitat types is not already known, they can be located in two steps using available data: (1) broad scale geophysical or oceanographic information is often available for large sea areas, and can be used as the first step in the selection of sites by helping to identify the location of potential habitats; (2) step two then involves focused information gathering or new surveys, directed to those specific areas where existing information indicates that a habitat type is present or is likely to be present. This approach is particularly useful for Contracting Parties with large sea areas and deep waters, where detailed biological information is likely to be sparsely distributed. Collation of data should involve examination of scientific archives and data from relevant academic, government, NGO, and industry stakeholders. This information can include historical charts of relevant seabed features and fishing grounds. Data regarding human activities causing habitat loss have been usually produced by projects requiring licensing procedures and Environmental Impact Assessments (e.g. wind farm constructions, sediment extraction, fish farms). Therefore, relevant data should be available to Contracting Parties. A range of activity data regarding habitat damage caused by other activities (e.g. fishing) is also available from various sources (e.g. VMS or log-book data for larger fishing vessels that undertake bottom trawling). On the basis of these data, it should then be decided on a case-by-case basis, applying a risk-based approach, where to focus monitoring/sampling efforts to validate, extrapolate or measure habitat area.	
Methodology for monitoring, temporal and spatial scope	
Available data sources <i>Sources and url's</i> UKSeaMap 2010 - predictive mapping of seabed habitats: http://jncc.defra.gov.uk/ukseamap EMODnet Seabed Habitats (EUSeaMap) project: http://jncc.defra.gov.uk/euseamap EMODnet Human Activities: http://www.emodnet.eu/human-activities Recent European projects have produced updated habitat lists and catalogues with habitat map resources (e.g. CoCoNet, NETMED, MAREA-Mediseh, MERCES).	
Spatial scope guidance and selection of monitoring stations Considering that the monitoring under IMAP should follow a risk-based approach, the reference sites to be monitored should be located in zones with infrastructure developments or significant physical activities having the potential to generate damages to the marine habitats (dredging, trawling activities, etc.). Possible damage from pollution should be also considered. For the marine areas located away from the coast, the identification of monitoring sites has to be based on general geological, hydrological, geomorphological and biological data. The monitoring programmes of each Contracting Party should cover the reference habitat in at least two monitoring areas:	

⁴⁹ RAC/SPA - UNEP/MAP, 2014. Monitoring Protocol for Reefs - Coralligenous Community. By Garrabou J, Kipson S, Kaleb S, Kruzic P, Jaklin A, Zuljevic A, Rajkovic Z, Rodic P, Jelic K, and Zupan D. Ed. RAC/SPA - MedMPAnet Project, Tunis. 35 pages + annexes.

Indicator Title	<i>Common Indicator 1: Habitat distributional range</i>	
- low pressure area (e.g. marine protected area/Specially Protected Area of Mediterranean Importance) - high pressure area from human activity		
The monitoring sites should be selected among those which can showcase the relationship between environmental pressures and their main impacts on the marine environment.		
Temporal Scope guidance		
Consistent scales and methods will be necessary for mapping a given habitat in a sub-region. The time of sampling should be synchronised for a sub-region so as to standardize the influence of seasonal, inter-annual or climate-related changes on results depending on the habitat type (yes for <i>Posidonia</i> , but not relevant for Coralligenous and Maërl). Intervals of 3-6 years are probably appropriate when non-invasive surveys (e.g. side scan sonar, video) or models (to be validated by optimized sampling) are used for mapping.		
Data analysis and assessment outputs		
Statistical analysis and basis for aggregation		
No statistical analyses are needed for this assessment.		
Expected assessments outputs		
<i>I.e. trend analysis, distribution maps etc, and methods used</i>		
In general terms, the following steps should be part of the indicator's assessment:		
• Generate maps of the marine habitats in each Contracting Party's marine areas; • Attribute a specific sensitivity to physical pressures to different habitat types; • Collate spatial and temporal pressure intensity data (e.g. VMS or log book data for fisheries, activity data from approved plans and projects); • If vulnerability is addressed in the first three points, deduce impacts from either (i) known pressure/impact relationships, using reference sites and risk-based monitoring of selected stations (link to condition indices), or (ii) mapping cumulative impact models (with ground-truthing); • If vulnerabilities are not addressed in first three points, derive measures of habitat extent; • Determine whether the target is reached (i.e. proportion of lost or damaged area, related to total area the habitat type, above which GES is not achieved).		
Known gaps and uncertainties in the Mediterranean		
Information sources on the distribution of habitats are substantially greater for the northern than the southern coasts of the Mediterranean Sea.		
Contacts and version Date		
Key contacts within UNEP for further information		
Version No	Date	Author
V.1	20/07/2016	SPA/RAC
V.2	14/04/2017	SPA/RAC

Common Indicator 2: Condition of the habitat's typical species and communities (EO 1)

Indicator Title	<i>Common indicator 2: Condition of the habitat's typical species and communities</i>	
Relevant GES definition	Related Operational Objective	Proposed Target(s)
The population size and density of the habitat-defining species, and species composition of the community, are within reference conditions ensuring the long-term maintenance of the habitat	Coastal and marine habitats are not being lost	State: - No human induced significant deviation of population abundance and density from reference conditions -The species composition shows a positive trend towards reference condition over an increasing proportion of the habitat (for recovering habitats)
Rationale		
Justification for indicator selection The concept of “typical species” emerges from the conservation status of natural habitats to their long-term natural distribution, structure and functions, as well as to the long-term persistence of their typical species within the territory. Therefore, typical species composition should be near/close to natural conditions for their habitat to be considered in natural condition.		
Scientific References <i>List (author(s), year, Ref: journal, series, etc.) and url's</i> • Pérès JM, Picard J (1964) Nouveau manuel de Bionomie benthique de la Mer Méditerranée. Recueil des Travaux de la Stations Marine d'Endoume, 47: 3-137. • Templado, J., Ballesteros, E., Galparsoro, I., Borja, A., Serrano, A., Marín, L., Brito, A., 2012. Inventario español de Hábitats y Especies Marinos. Guía Interpretativa: Inventario Español de Hábitats Marinos. Ministerio de Agricultura, Alimentación y Medio Ambiente. 229 pp. • UNEP/MAP-RAC/SPA, 2015. Handbook for interpreting types of marine habitat for the selection of sites to be included in the national inventories of natural sites of conservation interest. Bellan-Santini, D., Bellan, G., Bitar, G., Harmelin J-G., Pergent, G. Ed. RAC/SPA, Tunis. 168 pp. + Annexes (Orig. pub. 2002). • UNEP-MAP-RAC/SPA, 2019. Updated Reference List of Marine Habitat Types for the Selection of Sites to be included in the National Inventories of Natural Sites of Conservation Interest in the Mediterranean. Ed. RAC/SPA, Tunis.		
Policy Context and targets (other than IMA)		
Policy context description Typical species have already been identified by several Contracting Parties for listed habitat types to fulfil the assessment requirements under the Habitats Directive. Additionally, the coastal area out to 1 nautical mile offshore has already been covered by these Contracting Parties under the Water Framework Directive ⁵⁰ . Therefore, the indicator is available for considerable benthic		

⁵⁰ FR: I don't see the link between WFD and listing typical species.

Indicator Title	<i>Common indicator 2: Condition of the habitat's typical species and communities</i>
	habitats within these areas and is already covered by monitoring efforts and has been assessed using appropriate metrics. Soft-bottom benthic invertebrates and seagrasses⁵¹ are traditionally used in the Mediterranean Sea for environmental quality assessment and several indices have already been widely applied by Mediterranean Contracting Parties, Member States of the EU and compared in the framework of the Mediterranean Geographical Intercalibration Group of the EU Water Framework Directive (MED GIG), while two indices have also been based on macroalgae⁵² and compared in the framework of MED GIG. Already in 2009, the Meeting of UNEP/MAP MED POL experts on Biological Quality Elements (UNEP/DEPI/MED WG. 342/3) recommended the application of benthic indices developed and tested under the Water Framework Directive for use by all Contracting Parties, despite not assessing the habitats at ecosystem scale (but only a proxy of the water quality). Recent European projects have focused on MSFD indicators and monitoring aspects for various habitats (e.g. DEVOTES, PERSEUS, IRIS-SES). To this end, the 2015 PERSEUS Project specific training course targeting Southern Mediterranean countries could be utilized.
	Indicator/Targets In order to assess the state/condition of a habitat (i.e. its typical species composition and their relative abundance, absence or particularly sensitive or fragile species or species providing a key function, size structure of species), the Contracting Parties need to define lists of typical and/or characteristic species (or groups of species) and to set targets to determine their presence. It is also important to compile typical species lists consistently per biogeographical region, to allow for the consistent assessment of state/condition. Typical species composition includes both macrozoobenthos and macrophytes, depending on the type of habitat (i.e. macrophytes do not occur in aphotic habitats). Long-lived species and species with high structuring or functional value for the community should preferably be included; however, the typical species list might also contain small, short-lived species if they characteristically occur in the habitat under natural conditions. The general target of this indicator is to reach a ratio of typical and/or characteristic species similar to baseline conditions as defined above, for all considered habitats. With regard to plankton communities, a recommended target might be: "Plankton community not significantly influenced by anthropogenic drivers". This target allows unmanageable climate change but triggers management action if linked to an anthropogenic pressure and could be used with all datasets across all Contracting Parties. Monitoring of important pelagic habitats should be considered in the future.
	Policy documents <i>List and url's</i> UNEP/DEPI/MED WG. 342/3 http://www.unepmap.org/index.php http://195.97.36.231/dbases/MEETING_DOCUMENTS/09WG342_3_eng.pdf EU Water Framework Directive (MED GIG) http://ec.europa.eu/environment/water/water-framework/index_en.html http://publications.jrc.ec.europa.eu/repository/bitstream/111111111/10473/1/3010_08-volumecoast.pdf
	Indicator analysis methods

⁵¹ FR: Precise which index? I guess M-AMBI and PREI/BiPO? Then add the corresponding citations? Borja et al. ; Gobert et al., 2009; Lopez y Royo et al., 2010).

⁵² FR: Which ones? Probably CARLIT? Ballesteros et al., 2007.

Indicator Title	<i>Common indicator 2: Condition of the habitat's typical species and communities</i>
Indicator Definition This indicator should be implemented as a state condition indicator, with respect to baseline conditions, by using a list of typical and/or characteristic species in the communities of different habitats per sub-region.	
Methodology for indicator calculation⁵³ The calculation of this indicator involves simple comparison of typical and/or characteristic species (or groups of species) per habitat and sub-region with respect to baseline conditions, for all considered communities. Within this process, an acceptable deviation from baseline conditions would need to be defined. This deviation might be implemented by setting a certain percentage value to define GES. However, for baseline setting, the use of current state might be inappropriate if the considered habitats actually underlie high human pressure and no reference sites are available. The definition of a reference state of Mediterranean Sea habitats may be problematic and the use of past state may be more appropriate⁵⁴. This cut-off value has to be habitat-specific and regionally adapted in view of the natural variability of species composition by habitat type and bioregion. The required methods and effort strongly depend on the habitat type (and selected species) to be addressed. Detailed overviews presenting the basic guidelines and methodologies for the inventorying and monitoring of various Mediterranean key habitats (seagrass meadows, coralligenous and rhodolith beds and “dark habitats”, i.e. marine caves and deep-sea assemblages) have been recently produced by UNEP/MAP-RAC/SPA in the framework of MedKeyHabitats project. Large attached epibenthic species on hard substrates are preferably monitored using optical, non-destructive methods, such as underwater-video while endobenthic communities are sampled using standardized grabs or corers, which are commonly used in marine monitoring programmes. Several specific benthic biotic indices have been developed and have become operational, in particular to fulfil MED GIG requirements. They are all well methodologically defined but the way to combine these parameters in sensitivity/tolerance classification or depending on structural, functional and physiological attributes is heterogeneous, depending on the issue (pressure type), habitat types or sub-region. Qualified personnel, in particular experienced taxonomists, are required for both field and laboratory work to guarantee quality in sampling accuracy, consistency of data over time, meaningful data analyses and interpretation of the results. The following resources are usually required for the calculation of this indicator: • Research vessels, suited to work from sublittoral to bathyal zones, depending on the sub-region;	

⁵³ FR: I find it challenging to consider a similar approach for all habitats, particularly by considering typical species. Here, the functional aspects should be evoked: Characteristic species of the main functional compartments of the ecosystem (e.g., filter-feeders, detritivores, herbivores, primary producers...). This is more a common denominator to all habitats and fitting with the EcAp.

⁵⁴ FR: Considering a past state as reference can be tricky knowing that the current climate change will impede habitats to turn back to past states. Reference to reach should be the appropriate state in terms of Ecosystem services expected (fish resources, primary production, carbon sink, etc.) which must be defined through management goals (different between each Mediterranean subregion).

Indicator Title	<i>Common indicator 2: Condition of the habitat's typical species and communities</i>
	• Scuba diving sampling to infralittoral and upper circalittoral (0-50 m depth) • Adequate equipment (box core samplers, grabs, dredges, underwater camera systems, etc.) for sample collection from intertidal to bathyal zones; • Laboratory infrastructure to analyse samples (e.g. microscopes, weighing scales). • Qualified personnel for data processing, analysis and interpretation. • Good taxonomy skills are essential for the adequate assessment of this indicator.
Indicator units	This indicator could be calculated as a ratio of typical and/or characteristic species for every habitat type with respect to baseline conditions for this sub-region. Within this process, an acceptable deviation from baseline conditions should be defined. This cut-off value has to be habitat-specific and regionally adapted in view of the natural variability of species composition by habitat type and bioregion. Furthermore, several specific well-defined benthic biotic indices have been developed and have become operational. The selection of the relevant parameters and the development of metrics strongly depend on the selected habitat.
List of Guidance documents and protocols available	• Lepidochronology and phenology protocols for <i>Posidonia oceanica</i>⁵⁵ • ISO 16665: 2014 Guidelines for quantitative sampling and sample processing of marine soft-bottom macrofauna (http://www.iso.org/iso/catalogue_detail.htm?csnumber=54846) These guidelines provide standard methodology for collection and processing of subtidal soft-bottom macrofaunal samples in marine waters, in particular: • the development of the sampling programme; • the requirements for sampling equipment; • sampling and sample treatment in the field; • sorting and species identification; • storage of collected and processed material. • ISO 19493: 2007 Guidance for marine biological surveys of supralittoral, eulittoral and sublittoral hard substrate for environmental impact assessment and monitoring in coastal areas (http://www.iso.org/iso/cataloguedetail.htm?csnumber=39107): It covers: • the development of the sampling programme, • survey methods, • species identification, • storage of data and collected material
Data Confidence and uncertainties	For baseline setting of GES per habitat type, the use of current state might be inappropriate if the habitats actually underlie high human pressure and no reference sites are available. The use of past state may be more appropriate, as the definition of a reference state of Mediterranean Sea habitats may be problematic. In order to verify comparability and reproducibility, (a) descriptions of the followed methodology should be provided, and (b) biogeographic regions with common species compositions per habitat must be identified in advance.
Methodology for monitoring, temporal and spatial scope	

⁵⁵ Pergent G., 2007. Protocol for the setting up of Posidonia meadows monitoring systems. «MedPosidonia» Programme / RAC/SPA - TOTAL Corporate Foundation for Biodiversity and the Sea; Memorandum of Understanding N°21/2007/RAC/SPAMedPosidonia Nautilus-Okianos: 24p + Annexes.

Indicator Title	<i>Common indicator 2: Condition of the habitat's typical species and communities</i>
Scientific literature <i>Sources and url's</i> The monitoring techniques depend on the species to monitor and the related habitat. Non-destructive optical methods are recommended for the monitoring of large benthic species such as epibenthic species on hard substrates, while endobenthic species can be monitored using standardized grabs, drill sampling or corers. As far as possible, monitoring activities should be non-invasive/non-destructive. • UNEP/MAP-RAC/SPA, 2015. Guidelines for Standardization of Mapping and Monitoring Methods of Marine Magnoliophyta in the Mediterranean. Pergent-Martini, C., Ed., RAC/SPA publ., Tunis: 48 p. + Annexes. • UNEP-MAP-RAC/SPA, 2015. Standard methods for inventorying and monitoring coralligenous and rhodoliths assemblages. Pergent, G., Agnesi, S., Antonoli, P.A., Babbini, L., Belbacha, S., Ben Mustapha, K., Bianchi, C.N., Bitar, G., Cocito, S., Deter, J., Garrabou, J., Harmelin, J-G., Hollon, F., Mo, G., Montefalcone, M., Morri, C., Parravicini, V., Peirano, A., Ramos-Espla, A., Relini, G., Sartoretto, S., Semroud, R., Tunesi, L., Verlaque, M. Ed. RAC/SPA, Tunis. 20 pp. + Annex. • UNEP-MAP-RAC/SPA, 2017. Draft Guidelines for Inventorying and Monitoring Dark Habitats. Aguilar, R., Pilar, M., Gerovasileiou, V. and contributors. Ed. RAC/SPA, Tunis. in press. • Zamboukas, N., Palialexis, A. (eds.), Duffek, A., Graveland, J., Giorgi, G., Hagebro, C., Hanke, G., Korpinen, S., Tasker, M., Tornero, V., Abaza, V., Battaglia, P., Caparis, M., Dekeling, R., Vegas, M. F., Haarich, M., Katsanevakis, S., Klein, H., Krzyminski, W., Laamanen, M., Jean, L.G., Leppänen, J.-M., Urmaz, L. 2014. Technical guidance on monitoring for the marine strategy framework directive. Luxembourg, European Union. 166 p. JRC Scientific and Policy Reports; 2014, 26499 EN.	
Spatial scope guidance and selection of monitoring stations This indicator is applicable in all regions provided that typical and/or characteristic species lists, including both macrozoobenthos and macrophytes, will be developed for every type of habitat, at a sub-regional scale (or bioregion within each sub-region). Benthic biotic indices are also conceptually applicable in all sub-regions but appropriate adjustments might be still needed to cover biogeographic heterogeneity.	
Temporal Scope guidance Natural variability in species composition in space and time must be considered for this indicator and the list of typical and/or characteristic species must be defined and updated every 6 years per habitat type in particular geographic areas. The ideal temporal scale for this indicator is once per year while the minimum required sampling frequency is at least twice per period of 6 years.	
Data analysis and assessment outputs	
Statistical analysis and basis for aggregation Data analysis for this indicator involved simple comparison of typical and/or characteristic species with respect to baseline conditions for the considered habitat in a given region. A number of tools and software have been developed for the calculation of benthic biotic indices.	
Expected assessments outputs Assessments outputs for this indicator include (1) a list of typical and/or characteristic species per habitat of a given region, recorded following a well-described methodology and/or values of the appropriate benthic biotic indices for the considered habitats and (2) comparison with baseline/past data to indicate trends in the habitat conditions/state.	

Indicator Title	<i>Common indicator 2: Condition of the habitat’s typical species and communities</i>	
Known gaps and uncertainties in the Mediterranean Information about the typical and/or characteristic species of some habitats and their past state/conditions is often unavailable for southern and eastern sub-regions of the Mediterranean. The limited data availability may restrict the number of habitats that can be assessed with sufficient statistical confidence at present. Although benthic biotic indices are conceptually applicable in all sub-regions, adjustments might be required in order to cover biogeographic heterogeneity.		
Contacts and version Date		
Key contacts within UNEP for further information		
Version No	Date	Author
V.1	20/07/2016	SPA/RAC
V.2	14/04/2017	SPA/RAC

Annex II. Summary of currently used monitoring and assessment elements for CI1 and CI2

106. Garrabou & Kipson (2023) provide an overview of the current state of implementation of CI1 and CI2. The situation for each of the three habitat types considered in this report is presented below as ‘Habitat Templates’, reproduced from Annex V in UNEP/MED WG.547/11. Some amendments to these templates by the OWG in early 2025 are shown in dark red text.

***Posidonia oceanica* meadow (MB2.54)**

Short description of the habitat

107. This biogenic habitat is created by the ecosystem engineer species, the endemic seagrass *Posidonia oceanica*. It is the only Mediterranean seagrass able to build a “matte”, a monumental construction resulting from horizontal and vertical growth of rhizomes with entangled roots and entrapped sediment (Boudouresque *et al.* 2006). *Posidonia* meadows occur between the sea surface and 40 m depth, depending on the water transparency, and can be commonly found on different types of substrate, from sandy bottoms to rocks. *P. oceanica* beds are considered the Mediterranean biodiversity hotspots providing crucial ecosystem services such as primary production, oxygen release, sediment retention and hydrodynamics attenuation as well as carbon fixation and sequestration. Moreover, they serve as nurseries for numerous marine species, including the ones of commercial interest (Vassallo *et al.* 2013 and references therein). Rare sexual reproduction and slow horizontal growth of rhizome edges prevent rapid recolonization of degraded or new forming beds. Pressures to this habitat include the impacts of boat anchoring, trawling, coastal development, turbidity, invasive species, eutrophication and pollution. Moreover, climate change poses an additional threat to this habitat through the impact of marine heatwaves, sea level rise and increased frequency of the extreme weather events (Gubbay *et al.* 2016).

Contracting parties (CPs) indicating IMAP monitoring activities in the habitat

108. Fourteen contracting parties namely Albania, Algeria, Croatia, Cyprus, Egypt, France, Greece, Italy, Malta, Montenegro, Slovenia, Spain, Tunisia and Türkiye.

General comment on the CI1 and CI2 IMAP implementation on the habitat

109. Related to CI1, 8 CPs have a clearly ongoing monitoring programme, 2 CPs are planning it and the current status of implementation is unknown for 5 CPs. Related to CI2, 11 CPs have a clearly ongoing monitoring programme whereas the status of implementation is unknown for 3 CPs. Considering that *Posidonia oceanica* cannot be assessed in 3 CPs (Israel, Lebanon and Syria) because it is not present there (Telesca *et al.* 2015), this habitat is among the most often monitored ones at the Mediterranean level.

Implementation features CI1

- Scales of Monitoring:

Scale	Range	Comments
Spatial	Not indicated	
Temporal	Mainly every 3 years ⁵⁶	

▪ Metrics:

110. Habitat area/extent

▪ Assessment criteria and thresholds:

111. The assessment criteria may be identified as the extent of loss of the habitat type, resulting from anthropogenic pressures /physical disturbance.

112. To date, no Contracting Party has established the maximum allowable extent of habitat lost or disturbed as a proportion of the total natural extent of this biogenic habitat type in the assessment area (which should take into account regional or sub-regional specificities).

▪ Baselines:

113. Operational habitat mapping baselines are available in almost all CPs monitoring Posidonia meadows (no evidence for Egypt). However, they are rarely completed at the national level but are available for certain locations/areas; sometimes also historical baseline is available (e.g. France, Italy, some areas in Tunisia). The EU Member states have the obligation to report on Posidonia habitat range and extent in the scope of the Habitat Directive, however the quality of data varies from extrapolations to detailed habitat mapping at the national level (e.g. in Slovenia).

Implementation features CI2

▪ Scales of Monitoring:

Scale	Range	Comments
Spatial	1-10 sites (7 CPs), 11-50 sites (3 CPs), 51-100 sites (1 CP - France)	Not defined for 3 CPs with ongoing or planned monitoring
Temporal	Every 2-3 years (7 CPs), every 1 year (2CPs), every 3-6 years (1 CP)	Not defined for 4 CPs with ongoing or planned monitoring

▪ Metrics:

Country	Metrics
Albania	modified POMI index; Population level descriptors (meadow characteristics): Depth of upper and lower limits, Shoot density, Meadow cover % living patches, Dead-matte cover %, Plagiotropic rhizomes; Individual level descriptors: Leaf morphometry (number and type of leaves, leaf width and length), Shoot foliar surface (length and width of leaves), Necrosis on leaves, State of the apex or Coefficient A % of broken leaves (without apex) per shoot, Foliar production, Rhizome production, Biomass of epiphytes
Algeria	distributional limits, density, percent cover, mean size, associated flora and fauna

⁵⁶ EL: 3 years are usually too soon except for cases of abrupt loss. In Greece, we aim to assess the loss during the current cycle of the MSFD i.e., 5 years.

Country	Metrics
Croatia	POMI — <i>Posidonia oceanica</i> Multivariate Index (POMI9: Shoot density, Leaves surface, percentage foliar necrosis, meadow cover, N content in epiphytes, sucrose content in rhizomes, δ 15N and δ 34S isotopic ratio in rhizomes, Pb content in rhizomes)
Cyprus	PREI — <i>Posidonia oceanica</i> Rapid Easy Index; Angiosperms Population abundance - coverage and shoot density, biomass, leaf surface area per shoot, epiphyte biomass,
Egypt	species composition, population abundance of selected species: population size (number of individuals), population density (number of individuals / unit area), breeding season, migration patterns, body size, age structure, sex ratio, fecundity and mortality of selected species
France	PREI — <i>Posidonia oceanica</i> Rapid Easy Index (Gobert <i>et al.</i> 2009; used in the frame of the Water Framework Directive): leaf surface, shoot density, mapping of the depth limit (typology of depth limit and condition of shoot), epiphyte biomass. EBQI - Ecosystem-based quality index (used in the frame of MPA management); Mapping of depth limit of the <i>P. oceanica</i> meadows (Typology of depth limit and condition of shoots). Shoot density, leaf biomass number of leaves per shoot Leaf surface Epiphytic cover on leaves Morphometry (length) of leaves Quantification of 13 <i>P. oceanica</i> components (EBQI; Personnic <i>et al.</i> , 2014); certain parameters remain to be determined BIPO - Biotic index using <i>Posidonia oceanica</i> (Lopez y Royo <i>et al.</i> , 2010) used in the frame of the MSFD): leaf surface, shoot density, mapping of the depth limit (typology of depth limit and condition of shoot).
Greece	Biotic index (Weighted <i>Posidonia oceanica</i> Index - WePOSI), Ecosystem-based indexes (e.g., EBQI), Synthetic indexes (e.g., CI, PSI, SI ⁵⁷). Metrics in different levels of biological organization (biogeochemical to community): Depth and Type of lower limit. %, Dead matte cover %, Plagiotropic Shoots %, Shoot characteristics (e.g., number of leaves per shoot, leaf length), Shoot biomass, Associated fauna and flora (e.g. Epiphytic biomass) incl. other seagrasses or invasive algae; Habitat extent/loss, Extent of adverse effects on the condition of a habitat. Abundance of habitat type, Habitat quality - ecological quality status.
Italy	PREI — <i>Posidonia oceanica</i> Rapid Easy Index; meadow composition, continuity, shoot density; % coverage alive <i>Posidonia</i> , matte mort, other seagrasses or invasive algae; flowering events, lepidochronological measures, shoot morphometry, biomass, sources of disturbances; at lower limit: depth and type of limit, % of plagiotropic shoots
Malta	PREI — <i>Posidonia oceanica</i> Rapid Easy Index
Montenegro	modified POMI; lower limit type, shoot density, coverage of live plants and dead matte, lower and upper limit depth
Slovenia	Shoot density, coverage
Spain	POMI — <i>Posidonia oceanica</i> Multivariate Index and Valencian CS; Shoot density (ABU) Meadow cover (ABU-REL) % Invasive species, opportunistic species (ABU-REL) Number of individuals of <i>Pinna nobilis</i> and other habitat-typical species such as echinoderms) (ABU) % N, % P, metals and isotopic nitrogen in biota (CONC-B-OT) Maximum depth of the upper and deep habitat boundaries (DIST-DEPTH) Position of upper and deep habitat boundaries; accurate and reliable mapping information available (EXT) Position of geographical distribution boundaries (DIST-R)

⁵⁷ FR: Also the PREI is applied for WFD purpose (to check with Vasilis Gerakaris or Eugenia Apostolaki)

Country	Metrics
Tunisia	not indicated
Türkiye	Ecologic Evaluation Index (EEI), species richness, coverage, shoot density

114. Synthesis of the metrics/descriptors used by different ecological indices to evaluate the status of the “seagrass” (*P. oceanica*) biological quality element may be found in an overview provided by UNEP-MAP (2020).

▪ Assessment criteria and thresholds

Assessment criteria	Thresholds					Comments
	HIGH	GOOD	MODERATE	POOR	BAD	
EQR derived from POMI	0.775–1	0.550–0.774	0.325–0.549	0.1–0.324	0–0.1	Romero <i>et al.</i> 2007, Benett <i>et al.</i> 2011
EQR derived from PREI	0.775–1	0.55–0.774	0.325–0.549	0.100–0.324	0–0.1	Gobert <i>et al.</i> 2009
EQR derived from EBQI ⁵⁸	≥7.5	≥6 - 7.5	≥ 4.5 - 6	≥ 3.5 - 4.5	<3.5	Personnic <i>et al.</i> 2014
EQR derived from Valencian CS	0.775–1	0.55–0.774	0.325–0.549	0.100–0.324	0–0.1	Fernandez-Torquemada <i>et al.</i> 2008
Posidonia shoot density (N shoots/m ²)	> 750	749–500	499–250	249–50	< 50	Lipej <i>et al.</i> 2018
EQR derived from WePOSI	0.775–1	0.550–0.774	0.325–0.549	0.100–0.324	0–0.100	Gerakaris <i>et al.</i> 2021

▪ Baselines:

115. Except Egypt for which no information on availability of baselines could be retrieved, the operational baselines are available for all CPs with ongoing or planned monitoring of this habitat type. Occasionally, historical baselines are also available, e.g. for Italy, France and certain parts of Tunisia (e.g. Gulf of Gabes, De Gaillande 1970 cited in El Zrelli *et al.* 2020).

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⁵⁸ EL: EBQI values are not considered as EQR values.

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Coralligenous cliffs (MC1.51) & Coralligenous platforms (MC2.51)

Short description of the habitat

116. Coralligenous habitats are hard bottoms of biogenic origin dwelling in dim light conditions, mainly in the circalittoral zone between 20-200 m depth. The coralligenous is produced by the accumulation of calcareous encrusting algae and other macroinvertebrates that consolidate the biogenic structures while the physical and biological erosion causes the partial destruction of the “coralligenous buildings”. The result of these two opposite processes is always a very complex structure providing contrasted environmental conditions in terms of light, water movement, sedimentation rate and other. This complex habitat allows the development of several kinds of communities including those dominated by living algae (on the upper part of the concretions), suspension feeders (upper and lower part of the concretions, wall cavities, and overhangs of the build-up), borers (inside the concretions), and even soft-bottom fauna (in the sediment deposited in cavities and holes), finally a rich fish community and mobile invertebrates (Ballesteros 2006). In fact, the coralligenous habitats, with more than 1600 species, are considered one of the Mediterranean biodiversity hot spots. These habitats provide commercial fishing grounds for fish and Decapoda species, sources of bioactive compounds for the medical and industrial uses and areas for the development of recreational diving activities. Commercial trawling fisheries, climate change, invasive species, chemical pollution by organic matter and excess nutrients are the major threats identified for these habitats (Gubbay *et al.* 2016).

Contracting parties (CPs) indicating IMAP monitoring activities in the habitat

117. Twelve contracting parties namely Albania, Algeria, Croatia, Egypt, France, Italy, Lebanon, Montenegro, Morocco, Spain, Tunisia and Türkiye.

General comment on the CI1 and CI2 IMAP implementation on the habitat

118. Related to CI1, 3 CPs have a clearly ongoing monitoring programme for this habitat, 5 CPs are in the planning phase, whereas implementation status is currently unknown for 4 CPs. Related to CI2, 5 CPs have a clearly ongoing monitoring programme to assess this habitat, 5 CPs are in the planning phase, whereas implementation status is currently unknown for 2 CPs.

Implementation features CI1

▪ Scales of Monitoring:

Scale	Range	Comments
Spatial	1-10 sites (3 CPs)	Not defined for 75 % of CPs monitoring this habitat

Temporal	Every 3 years ⁵⁹	Not defined for 58 % of CPs monitoring this habitat
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▪ Metrics:

119. Habitat area/extent

▪ Assessment criteria and thresholds:

120. The assessment criteria may be identified as the extent of loss of the habitat type, resulting from anthropogenic pressures /physical disturbance.

121. To date, no Contracting Party has established the maximum allowable extent of habitat lost or disturbed as a proportion of the total natural extent of this biogenic habitat type in the assessment area (which should take into account regional or subregional specificities).

▪ Baselines:

122. The existence of operational baselines on habitat extent in certain areas are indicated as available for 5 CPs (42%). Considering the EU Member states, the data on range and extent of coralligenous habitat are often not readily available due to their inclusion in a broad habitat type “1170 Reefs” and reported as such for the purpose of the EU Habitat Directive.

Implementation features CI2

▪ Scales of Monitoring:

Scale	Range	Comments
Spatial	1-10 sites (7 CPs), 101-250 sites (2 CPs - Italy & France), 11-50 sites (1 CP - initially planned in Croatia), 50-60 sites (Spain)	
Temporal	2-3 years (6 CPs), every year (2 CPs), every 4-5 years (2 CPs)	Not defined for 2 CPs

▪ Metrics:

Country	Metrics
Albania	Structural and functional parameters: Species/Categories composition/abundance (semi or quantitative data), Indicators on the degree of complexity of coralligenous habitats, Indicators on coralligenous functioning: bioeroders and bioconstructors, Qualitative, semi- and quantitative indicators on the impacts of different disturbances on coralligenous communities (e.g. presence of fishing nets, invasive species, sedimentation, high diving pressure)
Algeria	Typical or sensitive species biomass, population structure, density, volume, growth and mortality rate, occupation rate
Croatia	% of necrosis and epibiosis of gorgonians, % cover of sediment, % cover of the conspicuous taxa/morphological groups including invasive algae, alpha and beta diversity
Egypt	Species composition, population abundance of selected species: population size (number of individuals), population density (number of individuals /unit area), breeding season, migration patterns, body size, age structure, sex ratio, fecundity and mortality of selected species

⁵⁹ ES: In Spain we are generally getting data every 5-6 years under the MSFD.

Country	Metrics
France	Three-dimensional structure of the habitat; Abundance of macrofauna and megafauna species; Specific richness of macrofauna and megafauna; % Cover of sessile fauna ⁶⁰
Italy	Sediment characteristics, Species richness of macrofauna and megafauna; abundance, morphometry (height), % of epibiosis, % of necrosis, vulnerability of structuring species (entanglement); Multi-parametric index Mesophotic Assemblages Conservation Status (MACS)
Lebanon	Relative abundance (three levels of semiquantitative value are used: 1 = rare, 2 = common and 3 = abundant), dominance or frequency, specific richness, diversity indices, equitability, Margalef index/nb. habitats, vulnerability, heritage value, aesthetic value, economic importance, rarity, naturalness index and environmental value
Montenegro	no. of megabenthic species, cover of basal layer, density of erect species, height of dominant erect species, % necrosis, and litter density; If identified, red coral presence and abundance; MAES index
Morocco	Recovery rates of typical species (in particular of <i>Paramuricea clavata</i> , <i>Corallium rubrum</i> and <i>Astroides calycularis</i>), bleaching events, biometry of <i>Corallium rubrum</i>
Spain ⁶¹	Abundance (number of individuals for each megafauna taxa, generally >3cm; ABU) Relative abundance (ABU-REL) Depth (BATH) Biomass (BIOM) Spatial distribution (DIST-S) Sediment characteristics (HAB-STRUCT) Hydrography of the habitat (HYDRO) Species composition (SPP-C) Size (SIZE-D)
Tunisia	Not indicated
Türkiye	Coverage of groups and species diversity indices, TUBI

123. For the list of descriptors/metrics used to calculate ecological indices mostly adopted in the regional/national monitoring programs to evaluate environmental quality of shallow (down to 40 m depth) and deep (40-120 m depth) coralligenous habitat consult UNEP MAP (2020; in particular Table 5 and 6).

▪ Assessment criteria and thresholds

Assessment criteria	Thresholds					Comments
EQR derived from:	HIGH	GOOD	MODERATE	POOR	BAD	
MACS	≥66	56 to 65	46 to 55	36 to 45	≤35	Enrichetti <i>et al.</i> 2019
CBQI	10 to 12	7 to 9	4 to 6	N/A	0 to 3	Ferrigno <i>et al.</i> 2017
MAES	N/A	15 to 18	10 to 14	N/A	6 to 9	Canovas-Molina <i>et al.</i> 2016

⁶⁰ FR: Dataset on EBQI at French Med scale should be available following LIFE Marha programme deliverables (Astruch *et al.*, under review).

⁶¹ ES: It is important to know in detail how other CPs are measuring these parameters and the pressures. Main pressures affecting the Coralligenous habitats in Spain could be linked to Long line-purse nets-traps activity, scuba diving, eutrophication, climate change and invasive species. We still have to get detailed and quantitative information on how are these pressures affecting the habitats (e.g. changes in the complexity?, in the species composition? in the growth of key-structuring species?) it is imperative to determine the most significant types of data to be collected to ensure an accurate assessment of habitat status. Develop a long-term financing plan to ensure the sustainability of habitat monitoring and management efforts beyond short-term funding, for example by setting up funds dedicated to the preservation of marine ecosystems.

Assessment criteria	Thresholds					Comments
EQR derived from:	HIGH	GOOD	MODERATE	POOR	BAD	
q-MAES	N/A	10 to 12	7 to 9	N/A	4 to 6	Canovas-Molina et al. 2016
INDEX-COR	≥ 80	60 to 80	40 to 60	20 to 40	< 20	Sartoretto et al. 2017
COARSE	N/A	2 to 3	1 to 2	N/A	≤ 1	Gatti et al. 2015
ESCA	≥ 0.8	0.6 to 0.8	0.4 to 0.6	0.2 to 0.4	< 0.2	Piazzzi et al. 2017
ISLA	≥ 0.8	0.6 to 0.8	0.4 to 0.6	0.2 to 0.4	< 0.2	Montefalcone et al. 2017
CAI	0.75 to 1	0.60 to 0.75	0.40 to 0.60	0.25 to 0.40	0 to 0.25	Deter et al. 2012
Cor-EBQI	7.5 to 10	6 to 7.5	4.5 to 6	3.5 to 4.5	0 to 3.5	Ruitton et al., 2014; Astruch et al., under review

▪ Baselines:

124. The availability of operational baselines relevant to CI2 is indicated by 58% of CPs which are monitoring this habitat type.

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Coastal detritic bottoms with rhodoliths (MC3.52)

Short description of the habitat

125. ‘Rhodolith beds’ are sedimentary bottoms characterised by any morphology and species of unattached non-geniculate calcareous red algae (incompletely-coated grains excluded) with >10% of live cover. The name “maërl” refers to those rhodolith beds that are composed of non-nucleated, unattached growths of branching, twig-like coralline algae (Basso *et al.* 2016). Rhodolith beds occur in coarse clean sediments of gravels, clean sands and coastal detritic areas under the influence of bottom currents, which occur either on the open coast or in tide-swept channels of marine inlets (the latter often stony). In the Mediterranean, they may be found between 20-150 m depth and are characterised by different dominant species, probably in relation to biogeography and local environmental conditions. Rhodolith beds are known to be hot-spots of biodiversity, hosting a highly diverse invertebrate community. Moreover, they are amongst the Mediterranean communities with the highest amounts and production rates of carbonates, and they provide nursery grounds for commercial fish and shellfish species. Commercial dredging, trawling fisheries, chemical pollution by organic matter and excess

nutrients are the major threats identified for these habitats. Rhodolith-forming algae are likely to be also affected by the ongoing global warming and ocean acidification (Gubbay *et al.* 2016).

Contracting parties (CPs) indicating IMAP monitoring activities in the Habitat

126. Ten contracting parties namely Algeria, Croatia, France, Greece, Italy, Malta, Morocco, Spain, Tunisia and Türkiye). Among them, Türkiye is the only CP indicating monitoring programme also for infralittoral rhodolith beds.

General comment on the CI1 and CI2 IMAP implementation on the habitat

127. Related to CI1, 3 CPs have a clearly ongoing monitoring programme, 4 CPs are planning it and the status of implementation is unknown for 3 CPs. Related to CI2, 4 CPs have clearly ongoing monitoring programmes, 3 CPs are planning it and the status of implementation of indicated monitoring programmes is unknown for 3 CPs.

Implementation features CI1

▪ Scales of Monitoring:

Scale	Range	Comments
Spatial	1-10 sites (1 CP), 105 sites (Italy)	Not indicated for 80% of CPs
Temporal	3-6 years	Not indicated for 60% of CPs

▪ Metrics:

128. Habitat area/extent

129. Two adjacent rhodolith beds are considered separate if, at any point along their limits, a minimum distance of 200 m separates them (Peña and Barbara, 2008).

▪ Assessment criteria and thresholds:

130. The assessment criteria may be identified as the extent of loss of the habitat type, resulting from anthropogenic pressures /physical disturbance.

131. To date, no Contracting Party has established the maximum allowable extent of habitat lost or disturbed as a proportion of the total natural extent of this biogenic habitat type in the assessment area (which should take into account regional or sub-regional specificities).

▪ Baselines:

132. Some data are available on occurrence (e.g. Martin et al. 2014) but only 20% of CPs are indicating the existence of operational baselines on the extent of rhodolith beds.

Implementation features CI2

▪ Scales of Monitoring:

Scale	Range	Comments
Spatial	1-10 sites	Not defined for 50% of CPs with monitoring programme
Temporal	2-3 years	Not defined for 50% of CPs, 1 year for 2 CPs

Metrics:

Country	Metrics
Algeria	typical species' biomass, population structure, density, volume, growth and mortality rate, occupation rate
Croatia	to be determined
France	EBQI dedicated to Coastal Detrital Bottoms (CDB-EBQI; Astruch et al., 2023): rhodolith cover, soft macroalgae cover, filter-feeder cover, detritivores, carnivores, herbivores cover, particulate organic matter cover, etc.
Greece	Abundance of habitat types, ecological quality status, bottom trawling impact
Italy	% coverage of the living thalli (ratio alive/dead) and thickness of the living stratum, percentage of habitat affected by anthropogenic impacts, physico-chemical data (Temperature, salinity, transparency)
Malta	only habitat area, no other metrics indicated; data related to structure and function considered insufficient for the assessment
Morocco	not defined
Spain ⁶² , ⁶³	Abundance (number of individuals; ABU) Relative abundance (ABU-REL) Depth (BATH) Biomass (BIOM) Spatial distribution (DIST-S) Sediment characteristics (HAB-STRUCT) Hydrography of the habitat (HYDRO) Species composition (SPP-C) Size (SIZE-D)
Tunisia	not defined
Türkiye	Species richness, abundance, diversity index, TUBI, ALEX

▪ Assessment criteria and thresholds

133. At the moment, there are no ecological indices developed specifically to assess the status of the rhodolith beds. The CDB-EBQI aims to provide a method suitable to assess rhodolith bed ecological status (more at the scale of Coastal Detrital bottom habitat); at present, it is not yet implemented for a perennial monitoring programme. The live/dead rhodolith ratio, live rhodoliths percentage cover, associated with change in the composition of the macrobenthic

⁶² ES: Data required to estimate CII, and the related parameters, is only available for certain areas. In a large proportion of the circalittoral bottoms, where RMBs may be found, there is no mapping of the benthic biocenosis. In the mapped areas, the impact of bottom trawling could be also assessed.

⁶³ ES: CII2, and some of its parameters (habitat structure, species composition and diversity), could be calculated in the mapped areas. We have some expertise on that (e.g. Barbera *et al.*, 2012, Farriols *et al.*, 2022). The potential impact of bottom trawling could be also assessed (Ordines *et al.*, 2017).

community (calcareous algal engineers and associated taxa) and possibly in sedimentology may serve as the assessment criteria to reveal negative impacts on rhodolith beds (Basso *et al.* 2016). Currently, there are no defined GES class boundaries for these descriptors. In general, Basso *et al.* (2016) propose a threshold of >50% surface cover by dead rhodoliths and their fragments as a condition to identify a dead rhodolith bed (or its fossil counterpart).

▪ Baselines:

134. Very limited operational baselines exist for rhodolith beds and only 33% of CPs monitoring this habitat indicate their availability at the moment.

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Annex III. Preliminary correlation between the Barcelona Convention and EUNIS habitat classifications relating to *Posidonia*, Coralligenous and Maërl habitats

135. A preliminary cross-walk between the 2019 habitat classification of the Barcelona Convention (UNEP-MAP SPA/RAC, 2019; Montefalcone, et al., 2021) and the 2022 EUNIS classification (European Environment Agency, 2022), relating to the three habitat types considered in this report (*Posidonia*, Coralligenous, Maërl), is presented in **Table 7**. This cross-walk has been prepared on the basis of the limited descriptions available in the above-mentioned publications. Further information on the definition of each habitat type and input of Mediterranean habitat experts is needed to validate and improve this cross-walk.

Table 7. Preliminary cross-walk for three habitats (B1 Coralligenous, B2 Maërl, B3 *Posidonia*) between the Barcelona Convention (UNEP/MAP SPA/RAC 2019, Montefalcone et al., 2021) and EUNIS (2022) habitat classifications. Relevant level 2-4 habitats are included to aid understanding. Coloured cells indicate no corresponding habitat or the BC habitat code is different to the EUNIS code.

Hab	Bar. Con. (2019)	EUNIS (2022)		
		Code	Name	Description
	INFRA LITTORAL			
	MB1.5 Infralittoral rock	MB15	Mediterranean infralittoral rock	Rock and other hard substrates in the Mediterranean infralittoral zone. The lower limit depends on light penetration and is variable, from 35-40 m in very clear water to just a few metres in turbid water.
B1	MB1.55 Coralligenous (enclave of circalittoral, see MC1.51)			
	MB2.5 Infralittoral biogenic habitat	MB25	Mediterranean infralittoral biogenic habitat	Habitats formed by living organisms (eg calcareous algae, mussels, coralligenous bioconcretions, worm reefs) in the infralittoral zone of the Mediterranean
B3	MB2.54 <i>Posidonia oceanica</i> meadows	MB252	Biocenosis of <i>Posidonia oceanica</i>	<i>Posidonia oceanica</i> (Linnaeus) Delile is a marine angiosperm, endemic to the Mediterranean. It forms characteristic formations called 'meadows' between the surface and 30 to 40 meters down. The plant's structure shows an epigeous part, corresponding to foliar fascicles (average 30-80 cm in height) and an endogenous part, a veritable underwater terrace: the matte. This matte, composed of a tangle of rhizomes, roots and the sediment that fills in the interstices, and is specific to <i>Posidonia oceanica</i> meadows, presents a vertical growth that can reach 1 meter a century. These meadows, true underwater prairies, represent one of the main Mediterranean climaxes.
B3		MB2521	Ecomorphosis of striped <i>Posidonia oceanica</i> meadows	The <i>Posidonia oceanica</i> striped meadow develops between 0,5 and 3 meters down. It appears as fairly narrow (1 to 2 m wide) ribbons that are up to several dozen meters long, either rectilinear or winding but rarely ramified. The ribbons are separated by stretches of dead matte colonised by a mixed lawn made up of <i>Cymodocea nodosa</i> and <i>Caulerpa prolifera</i> . Cut into sections, the ribbons are asymmetrical with a little drop of matte on one side and a gentle slope on the other. The ribbons are dynamic structures, moving parallel to each other in the face of currents at a speed of some ten centimeters a year.

