

OECMs IN MARINE AND COASTAL AREAS

A Spotlight on Fisheries

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**Understanding and Accelerating Actions on OECMs
in the Marine and Coastal Areas of East Asian Seas**

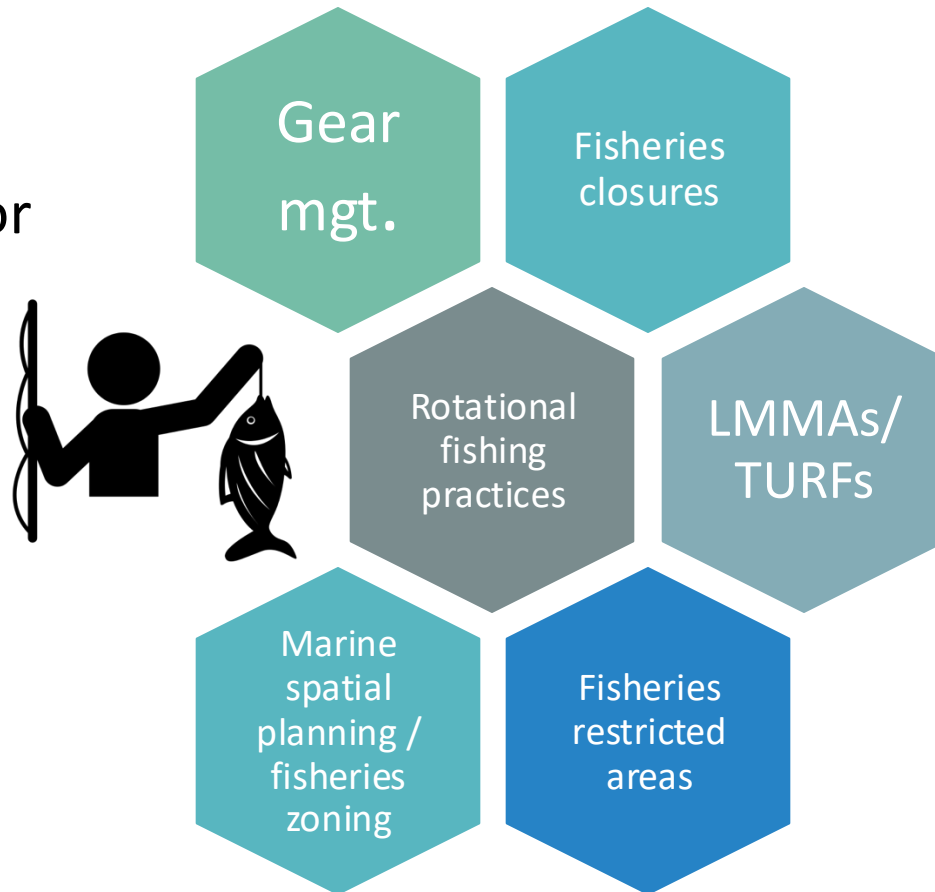
Iloilo City, The Philippines

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Fisheries OECMs

“established, spatially defined management and/or conservation measures other than protected areas, which produce positive, long-term, and *in situ biodiversity outcomes, in addition to the intended fishery outcomes.*”