Hab	Bar. Con. (2019)	EUNIS (2022)		
		Code	Name	Description
B3	MB2.545 Natural monuments/Ecomorphoses of <i>Posidonia oceanica</i> (fringing reef, barrier reef, atolls)	MB2522	Ecomorphosis of "barrier-reef" <i>Posidonia oceanica</i> meadows	In the <i>Posidonia</i> beds of sheltered bays, the vertical growth of the rhizomes leads to a slow rise of the matte that enables the meadow to reach the surface; this structure is called a 'fringe reef'. Between the emerging front of the reef and the coast, conditions become unfavorable (great variations in salinity and temperature), and the meadow dies, leaving a sort of 'lagoon' cut off from the open sea by a 'barrier reef'. This lagoon is usually occupied by small magnoliophytes (<i>Cymodocea nodosa</i> and <i>Zostera noltei</i>) developing on dead matte. At the level of the barrier reef, which can be up to several meters wide, the leaves emerge and spread out on the surface of the water, particularly in spring and summer. The reef extends in a gentle slope out to sea, where it constitutes a meadow with a continuous base. The classic form of these reefs, with their front parallel to the shore, is the most widespread; however, more extensive particular structures (reef platforms) have been observed in Sicily and Corsica and many typologies have been suggested.
B3	MB2.541 <i>Posidonia oceanica</i> meadow on rock			
B3	MB2.542 <i>Posidonia oceanica</i> meadow on matte			
B3	MB2.543 <i>Posidonia oceanica</i> meadow on sand, coarse or mixed sediment			
B3	MB2.544 Dead matte of <i>Posidonia oceanica</i>	MB2523	Facies of dead "mattes" of <i>Posidonia oceanica</i> without much epiflora	This facies is characterised by a dead "mattes" of <i>Posidonia oceanica</i> without macro-epiflora.
B3	MB2.546 Association of <i>Posidonia oceanica</i> with <i>Cymodocea nodosa</i> or <i>Caulerpa</i> spp.	MB2524	Association with <i>Caulerpa prolifera</i> on <i>Posidonia</i> beds	This facies is characterised by the presence of the green alga <i>Caulerpa prolifera</i> in association with the <i>Posidonia oceanica</i> bed.
B3	MB2.547 Association of <i>Cymodocea nodosa</i> or <i>Caulerpa</i> spp. with dead matte of <i>Posidonia oceanica</i>			
	MB3.5 Infralittoral coarse sediment	MB35	Mediterranean infralittoral coarse sediment	Sedimentary habitats in the infralittoral near shore zone of the Mediterranean, typically extending from the extreme lower shore down to the lower limit for vascular plants. Sediment ranges from boulders and cobbles, through pebbles and shingle, coarse sands, sands, fine sands, muds, and mixed sediments. Those communities found in or on sediment are described within this broad habitat type.
	MB3.51 Infralittoral coarse sediment mixed by waves	MB351	Biocenosis of Mediterranean coarse sands and fine gravels mixed by the waves	This habitat is found in coves which cut into the rocky coasts with more or less strong wave action; it goes no more than a few decimetres down. This habitat is very ill known. The population is dominated by the <i>Saccocirrus papillocercus</i> archiannelid and the <i>Lineus lacteus</i> nemertean, whose populations fluctuate strongly according to variations in the ambient factors, in particular the local hydrodynamics.
B2	MB3.511 Association with maërl or rhodolithes (e.g. <i>Lithothamnion</i> spp., <i>Neogoniolithon</i> spp., <i>Lithophyllum</i> spp., <i>Spongites fruticulosa</i>)	MB3511	Association with rhodolithes in coarse sands and fine gravels mixed by waves	This association occurs on coarse sands and fine gravels subjected to strong hydrodynamic action. Calcareous algae are attached to a small mineral or organic surface and then grow in successive layers to form rhodolithes of more or less nodulous shape and varying size.

Hab	Bar. Con. (2019)	EUNIS (2022)		
		Code	Name	Description
	<i>MB3.52 Infralittoral coarse sediment under the influence of bottom currents</i>	MB352	Biocenosis of Mediterranean coarse sands and fine gravels under the influence of bottom currents	This habitat is usually found in the Mediterranean between 3-4 meters and 20-25 meters down, but can, locally, go down to 70 meters. It lies thus on two, infra- and circalittoral, stages. It is frequent in channels between islands that are subject to frequent, violent currents, which constitute the main factor on which its existence depends. It is also found in the 'intermatte' channels dug out by the currents in the Posidonia meadows. This habitat, strictly subject to bottom currents, can change if the movement of the water is artificially or naturally modified, for example during long periods of calm weather. Its extension downwards, into the circalittoral stage, is linked to particularly intense hydrodynamic phenomena, either directly below rocky shelf-edge banks (the Banc des Blauquières) or in straits (the Bouches de Bonifacio). It may, in these conditions, present qualitative and quantitative modifications in its habitual population. Seasonal variations are marked by differences in the abundance, and the replacement, of species.
B2	<i>MB3.521 Association with maërl or rhodolithes (e.g. Lithothamnion spp., Neogoniolithon spp., Lithophyllum spp., Spongites fruticulosa)</i>	MB3521	Association with rhodolithes in coarse sands and fine gravels under the influence of bottom currents	This facies is characterised by the presence of small calcareous algae species exposed to strong bottom currents.
B2		MB3522	Association with maërl (= Association with <i>Lithothamnion corallioides</i> and <i>Phymatolithon calcareum</i>) on Mediterranean coarse sands and gravel	An association characterised by the presence of two small many-branched calcareous algae species, <i>Lithothamnion corallioides</i> and <i>Phymatolithon calcareum</i> , unattached on sediments made up of coarse sands and gravels with a high proportion of detritic elements. Given their many-branched shape, these Lithothamnia never constitute bioconstructions or rhodolithes. Small Rhodophyceae may be present as epiphytes on the Lithothamnia. A similar community can also be found as an association facies of the biocenosis of the coastal detritic bottom (MC3.523)
	<i>CIRCALITTORAL</i>			
	<i>MC1.5 Circalittoral rock</i>	MC15	Mediterranean circalittoral rock	Circalittoral rock is characterised by sciaphilic (shade-loving, that grow only in shady habitats) algae dominated communities (in contrast to photophilic algal communities of the infralittoral zone). The depth at which the circalittoral zone begins is directly dependent on the intensity of light reaching the seabed; in highly turbid conditions, the circalittoral zone may occur in shallow water.
B1	<i>MC1.51 Coralligenous [cliffs]</i>	MC151	Coralligenous biocenosis	The distribution of the coralligenous assemblage is subject to a combination of decisive biotic and abiotic factors. The main factors are light, movement of the water, temperature, the deposit of sediment and biological interactions. The coralligenous is found on rock faces or on rocks where calcareous algae can form biogenic constructions. Due to their sensitivity to light, these calcareous algae are restricted upwards by strong illumination and have an extension downwards, restricted by the quantity of luminous energy needed for their photosynthesis. The average depth of this habitat is between 30 and 90 meters. When the water is very clear, the coralligenous begins and ends very deep (60-130 meters), but when the water is turbid, it rises to shallower depths (10/15-40 meters). Such a rise may also be seen along dimly lit rock faces (north-facing, for example). The thermal scope of seasonal variation for this habitat is variable, and a certain tolerance of fluctuation in salinity has been observed; however, the sedimentation of fine particles is particularly harmful. The coralligenous can present various physiognomical types between the two most typical forms on our coasts, which are: - the rock wall coralligenous which covers the rocky substrata beyond the photophilous algae, with more or

Hab	Bar. Con. (2019)	EUNIS (2022)		
		Code	Name	Description
				less thick concretions and an abundance of big erect invertebrates, such as the <i>Paramuricea clavata</i> , <i>Eunicella</i> spp., <i>Leptogorgia sarmentosa</i> gorgonians and the <i>Axinella</i> polypoides sponge - the coralligenous concretion forming biogenous clumps that can be several meters thick and cover big horizontal or non-horizontal surfaces. This coralligenous is a fully biogenic habitat. The essential species are the constructive <i>Corallinaceae</i> and <i>Peyssonneliaceae</i> species; the structure of these clumps is highly anfractuous, with many cavities of great richness (parts of the biocenosis of semi-dark caves).
B1	MC1.51a Algal-dominated coralligenous			
B1	MC1.512a Association with Fucales or Laminariales			
B1		MC1511	Association with <i>Cystoseira zosteroides</i>	This association is characterised by the high abundance of the brown alga <i>Cystoseira zosteroides</i> . The association can include in its higher levels both sciaphilous and photophilous species such as <i>Phyllariopsis brevipes</i> , <i>Arthrocladia villosa</i> , <i>Sporochnus pedunculatus</i> , <i>Cutleria chilosa</i> , <i>Dictyota dichotoma</i> , <i>Dictyopteris polypodioides</i> , <i>Halopteris filicina</i> and <i>Polysiphonia foeniculacea</i> . <i>Sciaphilous adnate</i> forms such as <i>Lithophyllum incrustans</i> , <i>Mesophyllum alternans</i> and <i>Peyssonnelia rosa-marina</i> represent a great part of the population. The association is mixed with the big erect invertebrate species of the coralligenous, like the <i>Axinella polypoides</i> sponge and the <i>Paramuricea clavata</i> and <i>Eunicella cavolini</i> gorgonians.
B1		MC1512	Association with <i>Cystoseira usneoides</i>	This association characterised by the brown alga <i>Cystoseira usneoides</i> is present in relatively deep rocky areas crossed by currents. Giaccone, who described the association, mentions the <i>Laminaria ochroleuca</i> , <i>Phyllariopsis purpurascens</i> , <i>Umbraulva dangeardii</i> , <i>Callophyllis laciniata</i> and <i>Phyllophora heredia</i> algae.
B1		MC1513	Association with <i>Cystoseira dubia</i>	This association characterised by the brown alga <i>Cystoseira dubia</i> occurs on hard substrata subject to weak hydrodynamics and relatively strong sedimentation. The association was described with <i>Nitophyllum tristomaticum</i> , <i>Peyssonnelia rubra</i> , <i>Ceramium bertholdii</i> and <i>Kallymenia patens</i> . According to Giaccone, only <i>C. dubia</i> , <i>N. tristomaticum</i> and <i>K. patens</i> are characteristic species. Three vegetal strata can be made out in the population: a raised stratum with various scattered <i>Cystoseira</i> (<i>C. spinosa</i> , <i>C. zosteroides</i>) and <i>Sargassum</i> (<i>S. acinarium</i> , <i>S. vulgare</i>); a very dense intermediary stratum with <i>C. dubia</i> , rich in epiphytes, and a crust-forming stratum of calcareous algae. A very rich fauna made up of bryozoans, molluscs and polychaetes lives in these different strata.
B1		MC1514	Association with <i>Cystoseira corniculata</i>	This association characterised by the brown alga <i>Cystoseira corniculata</i> occurs on hard substrata in the circalittoral zone.
B1		MC1515	Association with <i>Sargassum</i> spp.	This association characterised by the abundance of the brown algae <i>Sargassum</i> spp. occurs on hard substrata, simultaneously relatively deep and well-lit, in oligotrophic conditions.
B1	MC1.513a Association with algae, except Fucales, Laminariales, Corallinales and Caulerpales			
B1	MC1.511a Association with encrusting Corallinales			

Hab	Bar. Con. (2019)	EUNIS (2022)		
		Code	Name	Description
B1		MC1516	Association with <i>Mesophyllum lichenoides</i>	This association characterised by the red alga <i>Mesophyllum lichenoides</i> occurs on hard substrata with strong deep currents.
B1		MC1517	Association with <i>Lithophyllum stictaeforme</i> and <i>Halimeda tuna</i>	This association characterised by the red encrusting alga <i>Lithophyllum stictaeforme</i> (<i>Lithophyllum frondosum</i>) and the green alga <i>Halimeda tuna</i> is present on coralligenous horizontal formations developing within sedimentary beds affected by sea bottom currents.
B1		MC1518	Association with <i>Laminaria ochroleuca</i>	This association characterised by the brown alga <i>Laminaria ochroleuca</i> occurs on hard or detritic substrata composed by sparse rocks located at 30 - 100 metres depth in areas affected by strong currents and the Atlantic influx (e.g. Strait of Messina, Sea of Alboran, Algerian coasts). Stipes that can be 6 meters high and fronds in wide blades that can form a continuous canopy; densities of the order of one adult per 2 square meters or more. The substratum population is sciaphilous, with the substrata and spikes heavily covered in calcareous algae, sponges, bryozoans and ascidians. The three-dimensional development of this kelp offers habitats to a diversified fish fauna.
B1	MC1.514a Association with non-indigenous Mediterranean <i>Caulerpa</i> spp.			
B1	MC1.51b Invertebrate-dominated coralligenous			
B1	MC1.511b Facies with small sponges (sponge ground, e.g. <i>Ircinia</i> spp.)			
B1	MC1.513b Facies with Hydrozoa			
B1	MC1.514b Facies with Alcyonacea (e.g. <i>Eunicella</i> spp., <i>Leptogorgia</i> spp., <i>Paramuricea</i> spp., <i>Corallium rubrum</i>)			
B1		MC1519	Facies with <i>Eunicella cavolini</i>	A raised stratum of <i>Eunicella cavolini</i> on a surface that is often built into a concretion by algae associated with various animal species such as the crust-forming and erect bryozoans <i>Schizomavella</i> spp., <i>Pentapora fascialis</i> , <i>Turbicellepora avicularis</i> , <i>Celleporina caminata</i> and <i>Myriapora truncata</i> , Serpulidae, cnidarians like <i>Alcyonium coralloides</i> , <i>Alcyonium acaule</i> , <i>Leptopsammia pruvoti</i> and <i>Caryophyllia smithii</i> , ascidians like <i>Halocynthia papillosa</i> and <i>Microcosmus sabatieri</i> .
B1		MC151A	Facies with <i>Eunicella singularis</i>	This facies is characterised by the high density of colonies of the gorgonian (sea-fan) <i>Eunicella singularis</i> . Often associated with erect brown algae.
B1		MC151B	Facies with <i>Paramuricea clavata</i>	This facies is characterised by the high density of colonies of the gorgonian (red sea-fan) <i>Paramuricea clavata</i> . The lower stratum is very rich; there are found the cnidarians <i>Caryophyllia smithii</i> , <i>Hoplania durotrix</i> , <i>Leptopsammia pruvoti</i> , <i>Corallium rubrum</i> , the bryozoans <i>Celleporina caminata</i> , <i>Schizomavella mamillata</i> , <i>Smittina cervicornis</i> , <i>Myriapora truncata</i> , Serpulidae, the sponges <i>Ircinia variabilis</i> , <i>Spongia officinalis</i> , <i>Sarcotragus spinosulus</i> , <i>Scalorispongia scalaris</i> , <i>Aplysina cavernicola</i> , <i>Penares euastrum</i> and <i>Agelas oroides</i> , and the molluscs <i>Thylacodes arenarius</i> and <i>Lithophaga lithophaga</i> . An intermediary level includes invertebrates colonising parts of the branches, such as the cnidarian <i>Alcyonium coralloides</i> , the bryozoans <i>Adeonella calveti</i> , <i>Turbicellepora avicularis</i> , <i>Reteporella</i> spp. and <i>Pentapora</i>

Hab	Bar. Con. (2019)	EUNIS (2022)		
		Code	Name	Description
				<i>fascialis</i> , and the molluscs <i>Pteria hirundo</i> and <i>Anomia ephippium</i> .
B1	MC1.515b Facies with <i>Ceriantharia</i> (e.g. <i>Cerianthus</i> spp.)			
B1	MC1.516b Facies with <i>Zoantharia</i> (e.g. <i>Parazoanthus axinellae</i> , <i>Savalia savaglia</i>)	MC151C	Circalittoral facies with <i>Parazoanthus axinellae</i>	This facies is characterised by the high density of the cnidarian (sea anemone) <i>Parazoanthus axinellae</i> .
B1		MC151D	Association with <i>Rodriguezella strafforelli</i>	This association populates hard poorly-lit substrata, in a sheltered environment, at about 25-45 metres depth. The association was described in 1975 by Augier and Boudouresque and contains as other characteristic plant species <i>Blastophysa rhizopus</i> , <i>Ceramium bertholdii</i> , <i>Polysiphonia subulifera</i> , <i>Rodriguezella pinnata</i> , <i>Spermothamnion johannis</i> and <i>Sphacelaria plumula</i> .
B1		MC151E	Facies with <i>Leptogorgia sarmentosa</i>	This facies is characterised by the high density of colonies of the gorgonian (sea-fan) <i>Leptogorgia sarmentosa</i> (syn <i>Lophogorgia sarmentosa</i>). Big <i>Leptogorgia sarmentosa</i> gorgonians with thin branches that are usually developed at several levels; yellow to orange color, forming sparse groups on rocky beds with or without concretions, or on substrata scattered over loose beds, from 15 to 300 meters down.
B1		MC151F	Facies with <i>Anthipatella subpinnata</i> and sparse red algae	This facies, characterised by the colonial black coral <i>Anthipatella subpinnata</i> , occurs on hard bottoms with different sedimentation rate and relatively dim light, generally observed on subhorizontal faces of large boulders, from 50m depth.
B1	MC1.512b Facies with large and erect sponges (e.g. <i>Spongia lamella</i> , <i>Sarcotragus foetidus</i> , <i>Axinella</i> spp.)	MC151G	Facies with massive sponges and sparse red algae	Large sponges belonging to species <i>Sarcotragus foetidus</i> or <i>Spongia lamella</i> creates facies on patchy hard substrata of continuous hard substrata.
B1	MC1.517b Facies with <i>Scleractinia</i> (e.g. <i>Dendrophyllia</i> spp., <i>Leptopsammia pruvoti</i> , <i>Madracis pharensis</i>)			
B1	MC1.518b Facies with <i>Vermetidae</i> and/or <i>Serpulidae</i>			
B1	MC1.519b Facies with <i>Bryozoa</i> (e.g. <i>Reteporella grimaldii</i> , <i>Pentapora fascialis</i>)			
B1	MC1.51Ab Facies with <i>Ascidacea</i>			
B1	MC1.51c Invertebrate-dominated coralligenous covered by sediment			
B1	See MC1.51b for examples of facies			
B1	MC1.52 Shelf edge rock			
B1	MC1.52a Coralligenous outcrops			

Hab	Bar. Con. (2019)	EUNIS (2022)		
		Code	Name	Description
B1	MC1.521a Facies with small sponges (sponge ground)			
B1	MC1.522a Facies with Hydrozoa			
B1	MC1.523a Facies with Alcyonacea (e.g. Alcyonium spp., Eunicella spp., Leptogorgia spp., Paramuricea spp., Corallium rubrum)			
B1	MC1.524a Facies with Antipatharia (e.g. Antipathella subpinnata)			
B1	MC1.525a Facies with Scleractinia (e.g. Dendrophyllia spp., Madracis pharensis)			
B1	MC1.526a Facies with Bryozoa (e.g. Reteporella grimaldii, Pentapora fascialis)			
B1	MC1.527a Facies with Polychaeta			
B1	MC1.528a Facies with Bivalvia			
B1	MC1.529a Facies with Brachiopoda			
B1	MC1.52b Coralligenous outcrops covered by sediment			
B1	See MC1.52a for examples of facies			
B1	MC1.52c Deep banks			
B1	MC1.521c Facies with Antipatharia (e.g. Antipathella subpinnata)			
B1	MC1.522c Facies with Alcyonacea (e.g. Nidalia studeri)			
B1	MC1.523c Facies with Scleractinia (e.g. Dendrophyllia spp.)			
	MC2.5 Circalittoral biogenic habitat	MC25	Mediterranean circalittoral biogenic habitat	This habitat is present in the Mediterranean on hard rocky and/or biogenic horizontal substrata formed by coralligenous formations developed within sedimentary beds, up to 100 metres in depth, in clear waters with moderate hydrodynamic action. Coralligenous concretions are found on rock faces or on rocks where calcareous algae can build biogenic constructions.
B1	MC2.51 Coralligenous platforms	MC251	Coralligenous platforms	These are coralligenous horizontal formations developing within sedimentary beds subject to currents, at up to at least 100 metres depth in clear waters. These formations are not usually built on rock substrata but result from the active development of constructor organisms (e.g. calcified algae, hard-skeleton invertebrates) from scattered elements on loose beds, shells, stones, and graves. The thickness of these coralligenous formations can vary between a few centimeters and several meters.

Hab	Bar. Con. (2019)	EUNIS (2022)		
		Code	Name	Description
				This type of coralligenous then constitutes slab platforms, thus giving its name to this very specific facies.
B1	MC2.511 Association with encrusting Corallinales			
B1	MC2.512 Association with Fucales			
B1	MC2.513 Association with non-indigenous Mediterranean Caulerpa spp.			
B1	MC2.514 Facies with small sponges (sponge ground, e.g. Ircinia spp.)			
B1	MC2.515 Facies with large and erect sponges (e.g. Spongia lamella, Sarcotragus foetidus, Axinella spp.)			
B1	MC2.516 Facies with Hydrozoa			
B1	MC2.517 Facies with Alcyonacea (e.g. Alcyonium spp., Eunicella spp., Leptogorgia spp., Paramuricea spp., Corallium rubrum)			
B1	MC2.518 Facies with Zoantharia (e.g. Parazoanthus axinellae, Savalia savaglia)			
B1	MC2.519 Facies with Scleractinia (e.g. Dendrophyllia spp., Madracis pharensis, Phyllangia mouchezii)			
B1	MC2.51A Facies with Vermetidae and/or Serpulidae			
B1	MC2.51B Facies with Bryozoa (e.g. Reteporella grimaldii, Pentapora fascialis)			
B1	MC2.51C Facies with Ascidiacea			
	MC3.5 Circalittoral coarse sediment	MC35	Mediterranean circalittoral coarse sediment	Mediterranean circalittoral coarse sands, gravel and shingle generally in depths of over 15-20m. Characteristic species are red algae species of the family Corallinaceae; Bivalves: <i>Atrina pectinata</i> , <i>Venus casina</i> , <i>Dosinia exoleta</i> , <i>Donax variegatus</i> , <i>Glycymeris glycymeris</i> , <i>Laevicardium crassum</i> ; Echinoderms: <i>Spatangus purpureus</i> ; Hydrozoans: <i>Lytocarpia myriophyllum</i> ; Polychaetes: <i>Sigalion squamosus</i> , <i>Armandiapolypophthalma</i> ; Ophiuroids: <i>Ophiopsila annulosa</i> ; and Crustaceans: <i>Anapagurus breviaculeatus</i> , <i>Thia scutellata</i> .

Hab	Bar. Con. (2019)	EUNIS (2022)		
		Code	Name	Description
B2	MC3.52 Coastal detritic bottoms with rhodoliths	MC352	Assemblages of Mediterranean coastal detritic bottoms biocenosis with rhodoliths	These circalittoral assemblages occur on coarse sand or gravel affected by important seafloor currents. This habitat is known to be a hot-spot of biodiversity, hosting a high diverse invertebrate community. Moreover, it is one of the Mediterranean communities with the highest amount and production rates of carbonates, and it provides nursery grounds for commercial fish and shellfish species.
B2	MC3.521 Association with maërl (e.g. <i>Lithothamnion</i> spp., <i>Neogoniolithon</i> spp., <i>Lithophyllum</i> spp., <i>Spongites fruticulosa</i>)	MC3521	Association with rhodoliths on coastal detritic bottoms	This association characterised by "balls" of calcareous encrusting algae occurs on coastal detritic bottoms.
B2	MC3.522 Association with <i>Peyssonnelia</i> spp.	MC3522	Association with <i>Peyssonnelia rosa-marina</i>	This association on coastal detritic bottoms is characterised by the abundance of the red alga <i>Peyssonnelia rosa-marina</i> .
B2		MC3523	Association with maërl (<i>Lithothamnion corallioides</i> and <i>Phymatholithon calcareum</i>) on coastal dendritic bottoms	An association characterised by the presence of two small many-branched calcareous algae species, <i>Lithothamnion corallioides</i> and <i>Phymatholithon calcareum</i> , unattached on sediments made up of coarse sands and gravels with a high proportion of detritic elements. Given their many-branched shape, these Lithothamnia never constitute bioconstructions or rhodoliths. Small Rhodophyceae may be present as epiphytes on the Lithothamnia. A similar community also occurs on coarse sediments (MB3.522).
B2	MC3.523 Association with <i>Laminariales</i>			
B2	MC3.524 Facies with large and erect sponges (e.g. <i>Spongia lamella</i> , <i>Sarcotragus foetidus</i> , <i>Axinella</i> spp.)			
B2	MC3.525 Facies with Hydrozoa			
B2	MC3.526 Facies with Alcyonacea (e.g. <i>Alcyonium</i> spp., <i>Paralcyonium spinulosum</i>)			
B2	MC3.527 Facies with Pennatulacea (e.g. <i>Veretillum cynomorium</i>)			
B2	MC3.528 Facies with Zoantharia (e.g. <i>Epizoanthus</i> spp.)			
B2	MC3.529 Facies with Ascidiacea			

Annex IV. Parameters and metrics used by Contracting Parties for the three habitat types

136. Based on the information available in Garrabou & Kipson (2023), a summary of the parameters monitored and indicators being used by Contracting Parties for IMAP is provided in **Table 8**. The table has been updated by a number of CPs via the OWG, but further updating would be useful to aid understanding of the level of commonality in monitoring for each habitat.

Table 8. Overview of parameters/metrics currently monitored by Contracting Parties (based on Garrabou & Kipson, 2023, and updated by the OWG, with additional information added as footnotes). The first three parameters (habitat extent/area, spatial distribution and upper/lower depth limits) are relevant for CI1; the remaining parameters are relevant for CI2.

Parameter	B1 Coralligenous	B2 Maërl	B3 Posidonia
Habitat distribution and extent (CI1)			
Habitat area/extent	CY ⁶⁴ ES ⁶⁵ (Habitat mapping and area-surface estimations of Coralligenous-related habitats) FR: updated maps (SURFSTAT, Medtrix platform ⁶⁶) IT	EL, IT, MT (area)	CY (surface area – Km ²) IT, EL (abundance of habitat type) FR: updated maps (SURFSTAT, Medtrix platform)
Spatial distribution	CY ⁶⁷	ES ⁶⁸ , IT, EL	CY, IT, ES, EL (accurate and reliable habitat)

⁶⁴ CY: Coralligenous habitat mapping has been carried out in the Republic of Cyprus from 50 to the 250m depth zone via MBES and backscatter data analyses. Ground-truthing surveys for validating the data are planned to be carried out in the following 1-2 years.

⁶⁵ ES: mapping has only been done in some Marine Protected Areas during different EU projects - LIFE INDEMARES and LIFE INTEMARES. Some of those MPAs are Seco de los Olivos - Chella Bank (de la Torriente et al., 2019), Menorca channel (Barberá et al., 2012), Cap de Creus (Sardá et al., 2012; Lo Iacono et al., 2012). Habitat area-surface and extent is probably one of the most difficult parameters to obtain extensively at a scale of Assessment Area since it involves modelling which need different seabed data that are difficult to obtain (multibeam-backscatter-Side Scan Sonar at a good resolution).

⁶⁶ FR: Recently, another updated map is provided by the French Office of Biodiversity: Tempera et al. (2024).

⁶⁷ CY: Coralligenous habitat mapping has been carried out in the Republic of Cyprus from 50 to the 250m depth zone via MBES and backscatter data analyses. Ground-truthing surveys for validating the data are planned to be carried out in the following 1-2 years.

⁶⁸ ES: In Spain, the distribution area of RMBs across the continental shelf is unknown. The only mapping of RMBs covering the whole continental shelf off Iberian Peninsula and Balearic Islands was developed within the European Marine Strategy Framework Directive (Serrano et al., 2012). However, it was a very broad scale mapping, developed from MEDITS surveys data (bottom trawl gear sampling), which allows identifying potential areas where RMBs are located (Cape Palos and Balearic Islands), but it is not enough detailed to estimate habitat extent and much less monitoring. Taking into account the patchiness distribution of MRBs, the sampling method applied in MEDITS surveys (Spedicato et al., 2019) is not appropriated for their mapping. Detailed mapping of the benthic biocenosis, including RMBs, are available in very few areas: Menorca Channel (Balearic Islands): During the LIFE+ INDEMARES (Barbera et al., 2012). This mapping has been updated by Farriols et al. (2024) during the SosMed project (NextGenerationEU funds).

Continental shelf southern Mallorca (Balearic Islands): During the DRAGONSAL project (Domínguez et al., 2014; non-published report). The map of benthic biocenosis was included in Del Valle & Pons (2019).

Murcia Region (southeastern Iberian Peninsula): Within the REGINA-MSP Project (Regions to boost National Maritime Spatial Planning; <https://www.regina-msp.eu/>) it has been compiled and modeled the mapping of RMBs in some areas off Murcia, with special emphasizes to their potential overlapping with aquiculture activities (Aguado-Giménez & Ruiz-Fernández, 2012).

	IT, EL, ES (presence of different types of Coralligenous Habitats using scuba diving transects in infralittoral locations and ROV transects in Circalittoral and Bathyal locations) FR: updated maps (SURFSTAT, Medtrix platform)		mapping; geographical distribution boundaries) FR: updated maps (SURFSTAT, Medtrix platform)
Upper & lower depth limits			AL, CY, DZ, FR, IT (type of lower limit), ME (type of lower limit), ES, EL (type of lower limit) FR: Micro cartography by photogrammetry (TEMPO network), <i>Posidonia</i> monitoring network (Corsica)
Condition of the habitat's typical species and communities (CI2)			
Habitat quality indices	Aesthetic value: LB CAI "dynamic of coralligenous" index based on % of necrosis (RECOR monitoring network) ⁶⁹ : FR Cor-EBQI, Ecosystem-based quality index designed for Coralligenous (Astruch et al., under review) ⁷⁰ : FR Habitat complexity indicators: AL Diversity indices: HR (alpha & beta diversity), LB, TR, ES Economic importance: LB	ALEX: TR Diversity indices (species richness): TR Ecological quality status: EL TUBI: TR BENTIX, diversity (Shannon, Margalef), species richness: EL Ecosystem-based quality index for Coastal Detrital bottoms, including maerl and rhodolith	Diversity indices (species richness): TR EEI (ecologic evaluation index): TR POMI (<i>Posidonia oceanica</i> Multivariate Index): AL, ES, HR, ME (modified POMI) PREI (<i>Posidonia oceanica</i> Rapid Easy Index): CY, FR, IT, MT, EL Valencian CS: ES WePOSI (Weighted <i>Posidonia oceanica</i> Index): EL

Seamounts of the Mallorca Channel (Balearic Islands). During LIFE IP INTEMARES project (Massutí *et al.*, 2022). A paper on habitat mapping will be published soon. Catalan coast (northeastern Iberian Peninsula): the project "Map of the Marine Habitats of Catalonia", co-funded by the Autonomous Government of Catalonia and FEMPA (European Union) and developed between 2021 and 2023, its objective has been the mapping the benthic habitats between 0 and 50 m depth. For more information:

https://mediambient.gencat.cat/ca/05_ambits_dactuacio/patrimoni_natural/sistemes_dinformacio/habitats/habitats-marins/projecte-mapa-dels-habitats-marins-de-catalunya/index.html.

Currently is developing the BIODIV_A5.3 project (NextGenerationEU funds). The mapping and characterization of RMBs around Mallorca and Menorca and in an area southeastern Iberian Peninsula (Murcia Region) is being made, from submarine images and flora and fauna samples obtained from dredges and beam trawl. The results of this project will be available from middle 2026.

⁶⁹ Deter, J., Descamp, P., Ballesta, L., Boissery, P., & Holon, F. (2012). A preliminary study toward an index based on coralligenous assemblages for the ecological status assessment of Mediterranean French coastal waters. *Ecological indicators*, 20, 345-352.

⁷⁰ FR: For Coralligenous, need to mention here or in the text the reference of Di Camillo et al. (2023) which benchmarks Coralligenous/mesophotic reef index highlighting the need for a unified approach at basin scale.

Di Camillo, C. G., Ponti, M., Storari, A., Scarpa, C., Roveta, C., Pulido Mantas, T., ... & Cerrano, C. (2023). Review of the indexes to assess the ecological quality of coralligenous reefs: towards a unified approach. *Frontiers in Marine Science*, 10, 1252969.

	Environmental value: LB Equitability: LB Functioning bioeroders and bioconstructors indicators: AL Habitat vulnerability heritage index: LB MACS (multi-parametric index Mesophotic assemblages conservation status): IT MAES index: ME Margalef index/nb: LB Naturalness index: LB Rarity: LB TUBI: TR	associations (ACDSea project): FR ⁷¹ ES ⁷²	BIPO - Biotic index using <i>Posidonia oceanica</i> (Lopez y Royo <i>et al.</i> , 2010 used in the frame of the MSFD): leaf surface, shoot density, mapping of the depth limit (typology of depth limit and condition of shoot): FR
Pressures - sources of disturbances	AL (indicators of impacts of different disturbances: (fishing nets, invasive species, sedimentation, high diving pressure) HR (% cover of invasive species) ME (litter density) ES IT (litter distribution, composition, density and distribution) impact, MACS index)	EL (bottom trawling impact, eutrophication) IT (% of habitat affected by anthropogenic impacts) ES (litter ⁷³ , bottom fishing) ⁷⁴	ES (% invasive & opportunistic species) IT EL
Habitat level			
Physical/chemical characteristics	ES (sediment characteristics, depth, hydrography – temperature, salinity)	EL (abundance of habitat types)	EL (ecosystem structure) ES (%N, %P, metals, isotopic nitrogen) HR (N content in epiphytes)

⁷¹ Astruch, P., Orts, A., Schohn, T., Belloni, B., Ballesteros, E., Bănar, D., ... & Daniel, B. (2023). Ecosystem-based assessment of a widespread Mediterranean marine habitat: The Coastal Detrital Bottoms, with a special focus on epibenthic assemblages. *Frontiers in Marine Science*, 10, 1130540. <https://doi.org/10.3389/fmars.2023.1130540>.

⁷² ES: In Spain, habitat quality of RMBs (e.g. rhodoliths coverage, density, species richness of benthic flora and fauna, diversity indices, rhodoliths morphology) have been only assessed in the Balearic Islands: Menorca Channel (Barbera *et al.*, 2012, Farriols *et al.*, 2022, 2024) and southern Mallorca (Dominguez *et al.*, 2014).

⁷³ DZ: Debris can disrupt maerl growth by covering the substrate and limiting access to light. Abundance and type of debris should be monitored regularly to assess environmental impact and guide management action.

⁷⁴ ES: Spain is obtaining abundance (and density) of different types of litter and human activities indicators (fishing nets, etc.) from scuba-diving techniques in 50 metres transects in the infralittoral and 100 metres ROV transects in the circalittoral and bathyal.

VMS data are analysed at a 5x5 km grid (1x1 km grid in some MPAs) in order to map fishing activities such as bottom trawling, long line, among others.

% cover and biomass of some invasive species have been obtained in infralittoral and circalittoral bottoms, including some areas with coralligenous bottoms...see Rueda *et al* (2023) (<https://www.mdpi.com/1424-2818/15/12/1206>).

Within the context of the European Marine Strategy Framework Directive, the environmental status of benthic habitats in circalittoral sedimentary seabed off Iberian Peninsula and around the Balearic Islands has been assessed using the Sentinel of Seabed (SoS) indicator (Calero *et al.*, 2024), also called BH1 in OSPAR. It has been estimated from MEDITS data and considering bottom trawl fishing effort (signals from Vessel Monitoring by satellite System). However, it has been made at the level of EMODNET Broad Habitat Types, not for biogenic habitats, including RMBs. In order to be able to assess these beds, their mapping will first be necessary.

	FR (3-D structure, % cover of sediment) HR (% cover of sediment) IT (depth, % cover of sediment)	IT (physico-chemical data – temperature, salinity, transparency) ES (depth, sediment characteristics, ⁷⁵ hydrography)	
Community level			
Species composition of community	AL EG ES ⁷⁶ FR (macrofauna & megafauna) LB ME (no. of species, presence of red coral) IT (macrofauna & megafauna)	ES TR EL	DZ (associated flora and fauna) EG (species composition) TR EL (associated flora and fauna)
Species abundance within community	AL (semi or quantitative) EG (of selected species) ES (number of individuals, relative abundance) IT (number of individuals/ colonies of habitat-forming species and relative abundance) HR (% cover of conspicuous taxa/morphological groups) FR (macrofauna & megafauna, % cover of sessile fauna, erect bryozoans) LB (relative abundance, dominance or frequency) ME (red coral abundance, cover of basal layer, density of erect species, height of dominant erect species) TR (coverage of groups and species)	ES (number of individuals, relative abundance, size) TR (abundance) EL: (relative abundance of tolerant and sensitive taxa)	EG (of selected species) ES (<i>Pinna nobilis</i> and other habitat-typical species) EL (associated fauna – selected species)
Biomass of community or of specific species	DZ (of typical & sensitive species)	DZ (of typical species) ES EL: community biomass	Posidonia leaf biomass: CY, FR, IT, EL Epiphyte biomass or cover: AL, CY, FR, EL
Population level (for selected species)			
Live cover %	FR: % of biobuilders, % of erect bryozoans IT (% epibiosis of habitat-forming species)	IT (% cover of living thalli, thickness of living stratum)	AL, CY, DZ, ES, HR, IT (meadow composition, continuity), ME, SI, TR, EL

⁷⁵ ES: Within the current BIODIV_A5.3 project, mentioned above, bathymetric and backscatter data are obtained from multibeam echosounder along the continental shelf around Mallorca and Menorca (Balearic Islands). In this area, seabed surface sediments characteristics, including grain size distribution and organic matter content, are also analysed.

⁷⁶ ES: mostly megafauna (size >3-4 cm) and some macrofauna.

Dead cover %	IT (% of dead habitat-forming species)	IT (ratio live/dead)	Dead matte cover: AL, IT, ME, EL
Population structure, density, volume, occupation rate	DZ (Population structure, density, volume, occupation rate) EG (density of individuals) ES (size of specific species ⁷⁷) MA (biometry of <i>Corallium rubrum</i>) IT (population structure and density of habitat-forming species)	DZ (population structure, density, volume, occupation rate)	Shoot density: AL, CY, DZ, EG (population density – number of individuals/unit area), ES, FR, HR, IT, ME, SI, TR, EL
Growth, fecundity and mortality	DZ (growth & mortality rate) EG (of selected species, body size, age structure, sex ratio) MA (bleaching events, (recovery rates of typical species, particularly <i>Paramuricea clavata</i> , <i>Corallium rubrum</i> , <i>Asteroides calycularis</i>);	DZ (growth & mortality rate)	CY (flowering events) EG (of selected species, body size, age structure, sex ratio, breeding season) EL, IT (flowering events, lepidochronological measures)
Leaves			AL (leaf morphometry & foliar production; state of apex per shoot; Coefficient A % of broken leaves (without apex)) CY (leaf surface area per shoot) DZ (mean size) EL (leaf morphometry) FR (no. of leaves per shoot, length of leaves) HR (leaf surface) IT
Rhizomes			AL (rhizome production; % of plagiotropic shoots) HR (sucrose content, δ 15N & δ 34S isotopic ratio, Pb content) IT (% of plagiotropic shoots) EL (% of plagiotropic shoots)
Necrosis	HR (% necrosis of habitat-forming species) ME (% necrosis)		AL CY, HR (% on leaves) EL

⁷⁷ ES: Size measurements of specific Coralligenous species have only been done in specific MPAs and sites. Under the MSFD monitoring programs, we are not taking measurements of individual/colonies for assessment purposes.

Migration patterns	EG		EG
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Annex V. Use of the fields in data standards B1, B2 and B3

137. Nine Contracting Parties have submitted data into the IMAP Info System in the period up November 2024 for one or more of the three benthic habitat types considered in this report. **Table 9** shows the fields within each of the data standards B1, B2 and B3 which contain data, giving an indication of the extent of their use and the availability of data from the monitoring programmes.

138. The following Contracting Parties submitted data:

- a. B1 Coralligenous – Israel (IS), Morocco (MA), Montenegro (ME);
- b. B2 Maërl – Spain (ES), Malta (MT);
- c. B3 *Posidonia* – Egypt (EG), Spain (ES), Italy (IT), Montenegro (ME), Malta (MT), Slovenia (SI), Tunisia (TN).

Table 9. Fields in each data standard (B1 Coralligenous, B2 Maërl, B3 *Posidonia*) for which Contracting Parties have submitted data (up to November 2024). Fields in red are not mandatory in the data standard. Cells in grey indicate the field is not part of the data standard. Cells in beige have no data submitted.