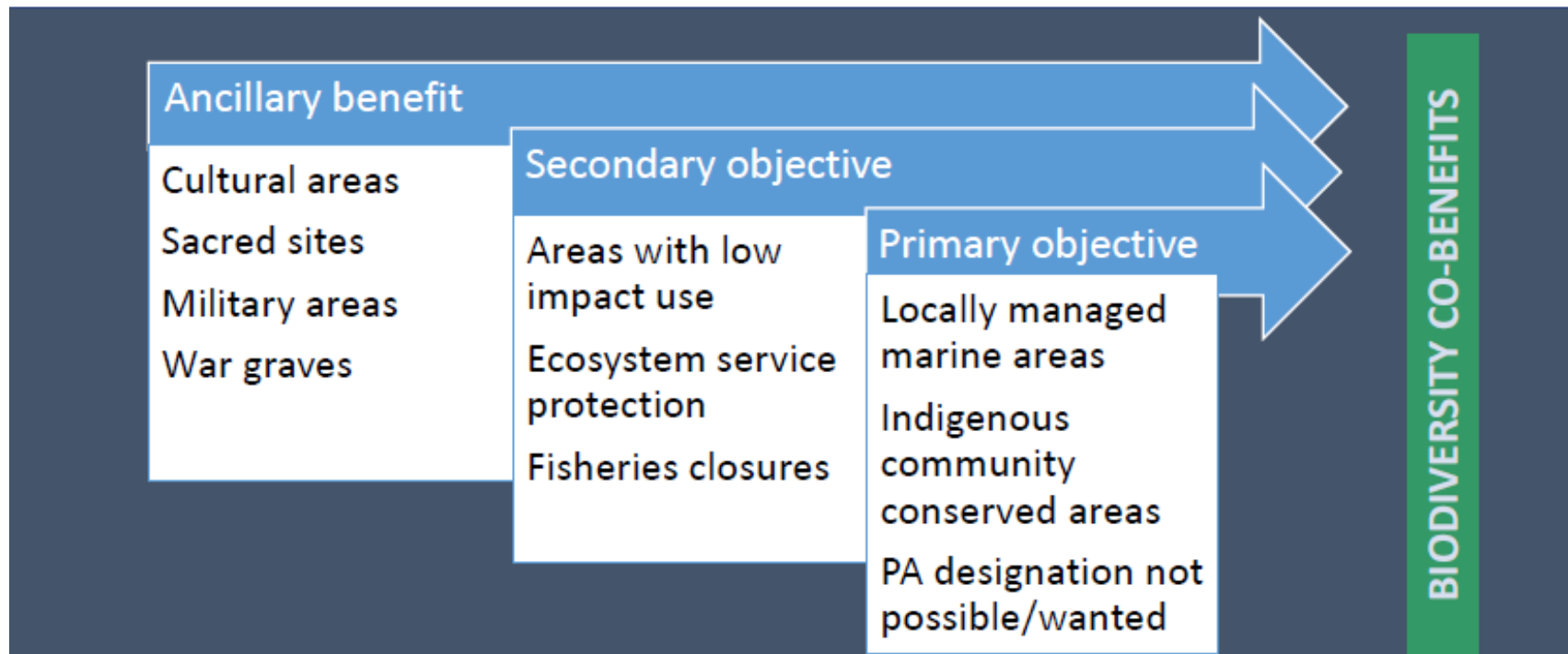
Protected areas

vs.

OECMs

- Should have a primary conservation objective
- Core function is to promote the in-situ conservation of biodiversity

- Primary objective is often not biodiversity conservation
- Co-benefits for biodiversity due to the management in place



OECM Criteria in the context of fisheries

“The application will depend on the nature of fisheries, the management approaches to fisheries in each country, the capacities for management and the different governance arrangements for managing marine areas, data availability, and many other factors.”