Table	Field	B1 Coralligenous	B2 Maërl	B3 Posidonia
Area	CountryCode	IS, MA, ME	ES, MT	EG, ES, IT, ME, MT, SI, TN
	AreaID	IS, MA, ME	ES, MT	EG, ES, IT, ME, MT, SI, TN
	AreaName	IS, MA, ME	ES, MT	EG, ES, IT, ME, MT, SI, TN
	Region	IS, MA	ES, MT	EG, ES, IT, ME, MT, TN
	Latitude	IS, MA, ME	ES, MT	EG, ES, IT, ME, MT, TN
	Longitude	IS, MA, ME	ES, MT	EG, ES, IT, ME, MT, TN
	GISfile	MA	ES, MT	EG, ES, IT, ME, MT
	DTMfileMultibeam	MA	MT	IT, ME, MT
	FileSidescansonar		MT	IT, ME, MT
	MPAName	IS, MA, ME	MT	EG, IT, ME, MT, TN
	SIC-ZPSName			IT, ME, MT
	Remarks	IS, MA	MT	EG, IT, MT
Site	CountryCode	IS, MA, ME	ES, MT	EG, ES, IT, ME, MT, SI, TN
	AreaID	IS, MA, ME	ES, MT	EG, ES, IT, ME, MT, SI, TN
	SiteID	IS, MA, ME	ES, MT	EG, ES, IT, ME, MT, SI, TN
	SiteName	IS, MA, ME	ES, MT	EG, ES, IT, ME, MT, SI, TN
	Year		ES, MT	
	Month		ES, MT	
	Day		ES, MT	
	Time		ES, MT	
	Latitude	IS, MA, ME	ES, MT	EG, ES, IT, ME, MT, SI, TN
	Longitude	IS, MA, ME	ES, MT	EG, ES, IT, ME, MT, SI, TN

Table	Field	B1 Coralligenous	B2 Maërl	B3 Posidonia
	SCI_Name			ES, IT, ME, MT, SI, TN
	Artificialization			EG, ES, MT
	AnthropogenicAction			EG, ES, IT, MT, TN
	Pollution			EG, ES, MT
	Habitatmapfile		ES, MT	
	Remarks	IS	MT	IT, ME
Transect_ROV	CountryCode	IS, MA, ME	ES	EG, ES, IT, ME, MT, SI, TN
	SiteID	MA, ME		EG, IT, ME, SI
	TransectID	MA, ME		EG, IT, ME, SI
	TransectName	MA, ME		EG, IT, ME, SI
	Year	MA, ME		EG, IT, ME, SI
	Month	MA, ME		EG, IT, ME, SI
	Day	MA, ME		EG, IT, ME, SI
	Time	ME		EG, IT, ME, SI
	LatitudeSTART	MA, ME		EG, IT, ME, SI
	LongitudeSTART	MA, ME		EG, IT, ME, SI
	LatitudeEND	MA, ME		EG, IT, ME, SI
	LongitudeEND	MA, ME		EG, IT, ME, SI
	Habitatmapfile	MA		
	StudyTypology			EG, IT, ME, SI
	GISfile	MA		IT, ME
	Videofile			IT, ME
	GPSfile			IT, ME
	EpibiosisTot	ME		
	NecrosisTot	ME		
	MPAName			EG, IT, ME
	SICName			IT, ME
	Remarks	MA, ME		EG, IT
ReliefSurf_ROV	CountryCode	IS, MA, ME		
	ReliefSurfaceID	MA		
	ReliefSurfaceName	MA		
	TransectID	MA		
	Latitude	MA		
	Longitude	MA		
	SampleDepth	MA		
	BottomType	MA		

Table	Field	B1 Coralligenous	B2 Maërl	B3 Posidonia
	CoralPresence	MA		
	Exposure	MA		
	Slope	MA		
	Sedimentation	MA		
	Biocoverage	MA		
	Remarks	MA		
Habitat_ROV	CountryCode		MT, ES	
	TransectID		MT	
	PhotoID			
	Year		MT	
	Month		MT	
	Day		MT	
	Time		MT	
	Latitude		MT	
	Longitude		MT	
	SampleDepth			
	Coverage		MT	
	Morphotype			
	RatioLiveDead			
	Remarks		MT	
Sample	CountryCode		MT, ES	
	SiteID		MT, ES	
	SampleID		MT, ES	
	Latitude		MT, ES	
	Longitude		MT, ES	
	Year		MT, ES	
	Month		MT, ES	
	Day		MT, ES	
	Time		MT, ES	
	SampleDepth		ES	
	SampleMet		MT, ES	
	PhotoName			
	Coverage		ES	
	Thickness		ES	
	Morphotype		ES	
	RatioLiveDead		ES	

Table	Field	B1 Coralligenous	B2 Maërl	B3 Posidonia
	GrainSizeC		ES	
	GrainSizeG		ES	
	GrainSizeS		ES	
	GrainSizeP		ES	
	Remarks		MT	
Sediment	CountryCode			EG, ES, IT, ME, MT, TN
	AreaID			EG, IT
	AreaName			EG, IT
	SiteID			EG, IT
	SiteName			EG, IT
	Latitude			EG, IT
	Longitude			EG, IT
	TransectID			EG, IT
	StationTypology			EG, IT
	GrainSizeC			EG, IT
	GrainSizeG			EG, IT
	GrainSizeS			EG, IT
	GrainSizeP			EG, IT
	TotalOrganicCarbon			IT
	Remarks			IT
Physico-Chemical	CountryCode		ES	EG, ES, IT
	SiteID			
	SampleID			
	NatonalStationID			EG, IT
	Year			EG, IT
	Month			EG, IT
	Day			EG, IT
	Time			EG, IT
	WaterSampleID			
	Temperature			
	Salinity			
	Secchi depth			
	TransectID			EG, IT
	SiteTypology			EG, IT
	Determinand_Nutrients			IT
	Unit_NutrientsSeawater			EG, IT

Table	Field	B1 Coralligenous	B2 Maërl	B3 Posidonia
	LOD_LOQ_Flag			
	Concentration			EG, IT
	SampleDepth			EG, IT
	Method_Ch1-a			IT
	Remarks			IT
Floristic_sample	CountryCode		MT, ES	
	SampleID		MT, ES	
	Phylum		MT, ES	
	Class		MT, ES	
	Species		MT, ES	
	NewTaxon			
	Authors			
	Remarks			
Shoots	CountryCode			EG, ES, IT
	AreaID			EG, IT
	AreaName			EG, IT
	SiteID			EG, IT
	SiteName			EG, IT
	Latitude			EG, IT
	Longitude			EG, IT
	TransectID			EG, IT
	StationTypology			EG, IT
	AreaTypology			EG, IT
	RepNumber			EG, IT
	ShootNumb			EG, IT
	LepidochronologicalYear			IT
	RhizomIntactUpToBase			EG, IT
	AnnualRhizProd			IT
	AnnualRhizElong			IT
	NumberLeafShootYear			IT
	RhizomeLength			EG, IT
	RhizAge			IT
	YoungLeavesWidth			EG, IT
	YoungLeavesLength			EG, IT
	IL_Width			EG, IT
	IL_Length			EG, IT

Table	Field	B1 Coralligenous	B2 Maërl	B3 Posidonia
	FoliarNecrosisLength_IL			IT
	AL_Width			EG, IT
	AL_Length			EG, IT
	FoliarNecrosisLength_AL			IT
	BaseLength_AL			IT
	AverageNumberLeavesShoot			EG, IT
	Coefficient_A_AL			IT
	Coefficient_A_IL			IT
	IL_MaxLength			IT
	LeafSurfaceShoot			IT
	LeafBiomassShoot			IT
	BiomassEpiphytes			IT
	LeafProduction_SY			IT
	Remarks			ES, IT
Measures	CountryCode			EG, ES, IT, ME, MT, SI, TN
	ArealID			EG, ES, IT, ME, MT, TN
	AreaName			EG, ES, IT, ME, MT, TN
	SiteID			EG, ES, IT, ME, MT, TN
	SiteName			EG, ES, IT, ME, MT, TN
	Latitude			EG, ES, IT, ME, MT, TN
	Longitude			EG, ES, IT, ME, MT, TN
	TransectID			EG, ES, IT, ME
	StationTypology			EG, ES, IT, ME, MT, TN
	AreaTypology			EG, ES, IT, ME, MT
	RepNumber			EG, ES, IT, ME, MT, TN
	ShootDensity			EG, ES, IT, ME, MT, TN
	Depth			EG, ES, IT, ME, MT, TN
	LowerLimitType			EG, ES, IT, ME, MT, TN
	BaringOrthotropicRhizome			EG, ES, IT
	BaringPlagiotropicRhizome			EG, ES, IT
	BaringMeadow			EG, ES, IT, TN
	BearingPlagiotropicRhizomes			EG, ES, IT
	Remarks			EG, ES, IT, ME, MT
Estimations	CountryCode			EG, ES, IT, ME, MT, SI, TN
	ArealID			EG, ES, IT, ME, MT, TN
	AreaName			EG, ES, IT, ME, MT, TN

Table	Field	B1 Coralligenous	B2 Maërl	B3 Posidonia
	SiteID			EG, ES, IT, ME, MT, TN
	SiteName			EG, ES, IT, ME, MT, TN
	Latitude			EG, ES, IT, ME, MT, TN
	Longitude			EG, ES, IT, ME, MT, TN
	TransectID			EG, ES, IT, ME
	StationTypology			EG, ES, IT, ME, MT, TN
	AreaTypology			EG, ES, IT, ME, MT
	RepNumber			EG, ES, IT, ME, MT
	ContinuityMeadows			EG, ES, IT, ME, MT, TN
	DeadMatteCover			EG, ES, IT, ME, MT
	AlivePosidonia_oceanicaCover			EG, ES, IT, ME, MT, TN
	Caulerpa_racemosaCover			EG, ES, IT, ME, MT
	Cymodocea_nodosaCover			EG, IT, MT
	SubstratumType			EG, ES, IT, ME, MT, TN
	DisturbanceSource			EG, ES, IT, ME, TN
	MeadowComposition			EG, IT
	PresenceInvasiveAlgae			EG, ES, IT, ME
	FloweringPresence			EG, IT, ME, TN
	Remarks			ES, IT, ME, MT
Megabenthos_ROV	CountryCode	IS, MA, ME		
	TransectID	MA, ME		
	Phylum	MA, ME		
	Class	MA, ME		
	Species	MA		
	NewTaxon	MA		
	Authors	MA		
	Coverage	MA		
	EpibiosisCoverage	ME		
	NecrosisCoverage			
	SpecAbundance	ME		
	EpibiosisSpec			
	NecrosisSpec			
	EntrapmentNum	ME		
	Remarks	MA, ME		
Megabenthos_CLR	CountryCode	IS, MA, ME		
	TransectID	ME		

Table	Field	B1 Coralligenous	B2 Maërl	B3 Posidonia
	Phylum	ME		
	Class	ME		
	Species	ME		
	NewTaxon			
	Authors			
	ColonIndID			
	EpibiosisCI	ME		
	NecrosisCI	ME		
	Morphometry_h	ME		
	Remarks			
Plot_Diver	CountryCode	IS, MA, ME		
	PlotID	MA		
	PlotName	MA		
	TransectID	IS, MA		
	Latitude	IS, MA		
	Longitude	IS, MA		
	PhotoID	IS		
	SampleDepth	IS, MA		
	BottomType	IS, MA		
	Slope			
	Exposure			
	CalcareousMatrix			
	MaxHeightSE	MA		
	NumIDSup			
	NumTot			
	Phylum	IS, MA		
	Class	IS, MA		
	Species	IS, MA		
	NewSpecies	IS, MA		
	Authors	IS, MA		
	SpecAbundance	MA		
	EpibiosisSpec			
	NecrosisSpec			
	Morphometry_h			
	NecrosisPlotSub			
	InvasiveSpecPerc			

Table	Field	B1 Coralligenous	B2 Maërl	B3 Posidonia
	InvasiveSpecRelAbun			
	SludgePerc			
	BioBuilderSpecPerc			
	BryoPerc			
	AbioticPerc			
	Temp			
	Salinity			
	SecchiDiskDepth			
	Remarks ⁷⁸	MA		
Macrofauna_sample	CountryCode		ES, MT	
	SampleID		ES	
	Phylum		ES	
	Class		ES	
	Species		ES	
	NewTaxon			
	Authors			
	Remarks			
DebType	CountryCode	IS, MA, ME	ES	
	TransectID	ME		
	DebType	ME		
	DebAbundance	ME		
	Remarks	ME		

⁷⁸ Field not in data standard B1, but used by Morocco

Annex XVI

Mid-term assessment of the collective implementation of the Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO)

I. Introduction

1. This mid-term assessment evaluates the implementation progress of 42 actions outlined in Annex III of the Post-2020 Strategic Action Programme for Biodiversity (Post-2020 SAPBIO). Specifically, it examines the status of the implementation of start-up activities.
2. The assessment is primarily based on responses provided by Partner organizations and countries through a tailored, simplified questionnaire. This questionnaire employed binary questions, supported by means of verification, along with targeted questions to identify gaps and challenges in implementation. Respondents selected from predefined options regarding progress and challenges, with some actions requiring multiple questions for comprehensive evaluation.
3. This methodology enables Partner organizations and countries to conduct self-assessments and provide indicative progress updates efficiently. However, certain limitations could be acknowledged. Most notably, the assessment remains sometimes subjective, as the predefined response options may lack quantitative benchmarks (e.g., what qualifies as sufficient progress for an action to be marked as "Yes"). Consequently, interpretations of progress may vary among respondents. This limitation stems from the absence of quantifiable indicators for the planned actions in Annex III of the Post-2020 SAPBIO. Therefore, the Means of verification section should be obligatory.
4. Despite these constraints, the collected data offers valuable insights into implementation trends, highlighting both advancements and obstacles. These findings inform actionable recommendations to enhance future implementation.
5. The main findings of the mid-term assessment given in this document are based on a quantitative analysis and are aggregated by Post-2020 SAPBIO Goals. For the start-up activities with national scope, the analysis is further developed following a sub-regional approach.

WESTERN MEDITERRANEAN	IONIAN SEA AND CENTRAL MEDITERRANEAN	ADRIATIC SEA	AEGEAN SEA AND LEVANTINE BASIN
Algeria	Greece	Albania,	Cyprus
Spain	Italy	Bosnia and Herzegovina,	Egypt
France	Libya	Croatia,	Greece
Italy	Malta	Italy,	Israel
Morocco	Tunisia	Montenegro	Lebanon
Monaco		Slovenia	Türkiye
Tunisia			Syria



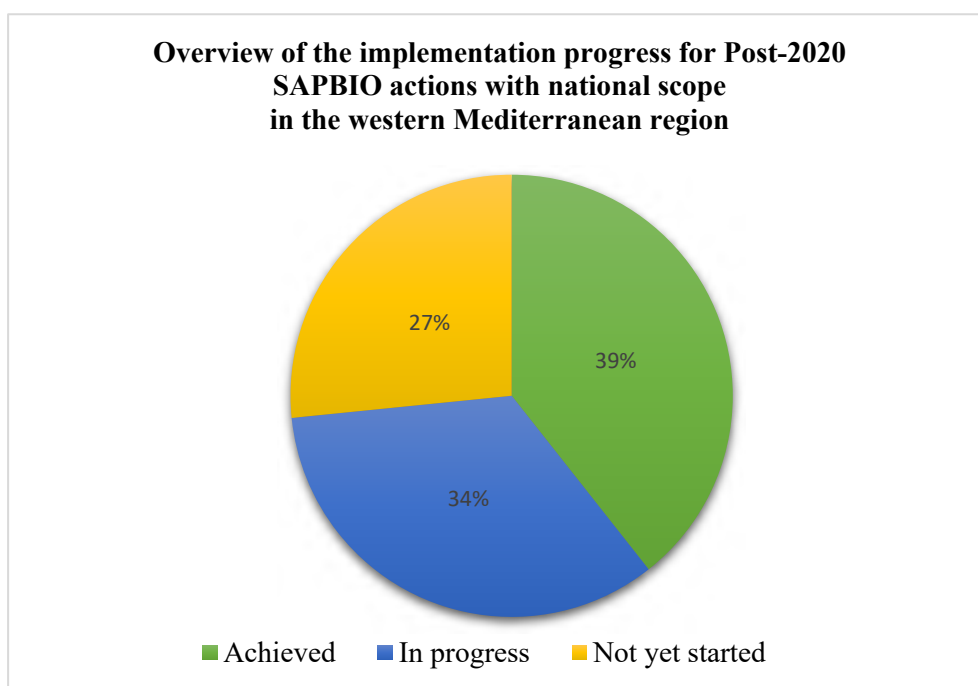
II. Mid-term assessment of the collective implementation of the Post-2020 SAPBIO focusing on start-up activities

A. Actions implementation progress

1. Overview of the implementation progress for Post-2020 SAPBIO actions with national scope

Western Mediterranean

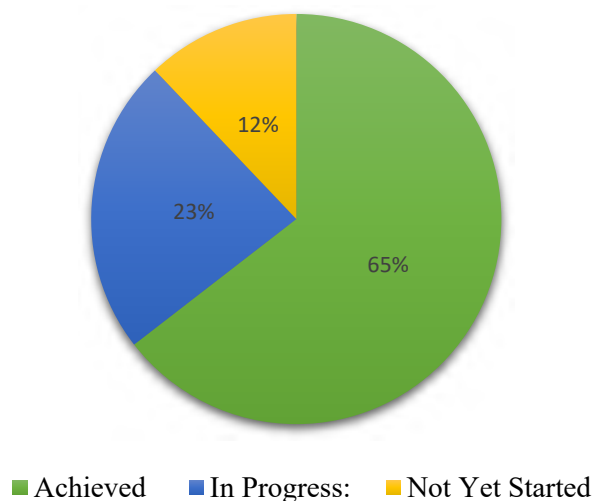
1. Western Mediterranean countries reported that the majority of actions were achieved (37%) or are still in progress (32%). On the other hand, 25% of the actions have not yet started.



Ionian Sea and Central Mediterranean

2. The Ionian Sea and Central Mediterranean sub-region reported that a substantial majority of actions (64.52%) have been successfully implemented or have reached a stage of significant progress. Ongoing efforts are evident in 23.39% of the actions, classified as "In Progress," reflecting a continued commitment to achieving the SAP BIO targets. However, a notable proportion (12.10%) of actions remain uninitiated ("Not Yet").

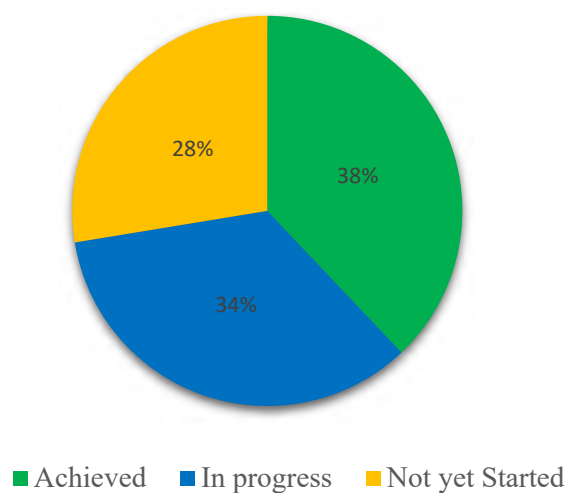
**Overview of the implementation progress for Post-2020
SAPBIO actions with national scope in the Ionian Sea and
Central Mediterranean sub-region.**



Aegean Sea and Levantine Basin

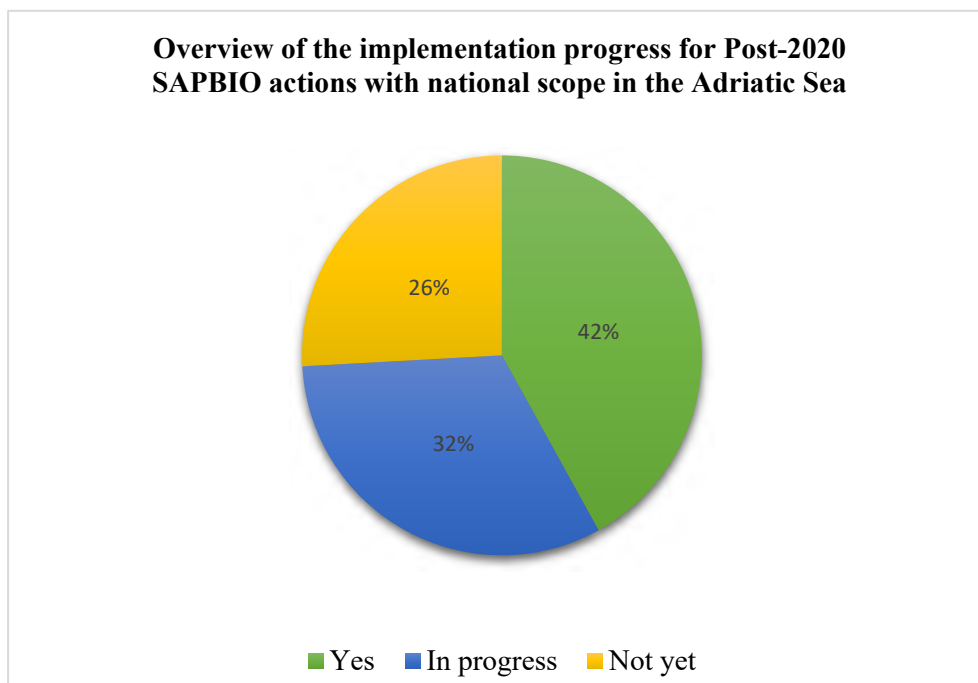
3. The Aegean and Levantine Basin countries reported that the majority of actions were successfully implemented (38%) or are still in progress (34%). On the other hand, implementation of approximately one-quarter of actions (28%) has not yet started

**Overview of the implementation progress for Post-2020
SAPBIO actions with national scope in Aegean Sea and
Levantine Basin**



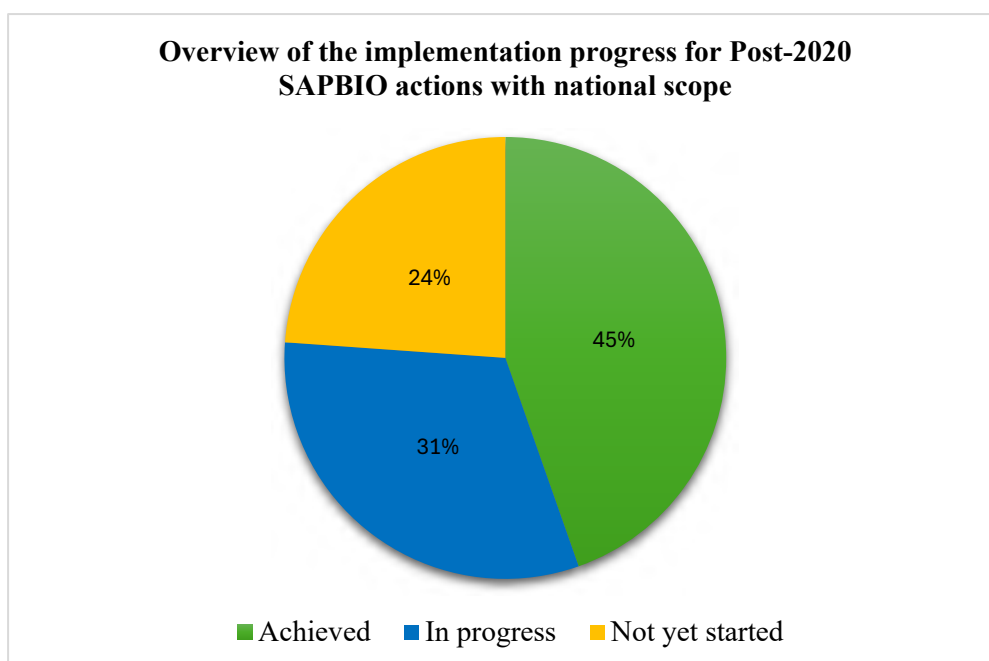
Adriatic Sea

4. Adriatic countries reported that most actions were successfully implemented (42%) or are still in progress (32%). On the other hand, implementation of approximately one-quarter of actions (26%) has not yet started.



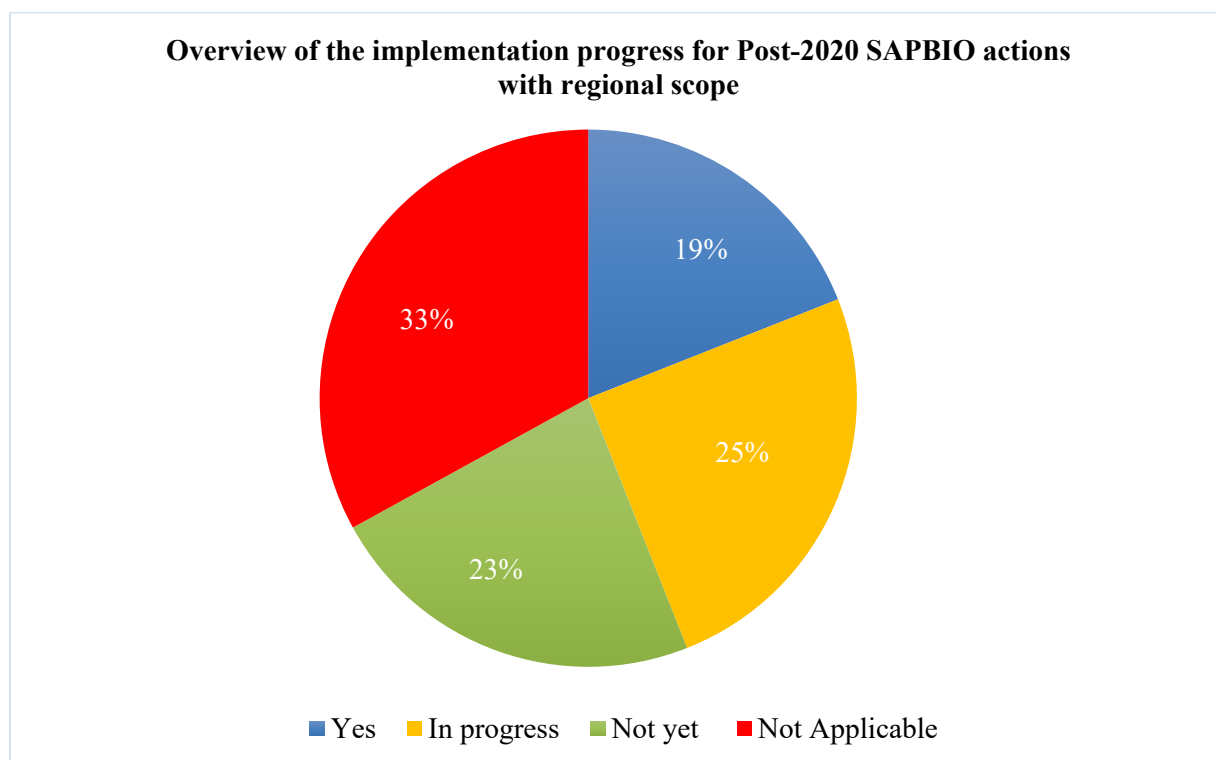
Mediterranean

5. In the Mediterranean region, 45% of actions have been successfully implemented, 31% are currently in progress, and 26% have not yet been initiated. It is the same pattern for all the 4 sub-regions, with minor differences in percentages.



2. Overview of the implementation progress for Post-2020 SAPBIO Actions with regional scope

6. The implementation progress of Post-2020 SAPBIO actions with regional scope reflects moderate progress, with nearly half of actions either completed (19%) or in progress (25%), though a notable proportion remains unimplemented or outside regional applicability.

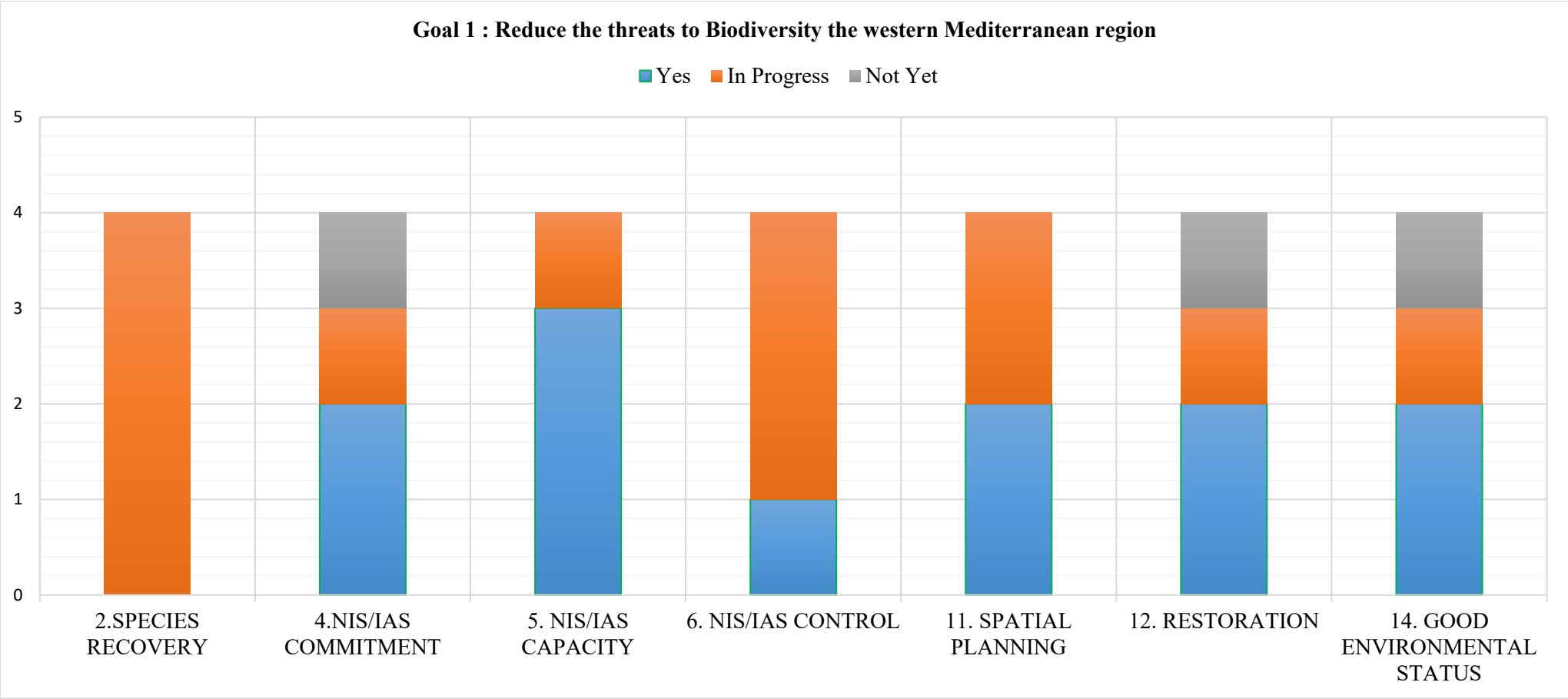


B. In-depth analysis of the implementation of the Post-2020 SAPBIO Actions with national scope at the level of individual Post-2020 SAPBIO goals:

1. Goal 1: Reduce the threats to biodiversity

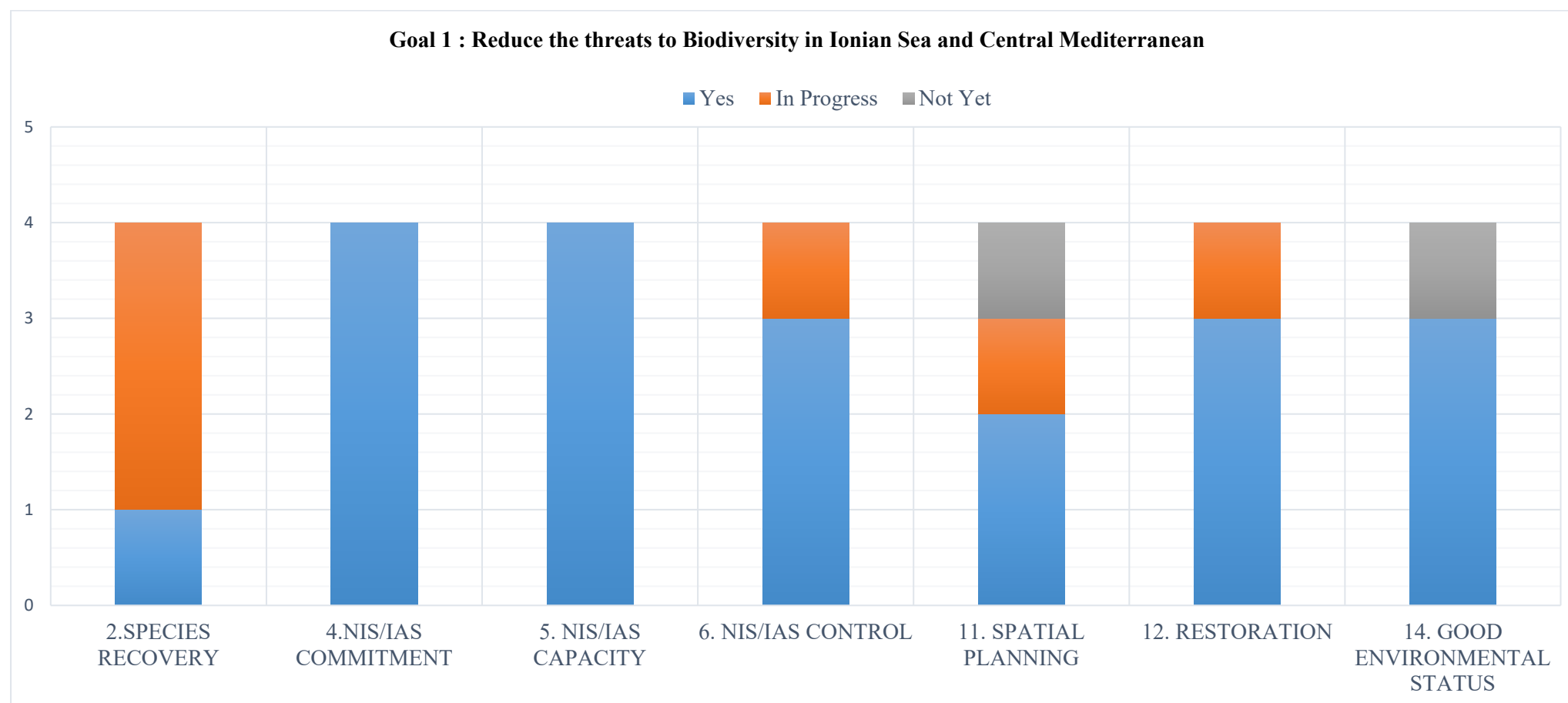
Western Mediterranean

7. A detailed analysis of Goal 1 in the western Mediterranean reveals uneven progress across its associated actions. Overall, NIS/IAS Control (Action 6) has the highest proportion of completed tasks, while Species Recovery (Action 2) has a large segment in the “not yet started” category. The remaining actions—NIS/IAS Commitment (Action 4), NI most(Action 5), Spatial Planning (Action 11), Restoration (Action 12), and Good Environmental Status (Action 14)—show a mix of completed and in-progress activities, with some elements still not initiated.



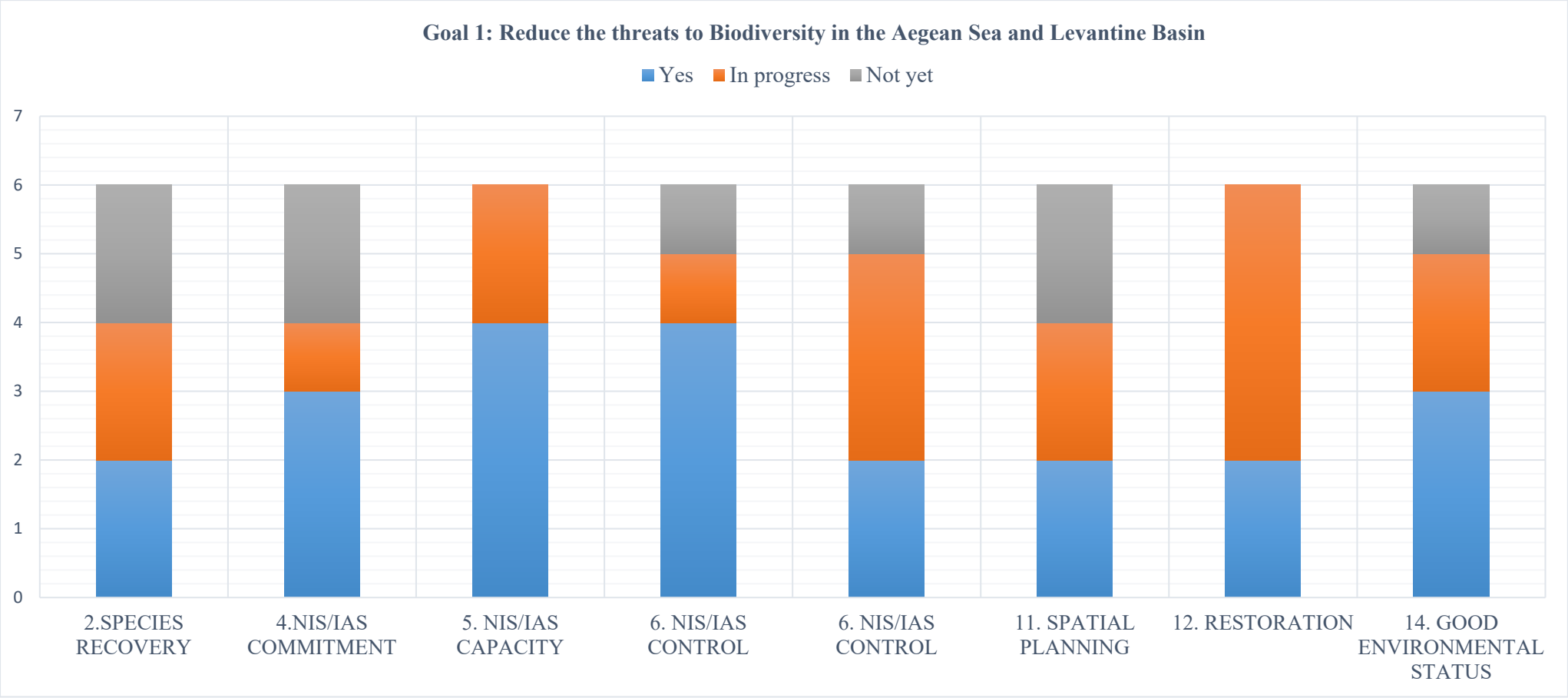
Ionian Sea and Central Mediterranean

8. A detailed analysis of Goal 1 in the Ionian Sea and Central Mediterranean, indicates varied progress across the actions. NIS/IAS Control (Action 6) features the largest portion of completed tasks, while other actions such as Spatial Planning (Action 11) and Restoration (Action 12) still include a notable share of “not yet started” elements. Species Recovery (Action 2) shows a mix of completed and in-progress segments, reflecting partial advancement but room for further action. Overall, the chart underscores a stronger focus on invasive species management compared to more limited progress in other conservation areas.



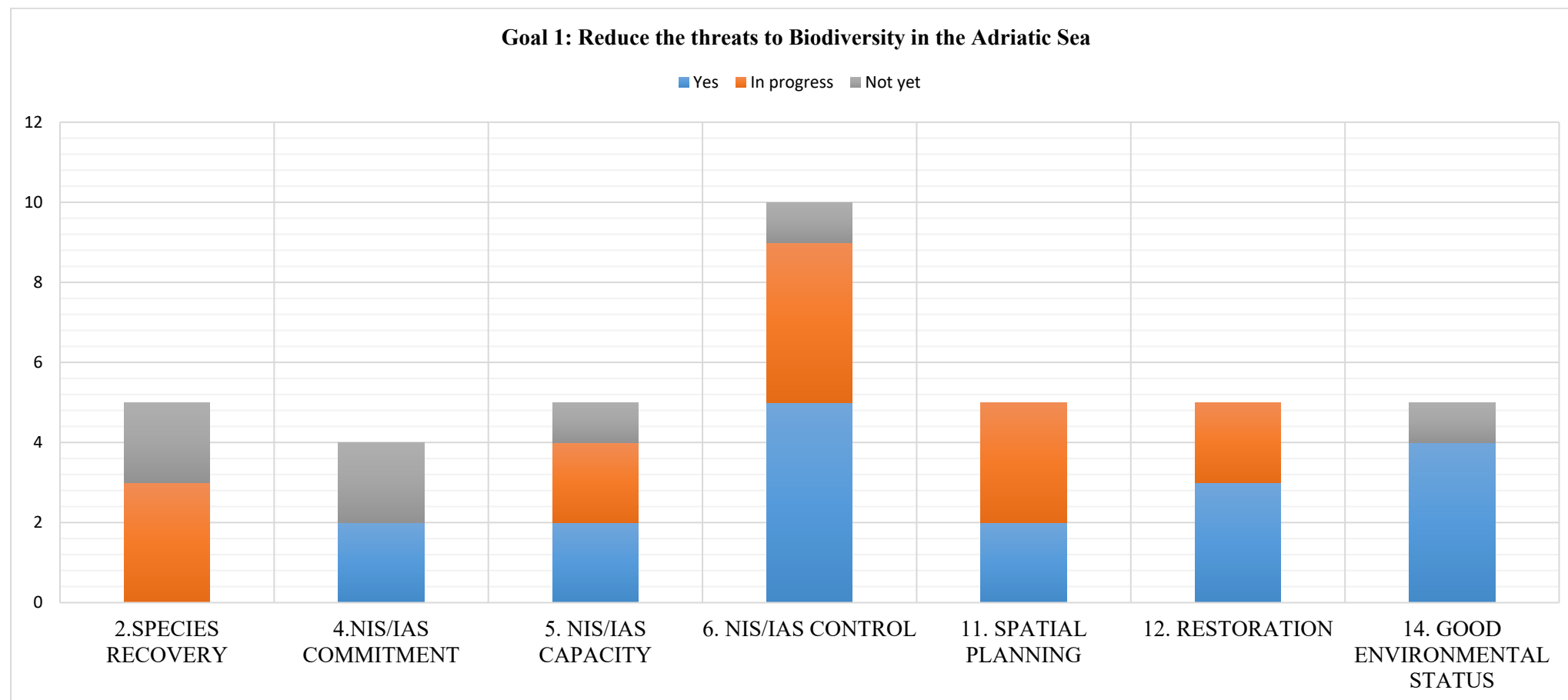
Aegean Sea and Levantine Basin

9. A detailed analysis of Goal 1 in the Aegean and Levantine Basin reveals striking progress in invasive species management, with NIS/IAS Commitment (Action 4) and NIS/IAS Capacity (Action 5) showing complete implementation across all measures. NIS/IAS Control (Action 6) and Restoration (Action 12) demonstrate strong advancement with significant completed actions, while Species Recovery (Action 2) lags considerably with minimal completed work. Spatial Planning (Action 11) and Good Environmental Status (Action 14) show moderate progress but retain substantial portions of unaddressed components, indicating areas requiring immediate attention.



Adriatic Sea

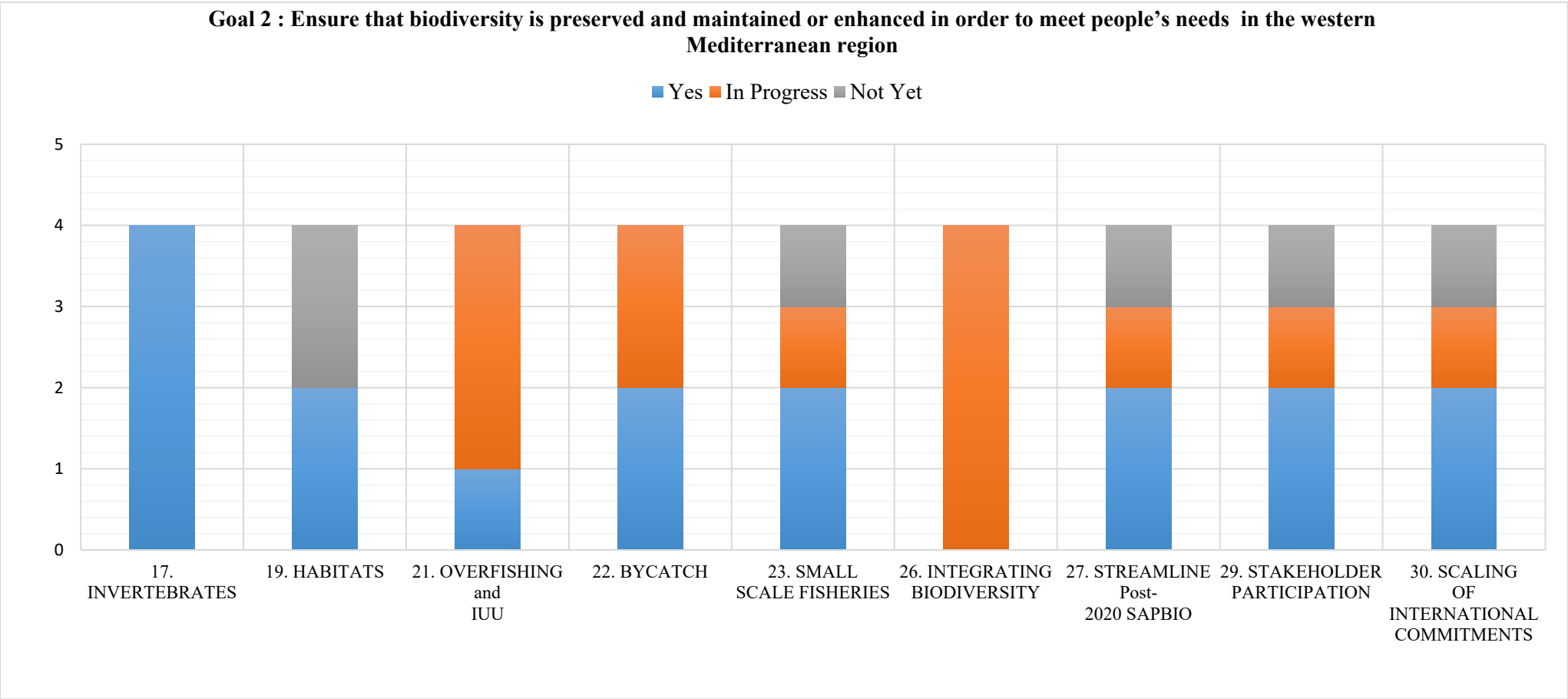
10. A detailed analysis of Goal 1 in the context of the Adriatic Sea reveals that the most significant progress is done in Restoration actions (Action 12) and NIS/IAS control (Action 6), while the least progress has been made in NIS/IAS commitment (Action 4) and Species recovery (Action 2).



2. Goal 2: Ensure that biodiversity is preserved and maintained or enhanced in order to meet people’s needs

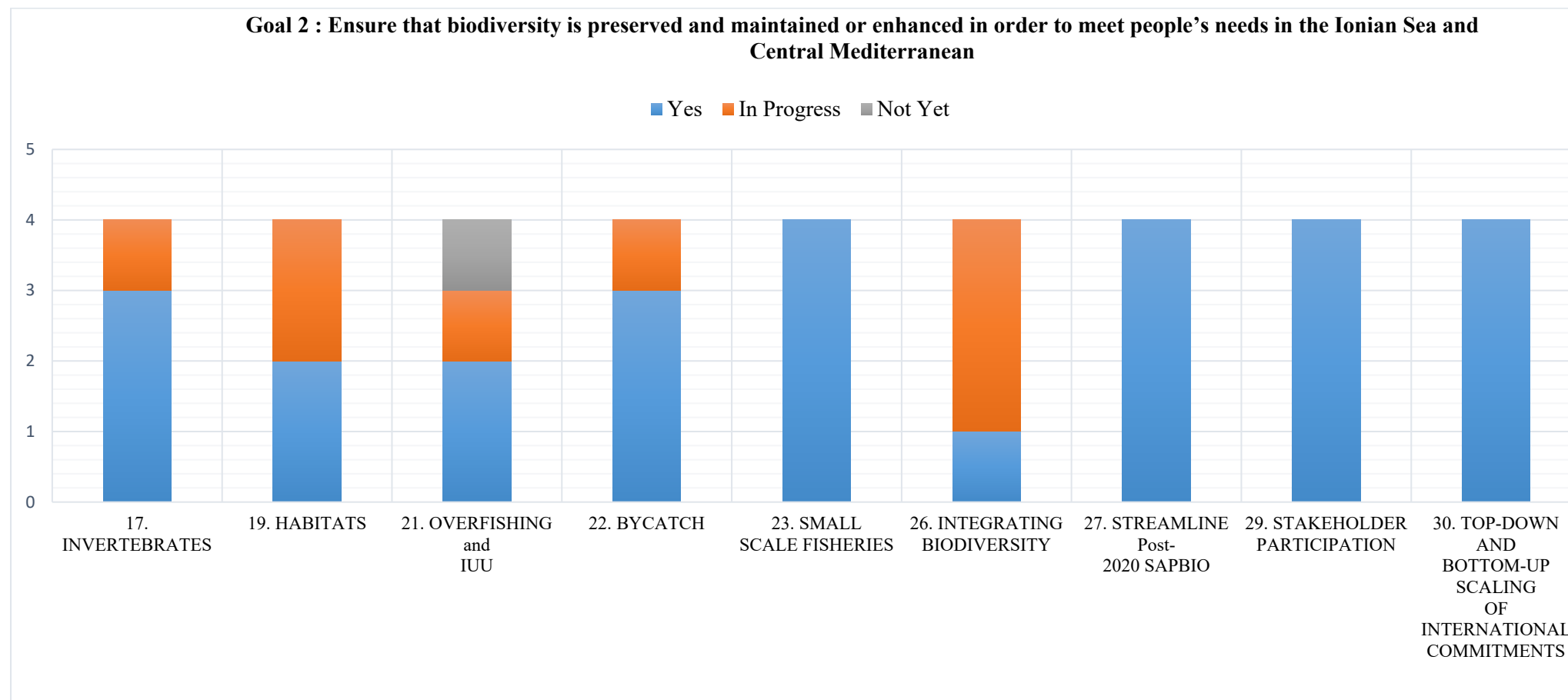
Western Mediterranean

11. A detailed analysis of Goal 2 in the western Mediterranean region reveals varied progress. Action 17 (Invertebrates) shows significant advancement with nearly all measures completed. Action 26 (Integrating Biodiversity) has the majority of its efforts still in progress. Actions 19 (Habitats), 21 (Overfishing and IUU), 27 (Streamline Post-2020 SAPBIO), and 29 (Stakeholder Participation) require more attention, as indicated by their larger "Not Yet" segments. Actions 22 (Bycatch) and 23 (Small-Scale Fisheries) demonstrate balanced progress with a mix of completed and ongoing efforts.