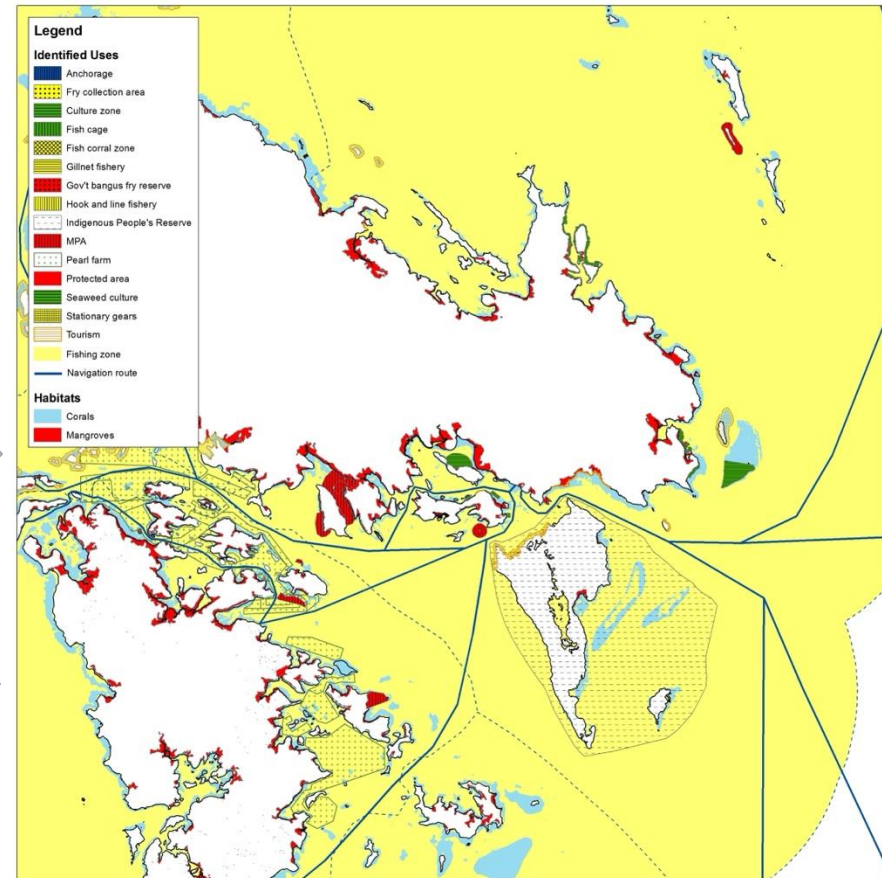
FAO. 2022. *A handbook for identifying, evaluating and reporting other effective area-based conservation measures in marine fisheries*. Rome.
<https://doi.org/10.4060/cc3307en>

Criterion A. Area is not currently recognized as a protected area

“Though OECMs cannot overlap with reported protected areas, potential OECMs can encompass smaller protected areas that are reported.” **FAO, 2022**

Biodiversity conservation from PAs within MSP

Contributions to biodiversity conservation in regulated fisheries and other limited use zones



e.g., Management under a marine spatial planning framework and fisheries use zoning

Criterion B. Area is governed and managed

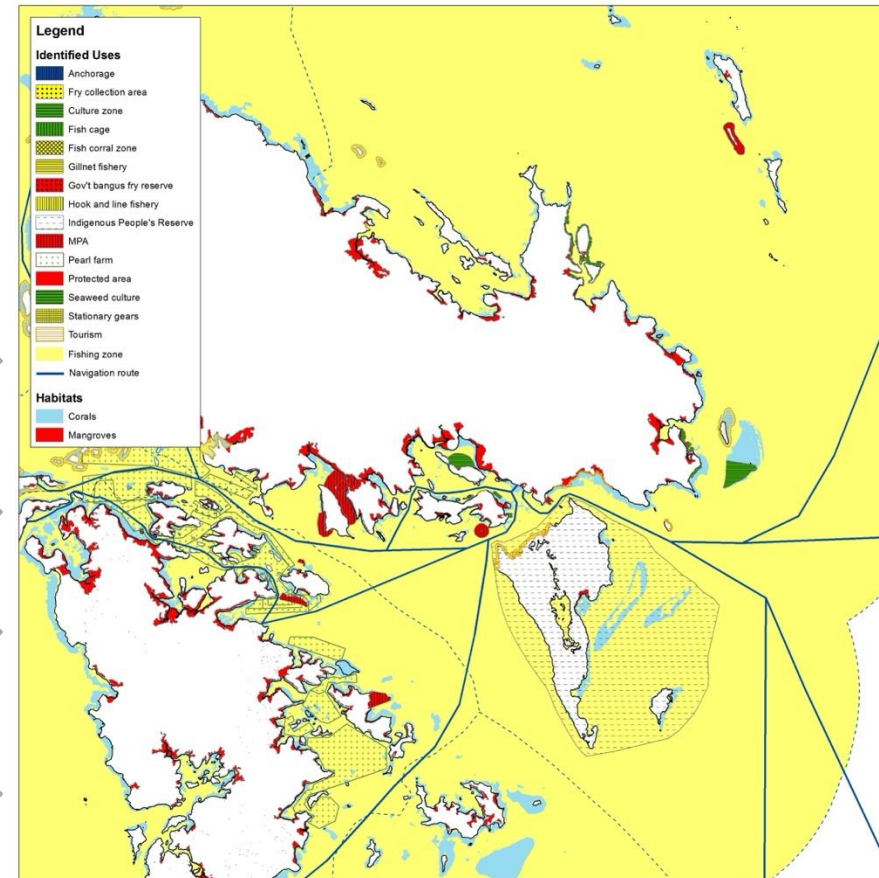
An OECM must be a geographically defined space with clear governance and management.