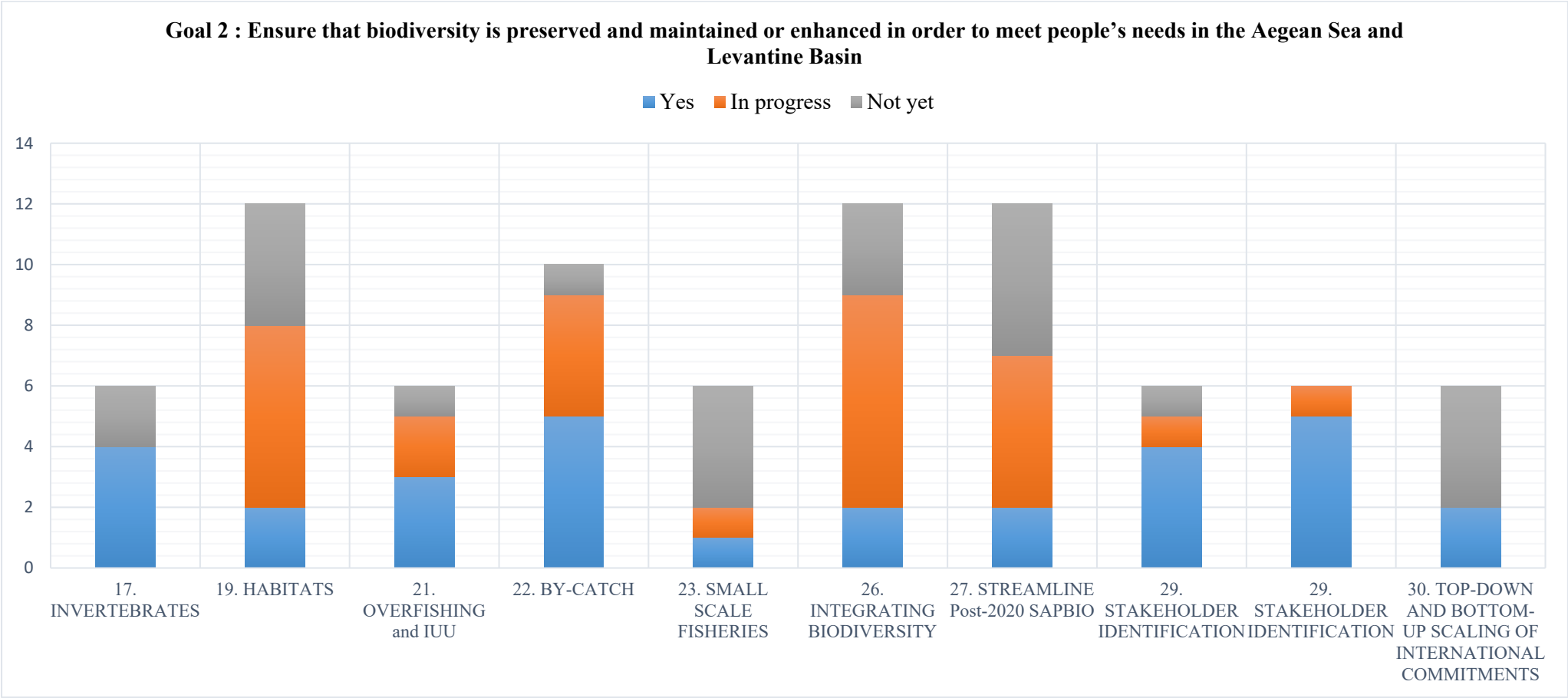
Ionian Sea and Central Mediterranean

12. A detailed analysis of Goal 2 in the Ionian Sea and Central Mediterranean region reveals strong advancement in small scale fisheries (**Action 23**), streamline Post-2020 SAPBIO (**Action 26**) and Scaling of International Commitments (**Action 30**), with the majority of measures fully implemented. Invertebrates (**Action 17**) Habitats (**Action 19**) Bycatch (**Action 23**) and Integrating Biodiversity (**Action 26**) show moderate progress, indicating ongoing but incomplete initiatives.



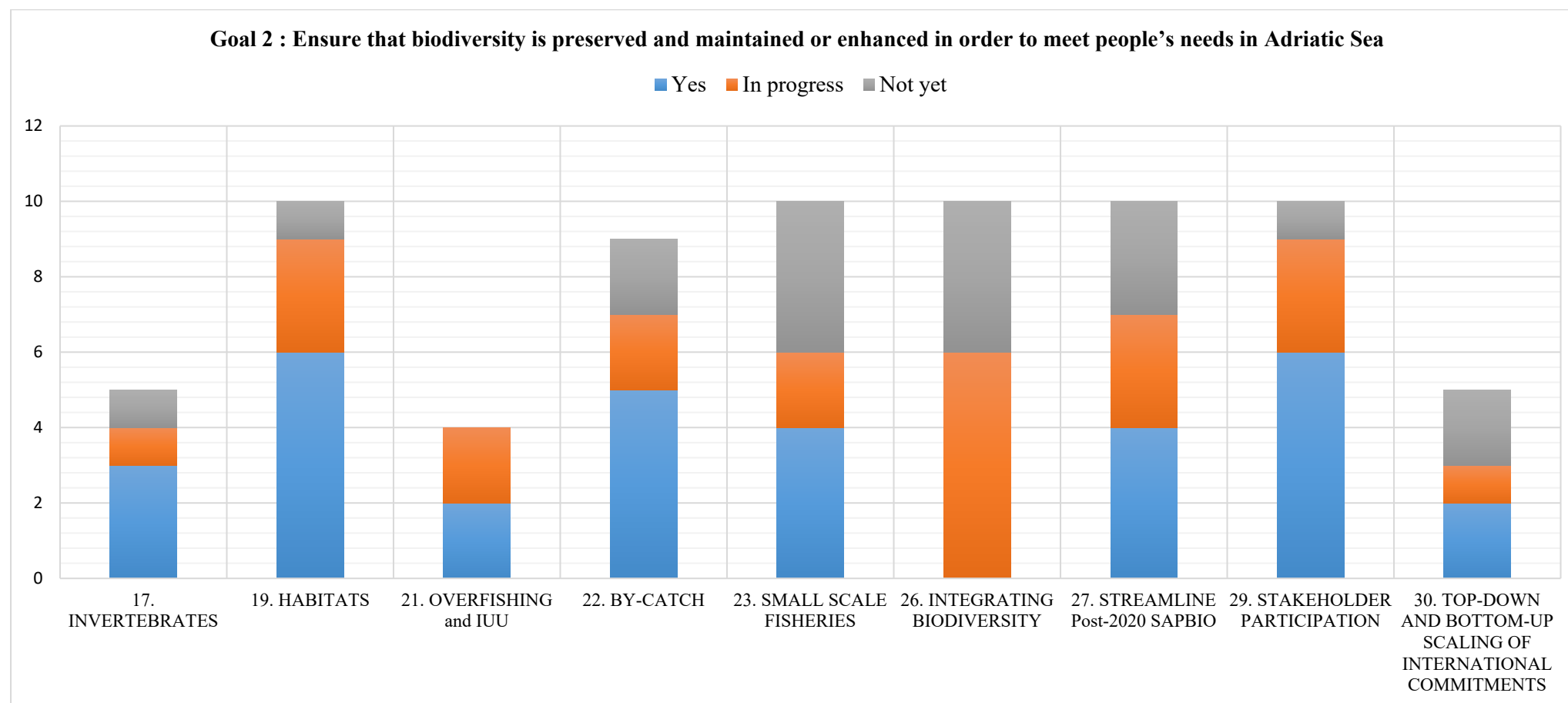
Aegean Sea and Levantine Basin

13. A detailed analysis of Goal 2 in the Aegean Sea and Levantine Basin shows that the most significant progress has been done in Stakeholders participation (**Action 29**), followed by Habitats (**Action 19**) and Bycatch (**Action 22**). Implementation of other action shows equally positive progress, with the least positive progress reported in actions related to Small Scale Fisheries (**Action 23**) .



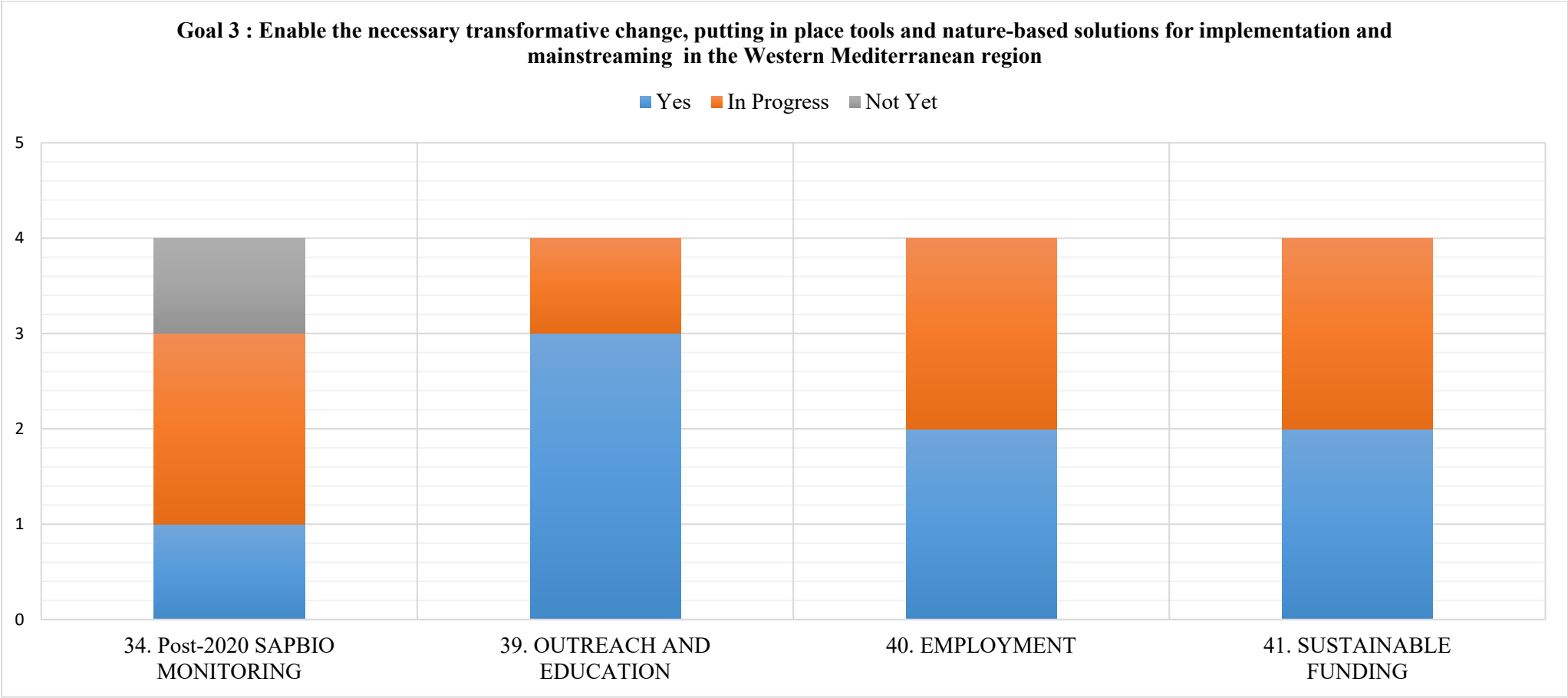
Adriatic Sea

14. A detailed analysis of Goal 2 in the Adriatic Sea reveals notable achievements include "17. Invertebrates" and "23. Small Scale Fisheries," which show considerable advancement. On the other hand, "19. Habitats" and "26. Integrating Biodiversity" indicating ongoing efforts. Actions such as "21. Overfishing and IUU" and "22. By-catch" still requiring attention as indicated by the "Not Yet" status.



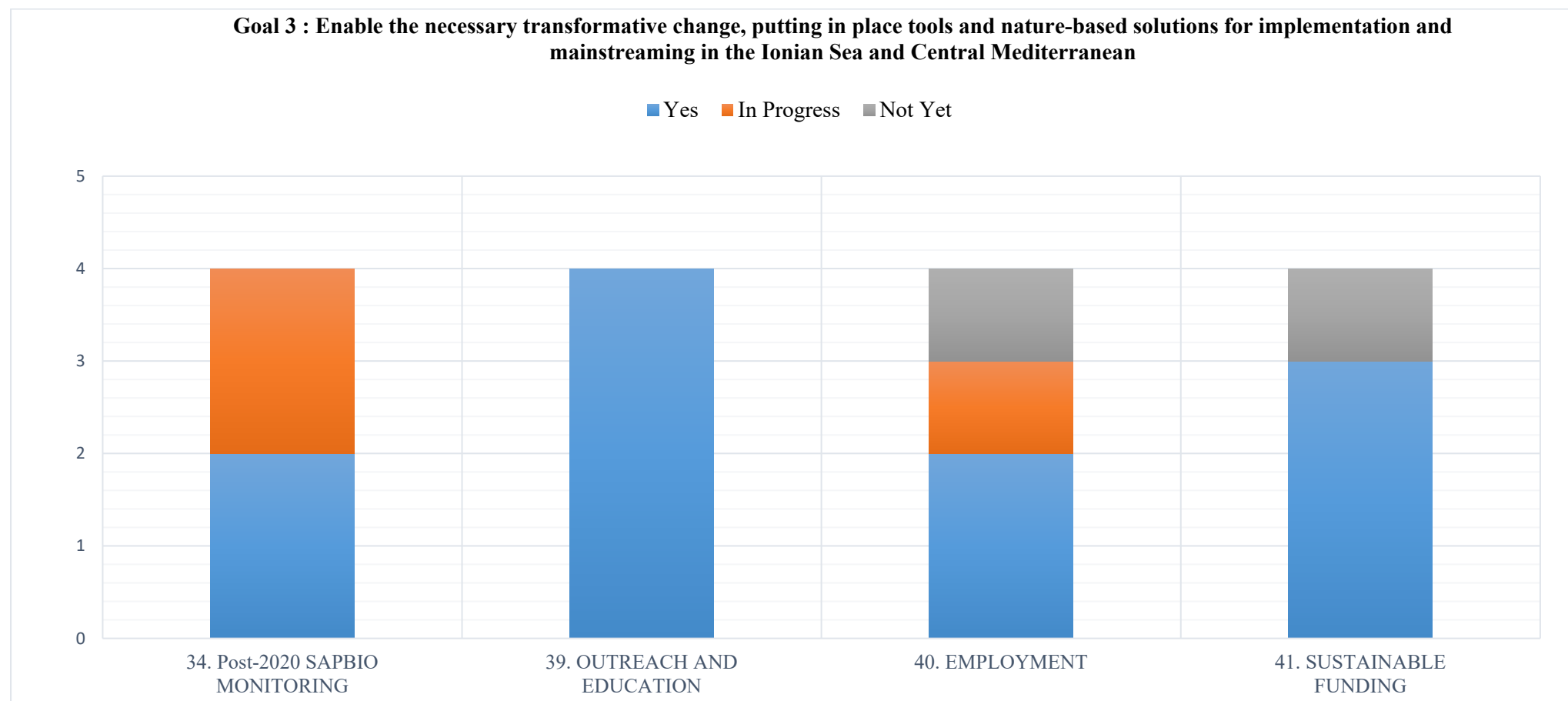
3. Goal 3 : Enable the necessary transformative change, putting in place tools and nature-based solutions for implementation and mainstreaming
Western Mediterranean

15. A detailed analysis of Goal 3 in the Western Mediterranean region highlights that "Outreach and Education" demonstrates the most advancement towards completion. Conversely, "Post-2020 SAPBIO Monitoring" shows a substantial amount of work still in progress or yet to be initiated. "Employment" and "Sustainable Funding" indicate a balanced state of completed and ongoing efforts.



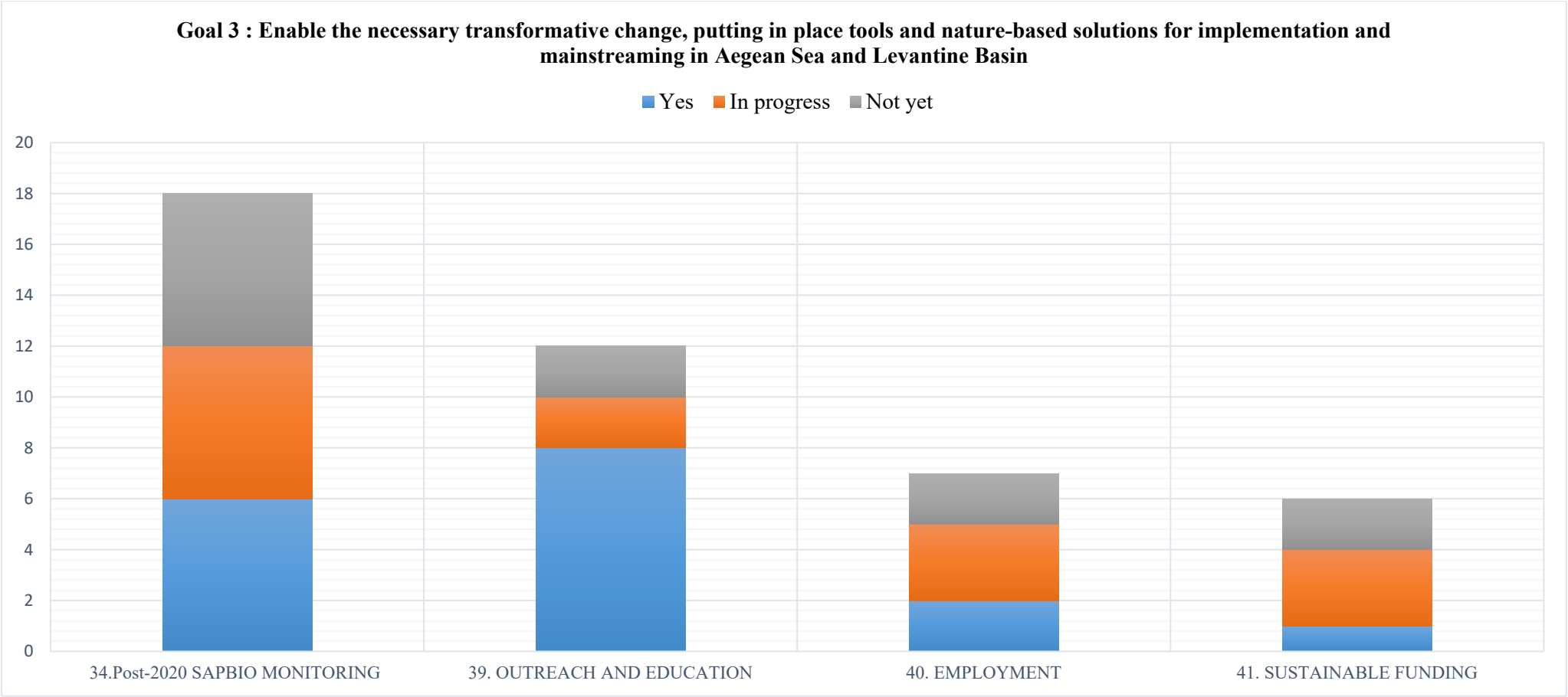
Ionian Sea and Central Mediterranean

16. A detailed analysis of Goal 3 in the Ionian Sea and Central Mediterranean shows distinct progress levels across different sectors. "Outreach and Education" has achieved full implementation. "Post-2020 sapbio monitoring" indicates a balance between completed and ongoing activities. "Employment" presents a mix of completed, in-progress, and yet-to-start initiatives. "Sustainable Funding" shows a significant portion completed, with some areas still pending.



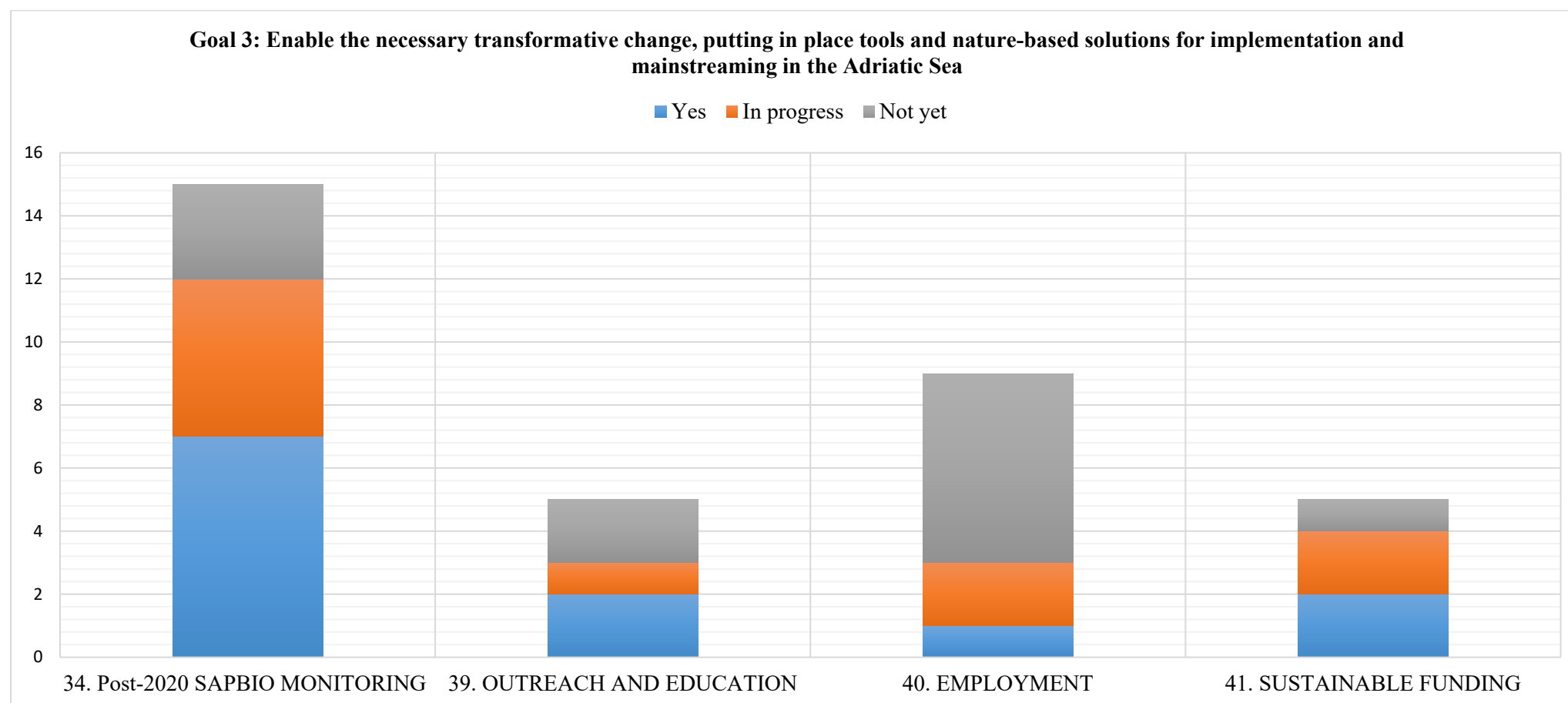
Aegean Sea and Levantine Basin

17. A detailed analysis of Goal 3 in the Aegean Sea and Levantine Basin presents a diverse landscape of progress. "Post-2020 SAPBIO MONITORING" shows a relatively even distribution across all three stages. "Outreach and Education" has a significant portion marked as completed ("Yes"), with fewer initiatives in progress or not yet started. "Employment" indicates a higher number of activities in progress compared to those completed or not yet initiated. "Sustainable Funding" has the fewest completed initiatives, with more in progress and a notable number not yet started.



Adriatic Sea

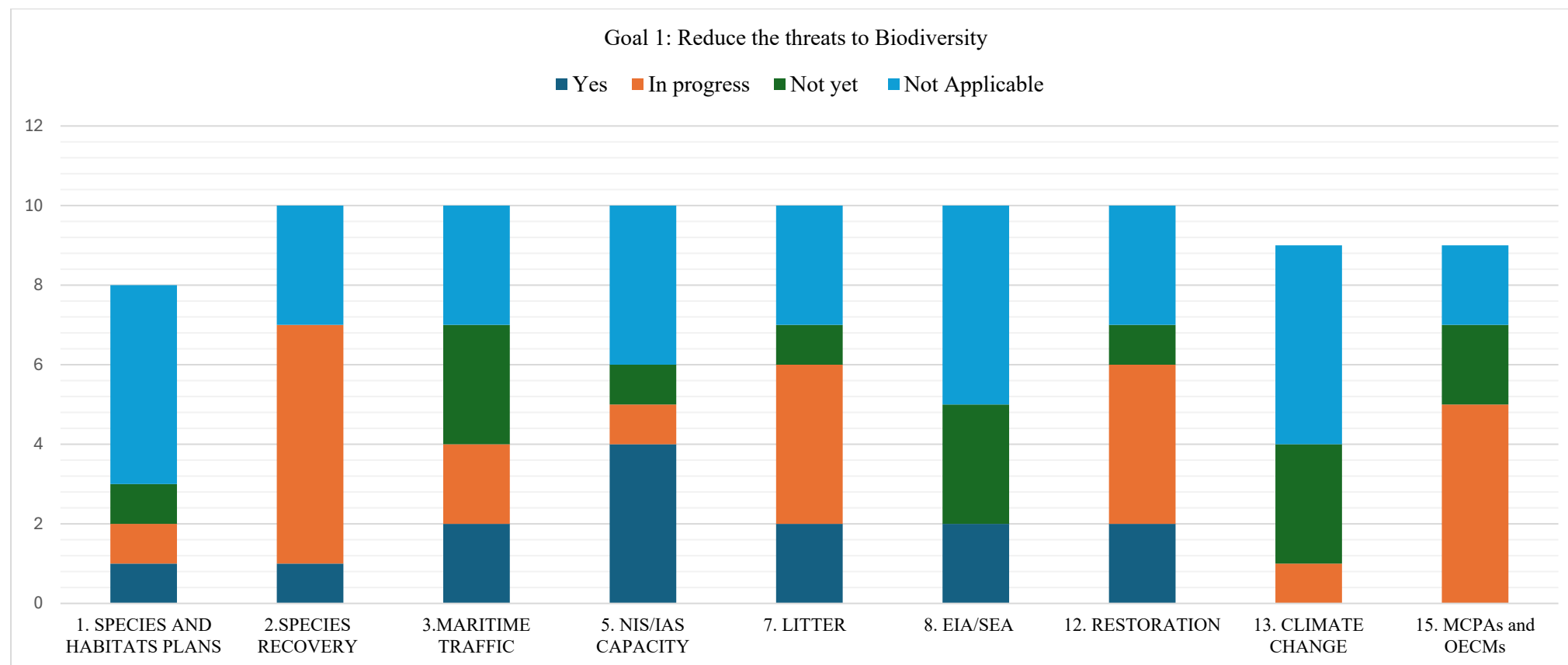
18. A detailed analysis of Goal 3 in the Adriatic Sea demonstrates varying degrees of advancement across sectors. "Post-2020 SAPBIO MONITORING" shows considerable progress with a significant portion completed or in progress. "Outreach and Education" exhibits a comparatively lower level of activity across all stages. "Employment" is characterized by a notable number of initiatives yet to commence. "Sustainable Funding" presents a more even distribution of activities across the "Yes", "In Progress", and "Not Yet" categories



C. In-depth analysis of the implementation of the Post-2020 SAPBIO Action with regional scope at the level of individual Post-2020 SAPBIO goals

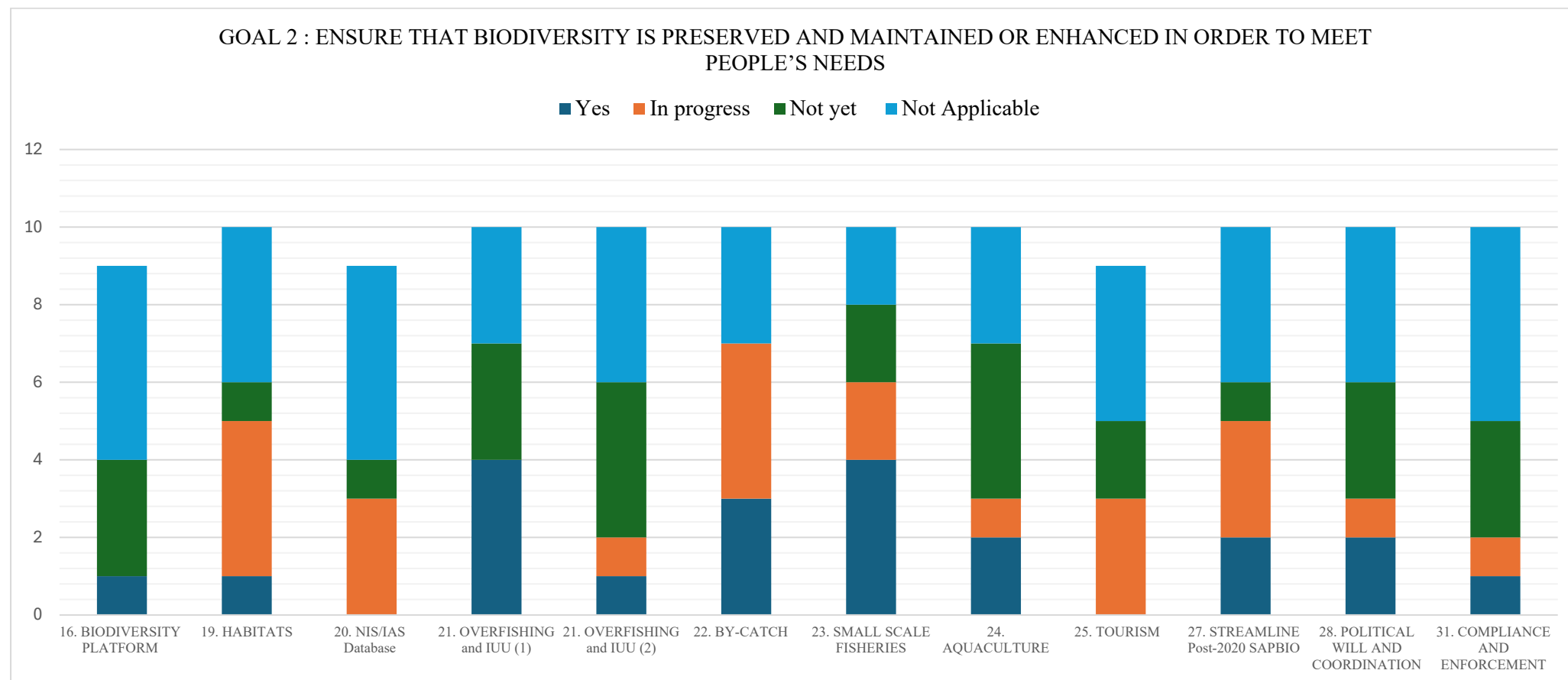
Goal 1: Reduce the threats to Biodiversity

19. The majority of actions show either "Yes" (fully implemented) or "In progress" status. This indicates a positive trend in working towards reducing threats to biodiversity.



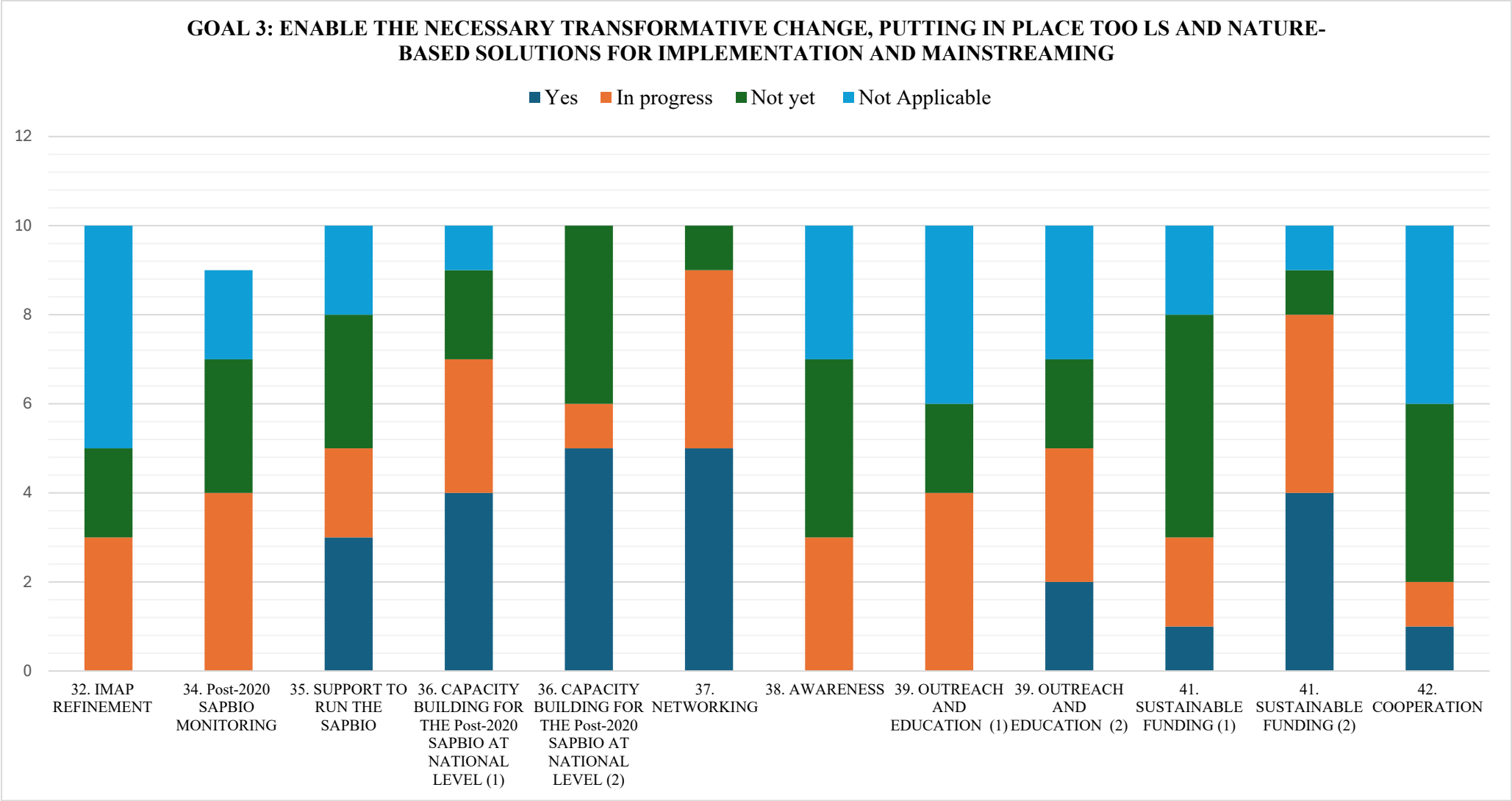
Goal 2 Ensure that biodiversity is preserved and maintained or enhanced in order to meet people's needs

20. A significant portion of actions are marked "No" or "Not applicable," indicating substantial delays or exclusions in implementation.



Goal 3: Enable the necessary transformative change, putting in place too ls and nature-based solutions for implementation and mainstreaming

21. Most actions show at least partial implementation ("Yes" or "In progress"), demonstrating a positive trend in enabling transformative change



D. Conclusions of In-depth analysis at the level of individual Post-2020 SAPBIO goals

1. Goal 1: Reduce the threats to Biodiversity

National scope

- "SPECIES RECOVERY" consistently shows a large proportion of initiatives "In Progress" across all regions, indicating that this is a long-term and ongoing effort requiring sustained action.
- Across all four regions, there is a noticeable focus on addressing non-indigenous and invasive alien species. Categories related to commitment, capacity, and control of NIS/IAS show significant activity, although the stage of progress varies by region
- The progress in "SPATIAL PLANNING" and "RESTORATION" varies considerably among the regions, suggesting different priorities or stages of implementation in these areas
- While the progress towards achieving "GOOD ENVIRONMENTAL STATUS" varies, it is consistently represented as a category being addressed across all regions, indicating its importance as an overarching goal

Regional Scope

- There's a positive trend in action implementation, but financial and systemic hurdles need to be overcome for more effective progress.

2. Goal 2 : Ensure that biodiversity is preserved and maintained or enhanced in order to meet people's needs

National Scope

- Across the four regions, "STAKEHOLDER PARTICIPATION" and "HABITATS" generally show significant progress with a high number of initiatives marked as "Yes" or completed
- The progress in addressing "OVERFISHING and IUU" is less consistent across the regions, with some showing more "In Progress" or "Not Yet" statuses, indicating this remains a challenging area
- "INTEGRATING BIODIVERSITY" shows a good level of progress, particularly in the Ionian Sea and Central Mediterranean and the Adriatic Sea
- The "STREAMLINE Post-2020 SAPBIO" category shows a mix of progress across regions, indicating that efforts to align with the new strategic action plan for biodiversity are in various stages of implementation

Regional Scope

- The trend here is concerning, with significant implementation gaps. Urgent attention is needed to address the identified challenges and get actions back on track

3. Goal 3: Enable the necessary transformative change, putting in place tools and nature-based solutions for implementation and mainstreaming

National Scope

- "Outreach and Education" generally shows the most significant progress, with a high proportion of initiatives marked as "Yes" or completed.
- The progress in "Post-2020 SAPBIO Monitoring" is quite varied across the regions, indicating different stages of implementation or challenges specific to each area.
- Compared to "Outreach and Education", the categories of "Employment" and "Sustainable Funding" tend to have a higher proportion of initiatives still "In Progress" or "Not Yet" started across the regions.

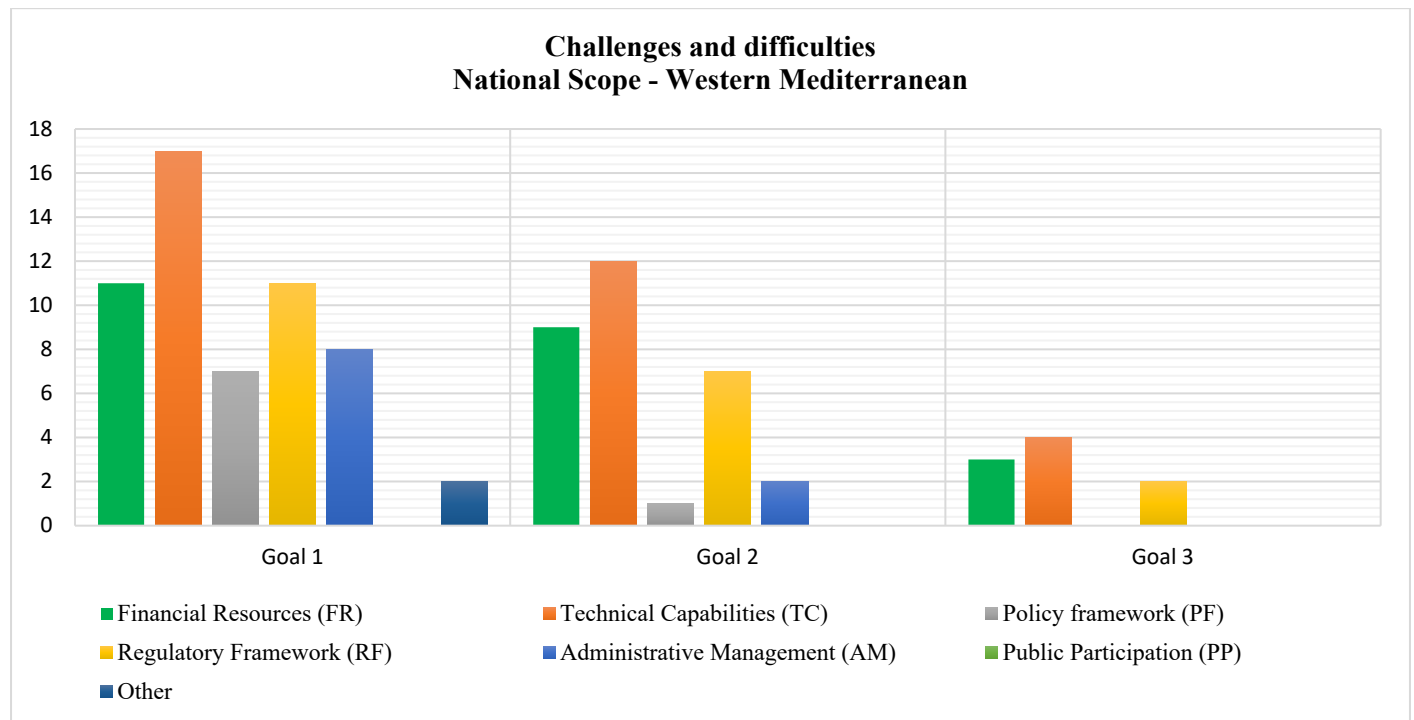
Regional Scope

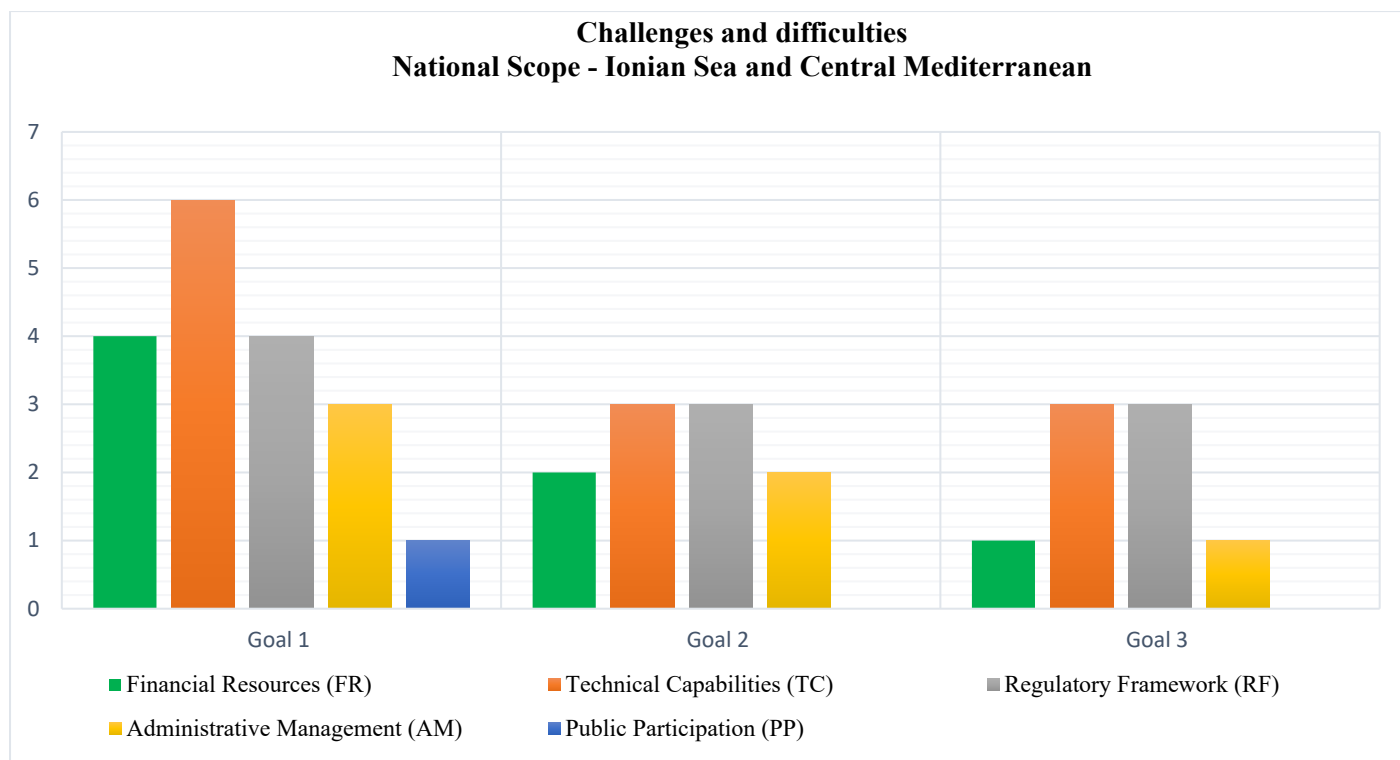
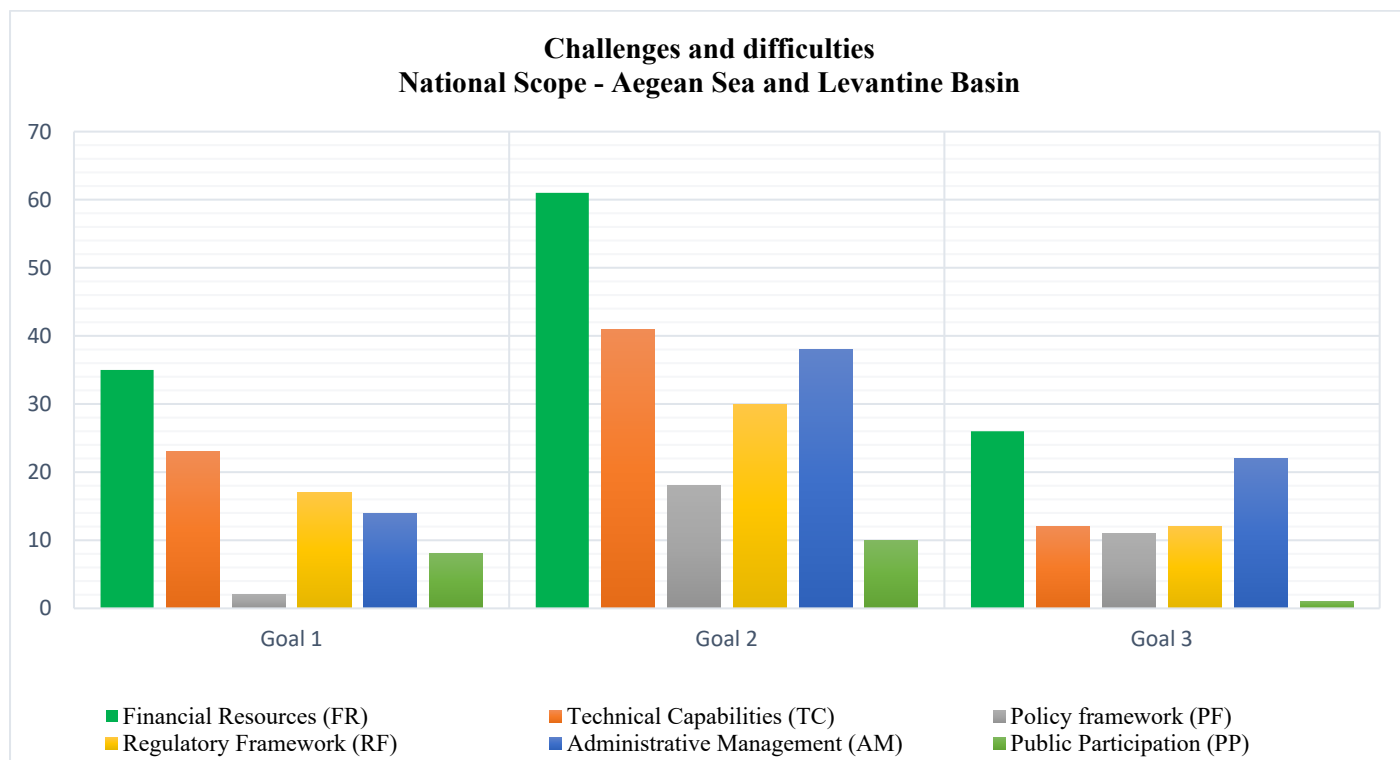
- Most actions show at least partial implementation ("Yes" or "In progress"), demonstrating a positive trend in enabling transformative change