Local government units
(municipal, provincial,
national)

Indigenous peoples

Management councils
(multi-group, multi-sectoral)

People's organizations and
private entities



e.g., Management under a marine spatial planning framework and fisheries use zoning

Criterion C. Achieves sustained and effective contributions to *in situ* conservation of biodiversity

“...the management system or ABMT applied in the area should contribute to – or be realistically expected to contribute to – the conservation of biodiversity within the site.”

Typical biological reference points for fisheries (FMA Training Modules (DA-BFAR))

RPs	Description
$X\% \cdot B_{MSY}$, $X\% \cdot SSB_{MSY}$	Biomass, or spawning stock biomass (SSB), ^a that is needed to sustain $X\% \cdot MSY$.
$X\%F_{MSY}$	Fishing mortality rate that results in B_{MSY} on average.
$F_{X\%}$ or $F_{X\%SPR}$	Fishing mortality rate that allows the stock to attain $X\%$ of the maximum spawning potential.
50%M	50% of the natural mortality rate
Empirical reference point	Expressed in terms of something that can be measured—catch, CPUE, etc.

Biodiversity index? Species richness?
Habitat characteristics?

Criterion C. Achieves sustained and effective contributions to *in situ* conservation of biodiversity

Species and size composition in the catch as *proxy* indicator



desired species and sizes



undersized, ETPs,
vulnerable species



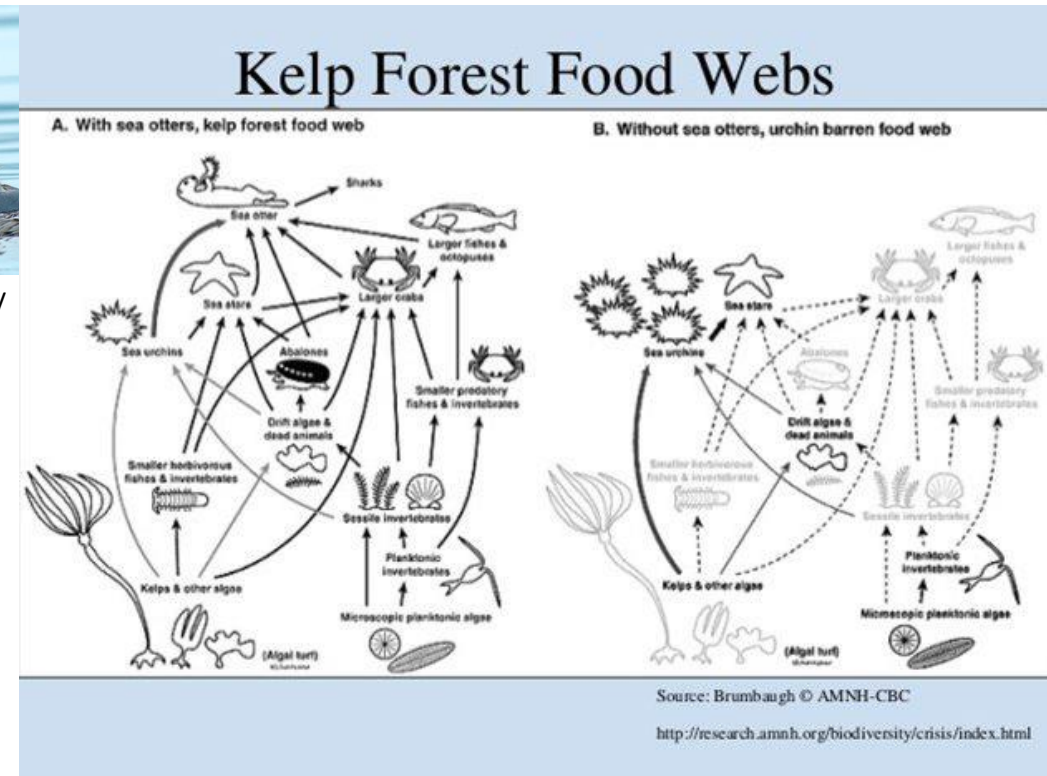
Criterion C. Achieves sustained and effective contributions to *in situ* conservation of biodiversity

Top predator occurrence as *proxy* indicator

- “Trophic cascade”
- Dominant predators keep the populations of prey groups in check
- Maintenance of ecosystem structure and integrity