III. Challenges and difficulties

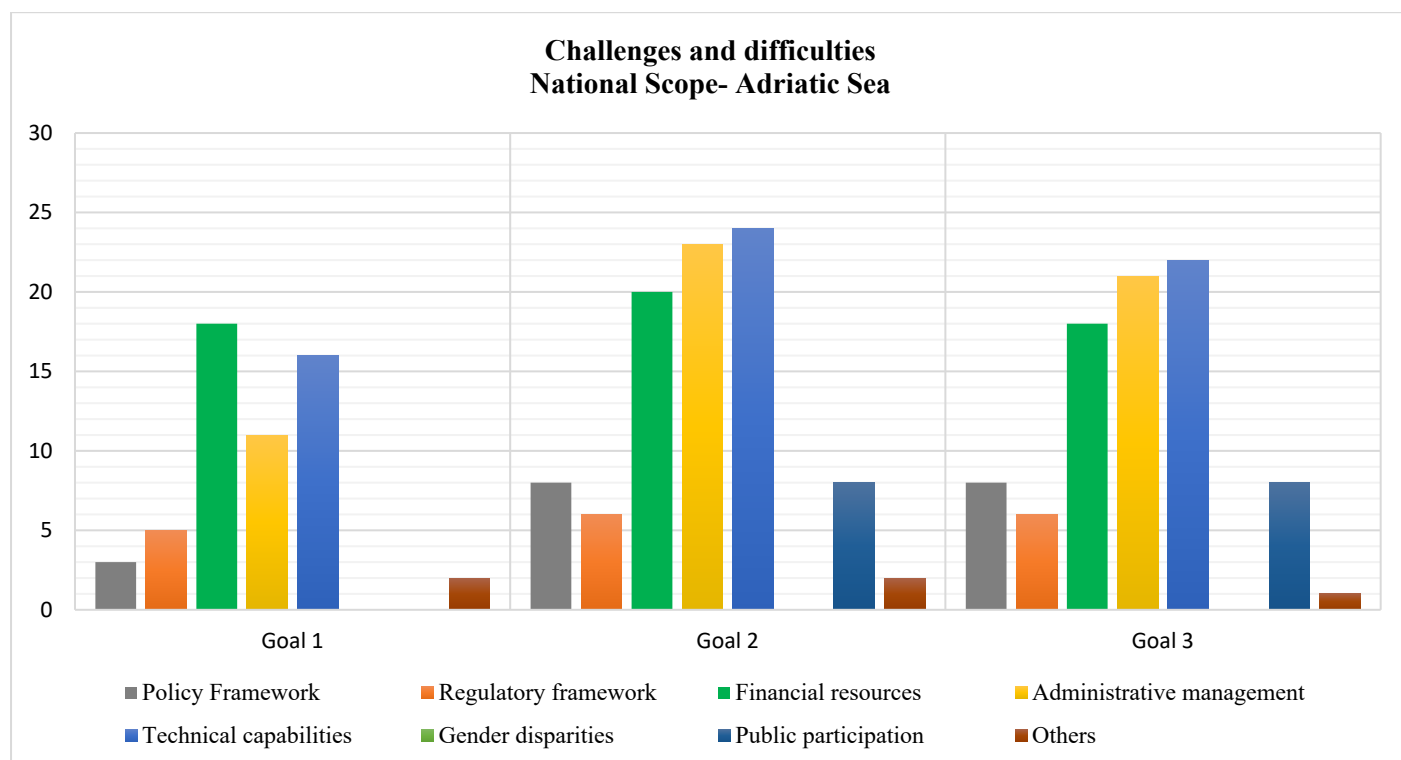
1. National Scope Actions

Western Mediterranean

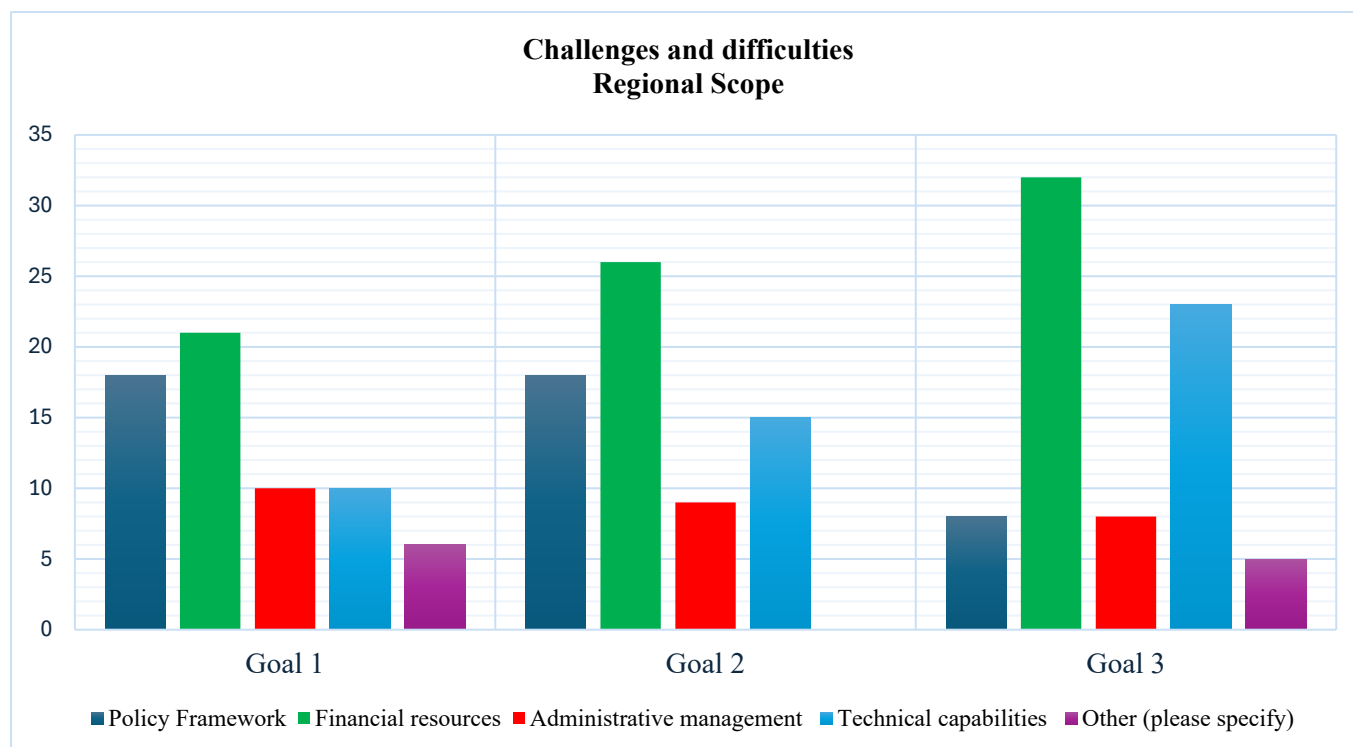


Ionian Sea and Central Mediterranean**Aegean Sea and Levantine Basin**

Adriatic Sea



2. Regional Scope Actions



3. Conclusions

22. The analysis for the National Scope Actions underscores that **Financial Resources (FR)** and **Regulatory Framework (RF)** emerge as general challenges across all Mediterranean sub-regions (Western Mediterranean, Ionian Sea and Central Mediterranean, Aegean Sea and Levantine Basin) and all Goals (1, 2, 3), reflecting systemic gaps in funding allocation and governance coherence. Sub-regional variations highlight additional critical barriers, such as **Technical Capabilities (TC)** in the Western Mediterranean and Aegean Sea, **Administrative Management (AM)** in the Ionian Sea, and Policy Framework (PF) in subsequent assessments. Addressing these interconnected challenges demands prioritized investments, streamlined regulatory harmonization, and capacity-building initiatives tailored to sub-regional contexts.

23. For the Regional Scop Actions, **Financial Resources (FR)** are the most significant challenge across all three goals. challenges related to **Financial Resources (FR)** and **Policy Framework (PF)** and also hinder progress.

4. Conclusions and recommendations of the Eleventh Meeting of Post-2020 SAPBIO National Correspondents (Athens, Greece - 9-10 April 2025)

24. The Meeting acknowledged that the Barcelona Convention is leading in biological diversity strategic planning compared to other regions, exemplified by the Specially Protected Areas and Biological Diversity (SPA/BD) Protocol developed in 1995 and the first “Strategic Action Programme for the Conservation of Biological Diversity” (SAPBIO) in 2003.

25. To enhance resource mobilization efforts and strengthen collective capacity for biodiversity conservation in the region, the Meeting recommended that the Barcelona Convention Secretariat initiate a collaborative dialogue with the secretariats of other Regional Sea Conventions, such as the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR) and the Convention on the Protection of the Marine Environment of the Baltic Sea Area (HELCOM). This dialogue should address the shared challenges faced by their Contracting Parties in financing and resourcing key activities related to biodiversity protection and conservation, with a focus on identifying new and innovative funding avenues.

26. The Meeting recommended that SPA/RAC, in collaboration with relevant partners, offer training to enhance the skills necessary for the preparation and implementation of National Marine and Coastal Biodiversity Finance Plans, where needed.

27. The Meeting commended the efforts of the Secretariat dedicated to the preparation of the documents related to the mid-term assessment focusing on the Post-2020 SAPBIO start-up activities, including the sub-regional reports and the preliminary findings.

28. The Meeting emphasized the need for Mediterranean countries to develop their National Marine and Coastal Biodiversity Finance Plans and advocate for increased budgetary allocations at the national level to ensure the successful implementation of the Post-2020 SAPBIO actions, including the exploration of innovative financing mechanisms.

29. The Meeting urged Mediterranean countries to prepare or revise their National Biodiversity Strategies and Action Plans (NBSAPs), if needed, to fully incorporate the relevant elements of the Post-2020 SAPBIO.

30. The Meeting recommended that the UNEP/MAP - SPA/RAC and relevant regional partners collaborate and joint efforts to mobilize additional financial resources for the implementation of the Post-2020 SAPBIO.

31. The Meeting recommended that Contracting Parties work towards reallocating a portion of environmentally harmful subsidies coming from blue economy activities – without increasing overall government spending – as a financially viable solution to boost funding for species recovery which would offer a cost-neutral way to support conservation funding.

32. The Meeting highlighted the opportunity for cooperation and coordination between future assessments of the Post-2020 SAPBIO and the European Union Marine Strategy Framework Directive (MSFD), as well as other relevant reporting frameworks.

33. The Meeting recommended that SPA/RAC actively participate in relevant global processes occurring in the Mediterranean region, such as the 2025 UN Ocean Conference (taking place in Nice, France, on 9-13 June 2025) and the “Intersessional workshop of the Sustainable Ocean Initiative (SOI) Global Dialogue with Regional Seas Organizations and Regional Fishery Bodies” (also in Nice, on 7-8 June 2025).

34. The Meeting emphasized the need for the involvement of qualified finance experts in the elaboration of National Marine and Coastal Biodiversity Finance Plans and in fund mobilization to enhance effective resource allocation and support for the Post-2020 SAPBIO and other conservation initiatives.

Annex XVII

Draft Monitoring Framework for the assessment of the collective implementation of the Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO)

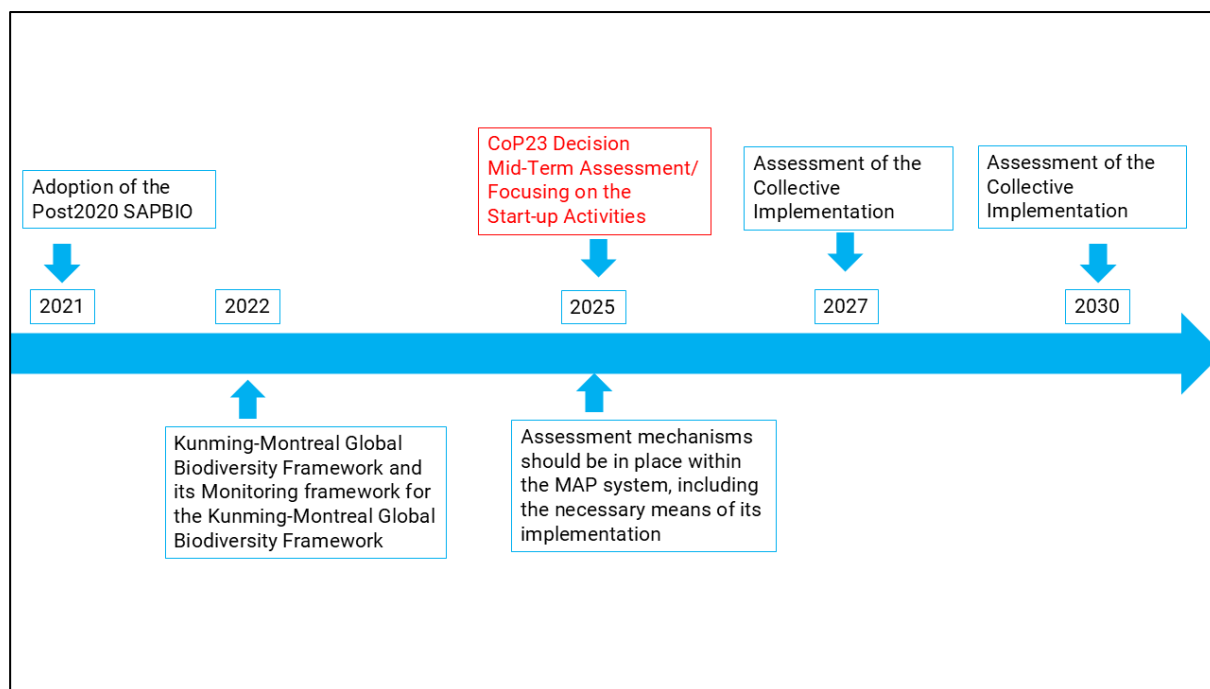
BACKGROUND INFORMATION:

1. In 2021, the Contracting Parties to Barcelona Convention adopted the Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO), hereinafter referred to as “Post-2020 SAPBIO”, as a Mediterranean action oriented marine and Coastal Biodiversity Conservation Policy aiming at contributing to the achievement of the good environmental status, to the Sustainable Development Goals and their respective targets, and the CBD Post-2020 Global Biodiversity Framework through the optic of the Mediterranean context.
2. The CoP22, urged the Contracting Parties to take the necessary measures, for the effective implementation of the Post-2020 SAPBIO, and to report on their implementation in the framework of the MAP Barcelona Convention reporting system; and invited them to prepare or revise their National Biodiversity Strategies and Action Plans by fully incorporating the relevant elements of the Post-2020 SAPBIO; and maximise their efforts for their timely implementation. In this context, in relation to reporting by Parties on their implementation of the strategy, it was recommended during the elaboration of the Post-2020 SAPBIO, to ensure harmonisation and streamlining with other relevant reporting systems to avoid more burden on the Contracting Parties as for their reporting obligations to numerous conventions and agreements. It also urged the Secretariat (SPA/RAC) to provide technical support for the implementation of the Post2020 SAPBIO, through technical cooperation, capacity building activities, and external resource mobilization.
3. The chapter 7 of the Post2020 SAPBIO, focuses on the implementation and monitoring of the strategy as an alive/dynamic document and emphasizes the importance of setting measurable targets to track progress. It was agreed that by 2025, the necessary means for running the regional Post-2020 SAPBIO assessment mechanisms should be in place within the MAP system, allowing the timely analysis of progress based on objective/numerical elements of targets towards the Strategy Goals and document. The Targets and Actions (Annexe III of the Post-2020 SAPBIO) which are quantified could serve as indicators of implementation progress.

OBJECTIVES OF THE MONITORING FRAMEWORK

4. The Post-2020 SAPBIO implementation status will be periodically reviewed at the Conference of the Parties of the Barcelona Convention, through systematic national reporting of progress, facilitated by the relevant Regional Activity Centres. The reports will include progress with regards to the implementation of the national contributions to the Post-2020 SAPBIO, and data on the relevant Common Indicators of the Integrated Monitoring and Assessment Programme (IMAP) to monitor the effectiveness of the actions put in place, altogether building the basis of a Mediterranean assessment on the collective implementation of the Post-2020 SAP BIO, to ensure that by 2030 the regional targets are achieved through national and regional actions.
5. Post-2020 SAPBIO National Correspondents will assess the progress made in implementing the Strategic Action Programme and update the work and projects scheduled. In the light of this assessment, the Meeting of Post-2020 SAPBIO National Correspondents will suggest recommendations where necessary and propose amendments to the work schedule to be submitted to SPA/BD Focal Points Meetings and then the CoP24 for consideration as appropriate.

TIMELINE OF THE IMPLEMENTATION OF THE MONITORING FRAMEWORK



MONITORING FRAMEWORK OF THE POST2020 SABBIO

Principles

6. The Post2020 SAPBIO should be monitored as an alive/dynamic document, so the monitoring framework should need flexibility to allow adaptation. Targets and Actions which are quantified will serve as indicators of implementation progress. Thus, the monitoring framework should contain indicators based on the quantified Targets and Actions of the strategy.

7. Given that the targets are for 2027 and 2030, the collective assessment of implementation (at regional and national level) must be based on the 42 Actions identified in Annex III on Post2020 SAPBIO.

8. To minimize the reporting burden on the Contracting Parties in relation to their obligations under multiple conventions and agreements, and given that the Post-2020 SAPBIO serves as the Mediterranean's action-oriented policy for marine and coastal biodiversity conservation, contributing to the achievement of the CBD Post-2020 Global Biodiversity Framework within the Mediterranean context, it is crucial that the evaluation mechanism of the Post-2020 SAPBIO is aligned and harmonized with the Monitoring Framework for the Kunming-Montreal Global Biodiversity Framework (Decision CBD/COP/DEC/15/5 of CBD CoP15, 2022).

9. To achieve the Post-2020 SAP BIO objectives by 2030, the collective assessment must identify the strategies, actions, and necessary adjustments to the Post-2020 SAP BIO (including targets, actions, and expected results) in order to address the gaps and challenges identified.

10. The Monitoring Framework (Annex I) is built around quantitative indicators that should be in line with the indicators of the Monitoring framework for the Kunming-Montreal Global Biodiversity Framework if relevant and applicable or be developed as region-specific indicators (Indicators for marine protected areas (MPAs), endangered species, and ecosystem health), related to each Target/Action and questions (binary question) to assess progress toward the expected results (expected results for 2027 and 2030).

11. Due to the recent finalization and adoption of the Monitoring Framework for the Kunming-Montreal Global Biodiversity Framework, particularly its indicator components, the development of indicators for the Monitoring Framework of the Post-2020 SAPBIO has been delayed. This process will now be undertaken during the next biennium (2026-2027) and will be discussed in detail during the National Correspondent Meeting scheduled for 2026. The alignment with the global framework ensures a cohesive and harmonized approach to biodiversity monitoring and reporting. Further to the indicators baseline information will be identified as appropriate.

12. The Monitoring Framework incorporates specific questions designed to identify gaps and challenges in the implementation of post2020 SAPBIO Actions. These questions should focus on areas such as resource limitations, technical capacity, data availability, and institutional barriers. By systematically addressing these gaps and challenges, the Monitoring framework can provide actionable insights to improve the strategy, enhance effectiveness, and ensure the successful achievement of the Post-2020 SAPBIO objectives.

13. Hence, the Monitoring Framework enables Partner organizations and countries to conduct self-assessments and provide indicative progress updates efficiently. However, certain limitations must be acknowledged. Most notably, the assessment remains highly subjective, as the predefined response options lack quantitative benchmarks (e.g., what qualifies as sufficient progress for an action to be marked as "Yes"). Consequently, interpretations of progress may vary among respondents. This limitation stems from the absence of quantifiable indicators for the planned actions in Annex III of the Post-2020 SAPBIO. To this end the Means of verification section is obligatory.

14. With regards the targets related to the MARINE AND COASTAL PROTECTED AREAS (T.1.41 on effective systems of MCPAs and OECMs et T.1.52 on areas with enhanced protection levels) and subsequently the Action 15 on MCPAs and OECMS, they will not be considered by this Monitoring Framework as the Contracting Parties have already adopted during their 23rd Meeting (Portoroz (Slovenia), 5-8 December 2023) the Evaluation and Monitoring Framework for the Post-2020 Regional Strategy for Marine and Coastal Protected Areas and Other Effective Area-based Conservation Measures in the Mediterranean (Annex II of the present document) and on the basis of which the SPA/RAC shall undertake its mid-term and final evaluations, in 2026 and 2030 respectively.

15. It is important to develop a user-friendly online reporting system for the Post-2020 SAPBIO assessments scheduled for 2027 and 2030 with comprehensive guidelines on how to fill in the reporting format (e.g., brief introductory context, explicit mention of the expected results and targets, etc.)

1 By 2030, at least 30 per cent of the Mediterranean Sea is protected and conserved through well connected, ecologically representative and effective systems of marine and coastal protected areas and other effective area-based conservation measures, ensuring adequate geographical balance, with the focus on areas particularly important for biodiversity.

2 By 2030, the number and coverage of marine and coastal protected areas with enhanced protection levels is increased, contributing to the recovery of marine ecosystems

ANNEX I: THE MONITORING TABLE OF THE POST2020 SAPBIO

National Scope Actions

2027

- [Goal 1 : Reduce the threats to biodiversity](#)
- [Goal 2 : Ensure that biodiversity is preserved and maintained or enhanced in order to meet people's needs](#)
- [Goal 3 : Enable the necessary transformative change, putting in place too ls and nature-based solutions for implementation and mainstreaming](#)

2030

- [Goal 1 : Reduce the threats to biodiversity](#)
- [Goal 2 : Ensure that biodiversity is preserved and maintained or enhanced in order to meet people's needs](#)
- [Goal 3 : Enable the necessary transformative change, putting in place too ls and nature-based solutions for implementation and mainstreaming](#)

Regional Scope Actions

2027

- [Goal 1 : Reduce the threats to biodiversity](#)
- [Goal 2 : Ensure that biodiversity is preserved and maintained or enhanced in order to meet people's needs](#)
- [Goal 3 : Enable the necessary transformative change, putting in place too ls and nature-based solutions for implementation and mainstreaming](#)

2030

- [Goal 1 : Reduce the threats to biodiversity](#)
- [Goal 2 : Ensure that biodiversity is preserved and maintained or enhanced in order to meet people's needs](#)
- [Goal 3 : Enable the necessary transformative change, putting in place too ls and nature-based solutions for implementation and mainstreaming](#)

National Scope Actions

National Scope Actions 2027		Goal 1: Reduce the threats to biodiversity			
ACTION	SAPBIO Targets	Indicator	Questions related to the expected results by 2027	Means of verification	CBD/GBF Target
1. SPECIES AND HABITATS PLANS Update Mediterranean action plans for selected species and habitats listed under the SPA/BD Protocol Expected Results by 2027 Expected Results by 2030	T.1.1 T2.1 T2.2	The indicators of the Monitoring framework for the Kunming-Montreal Global Biodiversity Framework if relevant and applicable or be developed as region-specific indicators	2.1. has your country progressed in adopting and integrating the updated regional action plans for selected priority habitats and species into your national planning and implementation processes?		
			Yes		
			In progress		
			Not yet		
			Not Applicable		
	What are the challenges and difficulties encountered (if any)?				
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	Technical capabilities				
	Gender disparities				
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	Other (please specify)				
	None				
			Any relevant additional information or Comments (if any)		

2.SPECIES RECOVERY Develop recovery plans and implement emergency actions for endangered and threatened species whose continued survival depends on such actions, including their habitats	T1.1 T2.1 T2.2		2. Has your country developed recovery plans and implemented emergency actions (<i>in situ</i> and <i>ex situ</i>) for species whose survival critically depends on such interventions <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table> <table border="1"> <tr> <td>Any relevant additional information or Comments (if any)</td> </tr> <tr> <td> </td> </tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None	Any relevant additional information or Comments (if any)			
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3.MARITIME TRAFFIC Reduce the impact of maritime traffic (noise & collision) on sensitive marine	T1.1 T1.5 T1.7 T2.7 T2.9 T3.4		3.1. Has your country developed and adopted protection measures against underwater noise and ship collisions, in alignment with the International Maritime Organization (IMO) 2014 guidelines? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> </table>		Yes		In progress																										
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species (Cetaceans, Turtles, others)			<table border="1"> <tr> <td></td> <td>Not yet</td> </tr> <tr> <td></td> <td>Not Applicable</td> </tr> </table>		Not yet		Not Applicable																
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		3.2. Has your country established basic monitoring systems in its most vulnerable marine areas ? <table border="1"> <tr> <td></td> <td>Yes</td> </tr> <tr> <td></td> <td>In progress</td> </tr> <tr> <td></td> <td>Not yet</td> </tr> <tr> <td></td> <td>Not Applicable</td> </tr> </table>		Yes		In progress		Not yet		Not Applicable													
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4.NIS/IAS COMMITMENT Ratification of the International Convention for the Control and Management of Ballast Water and Sediments from Ships (BWM Convention), and adoption of the Regional strategy addressing ship's ballast water management and invasive species (2022-2027)	T1.2 T3.2 T3.6 T1.7		4. Has your country incorporated the provisions of the IMO Ballast Water Management (BWM) Convention and the IMO Biofouling Guidelines into its national legislation, and implemented measures to address ballast water and biofouling risks in line with Mediterranean commitments? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		
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5. NIS/IAS CAPACITY Strengthen the capacity of the Mediterranean countries to deal with alien marine species	T1.2 T1.7 T3.4		5.1. Has your country conducted baseline studies and established dated, georeferenced records of Non-Indigenous Species (NIS) presence? <table border="1"> <tr> <td></td><td>Yes</td></tr> <tr> <td></td><td>In progress</td></tr> <tr> <td></td><td>Not yet</td></tr> <tr> <td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr> <td></td><td>Policy framework</td></tr> <tr> <td></td><td>Regulatory framework</td></tr> <tr> <td></td><td>Financial resources</td></tr> <tr> <td></td><td>Administrative management</td></tr> <tr> <td></td><td>Technical capabilities</td></tr> <tr> <td></td><td>Gender disparities</td></tr> <tr> <td></td><td>Public participation</td></tr> <tr> <td></td><td>Other (please specify)</td></tr> <tr> <td></td><td>None</td></tr> </table> <table border="1"> <tr> <td colspan="2">Any relevant additional information or Comments (if any)</td></tr> <tr> <td colspan="2"></td></tr> </table> 5.2. Has your country designing and implemented monitoring and assessment programmes for NIS data collection under the		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None	Any relevant additional information or Comments (if any)					
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6. NIS/IAS CONTROL Take the necessary field actions to mitigate the impact from NIS/IAS	T1.1 T1.2 T1.7 T3.1 T3.4		6. Has your country implemented control or eradication actions for the most problematic Invasive Alien Species (IAS), including interventions in at least 50% of identified priority sites? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> </table>		Yes		In progress																										
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7. LITTER Prevent leakage and remove marine litter to mitigate its impact on the ecosystem	T1.1 T1.2 T1.3 T1.7 T2.4 T2.8 T2.9 T3.4 T3.7		7. Has your country adopted and tested new technologies or policies to prevent and reduce marine litter, such as a full ban on plastic bags, improved waste management in cities and tourist destinations, interception systems in rivers/dams, and measures targeting the fishing/aquaculture sectors (e.g., reducing gear abandonment)? <table><tr><td></td><td>Yes</td></tr><tr><td></td><td>In progress</td></tr><tr><td></td><td>Not yet</td></tr><tr><td></td><td>Not Applicable</td></tr></table>		Yes		In progress		Not yet		Not Applicable																				
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8. EIA/SEA Implement environmental assessments, considering cumulative impacts on the coastal zones and their carrying capacity.	T1.1 T1.3 T1.5 T2.6 T3.4		8. Has your country integrated specific measures and indicators for biodiversity protection into Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) procedures, particularly to address impacts from tourism, aquaculture, and maritime traffic? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework											
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11. SPATIAL PLANNING Support countries for the development of systematic conservation planning taking into account ICZM, land use/marine use planning and management aspects in the context of MSP	T1.4 T1.6 T1.7 T2.6 T2.7 T2.8		11. Has your country formulated maritime and coastal spatial plans that include 50% of its coastal length and marine surface area, as well as 100% of Specially Protected Areas of Mediterranean Importance (SPAMIs), while ensuring biodiversity values are integrated into all coastal and maritime sectoral policies and activities? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management						
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12. RESTORATION Support restoration of ecosystems providing key services, those degraded and expected to become increasingly critical in a changing climate, such as wetlands and shallow seashore habitats among others	T1.6 T1.8 T3.5 T3.7		12.1 Has your country completed an inventory of ecosystems with the highest ecological relevance and/or regeneration potential? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None		
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13. CLIMATE CHANGE Increase climate change impacts monitoring and contributions to mitigation and adaptation, particularly to warming, acidification, and to disaster risk reduction, through nature-based solutions and ecosystem-based approaches	T1.3 T1.7 T1.8 T2.8 T3.10		13.1. Has your country integrated Specially Protected Areas of Mediterranean Importance (SPAMIs) into a climate change monitoring network? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table> <table border="1"> <tr> <th>Any relevant additional information or Comments (if any)</th> </tr> <tr> <td> </td> </tr> </table> 13.2. Has your country developed Early Warning Systems (EWS), mapping, risk assessment, and reduction strategies? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None	Any relevant additional information or Comments (if any)			Yes		In progress		Not yet		Not Applicable		
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14. GOOD ENVIRONMENTAL STATUS Promote actions, including scientific research, with the view of achieving GES for all biodiversity-related ecological objectives within the Ecosystem Approach EcAp/IMAP	T1.7 T2.1 T2.2 T3.1 T3.4 T3.5		14.1. Has your country achieved Good Environmental Status (GES) for biodiversity-relevant ecological objectives under the Integrated Monitoring and Assessment Programme (IMAP) framework? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		
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National Scope Actions 2027			<u>Goal 2 : Ensure that biodiversity is preserved and maintained or enhanced in order to meet people's needs</u>																																
ACTION	SAPBIO Targets	Indicator	Questions related to the expected results by 2027	Means of verification	CBD/GBF Target																														
17. INVERTEBRATES	T1.1 T1.2		17.1. Has your country conducted distribution, abundance, and status assessment studies for priority invertebrate species?																																

Survey distribution and abundance, and assess status and main anthropogenic pressures, over priority invertebrate species with focus on C.rubrum, P.nobilis, and vermetid platforms	T1.6 T2.1 T2.2 T2.3		<table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table> <table border="1"> <tr> <th colspan="2">Any relevant additional information or Comments (if any)</th></tr> <tr><td colspan="2"></td></tr> </table> 17.2. Has your country prepared research project priority invertebrate species? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)?		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None	Any relevant additional information or Comments (if any)					Yes		In progress		Not yet		Not Applicable		
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18. VERTEBRATES Establish the distribution, status, and the main anthropogenic pressures of species listed under Annex II to the SPA/BD Protocol	T1.6 T1.7 T2.1 T2.3 T3.2		18. Has your country established comprehensive assessments of the distribution, conservation status, and main anthropogenic pressures for vertebrate species listed under Annex II of the SPA/BD Protocol? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources										
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19. HABITATS In coastal and offshore waters, inventory and cartography key Mediterranean habitats, and assess their status and main anthropogenic pressures	T1.2 T1.4 T1.6 T2.2 T2.3 T2.7 T3.2 T3.10		19. Has your country initiated high-resolution mapping of key habitats, including those critical for vulnerable vertebrates, seabed ecosystems (e.g., seagrass meadows, coralligenous formations), and dark habitats (e.g., caves, deep-sea zones), across all Specially Protected Areas of Mediterranean Importance (SPAMIs), Marine Protected Areas (MPAs), and Other Effective area-based Conservation Measures (OECMs)? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		
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21. OVERFISHING and IUU Implement science-based management plans to effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing, including phasing out harmful fisheries subsidies which contribute to overcapacity and overfishing	T1.1 T2.4 T2.5 T2.8 T3.1 T3.4 T3.5		21.1. Has your country taken steps to promote reform of fisheries subsidies? <table border="1"> <tr> <td></td><td>Yes</td></tr> <tr> <td></td><td>In progress</td></tr> <tr> <td></td><td>Not yet</td></tr> <tr> <td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr> <td></td><td>Policy framework</td></tr> <tr> <td></td><td>Regulatory framework</td></tr> <tr> <td></td><td>Financial resources</td></tr> <tr> <td></td><td>Administrative management</td></tr> <tr> <td></td><td>Technical capabilities</td></tr> <tr> <td></td><td>Gender disparities</td></tr> <tr> <td></td><td>Public participation</td></tr> <tr> <td></td><td>Other (please specify)</td></tr> <tr> <td></td><td>None</td></tr> </table> <table border="1"> <tr> <td colspan="2">Any relevant additional information or Comments (if any)</td></tr> <tr> <td colspan="2"></td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None	Any relevant additional information or Comments (if any)					
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22. BY-CATCH Develop a national mechanism and implement agreed and scientifically tested by-catch mitigation measures, to eliminate all intentional or accidental killing of threatened or endangered species and/or in bad conservation status	T1.1 T2.1 T2.4 T2.5 T2.8 T3.1 T3.4 T3.5		22.1. Has your country implemented guidelines and developed by-catch mitigation mechanisms to adapt or ban fishing gear most harmful to biodiversity (including seabed habitats)? <table border="1"> <tr><td>☐</td><td>Yes</td></tr> <tr><td>☐</td><td>In progress</td></tr> <tr><td>☐</td><td>Not yet</td></tr> <tr><td>☐</td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td>☐</td><td>Policy framework</td></tr> </table>	☐	Yes	☐	In progress	☐	Not yet	☐	Not Applicable	☐	Policy framework												
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			22.2. Has your country started the implementation of the by-catch mitigation mechanisms so that the bycatch of species in bad conservation status is reduced to a level that allows full recovery? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		
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23. SMALL SCALE FISHERIES Promote the FAO Voluntary Guidelines for Securing Small Scale Fisheries (VGSSF) and co-management practices in professional small-scale fisheries, advised by traditional ecological knowledge and the best available science	T1.1 T2.4 T2.5 T2.8 T2.9 T3.1 T3.4 T3.5		23. Has your country enhanced the capacity of small-scale fisher organizations to engage in co-management models within Marine Protected Areas (MPAs) and Other Effective area-based Conservation Measures (OECMs), and established measures to control Illegal, Unreported, and Unregulated (IUU) fishing, including recreational fishing, with full participation from relevant sectors? <table border="1"> <tr> <td></td><td>Yes</td></tr> <tr> <td></td><td>In progress</td></tr> <tr> <td></td><td>Not yet</td></tr> <tr> <td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr> <td></td><td>Policy framework</td></tr> <tr> <td></td><td>Regulatory framework</td></tr> <tr> <td></td><td>Financial resources</td></tr> <tr> <td></td><td>Administrative management</td></tr> <tr> <td></td><td>Technical capabilities</td></tr> <tr> <td></td><td>Gender disparities</td></tr> <tr> <td></td><td>Public participation</td></tr> <tr> <td></td><td>Other (please specify)</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		
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24. AQUACULTURE Support developing the Post2020 GFCM Aquaculture and Fisheries strategy - transforming the aquaculture industry through science-based solutions and marine spatial planning (MSP) tools	T1.1 T1.2 T1.3 T1.6 T1.7 T2.6 T2.7 T2.8 T2.9 T3.4 T3.5 T3.7		24. Has your country adopted best practices in aquaculture, including innovation, improved aquatic health and biosecurity, responsible antimicrobial use, certification, traceability, and nature-based solutions? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table> <table border="1"> <tr><td>Any relevant additional information or Comments (if any)</td></tr> <tr><td></td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None	Any relevant additional information or Comments (if any)			
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26. INTEGRATING BIODIVERSITY Integrate biodiversity values into national and local development planning processes, into the strategies and planning processes of marine-related economic sectors, into national accounting as appropriate, reporting systems, and into the assessment of environmental impacts	T1.3. T1.7. T2.8. T2.9. T3.4. T3.6. T3.7. T3.9.		26.1. Has your country assessed the integration of biodiversity conservation concerns into sectoral strategies and planning processes—such as Maritime Spatial Planning (MSP), fisheries, aquaculture, agriculture, coastal tourism, ports, maritime transport, wind farms, and Environmental Impact Assessments (EIAs)/Strategic Environmental Assessments (SEAs)—and drafted proposals to enhance economic activities that actively protect and restore biodiversity <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table> <table border="1"> <tr> <td>Any relevant additional information or Comments (if any)</td> </tr> <tr> <td></td> </tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None	Any relevant additional information or Comments (if any)			
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			26.2. Has your country drafted proposals to enhance economic activities that actively protect and restore biodiversity? <table border="1"> <tr><td>☐</td><td>Yes</td></tr> <tr><td>☐</td><td>In progress</td></tr> <tr><td>☐</td><td>Not yet</td></tr> <tr><td>☐</td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td>☐</td><td>Policy framework</td></tr> <tr><td>☐</td><td>Regulatory framework</td></tr> <tr><td>☐</td><td>Financial resources</td></tr> <tr><td>☐</td><td>Administrative management</td></tr> <tr><td>☐</td><td>Technical capabilities</td></tr> <tr><td>☐</td><td>Gender disparities</td></tr> <tr><td>☐</td><td>Public participation</td></tr> <tr><td>☐</td><td>Other (please specify)</td></tr> <tr><td>☐</td><td>None</td></tr> </table> <table border="1"> <tr> <td>Any relevant additional information or</td> <td>Comments (if any)</td> </tr> <tr> <td colspan="2"></td> </tr> </table>	☐	Yes	☐	In progress	☐	Not yet	☐	Not Applicable	☐	Policy framework	☐	Regulatory framework	☐	Financial resources	☐	Administrative management	☐	Technical capabilities	☐	Gender disparities	☐	Public participation	☐	Other (please specify)	☐	None	Any relevant additional information or	Comments (if any)				
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28. POLITICAL WILL AND COORDINATION Ensure political will and recognition at the highest levels of Government or	T1.5 T1.6 T1.7 T1.8 T2.4 T2.6 T2.7		28. Has your country established effective coordination mechanisms between competent authorities responsible for managing marine areas and land-based coastal zones across administrative levels (e.g., national, regional, local) and sectors (e.g., environment, fisheries, tourism, urban planning)? <table border="1"> <tr><td>☐</td><td>Yes</td></tr> </table>	☐	Yes																														
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State, to develop appropriate governance schemes, in particular cross-sectorial and multi-level institutional coordination	T2.8 T2.9 T3.6 T3.8 T3.9		<table><tr><td></td><td>In progress</td></tr><tr><td></td><td>Not yet</td></tr><tr><td></td><td>Not Applicable</td></tr></table> What are the challenges and difficulties encountered (if any)? <table><tr><td></td><td>Policy framework</td></tr><tr><td></td><td>Regulatory framework</td></tr><tr><td></td><td>Financial resources</td></tr><tr><td></td><td>Administrative management</td></tr><tr><td></td><td>Technical capabilities</td></tr><tr><td></td><td>Gender disparities</td></tr><tr><td></td><td>Public participation</td></tr><tr><td></td><td>Other (please specify)</td></tr><tr><td></td><td>None</td></tr></table> <table><tr><td colspan="2">Any relevant additional information or Comments (if any)</td></tr><tr><td colspan="2"></td></tr></table>		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None	Any relevant additional information or Comments (if any)					
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29. STAKEHOLDER PARTICIPATION Facilitate stakeholder engagement to address conflict between users, build capacity to contribute to the SAPBIO enforcement, particularly in MPA planning and management, through proper participation of all stakeholders in a	T1.1 T1.2 T1.3 T1.5 T1.6 T2.3 T2.4 T2.5 T2.6 T2.8 T2.9 T3.4 T3.5		29. Has your country established formal and informal platforms to ensure the participation of relevant sectors and stakeholders—including local/subnational authorities, the private sector, civil society, women, youth, academia, and scientific institutions—in decision-making processes for priority areas such as Marine Protected Areas (MPAs), fisheries management, and enforcement mechanisms <table><tr><td></td><td>Yes</td></tr><tr><td></td><td>In progress</td></tr><tr><td></td><td>Not yet</td></tr><tr><td></td><td>Not Applicable</td></tr></table>		Yes		In progress		Not yet		Not Applicable																						
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transparent decision-making process			What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table> Any relevant additional information or Comments (if any) <table border="1"> <tr><td></td></tr> </table>		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None			
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30. TOP-DOWN AND BOTTOM-UP SCALING OF INTERNATIONAL COMMITMENTS Scale down international commitments into national plans and to local level, streamlining the approach, targets and actions of the Post-2020 into national strategies and into local planning processes, while facilitating the	All targets		30.1. Has your country established active alliances among governments, businesses, scientists, and opinion leaders to implement the Goals of the Post-2020 Strategic Action Programme for Biodiversity (SAPBIO), ensuring co-responsibility and co-ownership through administrative transparency, stakeholder dialogue, and participatory governance at all levels? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework											
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bottom up feeding of local proposals into future planning processes at the national and Mediterranean levels			<table border="1"> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table>		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None		
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		30.2. Has your country adapted the Post-2020 SAPBIO Actions to local contexts while ensuring that locally generated proposals (e.g., traditional knowledge, community-led initiatives) inform future Mediterranean-wide planning processes? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table>		Yes		In progress		Not yet		Not Applicable											
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31. COMPLIANCE AND ENFORCEMENT Enable the compliance of the provisions of the SPA/BD and the ICZM Protocols and related Action Plans at national level by strengthening capacities and cooperation between judiciary and administrative bodies	T1.1 T1.2 T1.3 T1.5 T1.7 T2.4 T2.8 T2.9 T3.1 T3.4 T3.7 T3.8		31. Has your country-initiated capacity-building programs for judiciary and administrative actors along the environmental enforcement chain—including environmental agencies, inspectors, auditors, police, prosecutors, and judges—to strengthen their understanding and application of environmental legal frameworks? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		
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National Scope Actions 2027		<u>Goal 3 : Enable the necessary transformative change, putting in place tools and nature-based solutions for implementation and mainstreaming</u>																													
ACTION	SAPBIO Targets	Indicator	Questions related to the expected results by 2027	Means of verification	CBD/GBF Target																										
32. IMAP REFINEMENT Identification of the gaps that hinder the good environmental status evaluation, and in case needed, support countries to fill them out	T2.1 T2.2 T2.3 T3.1 T3.2 T3.5		32.1. Has your country refined its ecological objectives by specifying and quantifying Good Environmental Status (GES) at appropriate assessment scales (e.g., regional, national, habitat-specific)? <table border="1"> <tr> <td></td><td>Yes</td></tr> <tr> <td></td><td>In progress</td></tr> <tr> <td></td><td>Not yet</td></tr> <tr> <td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr> <td></td><td>Policy framework</td></tr> <tr> <td></td><td>Regulatory framework</td></tr> <tr> <td></td><td>Financial resources</td></tr> <tr> <td></td><td>Administrative management</td></tr> <tr> <td></td><td>Technical capabilities</td></tr> <tr> <td></td><td>Gender disparities</td></tr> <tr> <td></td><td>Public participation</td></tr> <tr> <td></td><td>Other (please specify)</td></tr> <tr> <td></td><td>None</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None		
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			<table border="1"> <tr> <td colspan="2">Any relevant additional information or Comments (if any)</td> </tr> <tr> <td colspan="2"></td> </tr> </table> 32.2. Has your country further developed candidate indicators to monitor biodiversity drivers, pressures, and response measures and aligned these efforts with Mediterranean frameworks like IMAP? <table border="1"> <tr> <td></td><td>Yes</td> </tr> <tr> <td></td><td>In progress</td> </tr> <tr> <td></td><td>Not yet</td> </tr> <tr> <td></td><td>Not Applicable</td> </tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr> <td></td><td>Policy framework</td> </tr> <tr> <td></td><td>Regulatory framework</td> </tr> <tr> <td></td><td>Financial resources</td> </tr> <tr> <td></td><td>Administrative management</td> </tr> <tr> <td></td><td>Technical capabilities</td> </tr> <tr> <td></td><td>Gender disparities</td> </tr> <tr> <td></td><td>Public participation</td> </tr> <tr> <td></td><td>Other (please specify)</td> </tr> <tr> <td></td><td>None</td> </tr> </table> <table border="1"> <tr> <td colspan="2">Any relevant additional information or Comments (if any)</td> </tr> <tr> <td colspan="2"></td> </tr> </table>	Any relevant additional information or Comments (if any)					Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None	Any relevant additional information or Comments (if any)					
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33. IMAP IMPLEMENTATION Update national	T2.1 T2.2 T2.3		33. Has your country adopted harmonized reporting formats, aligned with frameworks like the Convention on Biological Diversity (CBD) and the Integrated Monitoring and																																				

monitoring programmes in light of the new elements of IMAP, and achieve regular reporting	T3.1 T3.2 T3.5		Assessment Programme (IMAP), to report on common biodiversity-related indicators for achieving Good Environmental Status (GES)? <table border="1"> <tr><td>☐</td><td>Yes</td></tr> <tr><td>☐</td><td>In progress</td></tr> <tr><td>☐</td><td>Not yet</td></tr> <tr><td>☐</td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td>☐</td><td>Policy framework</td></tr> <tr><td>☐</td><td>Regulatory framework</td></tr> <tr><td>☐</td><td>Financial resources</td></tr> <tr><td>☐</td><td>Administrative management</td></tr> <tr><td>☐</td><td>Technical capabilities</td></tr> <tr><td>☐</td><td>Gender disparities</td></tr> <tr><td>☐</td><td>Public participation</td></tr> <tr><td>☐</td><td>Other (please specify)</td></tr> <tr><td>☐</td><td>None</td></tr> </table> <table border="1"> <tr> <th colspan="2">Any relevant additional information or Comments (if any)</th> </tr> <tr> <td colspan="2"></td> </tr> </table>	☐	Yes	☐	In progress	☐	Not yet	☐	Not Applicable	☐	Policy framework	☐	Regulatory framework	☐	Financial resources	☐	Administrative management	☐	Technical capabilities	☐	Gender disparities	☐	Public participation	☐	Other (please specify)	☐	None	Any relevant additional information or Comments (if any)					
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34. Post-2020 SAPBIO MONITORING Allow the Contracting Parties to periodically review and report, harmonized with IMAP and UNEP/MAP	T3.1 T3.2 And all Targets		34. Has your country established a harmonized monitoring process for the Post-2020 Strategic Action Programme for Biodiversity (SAPBIO), aligned with the Integrated Monitoring and Assessment Programme (IMAP) and other UNEP/MAP frameworks, including biennial progress reporting to the Barcelona Convention system? <table border="1"> <tr><td>☐</td><td>Yes</td></tr> </table>	☐	Yes																														
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monitoring frameworks, on the status of implementation of the Post-2020 SAPBIO			<table><tr><td></td><td>In progress</td></tr><tr><td></td><td>Not yet</td></tr><tr><td></td><td>Not Applicable</td></tr></table> What are the challenges and difficulties encountered (if any)? <table><tr><td></td><td>Policy framework</td></tr><tr><td></td><td>Regulatory framework</td></tr><tr><td></td><td>Financial resources</td></tr><tr><td></td><td>Administrative management</td></tr><tr><td></td><td>Technical capabilities</td></tr><tr><td></td><td>Gender disparities</td></tr><tr><td></td><td>Public participation</td></tr><tr><td></td><td>Other (please specify)</td></tr><tr><td></td><td>None</td></tr></table> <table><tr><td>Any relevant additional information or Comments (if any)</td></tr><tr><td></td></tr></table>		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None	Any relevant additional information or Comments (if any)			
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36. CAPACITY BUILDING FOR THE Post-2020 SAPBIO AT NATIONAL LEVEL Enhance the national capacities to implement the Post-2020 SAPBIO, to manage MPAs and vulnerable marine and	T3.4 T3.5 And all Targets		36.1. Has your country, particularly at national and subnational administrative levels, conducted a comprehensive capacity assessment to address the needs and priorities of marine conservation objectives? <table><tr><td></td><td>Yes</td></tr><tr><td></td><td>In progress</td></tr><tr><td></td><td>Not yet</td></tr><tr><td></td><td>Not Applicable</td></tr></table>		Yes		In progress		Not yet		Not Applicable																				
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coastal habitats and species within and across national jurisdictions, with particular attention to less developed countries, and towards reducing the gender and the digital divide			What are the challenges and difficulties encountered (if any)?																				
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		36.2. Has your country subsequently developed and tested impactful training modules to strengthen institutional abilities to monitor and improve management effectiveness?																					
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38. AWARENESS Increase awareness, understanding and appreciating of the values and threats to the marine environment, stimulating improved behavior, and of the responses and good practices, by targeting decision-makers and the general public, through reinforced and renewed mechanisms, including mass communications	T1.1 T1.2 T1.3 T1.5 T1.7 T2.4 T2.8 T2.9 T3.6 T3.9		38. Has your country start the implementation of the Mediterranean Communication and Awareness Strategy to promote storytelling, engage media on flagship species conservation (e.g., cetaceans, turtles), and raise public awareness about plastic waste, ghost nets, marine protected areas (MPAs), invasive species risks, and other SPA/RAC priorities? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		
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39. OUTREACH AND EDUCATION Promote the integration of marine biodiversity and ecosystems conservation concerns into school, higher education, professional training, and citizen science, so that best practices and innovative technologies to protect marine and coastal ecosystems are more accessible and replicable	T1.3 T2.8 T3.4 T3.7		39.1. Has your country integrated marine biodiversity conservation strategies and tools into school and university curricula? <table border="1"> <tr> <td></td><td>Yes</td></tr> <tr> <td></td><td>In progress</td></tr> <tr> <td></td><td>Not yet</td></tr> <tr> <td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr> <td></td><td>Policy framework</td></tr> <tr> <td></td><td>Regulatory framework</td></tr> <tr> <td></td><td>Financial resources</td></tr> <tr> <td></td><td>Administrative management</td></tr> <tr> <td></td><td>Technical capabilities</td></tr> <tr> <td></td><td>Gender disparities</td></tr> <tr> <td></td><td>Public participation</td></tr> <tr> <td></td><td>Other (please specify)</td></tr> <tr> <td></td><td>None</td></tr> </table> <table border="1"> <tr> <td colspan="2">Any relevant additional information or Comments (if any)</td></tr> <tr> <td colspan="2"></td></tr> </table> 39.2. Is your country involved in multinational or bilateral university networks (e.g., North-South/South-South exchanges) focused on Mediterranean marine conservation?		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None	Any relevant additional information or Comments (if any)					
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40. EMPLOYMENT Adequately increase the employment, notably public employment in direct relation to marine biodiversity conservation (and eventually include redirecting existing one) as basic component for future blue economy wise development	All Targets		40. Has your country experienced growth in public employment directly linked to marine biodiversity conservation? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None		
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41. SUSTAINABLE FUNDING Develop sustainable funding strategies with, as appropriate, innovative approaches to mobilize alternative financial sources, covering fiscal incomes that could be redistributed, and relevant actions to fund, including The MedFund and other types of national or local financing mechanisms	All Targets		41. Has your country developed and adopted sustainable funding strategies for marine and coastal biodiversity conservation, including the establishment of national or local trust funds supported by revenue streams such as tourism tolls, fishing licenses, plastic bag levies, or environmental impact assessment (EIA) compensations, to significantly increase financial resources from domestic and international sources (governmental, non-governmental, private)? <table><tr><td></td><td>Yes</td></tr><tr><td></td><td>In progress</td></tr><tr><td></td><td>Not yet</td></tr><tr><td></td><td>Not Applicable</td></tr></table> What are the challenges and difficulties encountered (if any)? <table><tr><td></td><td>Policy framework</td></tr><tr><td></td><td>Regulatory framework</td></tr><tr><td></td><td>Financial resources</td></tr><tr><td></td><td>Administrative management</td></tr><tr><td></td><td>Technical capabilities</td></tr><tr><td></td><td>Gender disparities</td></tr><tr><td></td><td>Public participation</td></tr><tr><td></td><td>Other (please specify)</td></tr><tr><td></td><td>None</td></tr></table> Any relevant additional information or Comments (if any)		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None		
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National Scope Actions 2030		Goal 1: Reduce the threats to biodiversity																					
ACTION	SAPBIO Targets	Indicator	Questions related to the expected results by 2030	Means of verification	CBD/GBF Target																		
2.SPECIES RECOVERY Develop recovery plans and implement emergency actions for endangered and threatened species whose continued survival depends on such actions, including their habitats	T1.1. T2.1. T2.2.	The indicators of the Monitoring framework for the Kunming-Montreal Global Biodiversity Framework if relevant and applicable or be developed as region-specific indicators	2. Has your country implemented recovery plans and emergency actions for threatened and endangered marine species, including, where relevant, participation in a Mediterranean network of stranding centers?																				
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3.MARITIME TRAFFIC Reduce the impact of maritime traffic (noise & collision) on sensitive marine species (Cetaceans, Turtles, others)	T1.1 T1.5 T1.7 T2.7 T2.9 T3.4		3. Has your country implemented appropriate regulations and measures to significantly reduce the impact of noise and collision from maritime traffic in identified vulnerable areas? <table border="1"> <tr><td>☐</td><td>Yes</td></tr> <tr><td>☐</td><td>In progress</td></tr> <tr><td>☐</td><td>Not yet</td></tr> <tr><td>☐</td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td>☐</td><td>Policy framework</td></tr> <tr><td>☐</td><td>Regulatory framework</td></tr> <tr><td>☐</td><td>Financial resources</td></tr> <tr><td>☐</td><td>Administrative management</td></tr> <tr><td>☐</td><td>Technical capabilities</td></tr> <tr><td>☐</td><td>Gender disparities</td></tr> <tr><td>☐</td><td>Public participation</td></tr> <tr><td>☐</td><td>Other (please specify)</td></tr> <tr><td>☐</td><td>None</td></tr> </table> <table border="1"> <tr> <td colspan="2">Any relevant additional information or Comments (if any)</td> </tr> <tr><td colspan="2"> </td></tr> <tr><td colspan="2"> </td></tr> </table>	☐	Yes	☐	In progress	☐	Not yet	☐	Not Applicable	☐	Policy framework	☐	Regulatory framework	☐	Financial resources	☐	Administrative management	☐	Technical capabilities	☐	Gender disparities	☐	Public participation	☐	Other (please specify)	☐	None	Any relevant additional information or Comments (if any)							
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4.NIS/IAS COMMITMENT Ratification of the International Convention for the Control and Management of Ballast Water and Sediments from Ships (BWM Convention), and adoption of	T1.2 T3.2 T3.6 T1.7		4.1. Has your country actively collaborated in the enforcement of the Mediterranean Ballast Water Management Strategy (2022-2027)? <table border="1"> <tr><td>☐</td><td>Yes</td></tr> <tr><td>☐</td><td>In progress</td></tr> <tr><td>☐</td><td>Not yet</td></tr> </table>	☐	Yes	☐	In progress	☐	Not yet																												
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the Regional strategy addressing ship's ballast water management and invasive species (2022-2027)			<table border="1"> <tr> <td></td> <td>Not Applicable</td> </tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table> <table border="1"> <tr> <td colspan="2">Any relevant additional information or Comments (if any)</td> </tr> <tr> <td colspan="2"></td> </tr> </table> 4.2.Has your country implemented guidelines to minimize the transfer of invasive aquatic species through ballast water? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> </table>		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None	Any relevant additional information or Comments (if any)					Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		
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5. NIS/IAS CAPACITY Strengthen the capacity of the Mediterranean countries to deal with alien marine species	T1.2 T1.7 T3.4		5.1.Has your country conducted a baseline study of alien marine species, on the presence of alien marine species, the pathways of their introduction, and the state of their population trends, including those used in aquaculture, within the framework of (IMAP)? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None		
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6. NIS/IAS CONTROL Take the necessary field actions to mitigate the impact from NIS/IAS	T1.1 T1.2 T1.7 T3.1 T3.4	6. Has your country implemented measures to regulate the introduction and spread of the most harmful invasive alien species (IAS), achieving the following targets by: 1. Preventing IAS impacts in 100% of the most vulnerable areas and/or priority sites, 2. Reducing the number of protected species threatened by IAS by 50%, and 3. Effectively managing 50% of the most significant pathways of IAS introduction? <table><tr><td></td><td>Yes</td></tr><tr><td></td><td>In progress</td></tr><tr><td></td><td>Not yet</td></tr><tr><td></td><td>Not Applicable</td></tr></table> What are the challenges and difficulties encountered (if any)? <table><tr><td></td><td>Policy framework</td></tr><tr><td></td><td>Regulatory framework</td></tr><tr><td></td><td>Financial resources</td></tr><tr><td></td><td>Administrative management</td></tr><tr><td></td><td>Technical capabilities</td></tr><tr><td></td><td>Gender disparities</td></tr><tr><td></td><td>Public participation</td></tr><tr><td></td><td>Other (please specify)</td></tr><tr><td></td><td>None</td></tr></table> <table><tr><td>Any relevant additional information or Comments (if any)</td></tr><tr><td></td></tr></table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None	Any relevant additional information or Comments (if any)			
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7. LITTER	T1.1 T1.2	7. Has your country implemented effective measures to prevent marine litter generation and enhance removal efforts,																														

Prevent leakage and remove marine litter to mitigate its impact on the ecosystem	T1.3 T1.7 T2.4 T2.8 T2.9 T3.4 T3.7		achieving a significant reduction in plastic leakage into the sea and an increase in litter removal from marine and coastal environments compared to 2027 targets ? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table> <table border="1"> <tr><td>Any relevant additional information or Comments (if any)</td></tr> <tr><td></td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None	Any relevant additional information or Comments (if any)			
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8. EIA/SEA Implement environmental assessments, considering cumulative impacts on the coastal zones and their carrying capacity.	T1.1 T1.3 T1.5 T2.6 T3.4		Has your country adopted a framework of specific measures and indicators for addressing biodiversity impacts and nature-based solutions (NbS) into its national Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) procedures? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> </table>		Yes		In progress		Not yet																								
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11. SPATIAL PLANNING Support countries for the development of systematic conservation planning taking into account ICZM, land use/marine use planning and management aspects in the context of MSP	T1.4 T1.6 T1.7 T2.6 T2.7 T2.8		11.1. Has your country achieved 100% sustainable management of Marine Protected Areas (MPAs) and relevant Other Effective area-based Conservation Measures (OECMs)? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr> <td></td><td>Policy framework</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework																
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			11.2. Has your country extended ecosystem-based management to 50% of remaining marine areas through biodiversity and climate change-informed marine spatial planning? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		
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12. RESTORATION Support restoration of ecosystems providing key services, those degraded and expected to become increasingly critical in a changing climate, such as wetlands and shallow seashore habitats among others	T1.6 T1.8 T3.5 T3.7		12.1. Has your country developed an inventory of ecosystems with the highest ecological relevance and/or regeneration potential? <table border="1"> <tr> <td></td><td>Yes</td></tr> <tr> <td></td><td>In progress</td></tr> <tr> <td></td><td>Not yet</td></tr> <tr> <td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr> <td></td><td>Policy framework</td></tr> <tr> <td></td><td>Regulatory framework</td></tr> <tr> <td></td><td>Financial resources</td></tr> <tr> <td></td><td>Administrative management</td></tr> <tr> <td></td><td>Technical capabilities</td></tr> <tr> <td></td><td>Gender disparities</td></tr> <tr> <td></td><td>Public participation</td></tr> <tr> <td></td><td>Other (please specify)</td></tr> <tr> <td></td><td>None</td></tr> </table> <table border="1"> <tr> <td colspan="2">Any relevant additional information or Comments (if any)</td></tr> <tr> <td colspan="2"></td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None	Any relevant additional information or Comments (if any)					
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			12.2. Has your country completed restoration activities in most of these prioritized areas, in alignment with Mediterranean biodiversity goals? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table> <table border="1"> <tr> <td>Any relevant additional information or Comments (if any)</td> </tr> <tr> <td> </td> </tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None	Any relevant additional information or Comments (if any)			
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13. CLIMATE CHANGE Increase climate change impacts monitoring and contributions to mitigation and adaptation, particularly to warming, acidification, and to disaster risk reduction, through	T1.3 T1.7 T1.8 T2.8 T3.10		13.1. Has your country developed Early Warning Systems (EWS), mapping tools, risk assessment and reduction strategies prioritizing nature-based solutions (NbS)? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table>		Yes		In progress		Not yet		Not Applicable																						
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nature-based solutions and ecosystem-based approaches			What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table> <table border="1"> <tr> <td>Any relevant additional information or Comments (if any)</td> </tr> <tr> <td> </td> </tr> </table> 13.2.Has your country established a fully operational climate change monitoring network in Marine Protected Areas (MPAs) representative of Mediterranean ecological conditions? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> </table>		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None	Any relevant additional information or Comments (if any)			Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		
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14. GOOD ENVIRONMENTAL STATUS Promote actions, including scientific research, with the view of achieving GES for all biodiversity-related ecological objectives within the Ecosystem Approach EcAp/IMAP	T1.7 T2.1 T2.2 T3.1 T3.4 T3.5		14. Has your country achieved Good Environmental Status (GES) for all biodiversity-related ecological objectives, demonstrating positive trends verified by scientific knowledge, through effective implementation of the Ecosystem Approach and its roadmap? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None		
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National Scope Actions 2030		<u>Goal 2 : Ensure that biodiversity is preserved and maintained or enhanced in order to meet people's needs</u>																																	
ACTION	SAPBIO Targets	Indicator	Questions related to the expected results by 2030	Means of verification	CBD/GBF Target																														
17. INVERTEBRATES Survey distribution and abundance, and assess status and main anthropogenic pressures, over priority invertebrate species with focus on <i>C.rubrum</i> , <i>P.nobilis</i> , and vermetid platforms	T1.1 T1.2 T1.6 T2.1 T2.2 T2.3		Has your country completed distribution, abundance, and conservation status assessments for <i>Corallium rubrum</i> (red coral), <i>Pinna nobilis</i> (noble pen shell), and vermetid reef platforms? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table> <table border="1"> <tr> <td colspan="2">Any relevant additional information or Comments (if any)</td> </tr> <tr> <td colspan="2"></td> </tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None	Any relevant additional information or Comments (if any)					
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18. VERTEBRATES Establish the distribution, status, and the main anthropogenic pressures of species listed under Annex II to the SPA/BD Protocol	T1.6 T1.7 T2.1 T2.3 T3.2		Has your country established comprehensive assessments of the distribution, conservation status, and main anthropogenic pressures for all species listed under Annex II of the SPA/BD Protocol? <table border="1"> <tr><td>☐</td><td>Yes</td></tr> <tr><td>☐</td><td>In progress</td></tr> <tr><td>☐</td><td>Not yet</td></tr> <tr><td>☐</td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td>☐</td><td>Policy framework</td></tr> <tr><td>☐</td><td>Regulatory framework</td></tr> <tr><td>☐</td><td>Financial resources</td></tr> <tr><td>☐</td><td>Administrative management</td></tr> <tr><td>☐</td><td>Technical capabilities</td></tr> <tr><td>☐</td><td>Gender disparities</td></tr> <tr><td>☐</td><td>Public participation</td></tr> <tr><td>☐</td><td>Other (please specify)</td></tr> <tr><td>☐</td><td>None</td></tr> </table> <table border="1"> <tr> <td colspan="2">Any relevant additional information or Comments (if any)</td> </tr> <tr> <td colspan="2"></td> </tr> </table>	☐	Yes	☐	In progress	☐	Not yet	☐	Not Applicable	☐	Policy framework	☐	Regulatory framework	☐	Financial resources	☐	Administrative management	☐	Technical capabilities	☐	Gender disparities	☐	Public participation	☐	Other (please specify)	☐	None	Any relevant additional information or Comments (if any)					
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19. HABITATS In coastal and offshore waters, inventory and cartography key Mediterranean habitats, and assess their status and main anthropogenic pressures	T1.2 T1.4 T1.6 T2.2 T2.3 T2.7 T3.2		19.1. Has your country completed comprehensive cartography of key habitats in all identified priority areas, including 100% of protected areas, Fisheries Restricted Areas (FRAs), and Other Effective area-based Conservation Measures (OECMs)? <table border="1"> <tr><td>☐</td><td>Yes</td></tr> </table>	☐	Yes																														
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20. NIS/IAS Database Develop the shared georeferenced database (MAMIAS), user-friendly platform, to continuously monitor the status and pathways of non-indigenous species and support early warning	T.1.2 T2.1 T2.2 T2.3 T3.1 T3.2 T3.5 T3.7		20. Has your country established continuous monitoring systems to track the status and pathways of non-indigenous species (NIS) and invasive alien species (IAS), and actively shared this data through the MAMIAS platform to support regional efforts in mitigating ecological and economic impacts of these species? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		
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21. OVERFISHING and IUU Implement science-based management plans to effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing, including phasing out harmful fisheries subsidies which contribute to overcapacity and overfishing	T1.1 T2.4 T2.5 T2.8 T3.1 T3.4 T3.5		21.1. Has your country a standardized data collection? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table> <table border="1"> <tr><td colspan="2">Any relevant additional information or Comments (if any)</td></tr> <tr><td colspan="2"></td></tr> </table> 21.2. Has your country a discharge control systems?		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None	Any relevant additional information or Comments (if any)					
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22. BY-CATCH Develop a national mechanism and implement agreed and scientifically tested by-catch mitigation measures, to eliminate all intentional or accidental killing of threatened or endangered species and/or in bad conservation status	T1.1 T2.1 T2.4 T2.5 T2.8 T3.1 T3.4 T3.5		22.1. Has your country developed a comprehensive bycatch mitigation mechanism, including the adaptation and/or ban of fishing gears most harmful to biodiversity (especially seabed ecosystems)? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table> <table border="1"> <tr><td colspan="2">Any relevant additional information or Comments (if any)</td></tr> <tr><td colspan="2"></td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None	Any relevant additional information or Comments (if any)					
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			22.2. Has your country implemented bycatch mitigation mechanism so that fishing gears have no significant adverse impacts on endangered and threatened species and vulnerable ecosystems? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table> <table border="1"> <tr> <td>Any relevant additional information or Comments (if any)</td> </tr> <tr> <td> </td> </tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None	Any relevant additional information or Comments (if any)			
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23. SMALL SCALE FISHERIES Promote the FAO Voluntary Guidelines for Securing Small Scale Fisheries (VGSSF) and co-management practices in professional small-scale	T1.1 T2.4 T2.5 T2.8 T2.9 T3.1 T3.4		23.1. Has your country enhanced the capacity of small-scale fisher organizations to engage in co-management models within Marine Protected Areas (MPAs), Other Effective area-based Conservation Measures (OECMs), and fishing grounds? <table border="1"> <tr><td></td><td>Yes</td></tr> </table>		Yes																												
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fisheries, advised by traditional ecological knowledge and the best available science	T3.5		<table border="1"> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table> <table border="1"> <tr><td colspan="2">Any relevant additional information or Comments (if any)</td></tr> <tr><td colspan="2"></td></tr> </table> 23.2. Has your country controlled Illegal, Unreported, and Unregulated (IUU) fishing, including recreational fishing, through full participation of all relevant sectors? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> </table>		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None	Any relevant additional information or Comments (if any)					Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		
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24. AQUACULTURE Support developing the Post2020 GFCM Aquaculture and Fisheries strategy - transforming the aquaculture industry through science-based solutions and marine spatial planning (MSP) tools	T1.1 T1.2 T1.3 T1.6 T1.7 T2.6 T2.7 T2.8 T2.9 T3.4 T3.5 T3.7		24. Has your country transformed its aquaculture industry in alignment with the ecosystem approach, utilizing science-based solutions and marine spatial planning (MSP) tools to ensure ecological sustainability and minimize environmental impacts? If yes, specify: <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		
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26. INTEGRATING BIODIVERSITY Integrate biodiversity values into national and local development planning processes, into the strategies and planning processes of marine-related economic sectors, into national accounting as appropriate, reporting systems, and into the assessment of environmental impacts	T1.3 T1.7 T2.8 T2.9 T3.4 T3.6 T3.7 T3.9		26. Has your country mainstreamed biodiversity conservation into the strategies and planning processes of Marine Spatial Planning (MSP), as well as sectors including fisheries, aquaculture, agriculture, coastal tourism, ports, maritime transportation, education, and Environmental Impact Assessments (EIAs)/Strategic Environmental Assessments (SEAs)? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None		
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27. STREAMLINE Post-2020 SAPBIO Streamline the Post-2020 SAPBIO and Regional strategies and action plans, developed in the framework of the SPA/BD Protocol, into national strategies, action plans and legal frameworks	All targets		27. Has your country fully integrated and streamlined the Post-2020 Strategic Action Programme for Biodiversity (SAPBIO) into national biodiversity conservation and development frameworks, ensuring alignment with Mediterranean regional priorities? <table border="1"> <tr><td>☐</td><td>Yes</td></tr> <tr><td>☐</td><td>In progress</td></tr> <tr><td>☐</td><td>Not yet</td></tr> <tr><td>☐</td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td>☐</td><td>Policy framework</td></tr> <tr><td>☐</td><td>Regulatory framework</td></tr> <tr><td>☐</td><td>Financial resources</td></tr> <tr><td>☐</td><td>Administrative management</td></tr> <tr><td>☐</td><td>Technical capabilities</td></tr> <tr><td>☐</td><td>Gender disparities</td></tr> <tr><td>☐</td><td>Public participation</td></tr> <tr><td>☐</td><td>Other (please specify)</td></tr> <tr><td>☐</td><td>None</td></tr> </table> <table border="1"> <tr> <td colspan="2">Any relevant additional information or Comments (if any)</td> </tr> <tr> <td colspan="2" style="height: 24px;"></td> </tr> </table>	☐	Yes	☐	In progress	☐	Not yet	☐	Not Applicable	☐	Policy framework	☐	Regulatory framework	☐	Financial resources	☐	Administrative management	☐	Technical capabilities	☐	Gender disparities	☐	Public participation	☐	Other (please specify)	☐	None	Any relevant additional information or Comments (if any)					
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28. POLITICAL WILL AND COORDINATION Ensure political will and recognition at the highest levels of Government or State, to develop appropriate	T1.5 T1.6 T1.7 T1.8 T2.4 T2.6		28. Has your country incorporated the Post-2020 Strategic Action Programme for Biodiversity (SAPBIO) into its National Biodiversity Strategy and Action Plan (NBSAP), ensuring alignment with Mediterranean regional priorities? <table border="1"> <tr> <td>☐</td> <td>Yes</td> </tr> </table>	☐	Yes																														
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governance schemes, in particular cross-sectorial and multi-level institutional coordination	T2.7 T2.8 T2.9 T3.6 T3.8 T3.9	<table><tr><td></td><td>In progress</td></tr><tr><td></td><td>Not yet</td></tr><tr><td></td><td>Not Applicable</td></tr></table> What are the challenges and difficulties encountered (if any)? <table><tr><td></td><td>Policy framework</td></tr><tr><td></td><td>Regulatory framework</td></tr><tr><td></td><td>Financial resources</td></tr><tr><td></td><td>Administrative management</td></tr><tr><td></td><td>Technical capabilities</td></tr><tr><td></td><td>Gender disparities</td></tr><tr><td></td><td>Public participation</td></tr><tr><td></td><td>Other (please specify)</td></tr><tr><td></td><td>None</td></tr></table> <table><tr><td>Any relevant additional information or Comments (if any)</td></tr><tr><td></td></tr></table>		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None	Any relevant additional information or Comments (if any)			
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29. STAKEHOLDER PARTICIPATION Facilitate stakeholder engagement to address conflict between users, build capacity to contribute to the SAPBIO enforcement, particularly in MPA planning and management, through proper participation of all stakeholders in a transparent decision-making process	T1.1 T1.2 T1.3 T1.5 T1.6 T2.3 T2.4 T2.5 T2.6 T2.8 T2.9 T3.4 T3.5	29. Has your country established formal and informal platforms to ensure the participation of all relevant sectors and stakeholders—including local and subnational authorities, the private sector, civil society, women, youth, academia, and scientific institutions—in decision-making processes for priority sectors, adopting a whole-of-society approach ? <table><tr><td></td><td>Yes</td></tr><tr><td></td><td>In progress</td></tr><tr><td></td><td>Not yet</td></tr><tr><td></td><td>Not Applicable</td></tr></table> What are the challenges and difficulties encountered (if any)?		Yes		In progress		Not yet		Not Applicable																				
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30. TOP-DOWN AND BOTTOM-UP SCALING OF INTERNATIONAL COMMITMENTS Scale down international commitments into national plans and to local level, streamlining the approach, targets and actions of the Post-2020 into national strategies and into local planning processes, while facilitating the bottom up feeding of local proposals into future planning processes at the national and Mediterranean levels	All targets		30.1. Has your country achieved positive results in implementing the updated 1995 SPA/BD Protocol? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None		
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31. COMPLIANCE AND ENFORCEMENT Enable the compliance of the provisions of the SPA/BD and the ICZM Protocols and	T1.1 T1.2 T1.3 T1.5 T1.7		31. Has your country completed capacity-building initiatives for judiciary and administrative resources across the enforcement chain—including environmental agencies, inspectors, auditors, police, prosecutors, and judges—to																																				

related Action Plans at national level by strengthening capacities and cooperation between judiciary and administrative bodies	T2.4 T2.8 T2.9 T3.1 T3.4 T3.7 T3.8		strengthen the application of environmental legal frameworks? <table border="1"> <tr><td>☐</td><td>Yes</td></tr> <tr><td>☐</td><td>In progress</td></tr> <tr><td>☐</td><td>Not yet</td></tr> <tr><td>☐</td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td>☐</td><td>Policy framework</td></tr> <tr><td>☐</td><td>Regulatory framework</td></tr> <tr><td>☐</td><td>Financial resources</td></tr> <tr><td>☐</td><td>Administrative management</td></tr> <tr><td>☐</td><td>Technical capabilities</td></tr> <tr><td>☐</td><td>Gender disparities</td></tr> <tr><td>☐</td><td>Public participation</td></tr> <tr><td>☐</td><td>Other (please specify)</td></tr> <tr><td>☐</td><td>None</td></tr> </table> <table border="1"> <tr><td colspan="2">Any relevant additional information or Comments (if any)</td></tr> <tr><td colspan="2"></td></tr> </table>	☐	Yes	☐	In progress	☐	Not yet	☐	Not Applicable	☐	Policy framework	☐	Regulatory framework	☐	Financial resources	☐	Administrative management	☐	Technical capabilities	☐	Gender disparities	☐	Public participation	☐	Other (please specify)	☐	None	Any relevant additional information or Comments (if any)					
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National Scope Actions 2030		<u>Goal 3 : Enable the necessary transformative change, putting in place tools and nature-based solutions for implementation and mainstreaming</u>																																	
ACTION	SAPBIO Targets	Indicator	Questions related to the expected results by 2030	Means of verification	CBD/GBF Target																														
32. IMAP REFINEMENT Identification of the gaps that hinder the good environmental status evaluation, and in case needed, support countries to fill them out	T2.1 T2.2 T2.3 T3.1 T3.2 T3.5		32. Has your country refined its ecological objectives in relation to scales of assessment, specification and further quantification of GES? <table border="1"> <tr><td>☐</td><td>Yes</td></tr> <tr><td>☐</td><td>In progress</td></tr> </table>	☐	Yes	☐	In progress																												
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33. IMAP IMPLEMENTATION Update national monitoring programmes in light of the new elements of IMAP, and achieve regular reporting	T2.1 T2.2 T2.3 T3.1 T3.2 T3.5		33. Has your country reported on common indicators for the biodiversity-related ecological objectives of Good Environmental Status (GES), as defined under the Integrated Monitoring and Assessment Programme (IMAP)? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources														
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34. Post-2020 SAPBIO MONITORING Allow the Contracting Parties to periodically review and report, harmonized with IMAP and UNEP/MAP monitoring frameworks, on the status of implementation of the Post-2020 SAPBIO	T3.1 T3.2 And all Targets		34.1. Has your country established a consistent reporting schedule used by all institutions involved to record biennial progress in implementing the Post-2020 Strategic Action Programme on Biodiversity (SAPBIO)? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Regulatory framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Gender disparities</td></tr> <tr><td></td><td>Public participation</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None		
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36. CAPACITY BUILDING FOR THE Post-2020 SAPBIO AT NATIONAL LEVEL Enhance the national capacities to	T3.4 T3.5 And all Targets		36. Has your country ensured that key personnel (e.g., MPA managers, field technicians, local authorities in environment, fisheries, and enforcement) are sufficiently trained and maintain close coordination with Mediterranean partners to																																				

implement the Post2020 SAPBIO, to manage MPAs and vulnerable marine and coastal habitats and species within and across national jurisdictions, with particular attention to less developed countries, and towards reducing the gender and the digital divide			implement the Post-2020 Strategic Action Programme on Biodiversity (SAPBIO) in their respective roles? <table><tr><td></td><td>Yes</td></tr><tr><td></td><td>In progress</td></tr><tr><td></td><td>Not yet</td></tr><tr><td></td><td>Not Applicable</td></tr></table> What are the challenges and difficulties encountered (if any)? <table><tr><td></td><td>Policy framework</td></tr><tr><td></td><td>Regulatory framework</td></tr><tr><td></td><td>Financial resources</td></tr><tr><td></td><td>Administrative management</td></tr><tr><td></td><td>Technical capabilities</td></tr><tr><td></td><td>Gender disparities</td></tr><tr><td></td><td>Public participation</td></tr><tr><td></td><td>Other (please specify)</td></tr><tr><td></td><td>None</td></tr></table> Any relevant additional information or Comments (if any) <table><tr><td></td></tr></table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None			
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37. NETWORKING Support existing regional, subregional and/or transboundary networks, or develop new ones as needed, to enhance capacities, knowledge, experience and opportunity sharing, inter alia, on topics as NIS/IAS, migratory species, MPA	T1.1 T1.2 T2.2 T1.6 T2.3 T2.4 T2.5 T2.6 T2.9 T3.2	37. Has your country developed and strengthened human networks at national, sub-regional, focusing on priority themes such as invasive species (NIS/IAS), migratory species conservation, MPA management, habitat restoration, bycatch reduction, harmonized monitoring, and legal compliance, to enhance capacities, share knowledge and best practices, and foster joint actions? <table><tr><td></td><td>Yes</td></tr><tr><td></td><td>In progress</td></tr></table>		Yes		In progress																										
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management, habitat restoration, reduced bycatch, harmonized monitoring, compliance with law and regulations, and other subjects relevant to the Post-2020 SAPBIO	T3.4 T3.5 T3.9 T3.10	<table><tr><td></td><td>Not yet</td></tr><tr><td></td><td>Not Applicable</td></tr></table> What are the challenges and difficulties encountered (if any)? <table><tr><td></td><td>Policy framework</td></tr><tr><td></td><td>Regulatory framework</td></tr><tr><td></td><td>Financial resources</td></tr><tr><td></td><td>Administrative management</td></tr><tr><td></td><td>Technical capabilities</td></tr><tr><td></td><td>Gender disparities</td></tr><tr><td></td><td>Public participation</td></tr><tr><td></td><td>Other (please specify)</td></tr><tr><td></td><td>None</td></tr></table> <table><tr><td>Any relevant additional information or Comments (if any)</td></tr><tr><td></td></tr></table>		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None	Any relevant additional information or Comments (if any)			
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38. AWARENESS Increase awareness, understanding and appreciating of the values and threats to the marine environment, stimulating improved behaviour, and of the responses and good practices, by targeting decision-makers and the general public, through reinforced and renewed mechanisms, including mass communications	T1.1 T1.2 T1.3 T1.5 T1.7 T2.4 T2.8 T2.9 T3.6 T3.9	38.1. Has your country adopted the Mediterranean Communication and Awareness Strategy, targeting key audiences such as mass media, policymakers, economic stakeholders (land/sea sectors), academia, and civil society? <table><tr><td></td><td>Yes</td></tr><tr><td></td><td>In progress</td></tr><tr><td></td><td>Not yet</td></tr><tr><td></td><td>Not Applicable</td></tr></table> What are the challenges and difficulties encountered (if any)? <table><tr><td></td><td>Policy framework</td></tr><tr><td></td><td>Regulatory framework</td></tr></table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework														
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			38.2. Has your country introduced and promoted the celebration of an annual Marine Biodiversity Day on mass media and schools? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table>		Yes		In progress		Not yet		Not Applicable										
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39. OUTREACH AND EDUCATION Promote the integration of marine biodiversity and ecosystems conservation concerns into school, higher education, professional training, and citizen science, so that best practices and innovative technologies to protect marine and coastal ecosystems are more accessible and replicable	T1.3 T2.8 T3.4 T3.7		39.1. Has your country integrated marine biodiversity conservation strategies and tools into school and university curricula? <table border="1"> <tr> <td></td><td>Yes</td></tr> <tr> <td></td><td>In progress</td></tr> <tr> <td></td><td>Not yet</td></tr> <tr> <td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr> <td></td><td>Policy framework</td></tr> <tr> <td></td><td>Regulatory framework</td></tr> <tr> <td></td><td>Financial resources</td></tr> <tr> <td></td><td>Administrative management</td></tr> <tr> <td></td><td>Technical capabilities</td></tr> <tr> <td></td><td>Gender disparities</td></tr> <tr> <td></td><td>Public participation</td></tr> <tr> <td></td><td>Other (please specify)</td></tr> <tr> <td></td><td>None</td></tr> </table> <table border="1"> <tr> <td colspan="2">Any relevant additional information or Comments (if any)</td></tr> <tr> <td colspan="2"></td></tr> </table> 39.2. Has your country utilised Marine Protected Areas (MPAs) as platforms for education and awareness activities involving NGOs and citizen science?		Yes		In progress		Not yet		Not Applicable		Policy framework		Regulatory framework		Financial resources		Administrative management		Technical capabilities		Gender disparities		Public participation		Other (please specify)		None	Any relevant additional information or Comments (if any)					
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40. EMPLOYMENT Adequately increase the employment, notably public employment in direct relation to marine biodiversity conservation (and eventually include redirecting existing one) as basic component for future blue economy wise development	All Targets		40. Has your country achieved a minimum doubling of public employment directly linked to marine biodiversity conservation since the baseline year, as part of regional efforts? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)?		Yes		In progress		Not yet		Not Applicable																								
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Regional Scope Actions

Regional Scope Actions 2027			<u>Goal 1: Reduce the threats to biodiversity</u>																								
ACTION	SAPBIO Targets	Indicator	Questions related to the expected results by 2027	Means of verification	CBD/GBF Target																						
2.SPECIES RECOVERY Develop recovery plans and implement emergency actions for endangered and threatened species whose continued survival depends on such actions, including their habitats	T1.1 T2.1 T2.2	Indicators of the Monitoring framework for the Kunming-Montreal Global Biodiversity Framework if relevant and applicable or be developed as region-specific indicators	2. Has your organisation established a functional stranding network in at least two Mediterranean ecological subregions? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table> <table border="1"> <tr> <td>Any relevant additional information or Comments (if any)</td> </tr> <tr> <td> </td> </tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Financial resources		Administrative management		Technical capabilities		Other (please specify)		None	Any relevant additional information or Comments (if any)			
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6. NIS/IAS CONTROL Take the necessary field	T1.1 T1.2		6. Has your organisation contributed to regulating the introduction and spread of the most harmful invasive																								

actions to mitigate the impact from NIS/IAS	T1.7 T3.1 T3.4		alien species (IAS) at the Mediterranean level, achieving the following targets: 1. Preventing IAS impacts in 100% of the most vulnerable areas and/or priority sites, 2. Reducing the number of protected species threatened by IAS by 50%, and 3. Effectively managing 50% of the most significant pathways of IAS introduction? <table><tr><td></td><td>Yes</td></tr><tr><td></td><td>In progress</td></tr><tr><td></td><td>Not yet</td></tr><tr><td></td><td>Not Applicable</td></tr></table> What are the challenges and difficulties encountered (if any)? <table><tr><td></td><td>Policy framework</td></tr><tr><td></td><td>Financial resources</td></tr><tr><td></td><td>Administrative management</td></tr><tr><td></td><td>Technical capabilities</td></tr><tr><td></td><td>Other (please specify)</td></tr><tr><td></td><td>None</td></tr></table> Any relevant additional information or Comments (if any)		Yes		In progress		Not yet		Not Applicable		Policy framework		Financial resources		Administrative management		Technical capabilities		Other (please specify)		None		
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9. WIND ENERGY Advocate that wind farms, are regulated in MCPAs, and cannot be developed elsewhere before their effects	T1.1 T1.3 T1.7 T1.8 T2.7		9. Has your organisation developed and presented a proposal for the regulation and impact assessment of wind farm installations within areas identified as critical for marine and coastal biodiversity to the Barcelona Convention Contracting Parties?																						

on the marine environment biodiversity and human activities have been sufficiently researched, the risks are understood and alternatives assessed	T2.8 T2.9		<table><tr><td></td><td>Yes</td></tr><tr><td></td><td>In progress</td></tr><tr><td></td><td>Not yet</td></tr><tr><td></td><td>Not Applicable</td></tr></table> What are the challenges and difficulties encountered (if any)? <table><tr><td></td><td>Policy framework</td></tr><tr><td></td><td>Financial resources</td></tr><tr><td></td><td>Administrative management</td></tr><tr><td></td><td>Technical capabilities</td></tr><tr><td></td><td>Other (please specify)</td></tr><tr><td></td><td>None</td></tr></table> <table><tr><td>Any relevant additional information or Comments (if any)</td></tr><tr><td></td></tr></table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Financial resources		Administrative management		Technical capabilities		Other (please specify)		None	Any relevant additional information or Comments (if any)			
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10. MINERALS In line with the precautionary principle, the exploitation of minerals should not be authorised until the effect on the marine environment, biodiversity and related human activities have been sufficiently researched and the risks are understood and alternatives assessed.	T1.1 T1.3 T1.7 T1.8 T2.7 T2.8 T2.9		10. Has your organisation developed and presented a proposal to regulate the prospection and exploitation of inorganic minerals on or under the seabed to the Barcelona Convention Contracting Parties, ensuring alignment with Mediterranean marine biodiversity conservation goals? <table><tr><td></td><td>Yes</td></tr><tr><td></td><td>In progress</td></tr><tr><td></td><td>Not yet</td></tr><tr><td></td><td>Not Applicable</td></tr></table>		Yes		In progress		Not yet		Not Applicable																
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Regional Scope Actions 2027			<u>Goal 2 : Ensure that biodiversity is preserved and maintained or enhanced in order to meet people's needs</u>														
ACTION	SAPBIO Targets	Indicator	Questions related to the expected results by 2027	Means of verification	CBD/GBF Target												
16. BIODIVERSITY PLATFORM Establish an open access Mediterranean Biodiversity Platform	T2.1 T2.2 T2.3 T3.2 T3.5 T3.7		16. has your organization (SPA/RAC) progressed toward centralizing georeferenced information on Mediterranean biodiversity key components into an open-access Mediterranean Biodiversity Platform by 2027? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)?		Yes		In progress		Not yet		Not Applicable						
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20. NIS/IAS Database Develop the shared georeferenced database (MAMIAS), user-friendly platform, to continuously monitor the status and pathways of non-indigenous species and support early	T1.2 T2.1 T2.2 T2.3 T3.1 T3.2 T3.5 T3.7		20. Has your organization (SPA/RAC) ensured that georeferenced data on Non-Indigenous Species (NIS) and Invasive Alien Species (IAS) is comprehensively shared through the user-friendly MAMIAS database platform, including online tools and web services for searching, extracting, and analyzing data? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Other (please specify)</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Financial resources		Administrative management		Technical capabilities		Other (please specify)		
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21. OVERFISHING and IUU Implement science-based management plans to effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing, including phasing out harmful fisheries subsidies which contribute to overcapacity and overfishing	T1.1 T2.4 T2.5 T2.8 T3.1 T3.4 T3.5		21.1. Has your organisation (FAO/GFCM) promoted the reform of fisheries subsidies at the regional/country levels and in the World Trade Organisation (WTO)? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table> <table border="1"> <tr> <td colspan="2">Any relevant additional information or Comments (if any)</td> </tr> <tr><td colspan="2"></td></tr> </table> 21.2. Has your organisation (FAO/GFCM) assessed and monitored the stretch of IUU in the Mediterranean?		Yes		In progress		Not yet		Not Applicable		Policy framework		Financial resources		Administrative management		Technical capabilities		Other (please specify)		None	Any relevant additional information or Comments (if any)					
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24. AQUACULTURE Support developing the Post2020 GFCM Aquaculture and Fisheries strategy - transforming the aquaculture industry through science-based solutions and marine spatial planning (MSP) tools	T1.1 T1.2 T1.3 T1.6 T1.7 T2.6 T2.7 T2.8 T2.9 T3.4 T3.5 T3.7		24.1.Has your organisation (FAO/GFCM) promoted best practices in aquaculture—including innovation, improved aquatic health and biosecurity, responsible antimicrobial use, certification, traceability, and nature-based solutions? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)?		Yes		In progress		Not yet		Not Applicable																
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25. TOURISM Develop a framework of specific indicators for assessing the impact of marine and coastal tourism on destinations and for promoting ecotourism	T1.3 T1.5 T1.8 T2.8 T2.9 T3.4 T3.7 T3.9		25. Has your organisation (Blue Plan/RAC) adopted a framework of specific indicators to assess the environmental and socio-cultural impacts of marine and coastal tourism in priority destinations and promote ecotourism, as part of environmental assessments in Mediterranean tourism hotspots? <table border="1"> <tr> <td></td><td>Yes</td></tr> <tr> <td></td><td>In progress</td></tr> <tr> <td></td><td>Not yet</td></tr> <tr> <td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr> <td></td><td>Policy framework</td></tr> <tr> <td></td><td>Financial resources</td></tr> <tr> <td></td><td>Administrative management</td></tr> <tr> <td></td><td>Technical capabilities</td></tr> <tr> <td></td><td>Other (please specify)</td></tr> <tr> <td></td><td>None</td></tr> </table> <table border="1"> <tr> <td colspan="2">Any relevant additional information or Comments (if any)</td></tr> <tr> <td colspan="2"></td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Financial resources		Administrative management		Technical capabilities		Other (please specify)		None	Any relevant additional information or Comments (if any)					
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Regional Scope Actions 2027			Goal 3 : Enable the necessary transformative change, putting in place tools and nature-based solutions for implementation and mainstreaming																								
ACTION	SAPBIO Targets	Indicator	Questions related to the expected results by 2027	Means of verification	CBD/GBF Target																						
35. SUPPORT TO RUN THE SAPBIO Provide sufficient human and financial resources to the MAP system in order to efficiently run the implementation, follow-up and assessment mechanisms for the Post-2020 SAPBIO	T3.2. T3.3And all Targets		35.1. Has your organisation (the Mediterranean Action Plan (MAP) system) established the regional follow-up and assessment mechanisms for the Post-2020 Strategic Action Programme on Biodiversity (SAPBIO), enabling timely analysis of progress toward its goals and targets using objective, numerical indicators? <table border="1"><tr><td></td><td>Yes</td></tr><tr><td></td><td>In progress</td></tr><tr><td></td><td>Not yet</td></tr><tr><td></td><td>Not Applicable</td></tr></table> What are the challenges and difficulties encountered (if any)? <table border="1"><tr><td></td><td>Policy framework</td></tr><tr><td></td><td>Financial resources</td></tr><tr><td></td><td>Administrative management</td></tr><tr><td></td><td>Technical capabilities</td></tr><tr><td></td><td>Other (please specify)</td></tr><tr><td></td><td>None</td></tr></table> <table border="1"><tr><td>Any relevant additional information or Comments (if any)</td></tr><tr><td></td></tr></table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Financial resources		Administrative management		Technical capabilities		Other (please specify)		None	Any relevant additional information or Comments (if any)			
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			35.2. Has your organisation (the Mediterranean Action Plan (MAP) system) resourced the regional follow-up and assessment mechanisms for the Post-2020 Strategic Action Programme on Biodiversity (SAPBIO), enabling timely analysis of progress toward its goals and targets using objective, numerical indicators? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table> <table border="1"> <tr> <td>Any relevant additional information or Comments (if any)</td> </tr> <tr> <td> </td> </tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Financial resources		Administrative management		Technical capabilities		Other (please specify)		None	Any relevant additional information or Comments (if any)			
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37. NETWORKING Support existing regional, subregional and/or transboundary networks, or develop new ones as needed, to enhance capacities, knowledge, experience and opportunity sharing, inter alia,	T1.1 T1.2 T2.2 T1.6 T2.3 T2.4 T2.5 T2.6		37. Has your organisation established human networks at regional, sub-regional to advance priority marine conservation themes, ensuring these networks are sufficiently resourced to maintain a functional hub, user-friendly website, and regular knowledge-exchange mechanisms—particularly addressing capacity-building needs in less developed countries, recently established																								

on topics as NIS/IAS, migratory species, MPA management, habitat restoration, reduced bycatch, harmonized monitoring, compliance with law and regulations, and other subjects relevant to the Post-2020 SAPBIO	T2.9 T3.2 T3.4 T3.5 T3.9 T3.10		Marine Protected Areas (MPAs), and all Specially Protected Areas of Mediterranean Importance (SPAMIs)? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table> <table border="1"> <tr> <td>Any relevant additional information or Comments (if any)</td> </tr> <tr> <td> </td> </tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Financial resources		Administrative management		Technical capabilities		Other (please specify)		None	Any relevant additional information or Comments (if any)			
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Regional Scope Actions 2030			<u>Goal 1: Reduce the threats to biodiversity</u>																					
ACTION	SAPBIO Targets	Indicator	Questions related to the expected results by 2030	Means of verification	CBD/GBF Target																			
1. SPECIES AND HABITATS PLANS Update Mediterranean action plans for selected species and habitats listed under the SPA/BD Protocol	T1.1 T2.1 T2.2	Indicators of the Monitoring framework for the Kunming-Montreal Global Biodiversity Framework if relevant and applicable or be developed as region- specific indicators	1. Can your organization confirm that at least 30% of species and habitats not in favourable status in 2020 have now achieved Good Environmental Status (GES) or demonstrate strong positive trends , with priority given to benthic habitats—ensuring the decline of coralligenous formations and marine vegetation has been halted and sea-floor integrity is maintained ?																					
	<table><tr><td></td><td>Yes</td></tr><tr><td></td><td>In progress</td></tr><tr><td></td><td>Not yet</td></tr><tr><td></td><td>Not Applicable</td></tr></table> What are the challenges and difficulties encountered (if any)? <table><tr><td></td><td>Policy framework</td></tr><tr><td></td><td>Financial resources</td></tr><tr><td></td><td>Administrative management</td></tr><tr><td></td><td>Technical capabilities</td></tr><tr><td></td><td>Other (please specify)</td></tr><tr><td></td><td>None</td></tr></table> <table><tr><td>Any relevant additional information or</td><td>Comments (if any)</td></tr><tr><td></td><td></td></tr></table>					Yes		In progress		Not yet		Not Applicable		Policy framework		Financial resources		Administrative management		Technical capabilities		Other (please specify)		None
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9. WIND ENERGY Advocate that wind farms, are regulated in MCPAs, and cannot be developed elsewhere before their effects on the marine environment, biodiversity and human activities have been sufficiently researched, the risks are understood and alternatives assessed	T1.1 T1.3 T1.7 T1.8 T2.7 T2.8 T2.9		9. Has the Barcelona Convention formally adopted the proposal to regulate and assess the impacts of wind farm installations in areas critical for marine and coastal biodiversity? <table><tr><td></td><td>Yes</td></tr><tr><td></td><td>In progress</td></tr><tr><td></td><td>Not yet</td></tr><tr><td></td><td>Not Applicable</td></tr></table> What are the challenges and difficulties encountered (if any)? <table><tr><td></td><td>Policy framework</td></tr><tr><td></td><td>Financial resources</td></tr><tr><td></td><td>Administrative management</td></tr><tr><td></td><td>Technical capabilities</td></tr><tr><td></td><td>Other (please specify)</td></tr><tr><td></td><td>None</td></tr></table> <table><tr><td>Any relevant additional information or Comments (if any)</td></tr><tr><td></td></tr></table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Financial resources		Administrative management		Technical capabilities		Other (please specify)		None	Any relevant additional information or Comments (if any)			
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10. MINERALS In line with the precautionary principle, the exploitation of minerals should not be authorised until the effect on the marine environment, biodiversity and related	T1.1 T1.3 T1.7 T1.8 T2.7 T2.8 T2.9		10. Has the Barcelona Convention formally adopted regulations governing the prospection and exploitation of inorganic minerals (e.g., polymetallic nodules, phosphates) in or under the seabed to safeguard Mediterranean marine ecosystems? <table><tr><td></td><td>Yes</td></tr></table>		Yes																						
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human activities have been sufficiently researched and the risks are understood and alternatives assessed.			<table border="1"> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Other (please specify)</td></tr> <tr><td></td><td>None</td></tr> </table> <table border="1"> <tr><td colspan="2">Any relevant additional information or Comments (if any)</td></tr> <tr><td colspan="2"></td></tr> </table>		In progress		Not yet		Not Applicable		Policy framework		Financial resources		Administrative management		Technical capabilities		Other (please specify)		None	Any relevant additional information or Comments (if any)					
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Regional Scope Actions 2030			<u>Goal 2 : Ensure that biodiversity is preserved and maintained or enhanced in order to meet people's needs</u>																								
ACTION	SAPBIO Targets	Indicator	Questions related to the expected results by 2030	Means of verification	CBD/GBF Target																						
19. HABITATS In coastal and offshore waters, inventory and cartography key Mediterranean habitats, and assess their status and main anthropogenic pressures	T1.2 T1.4 T1.6 T2.2 T2.3 T2.7 T3.2 T3.10		19.1. Has your organisation completed comprehensive cartography of key marine and coastal habitats in all identified priority areas—including 100% of protected areas, Fisheries Restricted Areas (FRAs), and Other Effective Conservation Measures (OECMs) ? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table>		Yes		In progress		Not yet		Not Applicable																
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24. AQUACULTURE Support developing the Post2020 GFCM Aquaculture and Fisheries strategy - transforming the aquaculture industry through science-based solutions and marine spatial planning (MSP) tools			24. Has your organisation (FAO/GFCM) fully transformed its Mediterranean aquaculture industry to align with the ecosystem approach, using science-based solutions and marine spatial planning (MSP) tools, while ensuring ecological sustainability and minimizing environmental impacts? <table border="1"> <tr> <td></td><td>Yes</td> </tr> <tr> <td></td><td>In progress</td> </tr> <tr> <td></td><td>Not yet</td> </tr> <tr> <td></td><td>Not Applicable</td> </tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr> <td></td><td>Policy framework</td> </tr> <tr> <td></td><td>Financial resources</td> </tr> <tr> <td></td><td>Administrative management</td> </tr> <tr> <td></td><td>Technical capabilities</td> </tr> <tr> <td></td><td>Other (please specify)</td> </tr> <tr> <td></td><td>None</td> </tr> </table> <table border="1"> <tr> <td colspan="2">Any relevant additional information or Comments (if any)</td> </tr> <tr> <td colspan="2"></td> </tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Financial resources		Administrative management		Technical capabilities		Other (please specify)		None	Any relevant additional information or Comments (if any)					
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Any relevant additional information or Comments (if any)																													
25. TOURISM	T1.3 T1.7		25. Has your organization supported the adoption and implementation of environmental assessments for tourism																										