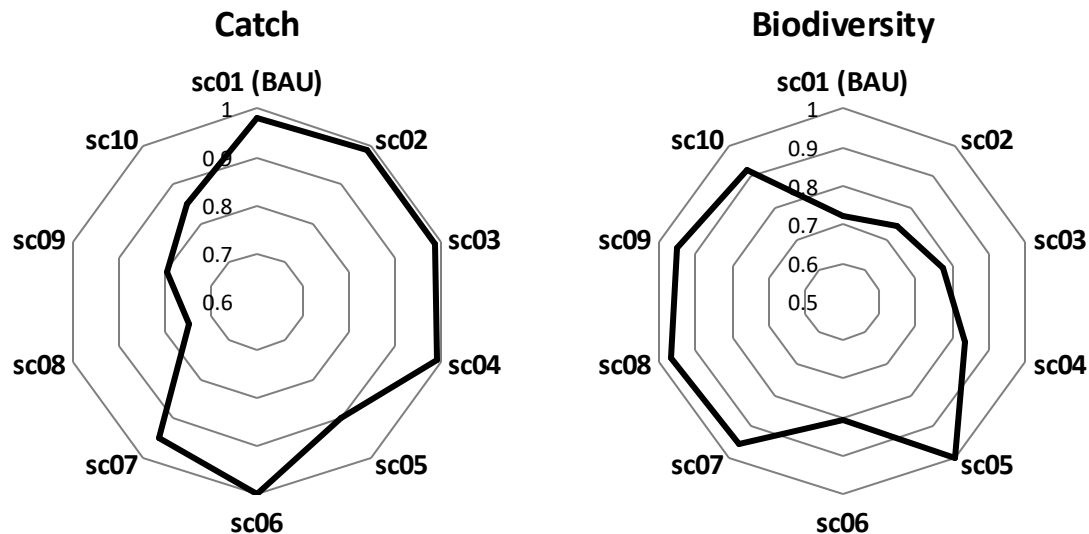


<https://www.mmc.gov/>

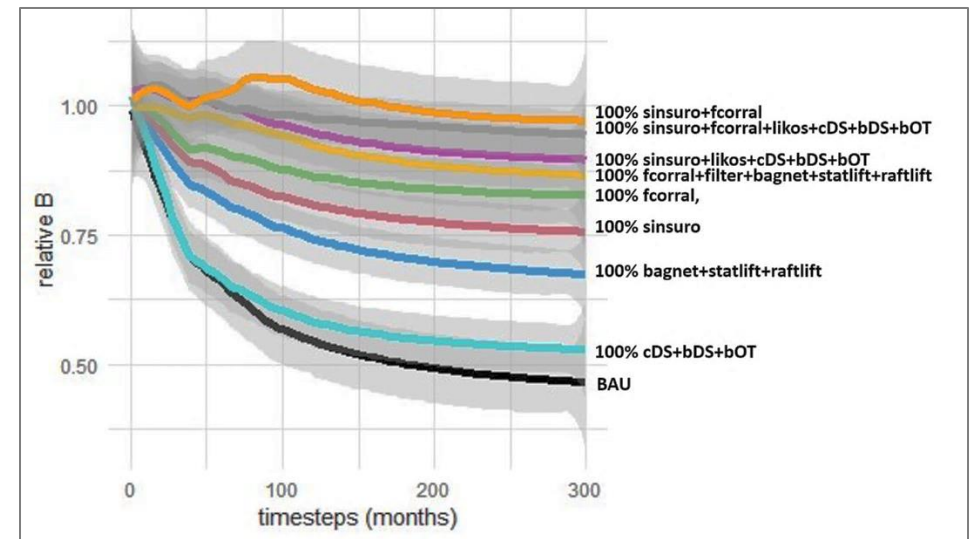


Criterion C. Achieves sustained and effective contributions to *in situ* conservation of biodiversity

Utilize modeling & simulation tools to explore potential biodiversity outcomes of management



Comparison of relative changes in the catch and biodiversity metrics under alternative closed season scenarios in the Visayan Sea (Bacalso 2023)



Relative biomass trajectories of the pelagic predator fishes under different scenario simulations of gear restrictions in the Visayan Sea using Ecopath with Ecosim. FMA 11 Harvest Strategy evaluation workshop, 2024.

Criterion D. Associated ecosystem functions and services and cultural, spiritual, socioeconomic and other locally relevant values

Ex. Octopus fishery management by the Tagbanuas of Calauit Island, Palawan, Philippines

- Objective: sustainable & equitable fishery
- Reviving “lost” traditional practices/cultural values relating to the octopus → restricted areas, rotational harvest, size catch limits
- Agreement by all clusters of the management council (NTCQ)
- Zoning alignment with existing traditional zones and multiple-use zones (ECAN)

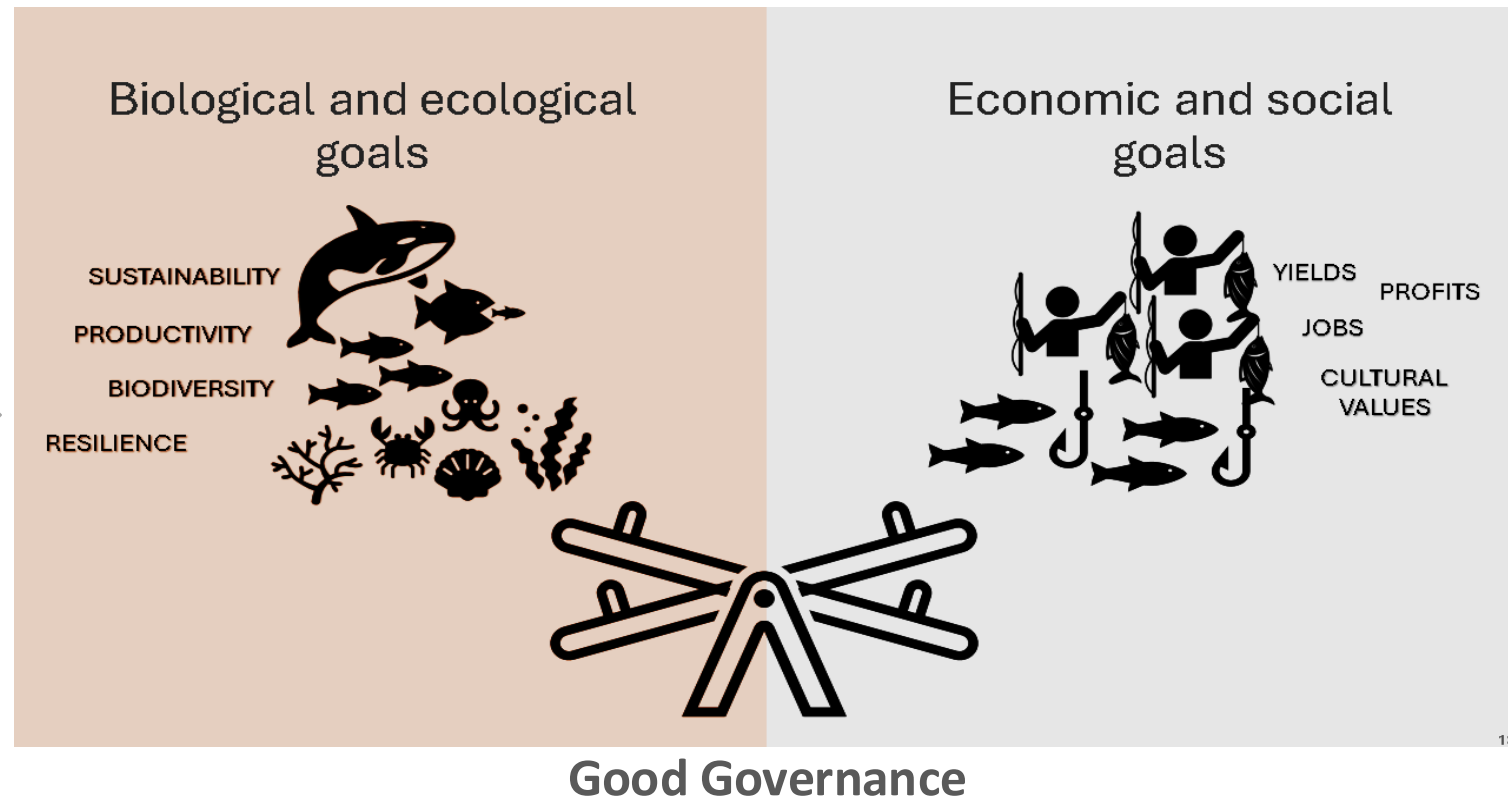


Photos by R. Bacalso

Criterion D. Associated ecosystem functions and services and cultural, spiritual, socioeconomic and other locally relevant values

Consistent with the Ecosystems Approach to Fisheries Management (EAFM)

Integrated fisheries management plans and frameworks



Generalizations & recommendations

- **Fisheries OECMs are diverse** owing to such factors as the nature of the fisheries, approach and scale of management, capacities of local managers (e.g., technical), data availability
- The diversity of fisheries OECMs poses **both challenges and opportunities** in identifying, assessing, evaluating, and long-term monitoring.
- Apply a **flexible approach** in the selection of biodiversity indicators or proxy indicators. Ensure **participation by local managers and experts** to agree on which indicators are relevant and can be sustainably monitored in a timely manner given the local technical and financial resources available.

Generalizations & recommendations

- **Apply available tools** to project the potential fisheries and biodiversity conservation outcomes of management.
- Recognize and incorporate into the initial screening, assessment, and system of monitoring the **traditional knowledge of indigenous communities** and their worldview of changes and observed trends using indicators outside conventional science.
- Where applicable, support the **integration of fisheries OECMs to existing management frameworks and plans** to better access support mechanisms for long-term implementation and monitoring of effectiveness.