Develop a framework of specific indicators for assessing the impact of marine and coastal tourism on destinations and for promoting ecotourism	T2.8 T2.9 T3.4 T3.6 T3.7 T3.9		development that include specific tourism indicators, cumulative impact evaluations, and coastal carrying capacity analyses in Mediterranean countries? <table><tr><td></td><td>Yes</td></tr><tr><td></td><td>In progress</td></tr><tr><td></td><td>Not yet</td></tr><tr><td></td><td>Not Applicable</td></tr></table> What are the challenges and difficulties encountered (if any)? <table><tr><td></td><td>Policy framework</td></tr><tr><td></td><td>Financial resources</td></tr><tr><td></td><td>Administrative management</td></tr><tr><td></td><td>Technical capabilities</td></tr><tr><td></td><td>Other (please specify)</td></tr><tr><td></td><td>None</td></tr></table> Any relevant additional information or Comments (if any) <table><tr><td></td></tr></table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Financial resources		Administrative management		Technical capabilities		Other (please specify)		None			
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Regional Scope Actions 2030			Goal 3 : Enable the necessary transformative change, putting in place tools and nature-based solutions for implementation and mainstreaming																							
ACTION	SAPBIO Targets	Indicator	Questions related to the expected results by 2030	Means of verification	CBD/GBF Target																					
34. Post-2020 SAPBIO MONITORING Allow the Contracting Parties to periodically review and	T3.1 T3.2 And all Targets		34. Did your organisation supported when appropriate and/or by voluntary in-depth peer review by experts including from other parties, the Mediterranean																							

report, harmonized with IMAP and UNEP/MAP monitoring frameworks, on the status of implementation of the Post-2020 SAPBIO			Yes In progress Not yet Not Applicable What are the challenges and difficulties encountered (if any)? Policy framework Financial resources Administrative management Technical capabilities Other (please specify) None Any relevant additional information or Comments (if any)		
35. SUPPORT TO RUN THE SAPBIO Provide sufficient human and financial resources to the MAP system in order to efficiently run the implementation, follow-up and assessment mechanisms for the Post2020 SAPBIO	T3.2 T3.3 And all Targets		Is the Mediterranean Action Plan (MAP) system—including its institutions (e.g., UNEP/MAP, SPA/RAC), funding mechanisms, and technical capacity—sufficiently resourced to ensure: 1. Effective implementation of the Post-2020 SAPBIO at national and regional levels, and 2. The formulation of a post-2030 SAPBIO update? Yes In progress		

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Any relevant additional information or Comments (if any)																									
37. NETWORKING Support existing regional, subregional and/or transboundary networks, or develop new ones as needed, to enhance capacities, knowledge, experience and opportunity sharing, inter alia, on topics as NIS/IAS, migratory species, MPA management, habitat restoration, reduced bycatch, harmonized monitoring, compliance with law and regulations, and other subjects relevant	T1.1 T1.2 T2.2 T1.6 T2.3 T2.4 T2.5 T2.6 T2.9 T3.2 T3.4 T3.5 T3.9 T3.10		37. Has your organisation developed and strengthened human networks at national, sub-regional, and regional levels—focusing on key themes like invasive species (NIS/IAS), migratory species conservation, MPA management, habitat restoration, bycatch reduction, harmonized monitoring, and legal compliance—to enhance capacities, share knowledge and best practices, and drive joint actions for Mediterranean biodiversity? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)?		Yes		In progress		Not yet		Not Applicable														
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41. SUSTAINABLE FUNDING Develop sustainable funding strategies with, as appropriate, innovative approaches to mobilize alternative financial sources, covering fiscal incomes that could be redistributed, and relevant actions to fund, including The MedFund and other types of national or local financing mechanisms	All Targets		41. Has your organisation developed and implemented sustainable funding strategies that have significantly increased financial and non-financial resources for biodiversity conservation from governmental, non-governmental, and private sector actors, in alignment with Mediterranean priorities? <table border="1"> <tr><td></td><td>Yes</td></tr> <tr><td></td><td>In progress</td></tr> <tr><td></td><td>Not yet</td></tr> <tr><td></td><td>Not Applicable</td></tr> </table> What are the challenges and difficulties encountered (if any)? <table border="1"> <tr><td></td><td>Policy framework</td></tr> <tr><td></td><td>Financial resources</td></tr> <tr><td></td><td>Administrative management</td></tr> <tr><td></td><td>Technical capabilities</td></tr> <tr><td></td><td>Other (please specify)</td></tr> </table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Financial resources		Administrative management		Technical capabilities		Other (please specify)		
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Any relevant additional information or Comments (if any)																													
42. COOPERATION Increase cooperation both north/south, south-south, and between governmental and non-governmental actors at different levels, to support the Post-2020 SAPBIO, particularly in the less developed countries	All Targets		42. Has there been a significant increase in international financial flows to Mediterranean developing countries to support the effective implementation of the Post-2020 Strategic Action Programme on Biodiversity (SAPBIO), addressing critical funding gaps for conservation, restoration, and sustainable use of biodiversity? <table><tr><td></td><td>Yes</td></tr><tr><td></td><td>In progress</td></tr><tr><td></td><td>Not yet</td></tr><tr><td></td><td>Not Applicable</td></tr></table> What are the challenges and difficulties encountered (if any)? <table><tr><td></td><td>Policy framework</td></tr><tr><td></td><td>Financial resources</td></tr><tr><td></td><td>Administrative management</td></tr><tr><td></td><td>Technical capabilities</td></tr><tr><td></td><td>Other (please specify)</td></tr><tr><td></td><td>None</td></tr></table> <table><tr><td colspan="2">Any relevant additional information or Comments (if any)</td></tr><tr><td colspan="2"></td></tr></table>		Yes		In progress		Not yet		Not Applicable		Policy framework		Financial resources		Administrative management		Technical capabilities		Other (please specify)		None	Any relevant additional information or Comments (if any)					
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ANNEX II

EVALUATION AND MONITORING FRAMEWORK FOR THE POST-2020 REGIONAL STRATEGY FOR MARINE AND COASTAL PROTECTED AREAS AND OTHER EFFECTIVE AREA-BASED CONSERVATION MEASURES IN THE MEDITERRANEAN as adopted by CoP23 Decision IG.26/5)

Output	Indicator	Mid-term target 2026	Final target 2030	Means of verification
The Strategy overall target: By 2030, at least 30 per cent of the Mediterranean Sea is protected and conserved through well connected, ecologically representative and effective systems of marine and coastal protected areas and other effective area-based conservation measures, ensuring adequate geographical balance, with the focus on areas particularly important for biodiversity				
--	% coverage of MCPAs and OECMs in the Mediterranean Sea	15% of the Mediterranean Sea	30% of the Mediterranean Sea	MAPAMED database ³
Strategic Outcome 1: Governance arrangements for MCPAs and OECMs are inclusive and effective in delivering conservation and livelihood outcomes				
Output 1.1: Legal frameworks and institutional arrangements of MCPAs and OECMs allow for opportunities for participatory management	Number of Contracting Parties with legal frameworks and institutional arrangements of MCPAs allowing for opportunities for participatory management.	11 States Contracting Parties to the Barcelona Convention	All States Contracting Parties to the Barcelona Convention	National reports
	Number of Contracting Parties with legal frameworks and institutional arrangements of OECMs allowing for opportunities for participatory management, considering the objectives of such OECMs.	11 States Contracting Parties to the Barcelona Convention	All States Contracting Parties to the Barcelona Convention	Official data provided by the Contracting Parties
Output 1.2: Governance arrangements for MCPAs and OECMs are inclusive and equitable	Number of Contracting Parties with governance structures and mechanisms (e.g., a national commission or other) for MCPAs established and functional, that facilitates inclusive and equitable governance.	11 States Contracting Parties to the Barcelona Convention	All States Contracting Parties to the Barcelona Convention	National reports Official data provided by the

³ SPA/RAC should ensure that the MAPAMED database is expanded to cover all the indicators agreed upon under this Evaluation and Monitoring Framework, and includes coastal protected areas, provided that relevant data and information are shared by the Contracting Parties to inform the MAPAMED database for these indicators.

	Number of Contracting Parties with appropriate procedures and mechanisms for the effective participation of and/or coordination with other stakeholders in OECM processes.	11 States Contracting Parties to the Barcelona Convention	All States Contracting Parties to the Barcelona Convention	Contracting Parties
Output 1.3: National, regional, transboundary and cross sectoral co-operation for the establishment and management of MCPAs and OECMs are strengthened	Number of Contracting Parties with multi-sectoral cooperation tools (e.g., committees, consultations, agreements, etc.) for MCPAs or OECMs established. Number of transboundary co-operation agreements for MCPAs or OECMs.	11 States Contracting Parties to the Barcelona Convention 3 Agreements	All States Contracting Parties to the Barcelona Convention 5 Agreements	National reports Official data provided by the Contracting Parties
Output 1.4: Adaptive planning and management frameworks of MCPAs and OECMs that anticipate, learn from and respond to changes in decision-making are strengthened	Number of MCPAs that have management plans. % of MCPAs applying adaptive management. % of OECMs that have flexible procedures in place to ensure that results from monitoring, evaluation, consultation, and multiple knowledge sources are used to inform management and planning processes.	50% of MCPAs 50% of MCPAs 50% of OECMs	100% of MCPAs 100% of MCPAs 100% of OECMs	MAPAMED database
Strategic Outcome 2: MCPA coverage increased through the expansion of soundly-designed, ecologically representative and well-connected systems of MCPAs				
Output 2.1: Areas of importance for biodiversity and ecosystem services are identified	Number of Contracting Parties that have identified areas of importance for biodiversity and ecosystem services, serving to inform MCPAs establishment process.	11 States Contracting Parties to the Barcelona Convention	All States Contracting Parties to the Barcelona Convention	National reports Official data provided by the Contracting Parties
Output 2.2: Distribution of MCPA systems across the Mediterranean Sea is balanced	The unbalanced MCPA distribution between the 4 Mediterranean sub-regions (Adriatic Sea; Aegean - Levantine Sea; Ionian Sea and Central Mediterranean Sea; and Western Mediterranean Sea) is reduced.	The unbalanced distribution is reduced by 50%	The distribution is balanced	MAPAMED database

	<u>Baseline: % coverage of MPAs per Mediterranean sub-region⁴:</u> Adriatic Sea: 4.8% Aegean - Levantine Sea: 2.1% Ionian Sea and Central Mediterranean Sea: 1.8% Western Mediterranean Sea: 20.4%			
Output 2.3: MCPA coverage in areas beyond national jurisdiction is increased	The coverage of MPAs in ABNJ ⁵ is increased. <u>Baseline: % coverage of MPAs in ABNJ: [less than 1.85%]⁶</u>	The coverage of MPAs in ABNJ is increased by 50%	The coverage of MPAs in ABNJ is increased by 100%	MAPAMED database
Output 2.4: The number and coverage of MCPAs with enhanced protection levels is increased	% coverage of NTZs ⁷ within MCPAs/OECMs. <u>Baseline: % cumulative surface of no-go, no-take or no-fishing area⁸: 0.04%</u>	2% of the Mediterranean Sea	5% of the Mediterranean Sea	MAPAMED database National reports
Strategic Outcome 3: Marine and coastal OECMs in the Mediterranean are identified, recognized and reported towards post-2020 global and regional targets				
Output 3.1: Awareness in Contracting Parties and stakeholders on OECMs enhanced and guidance for the application of OECM criteria provided	Number of Contracting Parties that established processes to evaluate the application and identification of OECMs, applying the guidance for application of OECM criteria.	50% of the States Contracting Parties to the Barcelona Convention	100% of the States Contracting Parties to the Barcelona Convention	National reports Official data provided by the Contracting Parties
Output 3.2: OECMs identified, recognized and reported to regional and global databases by Contracting Parties and regional organizations	Surface of OECMs recognized and reported.	OECM surface complementing MPA surface to 15%	OECM surface complementing MPA surface to 30%	MAPAMED database

⁴ Source: SPA/RAC and MedPAN, MAPAMED 2019 edition.

⁵ The extent of ABNJ in the Mediterranean depends on the number of EEZs declared by coastal States. If all the coastal States declare their EEZ, there will be no more ABNJ.

⁶ Figure to be updated by SPA/RAC on the following versions of the draft document (information requested from the Pelagos Agreement Permanent Secretariat).

⁷ No-Take Zones are geographically defined zones within marine protected areas that do not allow any fishing, mining, drilling, or other extractive activities.

⁸ Source: MedPAN: The Mediterranean MPA management database, 2021.

Output 3.3: Effectiveness of identified OECMs is enhanced, including through prioritization in cross-sectoral marine spatial planning	Number of OECMs included within MSP measures adopted by the Contracting Parties using OECMs to contribute to the 30% target for the Mediterranean. Number of projects to evaluate the effectiveness of OECMs.	3 OECMs 3 projects	6 OECMs 6 projects	National reports Official data provided by the Contracting Parties
Output 3.4: New OECMs are established and recognized OECMs expanded	Guidance document on future OECM designation, recognition and reporting Number of new OECMs established at Mediterranean level contributing to the 30% collective target on protected areas and OECMs.	1 10 OECMs	-- 20 OECMs	Guidance document MAPAMED database
Strategic Outcome 4: MCPAs are effectively managed and their conservation outcomes successfully delivered				
Output 4.1: All MCPAs have adaptive management plans adopted, effectively implemented and periodically reviewed	MCPAs have adaptive management plans adopted, effectively implemented and periodically reviewed.	50% of MCPAs	100% of MCPAs	MAPAMED database
Output 4.2: Sufficient and sustainable resources for the establishment and management of MCPAs in the Mediterranean are mobilized	% of MCPAs where financial constraints are not threatening the capacity of management to achieve the site's objectives.	50% of MCPAs	100% of MCPAs	MAPAMED database
Output 4.3: Individual and institutional capacity for MCPA management is enhanced	% of MPCAs with adequate numbers of appropriately trained staff provided by the responsible entity. Number of Contracting Parties with MCPA institutions in place.	50% of MCPAs 11 States Contracting Parties to the Barcelona Convention	100% of MCPAs All States Contracting Parties to the Barcelona Convention	MAPAMED database National reports Official data provided by the

				Contracting Parties
Output 4.4: Surveillance and enforcement in MCPAs are strengthened and ensured, and user compliance is promoted	% MCPAs having regular surveillance.	50% of MCPAs	100% of MCPAs	National reports MAPAMED database
Output 4.5: Monitoring of conservation outcomes and evaluation of management effectiveness are strengthened across the MCPA system	% MCPAs with regular monitoring identifying biological threat and socio-economic indicators	50% of MCPAs	100% of MCPAs	MAPAMED database
	% MCPAs carrying out regular site-level management effectiveness evaluations	50% of MCPAs	100% of MCPAs	
Strategic Outcome 5: Actions and support for MCPAs and OECMs are mobilized				
Output 5.1: Awareness, understanding and appreciation of the values of, and threats to, MCPAs and OECMs across government and non-government stakeholders, the private sector, the youth and wider society	Number of Contracting Parties with targeted communication and awareness strategies as standalone or as part of other national activities.	11 States Contracting Parties to the Barcelona Convention	All States Contracting Parties to the Barcelona Convention	National reports
	Number of CPs having education programmes including MCPAs and OECMs.	11 States Contracting Parties to the Barcelona Convention	All States Contracting Parties to the Barcelona Convention	Official data provided by the Contracting Parties
	% of positive attitudes towards MCPAs/OECMs across wide stakeholder groups.	30% positive attitudes towards MCPAs/OECMs	60% positive attitudes towards MCPAs/OECMs	Stakeholder survey
Output 5.2: Political support for the establishment and management of MCPAs and biodiversity conservation is increased	% of MCPAs receiving regular adequate funds from government budgets for management.	50% of MCPAs	100% of MCPAs	National reports
	Number of Contracting Parties that consider MCPAs in Environmental Impact Assessments (EIAs) and Spatial Planning processes.	11 States Contracting Parties to the Barcelona Convention	All States Contracting Parties to the Barcelona Convention	Official data provided by the Contracting Parties

Output 5.3: The contribution of MPCAs and OECMs to sustainable development goals, the blue economy, climate change mitigation and adaptation, and the wider society are recognized and accounted for	Number of Contracting Parties with MCPA/OECM considerations included into national plans and policies for climate change mitigation and adaptation.	11 States Contracting Parties to the Barcelona Convention	All States Contracting Parties to the Barcelona Convention	National reports
	Number of Contracting Parties with MCPA/OECM considerations included into national plans and policies for sustainable blue economy growth.	11 States Contracting Parties to the Barcelona Convention	All States Contracting Parties to the Barcelona Convention	Official data provided by the Contracting Parties
	Number of national Public Relation (PR) and awareness initiatives in relation with MCPA/OECM targeting the wider society	1 per Contracting Party	2 per Contracting Party	Media produced (social media platforms, videos, etc.)

Annex XVIII
Draft Programme of work of SPA/RAC for the biennium 2026-2027

**Narrative introduction to the draft activities and deliverables proposed by SPA/RAC
to 2026-2027 PoW**

1. The *activities and deliverables of the UNEP/MAP POW 2026-2027, proposed by SPA/RAC* have been prepared following the guiding elements included in the “Guiding elements for the preparation of 2026-2027 UNEP/MAP Programme of Work (PoW)” prepared by the Secretariat. As this marks the third and last biennium of the MTS cycle (2022-2027), most of the proposed activities are in continuation of those started in the present biennium to implement relevant priority actions included in the existing regional strategies already adopted by the Contracting Parties to the Barcelona Convention as well as those newly adopted at their 23rd meeting (COP 23, Portorož, Slovenia, 5-8 December 2023).
2. In developing the *activities and deliverables of the UNEP/MAP POW 2026-2027, proposed by SPA/RAC*, due consideration has been given to the contribution of its expected deliverables to the achievement of the 2022-2027 MTS programmes’ objectives, strategic outcomes and related targets. Special attention is given to long-term strategic outcomes that require sustained efforts beyond a single biennium, such as threatened and endangered species and habitats conservation, ecosystem restoration, nature-based technical solutions, mass mortality linked to heat waves, marine and coastal protected areas establishment and management, SPAMI periodic review, EcAp/IMAP activities, etc.
3. The *activities and deliverables of the UNEP/MAP POW 2026-2027, proposed by SPA/RAC* aim at assisting the Contracting Parties in the implementation of the Specially Protected Areas and Biological Diversity (SPA/BD) Protocol, in particular, by protecting, preserving and managing, in a sustainable and environmentally sound way, areas of particular natural or cultural value, notably by establishing and fostering effective management of specially protected areas and by protecting, preserving and restoring threatened or endangered species of flora and fauna, and their habitats, in line with the SPA/RAC mandate.
4. The *activities and deliverables of the UNEP/MAP POW 2026-2027, proposed by SPA/RAC* have been developed considering the priorities defined in the Post-2020 SAPBIO, the Post-2020 Regional Strategy for marine and coastal protected areas (MCPAs) and other effective area-based conservation measures (OECMs) in the Mediterranean, adopted by the Contracting Parties at their 22nd meeting, and the Regional Action Plans and Strategy on threatened and endangered species and key habitats. Its deliverables aim at contributing, based on the available budget (both MTF and externally mobilized funds), to the implementation of Instruments and Decisions taken by the Contracting Parties to the Barcelona Convention: the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/BD Protocol); in particular COP 22 Decision IG.25/1 UNEP/MAP Medium-Term Strategy 2022-2027, Decision IG.25/11 Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO), Decision IG.25/12 Protecting and conserving the Mediterranean through well connected and effective systems of marine and coastal protected areas and other effective area-based conservation measures, including Specially Protected Areas and Specially Protected Areas of Mediterranean Importance, Decision IG.25/13 Action Plans for the conservation of species and habitats under the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (Antalya, Türkiye, 7-10 December 2021), Decision IG.26/5 Specially Protected Areas (SPAs), Specially Protected Areas of Mediterranean Importance (SAPMIs) and ecosystem restoration, Decision IG.26/4 Amendments to annexes II and III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean, Decision IG.26/3 The 2023 Mediterranean Quality Status Report and a renewed ecosystem approach policy in the Mediterranean and IG.26/14 Programme of Work and Budget for 2024-2025 Portorož, Slovenia, 5-8 December 2023).
5. The *activities and deliverables of the UNEP/MAP POW 2026-2027, proposed by SPA/RAC* also consider relevant current and emerging global and regional frameworks and processes, including SDG 5.5, 13.2, 14.1, 14.2, 14.4, 14.5, 12.2, 15.5, 15.1, 15.8, 15.9, 15.a, 17; UN Convention on Biological Diversity

COP 15 outcomes and particularly the Kunming-Montreal Global Biodiversity Framework (GBF), UNFCCC and Paris Agreement, UN Decade on Ecosystem Restoration (2021-2030), UN Decade of Ocean Science for Sustainable Development (2021-2030), the international legally-binding instrument under the UN Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ), etc.

6. The *activities and deliverables of the UNEP/MAP POW 2026-2027, proposed by SPA/RAC* are developed mainly under six MTS Programmes, namely, “Towards Healthy Mediterranean Ecosystems and Enhanced Biodiversity”, “Towards a Climate Resilient Mediterranean”, “Governance”, “Together for a Shared Vision of the Mediterranean Sea and Coast” and “Towards a Stronger Advocacy, Awareness, Education and Communication of the Mediterranean Sea and Coast”. Particular attention will be paid to the collaboration with other MAP Components toward a more integrated MAP action and to the cooperation with relevant regional partners with the aim to achieve a more coherent and inclusive regional partnership.

MTS Programme “Towards Healthy Mediterranean Ecosystems and Enhanced Biodiversity”

7. The main objective of the *activities and deliverables of the UNEP/MAP POW 2026-2027, proposed by SPA/RAC* under this programme is to support the Contracting Parties in their efforts towards improving ecosystem resilience through restoration of those with best regeneration potential, to assist them in establishing, expanding and effectively managing a comprehensive, coherent and effective Mediterranean network of MCPAs and OECMs, based on the orientations and priorities of the Post-2020 SAPBIO, Post-2020 Regional Strategy for MCPAs and OECMs, the Kunming-Montreal Global Biodiversity Framework, and other relevant global frameworks and targets, improving the status of conservation of Mediterranean endangered and threatened species and key habitats and minimizing non-indigenous species introductions and controlling their introduction pathways. More specifically, the proposed activities and deliverables envisage to assist the Contracting Parties to identify and implement national measures to restore the most resilient marine and coastal habitats, as a means to allow successful restoration experiences during the UN Decade for Ecosystem Restoration and build capacities for more challenging ones in the future, including through the elaboration of tools and guidelines, specific training and countries’ field actions in collaboration with Plan Bleu, PAP/RAC and REMPEC as well as relevant regional and national organisations for many of the proposed activities, through:

- supporting the Contracting Parties in protecting and conserving the Mediterranean Sea through well-connected, ecologically representative and effective systems of marine and coastal protected areas (MCPAs) and other effective area-based conservation measures (OECMs), and in particular through declaring and extending their MPA/Specially Protected Areas of Mediterranean Importance (SPAMIs) and Particularly Sensitive Sea Areas (PSSAs), identifying and reporting OECMs, including transboundary areas and in Areas Beyond National Jurisdictions (ABNJ), designating protected areas with enhanced protection levels, and enforcing efficient management measures for their long-term conservation.
- Assisting the Contracting Parties for the evaluation of the existing SPAMIs (through the SPAMI periodic review for 10 sites) and strengthening effective SPAMI management through continuing and fostering SPAMI Twinning Programmes.
- ensuring continuous knowledge enhancement, management measures definition and implementation, conservation status assessments of marine and coastal species and habitats covered by the updated Regional Action Plans and the Annex II and III to the SPA/BD Protocol, in line with the IMAP requirements, data knowledge and experience sharing, networking and capacity building programmes organisation (scientific symposia and conferences, workshops and thematic regional, sub-regional and national training sessions), regional action plans/strategy update, National Action Plan elaboration improvement and adaptation of measures to mitigate the impact and interaction with anthropogenic activities and/or climate change.

- undertaking state of play on existing practices and measures for biodiversity restoration including their scientific evaluation and sharing best practices applicable to the Mediterranean, as well as through implementing pilot/demonstration and concrete actions, when possible and appropriate.

MTS Programme “Towards a Climate Resilient Mediterranean”

8. The main objective of the *activities and deliverables of the UNEP/MAP POW 2026-2027, proposed by SPA/RAC* under this programme is to support the Contracting Parties in identifying and implementing nature-based technical solutions to prevent or reduce the impact of climate change on marine and coastal. More specifically, the proposed activities and deliverables envisage assisting the Contracting Parties through:

- improving the national capacities on Climate change adaptation planning in particular to address issues affecting marine resources and fisheries sector, in coastal areas

MTS Programme “Governance”

9. The main objective of the *activities and deliverables of the UNEP/MAP POW 2026-2027, proposed by SPA/RAC* under this programme is to contribute to the effective implementation and enforcement by the Contracting Parties to the Barcelona Convention and its Protocols, of MAP Policies, the MSSD and Programmes of Measures achieved at regional and national levels. The aim is to ensure policy coherence and complementarity among relevant work at global, regional and national levels and among MAP-Barcelona Convention system’s policy and regulatory instruments, to enhance partnerships and multi-stakeholder engagement including with the private sector, civil society organisations and science-policy interface and the implementation of coordinated approaches to strengthen public institution capacities for the implementation of the Barcelona Convention and its Protocols with the guidance and collaboration of the Coordinating Unit. More specifically, the proposed activities and deliverables envisage to assist the Contracting Parties through:

- Organising the Eighteenth Meeting of the SPA/BD Focal Points and the Post-2020 SAPBIO National Correspondent and Advisory Committee meetings.
- Conducting the elaboration of the mid-term (2026) evaluation of the Post-2020 Regional Strategy on MCPAs and OECM in the Mediterranean, through its Evaluation and Monitoring Framework, with conclusions and recommendations for the Strategy implementation by 2030.
- Supporting National Biodiversity Strategic Action Programmes (NBSAPs) elaboration in alignment with the Post-2020 SAPBIO.
- Bilateral working exchanges with global and regional institutions of relevance for the implementation of the Post-2020 SAPBIO actions linked to their prerogatives.
- Promoting the title of “Partner” to the Regional Action Plans for the conservation of threatened or endangered species and marine key habitats: “Regional Action Plans Partners”.
- Updating and promoting the funding proposals prepared within the Post-2020 SAPBIO Resource Mobilisation Strategy (RMS), in consultation with the Contracting parties, the other MAP Components, the SAPBIO Advisory Committee, to further support the Contracting Parties in implementing the Post-2020 SAPBIO priority actions, the Post-2020 Regional Strategy for MCPAs and OECMs and the regional Action Plans

MTS Programme “Together for a Shared Vision of the Mediterranean Sea and Coast”

10. The UNEP/MAP POW 2026-2027, proposed by SPA/RAC, aims to enhance IMAP monitoring, capacity building, and citizen survey guidance to ensure the provision of updated, quality-assured data particularly through the implementation of the EU-funded projects SEMPA and EcAp Med Plus. This data will support decision-making by the Contracting Parties, facilitate GES assessment, and strengthen a science-based IMAP. The programme also focuses on advancing Ecological Objective 4 on marine food webs and improving common indicators for pelagic habitats.

More specifically, the proposed activities and deliverables envisage to assist the Contracting Parties through:

- Continuing the supporting of the development and implementation of National/Sub-regional Monitoring Programmes in line with the biodiversity cluster of IMAP and reporting results through the IMAP Info System.
- Continuing the development of the IMAP Ecological Objective 4 on marine food webs under the Barcelona Convention and the development of EO1 CI1 and CI2 on pelagic habitats.
- Developing citizen survey guidance for NIS monitoring under IMAP to strengthen public awareness and participation.
- Providing national assistance and capacity building activities for the implementation of EO1 and EO2
- Developing and updating the common indicators factsheets related to Biodiversity (EO1) and Sea-floor Integrity (EO6)

MTS Programme “Towards a Stronger Advocacy, Awareness, Education and Communication of the Mediterranean Sea and Coast”

The main objective of the activities and deliverables proposed by SPA/RAC under the UNEP/MAP PoW for 2026-2027 is to sensibilise stakeholders and policymakers about key environmental priorities, promote solutions and initiatives for biodiversity conservation and sustainable development, foster synergies with national and regional partners for greater impact and sustainability, support digital transformation by leveraging digital technologies to strengthen networking and MAP’s visibility, in coordination with INFO/RAC. More specifically, the proposed activities and deliverables aim to assist the Contracting Parties by:

- Developing communication materials and organising events to enhance the engagement of key actors and decision-makers and raise their involvement in biodiversity conservation actions, including those related to marine protected areas, threatened and endangered species & habitats and the sustainable use of marine resources in the Mediterranean, while showcasing best practices, collective achievements, and the impact of conservation and management actions.
- Organizing the SPAMI Day and awarding SPAMI Certificates.
- Producing communication materials, conducting awareness campaigns, and organizing local events with national and local stakeholders to highlight the socio-economic and ecological benefits of conservation for local communities.
- Enhancing networking and increasing visibility through online tools, while assessing and implementing improvements via the update of the communication strategy.

12. The *activities and deliverables of the UNEP/MAP POW 2026-2027, proposed by SPA/RAC*, are built on and aim at strengthening the result-based management (RBM) approach that has been already followed in the previous PoW cycles as well as the integration, to the extent possible, of the UNEP/MAP work.

13. Lessons learned from previous biennia have also been taken into consideration, particularly in terms of the feasibility of planned deliverables, implementation flexibility to be considered when programming, the number and size of planned actions and how to consolidate activities of a similar nature.

16. The *activities and deliverables of the UNEP/MAP POW 2026-2027, proposed by SPA/RAC*, consist of the following elements: the MTS 2022-2027 programmes and outcomes under which the PoW is developed. Under each outcome, are presented, respectively, the main activities and expected deliverables that would be produced, as well as the Lead Component (i.e., SPA/RAC), the other Components expected to contribute to the activity and the partners that would be involved to achieve the expected deliverables. Are, also, indicated in the tables for each main activity, the core MAP mandates and COP decisions as rationale that supports its relevance, as well as the SDG’s references and global agenda to which it is linked.

Programme 1. Towards a Pollution and Litter Free Mediterranean Sea and Coast Embracing Circular Economy						
Main activity	Expected deliverable	Lead Component	Other Component(s)	Partners	Related COP Decision	SDG Targets
Outcome 1.1. Strategies and Action plan addressing marine litter and plastics developed and implemented through comprehensive, coherent and collaborative approaches						
1.1.1. Undertake national, subregional, regional actions to boost the implementation of the Marine Litter Regional Plan in the Mediterranean	a) “Adopt-a-beach” measures implemented in 5 countries in 22 sites involving civil society. b) “Fishing-for-Litter” measures implemented in 4 countries in 12 sites involving local and fishermaen association. c) Minimum 2 joint activities implemented with partners of the ML Regional Cooperation Platform or GPML. d) Up to 7 CPs supported to implement the upgraded IMAP Ecological Objective 10 (EO10) on Marine Litter and its Indicators. e) Intercalibration Exercise for Collection and Analyses of Floating Microplastic Samples between Mediterranean Laboratories established.	MED POL	CU, SCP/RAC; REMPEC, SPA/RAC, EU funded ML MED PLUS Project,	CU, SCP/RAC; REMPEC, SPA/RAC, EU funded ML MED PLUS Project,	LBS Protocol (Articles 3, and 4) COP 15 Decision IG.17/6 - Implementation of the ecosystem approach to the management of human activities that may affect the Mediterranean marine and coastal environment COP 18 Decision IG.21/3 - Ecosystems Approach including adopting definitions of Good Environmental Status (GES) and targets (Annex I) COP 19 Decision IG.22/5 - Regional Action Plan on Sustainable Consumption and Production in the Mediterranean COP 22 Decision IG.25/9 - Amendments to the Regional Plan on Marine Litter Management in the Mediterranean in the Framework of Article 15 of the Land Based Sources Protocol (Articles 11, 12, 15) COP 22 Decision IG.25/16 - Mediterranean Strategy for the Prevention of, Preparedness, and Response to Marine Pollution from Ships (2022-2031)	12.4; 12.5; 14.1 ; 5.5, 5.c;

Outcome 1.2. A holistic and efficient response to land and sea - based pollution, as a part of overall Ecosystem Approach policy for the Mediterranean, (chemicals, contaminants, eutrophication, noise, oil and emerging pollution) for a sustainable Mediterranean coastal and marine ecosystem is implemented						
1.2.3 Promote sustainable Desalination Sector in the Mediterranean	Support provided to at least 2 CPs for implementing desalination guidelines with the focus of the brine management	MEDPOL	CU, SCP/RAC, SPA/RAC	CPs, Fondazione Univerde, Global water Intelligence	UNEP/MED WG.563/13: Guideline on Reginal Standards for Discharge from Desalination Plants and Decision Support Systems for Sustainable Desalination Technologies in the Mediterranean	6.3; 6.a; 12.4;
Programme 2. Towards Healthy Mediterranean Ecosystems and Enhanced Biodiversity						
Outcome 2.1. Ecosystem resilience improved through restoration of those with best regeneration potential						
2.1.1. Promote the implementation of the UN Decade on Ecosystem Restoration in the Mediterranean: Identify innovative actions, capitalize and promote replication	a) 5 country factsheets with specific policy recommendations based on Action Sites experiences. The only Mediterranean site is the Venice Lagoon in Italy where the focus will be on making recommendations on adopting adaptive management for salt marshes restoration/conservation b) Final Advocacy paper to promote awareness on government strategies at stakeholder level for wetland restoration	Plan Bleu	CU, SPA/RAC, PAP/RAC	H2020 Waterlands project Partners	COP22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO) Specific section: 4.4. Enabling tools for marine biodiversity conservation	14.2; 14.4; 14.5

c) Recovery plans and emergency actions , both in situ and ex situ as required, for endangered and threatened species whose depends on such actions, developped and implemented for at least for 2 species to e be decided at the SPA/RAC FP meeting	SPA/RAC	CU and other Components a s relevant	Contracting Parties,Agreed Action Plan Par tners; EuroMe d Dialogue 4 N ature, IUCN-med,	COP22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO) Article 4,11,12,20 of SPA/BD Protocol	14.2; 14.4; 14.5
d) At least X Priority actions supported for the full and effective implementation of the Restoration programme of Pinna nobilis.	SPA/RAC	CU and other Components as relevant	Contracting Parties, Agreed Action Plan Par tners,IUCN-Med	Annex V of the COP22 Decision IG.26/5 -Specially Protected Areas (SPAs), Specially Protected Areas of Mediterranean Importance (SAPMIs) and ecosystem restoration Article 4,11,12,20 of SPA/BD Protocol	14.2; 14.4; 14.5
e) Inventory of ecosystems with the highest ecological relevance and/or regeneration potential (as nursery areas, carbon stocks, avoiding coastal erosion, preventing or reducing the impact of natural disasters) such as Posidonia beds, coralligenous assemblages, wetlands, and dune systems, among others, developed at least in 2 countries	SPA/RAC	CU, PAP RAC, Plan Bleu	Contracting Parties, Agreed Action Plan Partners, IUCN- Med	COP22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO) Article 4,11,12,20 of SPA/BD Protocol	14.2; 14.4; 14.5
f) Mainstreamed restoration of coastal ecosystems and landscapes into ICZM/coastal plans and programmes in at least 2 countires g) Methodology for preparation of restoration plan in coastal zones developed and presented to the CPs	SPA/RAC, PAP/RAC	CU, Plan Bleu/RAC	CPs; Mediterranean Forest Initiative	COP22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO) Protocol on ICZM in the Mediterranean (Articles 5, 10, 11,12, 18, 27 and 32)	15.9; 15.1; 15.2; 14.1; 14.2
Outcome 2.2. Comprehensive, coherent Mediterranean network of well-managed MPAs and OECMs in place, expanded, effective and sustainable					

2.2.1. Support the Contracting Parties in protecting and conserving the Mediterranean Sea through well-connected, ecologically representative and effective systems of marine and coastal protected areas and other effective area-based conservation measures	a) Guidance on operational measures and associated protective measures for the effective implementation of PSSAs (shipping activities) (in view of 30x30 commitments) to be submitted to REMPEC Focal Points	REMPEC	SPA/RAC	IMO, ACCOBAMS, PELAGOS Agreement	COP 23 Decision IG.26/5; Article 11 Emergency & Prevention Protocol	5, 14
	b) Ad hoc Group of Experts for MPAs in the Mediterranean (AGEM) operational to guide the implementation of the Post-2020 MCPA & OECM Regional Strategy in order to achieve the 30x30 CBD Target operational (meetings, webinars, tools, etc.)	SPA/RAC	CU	GFCM, ACCOBAMS, IUCN, WWF MedPO, MedPAN	Annex I of the COP22 Decision IG.25/12 - Protecting and conserving the Mediterranean through well connected and effective systems of marine and coastal protected areas and other effective area-based conservation measures, including Specially Protected Areas and Specially Protected Areas of Mediterranean Importance Annex 1 of the COP23 Decision IG.26/5: Specially Protected Areas (SPAs), Specially Protected Areas of Mediterranean Importance (SPAMIs) and Ecosystem Restoration	5, 14, 17
	c) Management and business plans elaborated for MCPAs in Egypt, Libya, Morocco and Tunisia based on sound scientific knowledge, comprehensive consultation and engagement of stakeholders.	SPA/RAC	CU	Contracting Parties, Relevant national authorities, GFCM, ACCOBAMS, IUCN, WWF MedPO, MedPAN	COP22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO) COP 22 Decision IG.25/12 - Protecting and conserving the Mediterranean through well connected and effective systems of marine and coastal protected areas and other effective area-based conservation measures, including Specially Protected Areas and Specially Protected Areas of Mediterranean Importance	5.5 14.2;14.5; 15.1
	d) MCPA management effectiveness improved through the implementation of management plans and capacity building programme in Algeria, Egypt, Lebanon, Libya, Morocco, and Tunisia.	SPA/RAC,	CU	Contracting Parties, Relevant national authorities, GFCM, ACCOBAMS, IUCN, WWF	COP22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO) COP 22 Decision IG.25/12 - Protecting and conserving the Mediterranean through well connected and effective systems of marine and coastal protected areas and other effective area-based conservation measures, including Specially	5.5 14.2;14.5; 15.1

			MedPO, MedPAN	Protected Areas and Specially Protected Areas of Mediterranean Importance	
e) Management effectiveness assessed in existing MCPAs/SPAMIs in Algeria, Lebanon, Morocco, and Tunisia using the Integrated Management effectiveness Tool (IMET).	SPA/RAC,	CU	Contracting Parties, Relevant national authorities, GFCM, ACCOBAM S, IUCN, WWF MedPO, MedPAN	COP22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO) COP 22 Decision IG.25/12 - Protecting and conserving the Mediterranean through well connected and effective systems of marine and coastal protected areas and other effective area-based conservation measures, including Specially Protected Areas and Specially Protected Areas of Mediterranean Importance	5.5 14.2;14.5; 15.1
f) Best practices shared, direct and indirect MPA-related community gathered, priority action for effective implementation of the MCPA-OECM g) Visibility and advocacy on MPAs in the Mediterranean increased and committments for achieving 30by30 strenghten through the Fourth edition of the Forum of Marine Protected Areas in the Mediterranean	SPA/RAC	CU and other Components as relevant	EU funded SEMPA project, MedPAN (co-organizer with SPA/RAC), REMPEC, ACCOBAMS, GFCM, IUCN-Med, WWF (technical partners), host country environmental authorities, local partners.	COP 22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO) COP 22 Decision IG.25/12 - Protecting and conserving the Mediterranean through well connected and effective systems of marine and coastal protected areas and other effective area-based conservation measures, including Specially Protected Areas and Specially Protected Areas of Mediterranean Importance	5.5; 14.2;14.5; 15.1
h) OECMs are identified, recognized, and reported at national and regional levels through capacity building and awareness-raising activities (meetings, workshops, tools, webinairs, trainings, etc.)	SPA/RAC,	CU, REMPEC, PAP/RAC	Respective Contracting, AGEM members,	COP22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO) COP 22 Decision IG.25/12 - Protecting and conserving the	5.5; 14.2;14.5; 15.0

				FAO, GFCM, IMO, ACCOBAMS, IUCN, WWF MedPO, MedPAN	Mediterranean through well connected and effective systems of marine and coastal protected areas and other effective area-based conservation measures, including Specially Protected Areas and Specially Protected Areas of Mediterranean Importance	
	i) Analysis of the reports on Specially Protected Areas (SPAs) for the Directory of Mediterranean SPAs elaborated, for submission to SPA/RAC FP meeting	SPA/RAC	CU	SPA/BD Focal Points	COP22 Decision IG.25/12 - Protecting and conserving the Mediterranean through well connected and effective systems of marine and coastal protected areas and other effective area-based conservation measures, including Specially Protected Areas and Specially Protected Areas of Mediterranean Importance	14
	j) Status report on the Marine Protected Areas in the Mediterranean elaborated and disseminated	SPA/RAC	CU	MedPAN, MPA managers, GFCM, ACCOBAMS, IUCN, WWF MedPO	COP22 Decision IG.25/12 - Protecting and conserving the Mediterranean through well connected and effective systems of marine and coastal protected areas and other effective area-based conservation measures, including Specially Protected Areas and Specially Protected Areas of Mediterranean Importance	14,17
2.2.2. Ensure effective SPAMI management and evaluation	a) SPAMI management status kept under review: SPAMI ordinary review (10 SPAMIs): 04 Ordinary review in 2026: - Marine Protected Area of Tavolara-Punta Coda Cavallo (Italy), - Marine Protected Area and Natural Reserve of Torre Guaceto (Italy), - Miramare Marine Protected Area (Italy), and - Plemmirio Marine Protected Area (Italy); 06 Ordinary review in 2027: - Bouches de Bonifacio Nature Reserve (France), - Marine Protected Area of Capo Caccia-Isola Piana (Italy), - Punta Campanella Marine Protected Area (Italy), - Al-Hoceima National Park (Morocco), - Archipelago of Cabrera National Park	SPA/RAC	CU	SPA/BD Focal Point, SPAMI Managers, Technical Advisory Commissions	COP23 Decision IG.26/5: Specially Protected Areas (SPAs), Specially Protected Areas of Mediterranean Importance (SPAMIs) and Ecosystem Restoration	14,17

(Spain), and - Maro-Cerro Gordo Cliffs (Spain).					
b) SPAMI Twinning Programmes developed: (i) exchange visits implemented for management issues diagnosis, habitats conservation & fishing impacts, (ii) Medium-term on-the-job training implemented in twinned SPAMIs, (iii) Peer-to-peer support and mentoring: actions to strengthen management effectiveness in twinned SPAMIs and/or joint monitoring programmes implemented.	SPA/RAC	CU	SPAMIs, National authorities, NGOs	COP 22 Decision IG.25/12 - Protecting and conserving the Mediterranean through well connected and effective systems of marine and coastal protected areas and other effective area-based conservation measures, including Specially Protected Areas and Specially Protected Areas of Mediterranean Importance	14,17
c) SPAMI network is supported through implementing activities contributing to their effective management or through possible declaration of new SPAMIs, 2 CPs supported	SPA/RAC	CU	SPA/BD Focal Points, GFCM, ACCOBAMS, IUCN, WWF MedPO, MedPAN	COP23 Decision IG.26/5: Specially Protected Areas (SPAs), Specially Protected Areas of Mediterranean Importance (SPAMIs) and Ecosystem Restoration	14,17
Outcome 2.3. Mediterranean endangered and threatened species and key habitats in favourable status of conservation					

2.3.1. Implement regional and national actions to boost the implementation of the Action Plans on marine key habitats	a) Status of implementation of the Action Plan for the conservation of marine vegetation in the Mediterranean Sea assessed and Action Plan updated	SPA/RAC	CU and other Components as relevant	National experts and organizations, NGOs, MPN, SPA/BD Focal Points, Agreed Action Plans Partners; GFCM, ACCOBAMS, IUCN, WWF MedPO, MedPAN	Annex II of the COP 21 Decision IG.24/7 - Strategies and Action Plans under the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean, including the SAP BIO, the Strategy on Monk Seal, and the Action Plans concerning Marine Turtles, Cartilaginous Fishes and Marine Vegetation; Classification of Benthic Marine Habitat Types for the Mediterranean Region, and Reference List of Marine and Coastal Habitat Types in the Mediterranean,	14.1; 14.2; 14.4; 14.6
	b) Scientific updates shared, to take stock of newest knowledge and address emergent issues of the marine key habitats, proceedings disseminated through 8th Mediterranean Symposium on marine vegetation, 5th Mediterranean Symposium on the Conservation of the Coralligenous and other calcareous bio-concretions and 4th Mediterranean symposium on the dark habitats	SPA/RAC			Action 1 of the Post-2020 SAPBIO: COP22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO)	
	c) Measures related to conservation in the Mediterranean marine ecosystems to respond to mass mortality events linked to heatwaves' events implemented	SPA/RAC			COP 21 Decision IG.24/7 - Strategies and Action Plans under the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean, including the SAP BIO, the Strategy on Monk Seal, and the Action Plans concerning Marine Turtles, Cartilaginous Fishes and Marine Vegetation; Classification of Benthic Marine Habitat Types for the Mediterranean Region, and Reference List of Marine and Coastal Habitat Types in the Mediterranean	14.1; 14.2; 14.4; 14.6
					Monitoring and assessment of biodiversity and NIS related common indicators of the COP 19 Decision IG.22/7 - Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria Action 1,2,14, 17, 19 of the Post 2020 SAPBIO COP 22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO)	14.1; 14.2; 14.4; 14.6

					Article 11, 12, 13, 14 of the SPA/BD Protocol	
2.3.2. Effectively implement the updated regional Strategy and Action Plans for the conservation of threatened and endangered species and share related best practices	a) Status of implementation of the Action plans for the conservation of cetacean in the Mediterranean assessed and action plans updated	SPA/RAC	CU and other Components as relevant	GFCM, ACCOBAMS, IUCN, WWF MedPO, MedPAN, Agreed Action Plan Partners,	COP 21 Decision IG.24/7 - Strategies and Action Plans under the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean, including the SAP BIO, the Strategy on Monk Seal, and the Action Plans concerning Marine Turtles, Cartilaginous Fishes and Marine Vegetation; Classification of Benthic Marine Habitat Types for the Mediterranean Region, and Reference List of Marine and Coastal Habitat Types in the Mediterranean COP 22 Decision IG.25/13 Action Plans for the conservation of species and habitats under the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean Monitoring and assessment of biodiversity and NIS related common indicators of the COP 19 Decision IG.22/7 - Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria Action 1,2,14 and 18 of the Post 2020 SAPBIO COP 22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO)	14.2; 14.4; 14.5
	b) Priority actions to fill key knowledge gaps (through scientific research), for threatened and endangered species supported, including monitoring and threats mitigation (i.e., Marine Litter, Underwater Noise, Collision, CC, etc.) .					
	c) Conservation status of threatened and endangered species improved at national and regional levels as provided for in the related updated regional Action Plans and strategy (Monk seal, Cartilaginous fishes, marine Turtles, cetaceans and marine & coastal Birds).					

					Article 11, 12, 13, 14 of the SPA/BD Protocol	5.5; 14.1; 14.2; 14.4; 14.5
	d) NAP + integrating fisheries within the blue economy and aligned with the Post 2020 SAPBIO goals and targets, including investment plan, drafted in interested CPs	CU, SPA/RAC		GFCM and GEF FishEBM Med partners and beneficiary countries	Monitoring and assessment of biodiversity and NIS related common indicators of the COP 19 Decision IG.22/7 - Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria Action 14, 32 and 33 of Post2020 SAPBIO: COP 22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO)	
	e) Interested CPs supported in the establishment of a national public-private blue economy partnership.				Action 14, 32 and 33 of Post2020 SAPBIO: COP 22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO)	
2.3.3. Implement conservation measures and share best practices related to threatened and endangered species listed in Annex II to SPA/BD Protocol	a) Capacity building and best practices shared through a Conference on Cetacean Conservation in South Mediterranean Countries	SPA/RAC	CU and other Components as relevant	Contracting Parties, Agreed Action Plan Partners	COP 21 Decision IG,24/7 - Strategies and Action Plans under the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean, including the SAP BIO, the Strategy on Monk Seal, and the Action Plans concerning Marine Turtles, Cartilaginous Fishes and Marine Vegetation; Classification of Benthic Marine Habitat Types for the Mediterranean Region, and Reference List of Marine and Coastal Habitat Types in the Mediterranean	14.2; 14.4; 14.5
	b) Capacity building and best practices shared on cartilaginous identification and conservation, including rescue center twining programme for turtles				COP22 Decision IG.25/13 - Action Plans for the conservation of species and habitats under the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean Monitoring and assessment of biodiversity and NIS related common indicators of the COP 19 Decision IG.22/7 - Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria	

				Action 1,2,14 and 18 of the Post 2020 SAPBIO COP 22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO)	
				Article 11, 12, 13, 14 of the SPA/BD Protocol	
	c) Mechanism to deal with Bycatch mitigation including the adaptation and/or ban of fishing gears most harmful to biodiversity including on the seabed, developed and their implementation started in several countries so that the bycatch of species in bad conservation status is reduced to a level that allows full recovery		GFCM, ACCOBAMS, IUCN- Med, Agreed Action Plan Partners	COP 21 Decision IG.24/7 - Strategies and Action Plans under the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean, including the SAP BIO, the Strategy on Monk Seal, and the Action Plans concerning Marine Turtles, Cartilaginous Fishes and Marine Vegetation; COP22 Decision IG.25/13 Action Plans for the conservation of species and habitats under the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean Monitoring and assessment of biodiversity and NIS related common indicators of the COP 19 Decision IG.22/7 - Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria Action 22 of the Post2020 SAPBIO: COP 22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO) Article 11, 12, 13, 14 of the SPA/BD Protocol	14.2; 14.4; 14.5
Outcome 2.4. Non -indigenous species introductions minimized and introduction pathways under control					

2.4.1. Update and implement the regional action plan on Non-Indigenous Species (NIS) and species introductions, as well as targeted measures of the Ballast Water Management Strategy for the Mediterranean Sea (2022-2027)	a) Scientific updates shared, to take stock of newest knowledge and address emergent issues related to NIS through 3rd Mediterranean Symposium on the Non-Indigenous Species.	SPA/RAC	REMPEC	Agreed Action Plan Partners	Article 13 of the SPA/BD Protocol Action 4, 5, 6, 14, 201 of the COP 22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO)	14.1; 14.2; 14.4; 14.6
	b) Measures to cope with the negative effects of non-indigenous species on biodiversity as well as those of other potential stressors identified and disseminated.	SPA/RAC		GFCM and GEF FishEBM Med partners and beneficiary countries	Annex IV of the Decision IG.25/5: Specially Protected Areas (SPAs), Specially Protected Areas of Mediterranean Importance (SPAMIs) and Ecosystem Restoration	14.1; 14.2; 14.4; 14.6
	c) Priority actions supported for the full and effective implementation of the updated regional NIS Action Plan.	SPA/RAC	REMPEC	Agreed Action Plan Partners	Monitoring and assessment of biodiversity and NIS related common indicators of the COP 19 Decision IG.22/7 - Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria	14.1; 14.2; 14.4; 14.6
	d) Targeted technical support provided to CPs for the ratification and implementation of the Ballast Water Management Convention as well as for the implementation of the 2011 Guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species.	REMPEC	CU, SPA/RAC	IMO, GEF, UNDP, EBRD, ACCOBAMS, Pelagos Agreement, HELMEPA	COP 15 Decision IG.17/6 - Implementation of the ecosystem approach to the management of human activities that may affect the Mediterranean marine and coastal environment Annex IV of the Decision IG.25/5: Specially Protected Areas (SPAs), Specially Protected Areas of Mediterranean Importance (SPAMIs) and Ecosystem Restoration	14
	e) Regional Guidelines on Management of Biofouling and related capacity building activities in at least 3 CPs developed				COP 22 Decision IG.25/16 - Mediterranean Strategy for the Prevention of, Preparedness, and Response to Marine Pollution from Ships (2022-2031) (CSO 5)	
	f) Regional information and decision support system or tool developed.				COP 22 Decision IG.25/17 - Ballast Water Management Strategy for the Mediterranean Sea (2022-2027)	

	g) Guidelines for the development of national law to give effect to the BWM Convention once ratified, as well as secondary regulations and technical arrangements for its enforcement, developed and submitted to REMPEC Focal Points; h) A regional online BWM Working Group to drive the process towards harmonization of BWM measures in the region established and report submitted to REMPEC Focal Points;					
Programme 3. Towards a Climate Resilient Mediterranean						
Outcome 3.1. Legal, policy and institutional framework strengthened at the regional and national level to efficiently address climate change related challenges (flooding, erosion, land degradation, pollution, disasters etc.)						
3.1.1. Mainstream adaptation to climate change into local ICZM plans	a) Planning capacities to address climate change impact on fishery sector and marine resources in coastal areas through trainings and support for the development of related measures	CU, SPA/RAC		GFCM and GEF FishEBM Med partners and beneficiary countries	Monitoring and assessment of biodiversity and NIS related common indicators of the COP 19 Decision IG.22/7 - Integrated Monitoring and Assessment Programme of the Mediter ranean Sea and Coast and Related Assessment Criteria Action 13 of the Post2020 SAPBIO : COP 22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO)	5.5; 13.2; 13.b
3.1.2. Establishment of Community of practice for coastal climate adaptation	c) State of play of the current landscape of funding opportunities at global and regional for climate change adaptation to enhance the relevant capacities of the CPs	CC/RAC	CU and other Components	EU, UfM, Green Climate Fund, UNFCCC, CBD, IMO	COP 19 Decision IG.22/6 - Regional Climate Change Adaptation Framework for the Mediterranean Marine and Coastal Areas Strategic Direction 3.1. Decision IG.25/1 UNEP/MAP Medium-Term Strategy 2022-2027 COP23 Decision IG.26/12 - Establishment of a Regional Activity Centre on Climate Change	13.1; 14.2

	d) The potential of blue carbon ecosystems to support climate change mitigation efforts in the Mediterranean region identified, building and adding value to the existing recent studies	CC/RAC	SPARAC; Plan Bleu/RAC; PAP/RAC	EU, UfM, Blue Mediterranean Partnership, Pamex, Mediterranean Posidonia network	Decision IG.22/2 MSSD 2016-2025 Strategic Action 4.3.3. COP 19 Decision IG.22/6 - Regional Climate Change Adaptation Framework for the Mediterranean Marine and Coastal Areas Strategic Direction 2.2.	13.1, 13.2, 14.2, 14.5; 17.6; 17.9
Outcome 3.2. Nature-based, technical solutions promoting prevention or reduction of the impact of climate change on coastal and marine ecosystems and increase resilience to climatic variability and change						
3.2.1. Mainstream nature-based solutions into regional policies implementation, including for adaptation and mitigation to climate change, disaster risk reduction and sustainable development/ green economy.	c) 1 policy paper on ecosystem restoration (marine/coastal/terrestrial ecosystems) to be presented at the annual institutional dialogue event with Euro Mediterranean partners in 2026 and 2027 and travel to cover expenses of participants (from south Med countries)	Plan Bleu/RAC	SPA/RAC	Partners from the Interreg Euro Med D4N project	COP19 - Decision IG.22/2 - MSSD	15
	d) 2 annual dialogue summary reports (1 in 2026 and 1 in 2027) on ecosystem restoration with a focus on governance challenges related to marine/coastal restoration challenges and implications of the EU Nature Restoration Law in the Mediterranean region.					
	e) One SIMPEER exercise carried out on national forest strategies (or other relevant topic based on needs) back to back with an Annual Institutional Dialogue event, involving 3 Contracting Parties to the Barcelona Convention: one from each shores (priority to those CP who haven't done it in previous exercises)..					
	h) Framework and Pathways to upscale Nature- based Solutions across the Mediterranean coastal zones, including a component on public participation	PAP/RAC	CU, PB/RAC, SPA/RAC	DesireMed project INCORE MED project	Protocol on ICZM in the Mediterranean (Articles 5, 10, 22, 23, 27 and 32); COP 21 Decision IG.24/5 - Common Regional Framework for ICZM	13.3; 14; 15
Programme 4. Towards the Sustainable Use of Coastal and Marine Resources Including Circular and Blue Economy						

Outcome 4.1. Sustainability of coastal and marine resources achieved through the synergetic implementation of planning and management approaches, including the adequate consideration of Land-Sea Interactions (LSI)						
4.1.2. Implement CAMP Projects	a) CAMP Türkiye specific activities reports delivered (Inception Report, Report on ecological status of coastal and marine areas in relation to IMAP objectives (biodiversity, NIS, etc.); Climagine Report, Report on pollution control and marine litter reduction in Izmir area) b) CAMP Malta specific activities reports delivered (Inception Report, Report on ecological status of coastal and marine areas in relation to IMAP objectives (biodiversity, NIS, etc.); Climagine Report)	SPA/RAC		Participating CPs	Protocol on ICZM in the Mediterranean (Articles 18, 5, 6, 7, 8, 9, 10, 11, 12, 14, 22, 26, 27 and 32); COP 21 Decision IG.24/5 - Common Regional Framework for ICZM	All SDGs, as appropriate
4.1.2. Assist CPs in preparing National ICZM Strategies and coastal plans	a) At least 2 CPs, upon request, are supported for the implementation of selected measures under the adopted ICZM National Strategies b) Co-developed Coastal plans focused on coastal adaptation and resilience c) Exchange of experience with other regional seas in addressing integrated coastal and marine planning and management	PAP/RAC, CPs	Plan Bleu/RAC, other as relevant	Participating CPs, IOC-UNESCO	Protocol on ICZM in the Mediterranean (Articles 18, 5, 6, 7, 8, 9, 10, 11, 12, 14, 22, 26, 27 and 32); COP21 Decision IG.24/5 - Common Regional Framework for ICZM	All SDGs as appropriate
4.1.3. Assist CPs in implementing MSP	a) Support national actions towards MSP (Albania, Tunisia), including preparation of technical sectoral studies and data standards, also addressing land-sea interactions b)Organizing up to 2 national MSP trainings	PAP/RAC, CPs	CU, SPA/RAC, other as relevant	Albania, Tunisia; CPs	Protocol on ICZM in the Mediterranean (Articles 3 and 9); COP21 Decision IG.24/5 - Common Regional Framework for ICZM; COP23 Decision IG.26/13	SDGs 8, 9, 10, 12, 13, 14 and 15

4.3.1. Support the effective use by CPs of economic instruments and other tools for nature conservation and sustainable development in order to diversify the policy mix in the Mediterranean	a)1 open interactive mapping of relevant seagrass restoration sites and actions in the Mediterranean b)1 regional action plan for seagrass restoration including guidelines for the integration of the value of seagrass services c)final project conference organized enhancing seagrass ecosystem services integration through Policy and Advocacy	Plan Bleu	SPA/RAC	ARTEMIS Project consortium	COP22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO)	SDG 14.6 but also cross-cutting, in particular SDGs 8, 11, 12, 14
Programme 5. Governance						
Outcome 5.1. Effective Implementation and Enforcement by the Contracting Parties of the Barcelona Convention, its Protocols, MAP Policies, including Ecosystem Approach related COP decisions, the MSSD and Programmes of Measures achieved at regional and national levels						
5.1.1. Strengthen Contracting Parties action to comply with legally binding obligations under Barcelona Convention and its Protocols	a) Progress on ratification of the Protocols of the Barcelona Convention; Facilitation and/or technical support provided upon request.	CU	MAP Components	Participating CPs and their relevant authorities and institutions	Decision IG.26/1, Decision IG.26/2	All SDG 14 Targets;
	b) Contracting Parties develop national policies, legislation and mechanisms for the implementation and enforcement of the BC Protocols.	CU, Compliance Committee	MAP Components	MEAs, UNEP	Decision IG.26/1, Decision IG.26/2	All SDG 14
	c) Technical assistance to CPs to develop national policies, regulatory frameworks and which are consistent with the BC and its Protocols is provided.					
	d) Status of implementation of the Barcelona Convention and its protocols reviewed, achievements and issues at stake identified.					
	e) Coordinated assistance to address cases					

	of implementation difficulties and or possible noncompliance situations.					
5.1.2 Effective Implementation and Enforcement of Post- 2020 SAPBIO	a) At least 2 Mediterranean countries are assisted to prepare or revise their National Biodiversity Strategies and Action Plans by fully incorporating the relevant elements of the Post-2020 SAPBIO	SPA/RAC	CU, Relevant RACs	CPs (SPA/BD FPs, SAPBIO Correspondents), advisory committee members	Action 34 and 35 of the Post2020 SAPBIO : COP 22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO)	17.14
	b) The collective implementation of the Post-2020 SAP BIO assessed				Action 34 and 35 of the Post2020 SAPBIO : COP 22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO)	14,17
	c) Socio-economic and ecological impacts of Post- 2020 SAPBIO actions with very high priority are measured, analyzed, and documented	SPA/RAC	CU, Relevant RACs	CPs (SPA/BD FPs, SAPBIO Correspondents), advisory committee members	Action 34 and 35 of the Post2020 SAPBIO : COP 22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO)	
5.1.3. Mid-term evaluation of the post-2020 Regional Strategy on MCPAs and OECMs in the Mediterranean	a) Mid-term (2026) evaluation of the Post-2020 Regional Strategy on MCPAs and OECM in the Mediterranean undertaken, through its Evaluation and Monitoring Framework, with conclusions and recommendations for the Strategy implementation by 2030 elaborated	SPA/RAC	CU	SPA/BD Focal Points, AGEM members, regional Partners	COP22 Decision IG.26/5 -Specially Protected Areas (SPAs), Specially Protected Areas of Mediterranean Importance (SAPMIs) and ecosystem restoration	14,17
5.1.5. Strengthen Contracting Parties action to comply with ICZM Protocol	a) Status of the implementation of the Common Regional Framework for ICZM Action Plan and recommendation for possible update submitted to MAP FP meeting	PAP/RAC	CU, Other relevant componetns		Protocol on ICZM in the Mediterranean (Articles 17, 20 and 32)	Targets of SDG2 5, 8, 9, 11, 12, 13, 14 and 15

	b) Report on comparative analysis of the land policy instruments for coastal management					
Outcome 5.2. Systemic strengthening and effective functioning and delivery of MAP decision-making and advisory bodies ensured, and efficiency enhanced with new digital approaches						
5.2.1. Deliver successfully COP 24 of MAP Barcelona Convention	a) COP 25 Declaration, Decisions including the PoW 2026-2027 reviewed and adopted, recommendations of the Compliance Committee and the MCSD reviewed. b) Progress achieved during the biennium 2024-2025 reviewed and acknowledged. c) Status of implementation of the Convention and its Protocols reviewed. d) MAP visibility and outreach enhanced.	CU	All MAP Components	Host country, CPs, MAP Partners	Decision IG.26/2	All SDG 14 targets; 17.14
5.2.2. Deliver successfully the 22nd Meeting of the MCSD	a) 22 nd Meeting of the MCSD successfully convened; Strengthened Partnerships for Sustainable Development in the Mediterranean. b) MCSD Meeting organized with Partners, Inputs provided to COP 25 to the Contracting Parties. c) 2 meetings of the MCSD Steering Committee.	CU	All MAP Components	Host Country, MCSD Members, MAP Partners	Decision IG.26/2	crosscutting especially on SDGs 2, 5.5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17
5.2.3. Deliver successfully the main institutional meetings of MAP (Bureau, Consultation FP Meeting, MAP Focal Point, EcAp Coordination Group and	a) The 98 th , 99 th and 100 th Meetings of the Bureau as well as a Bureau meeting on the eve of COP 25 successfully held. b) Progress of implementation of the MAP PoW 2026-2027 reviewed on a 6-monthly basis. c) Guidance provided to the Secretariat and the Contracting Parties on specific issues. d) Main directions of the new PoW 2028-2029 defined.	CU	All MAP Components	UNEP, MEA, IMO and all REMPEC's Partners, Host country authorities, MAP Partners, SPA/RAC partner	COP 15 Decision IG.17/5 - Governance paper COP 16 Decision IG.19/5 - Mandates of the Components of MAP COP 19 Decision IG.22/17 - Reform of the Mediterranean Commission on Sustainable Development (MCSD) and Updated MCSD Constitutive Documents	All SDG 14 targets, 17.14

Thematic/Components Focal Points).	e) Meeting of the MAP Focal Points preceded by the MAP Component/Thematic Focal Points and back-to-back with the EcAp Coordination Group Meetings. f) Progress on POW implementation reviewed; EcAp Roadmap Implementation and other related COP decisions implementation reviewed. g) Draft decisions to COP 25 reviewed and negotiated, PoW and Budget reviewed, etc. h) Technical products of MAP components reviewed by the Components Focal Points meetings. i) Integrated sessions organised based on thematic approach.	SPA/RAC		organizations (observers)	COP 18 Decision IG.21/3 - Ecosystems Approach including adopting definitions of Good Environmental Status (GES) and targets COP 18 Decision IG.21/15 - Financial Regulations and Rules and Procedures for the Contracting Parties, its subsidiary bodies and the Secretariat of the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean Protocol on ICZM in the Mediterranean (Articles 32 and 33)	All SDG 14 targets, 17.14
5.2.4. Organize Compliance Committee Meetings	a) 2 Compliance Committee Meetings successfully convened; Non-compliance situations addressed and brought to the attention of COP 25. b) Interactions and possible joint sessions with Compliance Committees of other MEAs held (e.g. ESPOO).	CU, Compliance Committee	MEDPOL, RACs	Compliance Committees under relevant MEA	Decision IG.26/1	
5.2.5. Formulate the MAP MTS 2028-2033 through an inclusive, participatory Contracting Parties' driven process.	a) MTS 2022-2027 evaluation and review successfully delivered; b)MTS 2028-2033 prepared and submitted to MAP FP and COP 25 through a participatory process and under Parties' leadership.	CU	All MAP Components	CPs, MAP Partners	Decision IG.25/1, Decision IG.26/2	Crosscutting especially on SDGs 2, 5.5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17

5.2.6. Strengthen the MAP result-based programmatic framework including gender mainstreaming and sustainability of operations	a) Externally funded projects executed effectively and in coordination with PoW. b) Gender is mainstream in MTS, Projects and MAP Component activities Implementation	CU	RACs, MED POL		Decision IG.26/2	5.5; 5.a; 5.b; 5.c
5.2.7. Support the ownership and capacity building of CPs in integrating MSSD objectives and actions within National Sustainable Development Strategies	a) Needs Analysis conducted on ownership and capacity building of CPs b) Implementation of SIMPEER on a voluntary basis conducted c)Online regional workshop held on outcomes of and b) for follow up	CU	Plan Bleu/RAC, SCP/RAC and other MAP Components	MCSD members, MAP Partners	Decision IG.22/2 Mediterranean Strategy for Sustainable Development 2016-2025	crosscutting especially on SDGs 2,5.5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17
5.2.8 Promote outreach and regional synergies, funding opportunities and enhanced partnership of MSSD flagship initiatives	a)2 Online regional workshops (1 per year) successfully implemented to maximize funding opportunities b)Targeted actions under MSSD Flagship initiatives implemented in collaboration with the leading partners	CU	Plan Bleu/RAC, SCP/RAC and other MAP Components	MCSD Members, MAP Partners, regional Stakeholders, MSSD flagship initiatives Leaders and Partners	Decision IG.22/2 Mediterranean Strategy for Sustainable Development 2016-2025	crosscutting especially on SDGs 2, 5.5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17

5.2.9. Organize SAPBIO correspondents meetings	a) Two meeting of the SAP BIO National Correspondants organized (two presential meeting in 2026 and 2027) and reports available.	SPA/RAC	All MAP Components	CPs (SPA/BD FPs, SAPBIO Correspondent s)	Action 34 and 35 of the Post2020 SAPBIO : COP 22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO)	14,17
5.2.10. Enhancing Inter-Ministerial and inter-sectoral coordination frameworks at national levels	a) Externally funded projects executed effectively and in coordination with PoW.	MedPOL	CU, SCP/RAC, SPA/RAC, REMPEC, PAP/RAC	BSC		All SDGs as relevant
	b)Support operation of established IMCs upon request	PAP/RAC	CU, all components as relevant		Protocol on ICZM in the Mediterranean (Articles 6 and 7); COP 21 Decision IG.24/5 - Common Regional Framework for ICZM	16, 17
Outcome 5.3. Policy coherence and complementarity ensured among relevant work at global, regional and national levels and among MAP-Barcelona Convention system’s policy and regulatory instruments						
5.3.1. Maximize synergies with Post 2020 Global agenda for the implementation of SAP BIO	a) Effective working exchanges with Global institutions of relevance for the implementation of Post-2020 SAPBIO actions linked to their prerogatives ensured.	SPA/RAC, CU	PAP/RAC, REMPEC, Plan Bleu	CPs, UNEP, CBD, BBNJ, IMO, SCBD, FAO GFCM, UNFCCC, IUCN, IMO, UN-Oceans, UNESCO- IOC, IPBS	Action 37, 38, 41, 42 of the Post2020 SAPBIO: COP 22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO)	14,17
5.3.3. Strengthen cooperation for joint reporting under the BC and its Protocols	a)Mechanism developed for promoting mutual supportiveness with other relevant international instruments on reporting. b)Support for reporting provided at national level (e.g. e-reporting modules, twinning approach).	CU and INFO/RAC	RACs, MEDPOL	MEAs	Decision IG.26/1	All SDGs as relevant

	c)Workshop to support Contracting Parties with Reporting obligations					
Outcome 5.4. Enhanced partnerships and multi-stakeholder engagement, including with the private sector and science policy interface						
5.4.1. Promote the title of Partner to Regional Action Plan for the conservation of threatened species and marine key habitats "Regional Action Partners" (In-house expertise, online meetings)	a) Regional Action Plans Partners Title promoted, and the list of Action Plan Partners established for each Regional Action Plan	CU	CU, relevant RACs	RAPs Partners	COP 16 Decision IG.19/6 - MAP/Civil society cooperation and partnership COP 23 Decision IG,26/5 Specially Protected Areas (SPAs), Specially Protected Areas of Mediterranean Importance (SPAMIs) and Ecosystem Restoration	14,17
5.4.2. Strengthen participation and contribution of civil society including MAP partners and private sector to the work of MAP BC system	a)New MAP Partners added and existing MAP Partners renewed; Enhanced engagement of MAP Partners in policy development and implementation. b)Annual round table discussions held (back-to-back with other meetings).	CU	RACs, MEDPOL	MAP Partners, NGOs, CPs	COP 22 Decision IG.25/3 - Governance COP 16 Decision IG.19/6 - MAP/Civil society cooperation and partnership	17.6; 17.9; 17.14; 17.16; 17.17
Outcome 5.5. Coordinated approaches implemented to strengthen public institution capacities for the implementation of the Barcelona Convention and its Protocols						

5.5.1. Development of project proposals to support Parties' institutions on initial implementation of Post- 2020 SAPBIO	a) Preparation and inception regional/ subregional level Projects for key priority strategic actions of Post-2020 SAPBIO ensured.	SPA/RAC	CU /Other RACs as per thematic	CPs, SPA/BD FPs, technical partners, Public and private donors	Action 34 and 35 of the Post2020 SAPBIO: COP 22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO)	14,17
Programme 6. Towards Monitoring, Assessment, Knowledge and Vision of the Mediterranean Sea and Coast for Informed Decision-Making						
Outcome 6.2. Science-based IMAP, foresight and other assessments and assessment tools for strengthened science-policy interface and decision making (in-house expertise, consultancy, publication, toolbox, national technical support, pilots(s))						
6.2.1. Strengthen the implementation of national IMAP-based monitoring programmes for all clusters and deliver quality assured data	a) 21 CPs implement national IMAP and report quality assured data to the IMAP InfoSystem in a timely manner on biodiversity and NIS.	SPA/RAC	Relevant RACs, CU	National IMAP competent laboratories/ authorities; relevant national and international scientific institutions	COP15 Decision IG.17/6: Implementation of the ecosystem approach to the management of human activities that may affect the Mediterranean marine and coastal environment COP19 Decision IG.22/7 - Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria	14.1; 14.2; 14.4; 14.5
	b) At least 7 CPs supported through capacity building, monitoring directives application and quality assured data production.	SPA/RAC	Relevant RACs, CU	National IMAP competent laboratories/ authorities; relevant national and international scientific institutions	COP15 Decision IG.17/6: Implementation of the ecosystem approach to the management of human activities that may affect the Mediterranean marine and coastal environment COP19 Decision IG.22/7 - Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria	
	c) 21 CPs implement national IMAP and report quality assured data to the IMAP InfoSYstem in a timely manner on coast and hydrography	PAP/RAC	Relevant RACs, CU		COP15 Decision IG.17/6: Implementation of the ecosystem approach to the management of human activities that may affect the Mediterranean marine and coastal environment COP19 Decision IG.22/7 - Integrated Monitoring and	13.1; 13.2; 13.3; 13.5; 14.1; 14.2; 14.5; 15.1; 15.2; 15.3; 15.5; 15.9

	d) At least 7 CPs supported with capacity-building to ensure delivery of quality-assured data on coast and hydrography				Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria Protocol on ICZM in the Mediterranean (Article 16)	
6.2.2. Upgrade the assessment component of IMAP including possible integrated assessment for all IMAP clusters. Focus on assessment criteria and thresholds (CI 1, 2, 6, 13, 14, 16, 17, 21, 22, 23, CCI 25)	a) CORMON meetings on biodiversity and NIS organized annually	SPA/RAC	CU, IMAP Task Force	National IMAP competent authorities; relevant national and international scientific institutions; EU MSFD technical bodies;	COP15 Decision IG.17/6: Implementation of the ecosystem approach to the management of human activities that may affect the Mediterranean marine and coastal environment COP19 Decision IG.22/7 - Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria	14.1; 14.2; 14.4; 14.6
6.2.3. Further develop IMAP Common Indicators	a) GES and Targets developed for Common indicator of the Ecological objective 4 on marine food Webs.	SPA/RAC	CU, IMAP Task Force	National IMAP competent authorities; relevant national and international scientific institutions; EU MSFD technical bodies;	COP15 Decision IG.17/6: Implementation of the ecosystem approach to the management of human activities that may affect the Mediterranean marine and coastal environment COP19 Decision IG.22/7 - Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria	14.1; 14.2; 14.4; 14.7
	b) Common indicators using phytoplankton and zooplankton developed to assess the GES of pelagic habitats					

	c) Guidance Factsheet for climate change related indicators	PAP/RAC	Plan Bleu/RAC, CC, Other relevant components	National IMAP competent authorities; relevant national and international scientific institutions; EU technical bodies	Protocol on ICZM in the Mediterranean (Articles 16, 22 and 23)	13.3; 14; 15.9
6.2.4. Review and update of the common indicators factsheets related to Biodiversity (EO1) and fisheries (EO3)	a) Common indicators factsheets updated as appropriate for biodiversity, NIS b) Common indicators for factsheet for Sea-floor Integrity developed.	SPA/RAC	CU, IMAP Task Force	GFCM, National IMAP competent authorities; relevant national and international scientific institutions; GFCM; EU MSFD technical bodies;	COP15 Decision IG.17/6: Implementation of the ecosystem approach to the management of human activities that may affect the Mediterranean marine and coastal environment COP19 Decision IG.22/7 - Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria	14.1; 14.2; 14.4; 14.8
Outcome 6.3. IMAP implementation and Environment and Development Observation provide updated and quality assured data in support of decision-making by Contracting Parties and assessment of GES.						

6.3.1. Strengthen national capacities to apply harmonized and standardized monitoring and assessment practices related to pollution and marine litter in line with IMAP	a)Intercalibration exercise is set to support the Quality Assurance related to IMAP Common Indicator 18. b)Analyses undertaken in up to 7 CPs to identify national counterparts with the greatest needs regarding provision of equipment for sampling, analysis, processing and quality assurance of data. c)Intercalibration exercise and TC are undertaken to support the Quality Assurance related to IMAP Common Indicators 17 and 20. d)Intercalibration exercise and TC are undertaken to support the Quality Assurance related to IMAP Common Indicators 13 and 14. Ie)ntercalibration exercise undertaken to support the Quality Assurance related to floating microplastics (IMAP Common Indicator 23).	MEDPOL	CU, MAP Components, IMAP Task Force CU, MAP Components, IMAP Task Force		COP19 Decision IG.22/7 - Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria COP20 Decision IG.23/6 - 2017 Mediterranean Quality Status Report COP21 Decision IG.24/4 - Assessment Studies COP 22 Decision IG.25/9 - Amendments to the Regional Plan on Marine Litter Management in the Mediterranean in the Framework of Article 15 of the Land Based Sources Protocol COP23 Decision IG.26/3 - The 2023 Mediterranean Quality Status Report and a Renewed Ecosystem Approach Policy in the Mediterranean	14.a
6.3.2. Strengthen the MSSD and SCP Regional Action Plan monitoring framework and a regional observatory on the environment and development	a)National assistance and capacity building activities provided for the implementation of EO1 and EO2 b)Citizen survey guidance for NIS monitoring under IMAP developed to strengthen public awareness and participation.	SPA/RAC	Relevant RACs, CU	National IMAP competent laboratories/ authorities; relevant national and international scientific institutions	COP15 Decision IG.17/6: Implementation of the ecosystem approach to the management of human activities that may affect the Mediterranean marine and coastal environment COP19 Decision IG.22/7 - Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria	4.1; 14.2; 14.4; 14.5

	g) 3 comprehensive technical factsheets drafted with scope and rationale, method, definition, population on Technical feasibility of 3 new indicators to complement the MSSD dashboard (on Food security index; on Fisheries & aquaculture; on harmful subsidies) (In -house expertise ; consultancy)	Plan Bleu/RAC	SPA/RAC	FAO, GFCM, OECD	COP19 Decision IG.22/2 - Mediterranean Strategy for Sustainable Development 2016-2025 (MSSD) COP 22 Decision IG.25/17 - Assessment studies	
6.3.3. Maintain Biodiversity databases as appropriate, regularly update databases content and elaborate an operational strategy for marine biodiversity data management, in line with the UNEP/MAP Data Policy	a) Georeferenced Information on Mediterranean Biodiversity key components is centralized in the SPA/RAC open access platform, Miditerranean Biodiversity Plateform (MBP)	SPA/RAC	INFO/RAC, REMPEC, PAP/RAC	ACCOBAMS, MedPAN, IUCN, GFCM, national biodiversity focal points	Action 16 of the Post2020 SAPBIO: COP 22 Decision IG.25/11 : Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO).	14.2, 14.5, 15.1, 15.5, 17,6
	b) SPA/RAC website operational and regularly updated.	SPA/RAC	INFO/RAC, other components		Action 37,38 and 39 of the Post2020 SAPBIO: COP23 Decision IG.25/11 : Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO).	14.2, 15.1, 17.16
6.3.9. Maintain and update IMAP Info System with all IMAP Common Indicators fully implemented	a)IMAP Info System hardware and software platform upgraded and expanded to ensure fully operational reporting by CPs. b)Data Standards (DSs) and Data Dictionaries (DDs) developed for remaining Candidate IMAP Common Indicators. c)New Data Standards (DSs) and Data Dictionaries (DDs) developed for additional modules related to existing IMAP Common Indicators. d)Data Standards (DSs) and Data Dictionaries (DDs) fine tuned for IMAP Common Indicators already in place	INFO/RAC	MED POL, PAP/RAC, SPA/RAC	Accobams, GFCM		Crosscutting to all SDG 14 targets, especially 14.a but also 5, 6,8,9,12,13,15

e)QA/QC tool upgraded and developed for all IMAP CIs data flows according to the nature of the indicator. f)Helpdesk human resources dedicated to Daily Support to Contracting Parties in the reporting process. g)Additional automatic "Helpdesk" section implemented into the IMAP Info System to support CPs into the reporting process, recording all the requests to be used for statistical purposes. h)IMAP Assistance/Training meetings organized with Contracting Parties (at least un workshop for each beneficiary country) dedicated to the IMAP reporting process. i)Cooperation with relevant Regional Organization (i.e. Accobams, GFCM, etc.) in order to facilitate the interoperability between IMAP and their Infosystems and databases as appropriate. j) A specific section implemented into the IMAP Info System, as webform, to allow the CPs to officially provide information about the state of reporting in the country. k)"User management" system upgraded and adapted to MAP CU and MAP Components needs. l)A Data Analytics dashboard implemented into the IMAP Info System providing aggregation of monitoring data, dedicated to MAP Components assessment and also accessible to public users. m)Geographical section upgraded and customized for IMAP monitoring data					
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	visualization into the IMAP Info System and fully integrated in KMP. n)Additional functionalities implemented in the IMAP Info System dedicated to MAP Components: data analysis and data export in different formats through specific tools implemented ad hoc; possibility of queries and layout the results in tables with data filtering; extensive customization, analysis and data visualization through Python modules (Python notebook, ex. Jupiter lab of WEKEO DIAS-CMEMS).					
6.3.10. Ensure full implementation of the InfoMAP Spatial Data Infrastructure for the geographical data and maps	a) InfoMAP Spatial Data infrastructure maintained, tuned and upgraded. Implementation of information layers provided. Interoperability with CPs information systems strengthened. b) Dedicated assistance and support trainings to CPs to organize, upload and consult Spatial Data c) Creation of user profiles and groups ensured. d) Support training on the implemented Geoviewer for the visualization of georeferred data delivered. e) Basic and thematic layers collected, developed and visualized. f) Spatial data and metadata from UNEP/MAP, CPs, RACs and other sources integrated and reviewed Finalization of the integration of InfoMAPNode into the Knowledge Management Platform	INFO/RAC	MAP Components			Crosscutting to all SDG 14 targets, especially 14.a but also 5,6,8,9,12,13,15

6.3.13. Undertake Copernicus data analysis/integration of Copernicus Service to support indicator and data collection and ingestion	a) Analysis of Copernicus Services products in cooperation with EEA to promote fully exploitation for IMAP data collection. b) Use of Copernicus Services products and integration in IMAP Contracting Parties' national programmes..	INFO/RAC	MAP Components	EEA		Crosscutting to all SDG 14 targets, especially 14.a but also 5, 6,8,9,12,13,15
Programme 7. For Informed and Consistent Advocacy, Awareness, Education and Communication						
Outcome 7.1. Stakeholders and policymakers properly informed about the state of the Mediterranean Sea and coast and aware of the environmental priority issues						
7.1.1. Disseminate knowledge of the state of the Mediterranean Sea and Coast through indicators (In-house expertise, workshop, publication, translation, web services, social media channels)	a)Fact sheets/brochures to communicate the impact of biodiversity conservation and priority actions towards 2030 providing background information and summaries (biodiversity, MPAs, etc.); b)Stories incorporating testimonials , videos and infographics on effective management and conservation practices identified and collected; c)Mini social media campaigns on collaborative achievements with partners; Media relations developed	SPA/RAC; INFO/RAC	MAP Communicati on Task Force	SPA/BD Focal Points, SPAMIs, National authorities, CSOs	COP 21 Decision IG.24/2 - Governance	cross cutting especially SDG 14 Targets
	d) Communication and advocacy/policy materials (Infographics, videos, reports, etc.) produced and promoted to improve conservation status of vulnerable species at national and regional levels.			ACCOBAMS; GFCM; IUCN- Med; Agreed Action Plan Partners	COP 21 Decision IG,24/7 - Strategies and Action Plans under the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean, including the SAP BIO, the Strategy on Monk Seal, and the Action Plans concerning Marine Turtles, Cartilaginous Fishes and Marine Vegetation; Classification of Benthic Marine Habitat Types for the Mediterranean Region, and Reference List of Marine and Coastal Habitat Types in the Mediterranean COP 22 Decision IG.25/13 - Action Plans for the conservation of species and habitats under the Protocol	All SDG 14 Targets

					concerning Specially Protected Areas and Biological Diversity in the Mediterranean COP 19 Decision IG.22/7 - Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria COP 22 Decision IG.25/11 - Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO)	
7.1.3. Implement MAP Communication Strategy	d)SPA/RAC communication strategy implemented and updated	SPA/RAC			COP 21 Decision IG.24/2 - Governance	Crosscutting especially SDG 14 Targets
Outcome 7.2. Citizen and general public awareness and outreach raised through citizen science and digital campaigns						
7.2.1. Enhance public awareness and outreach on UN and MAP Days observance and their topics	b) SPAMI Day celebrated in collaboration with SPAMI managers and CSOs, through awareness raising activities and digital campaigns with: -2026 SPAMI Day celebrated in presential -2027 SPAMI Day celebrated locally at interested and volunteer SPAMIs	SPA/RAC	MAP Communicati on Task Force		COP 23 Decision IG.26/14 - COP 22 Decision IG 25/11 (Post-2020 SAPBIO) - COP 22 Decision IG. 25/12 (MCPAs & OECMs) - COP 21 Decision IG. 24/06 (SPAMI)	All SDG 14 Targets
	c) Mediterranean Coast Day celebrated: Promotional/awareness raising material prepared; Two regional celebrations and two on-line campaigns organized; Support provided to local Coast Day celebrations.	PAP/RAC	CU, INFO/RAC, MAP Communicati on Task Force, All Components as relevant		Protocol on ICZM in the Mediterranean (Articles 5, 6, 15 and 32)	All SDG 14 Targets
7.2.2. Enhance public awareness and outreach on key MAP topics for general and specific targets (MAP	a)Communication materials, awareness campaigns and local events co-created and co-organized with Focal Points, SPAMI managers and partners to demonstrate the socio-economic and ecological benefits of conservation for local communities.	SPA/RAC	MAP Communicati on Task Force	SPA/BD Focal Points, SPAMIs, National authorities, CSOs	COP21 Decision IG.24/2 - Governance COP21 Decision IG.24/5 - Common Regional Framework for Integrated Coastal Zone Management	Crosscutting especially SDG 14 Targets

Partners, Civil Society, Private sector, Youth etc.)						
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