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Proposed Directory of Mediterranean Protected Areas

IN CO-OPERATION WITH:



PROPOSED DIRECTORY OF MEDITERRANEAN
PROTECTED AREAS

INTERNATIONAL UNION FOR CONSERVATION OF NATURE AND NATURAL RESOURCES (IUCN),
Gland, April 1980

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INTRODUCTION

The Mediterranean region is an area of intense human activity of great importance for living quarters, industry, food production and recreation. Significant human impact on this zone goes back as far as 4,000 years ago. Today, about 100 million people live around its coasts and have deeply affected the natural communities of this very diversified region.

In the course of the socio-economic development, the coastline is suffering more degradation than the hinterland. The land/sea and the land/freshwater ecotones offer particular fragility: wetlands, coastal belts and islands are the most critical habitats.

It is only recently that Mediterranean countries, urged by international organizations have started to take measures to limit environmental degradation. The first protected areas were established in the 1920s and 1930s. However, most countries are only starting to set aside areas for nature conservation and to provide adequate resources for those that have been set aside. Marine protected areas are particularly few and are a major area of concern.

In order to assist the countries to preserve the Mediterranean natural ecosystems, the United Nations Environment Programme (UNEP) has developed an Action Plan for the protection and development of the Mediterranean Basin.

In the framework of this Action Plan it has been decided to develop a Directory of Mediterranean protected areas. Its objective is to promote the protection, identification and conservation of unique natural sites and especially representative samples of the most critical habitats and to expand the network of terrestrial and marine protected areas. In the first stage, it will include only protected areas of the coastal zone, islands, marine areas and coastal wetlands.

BACKGROUND

Action to conserve representative samples of marine ecosystems, wetlands, islands and coastal areas has been strongly urged at international gatherings, including the First and Second World Conferences on National Parks, the UNEP Expert Consultation on Mediterranean Marine Parks and Wetlands, Tunis (January 1977), the UNESCO/MAB Workshop on Biosphere Reserves in the Mediterranean Region, Side, Turkey (June 1977), the Intergovernmental Review Meeting of Mediterranean Coastal States and the First Meeting of the Contracting Parties to the Convention for the Protection of the Mediterranean Sea against Pollution and its Related Protocols, (Geneva 1979).

Several actions have been undertaken under different organizations which converge to the identification and protection of selected areas in the Mediterranean region, and among these are:

- the Convention on Wetlands of International Importance, especially with respect to Waterfowl (Ramsar 1971), so far ratified only by Greece, Italy and Yugoslavia, among the Mediterranean coastal States;

- Project MAB 8: "Conservation of Natural Areas and of the Genetic Material they Contain", aiming at developing a network of Biosphere Reserves **representing** the ecological diversity of the Mediterranean Basin.
- International Convention concerning the protection of the World Cultural and Natural Heritage.
- the Council of Europe network of biogenetic reserves, studies sponsored by the Council of Europe, especially on threatened species and habitats and the Convention on the Conservation of European Wildlife and Natural Habitats.
- the IUCN action, and particularly activities carried out under the leadership of the Commission on National Parks and Protected Areas (CNPPA): the World Directory of National Parks and other Protected Areas, the definition of categories, objectives and criteria for protected areas, among others.

EXPLANATORY NOTES

1. This Directory will include protected areas of all the Mediterranean border States that is: Albania, Algeria, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Spain, Syrian Arab Republic, Tunisia, Turkey, Yugoslavia, organized in alphabetical order.

(For the present time only two sample sheets covering one area in Cyprus and one in France are included.)

2. Each site is described on an individual sheet. The data sheets are arranged by countries and in order of decreasing size.

The headings for each data sheet are:

1. Name

Name in the language of the respective country

2. Postal Address of the managing authority

Full postal address in one or several of the United Nations languages, including POB, telephone, and telex numbers and telegram abbreviations.

3. Executive Officer

Full name and title of the executive officer (director, manager, etc.)

4. Operational responsibility

Structure (government, ministry, province, community, corporation, etc.)
Sponsoring the national park or protected area or person responsible for its operation and management.

5. Classification

The type of protected area according to one of the following categories:

Scientific Reserve/Strict Nature Reserve

National Park

National Monument/National Landmark

Nature Conservation Reserve/Managed Nature Reserve/Wildlife Sanctuary

Cultural Landscape/Heritage Landscape

Resource Reserve

National Biotic Area/Anthropological Reserve

Multiple Use Management Area/Managed Resource Area

Biosphere Reserve

World Heritage Site (Natural)

(for details see appendix 1)

6. Legal protection

The nature and extent of the legal protection.

7. Date of establishment

Date of establishment with full reference to the legal document establishing the area as permanently protected and providing sufficiently strict safeguards to achieve the objectives of conservation.

8. Location

The geographic location descriptively and in terms of the extreme geographic co-ordinates with a precision of 1'.

9. Surface and altitude/depth

The surface in ha and the extreme altitudes or depth (in the case of marine parks) in m.

10. Land tenure

The type of ownership (government, state, communal, private, corporate, etc. property).

11. Physical features

Description of physical features, including geographic and geological characteristics.

12. Climate or hydrographic conditions

General characteristics of the climate, seasonal differences and extremes. In addition, for marine parks, wetlands and rivers, the prevailing hydrographic conditions and their seasonal variations.

Annual rainfall at alt. of M.

13. Flora

The most important floristic elements, using their scientific names. Endangered, rare or endemic species specifically mentioned.

14. Fauna

The most important faunistic elements, using their scientific names. Endangered, rare or endemic species specifically mentioned.

15. Biotic provinces

Characteristic biocenoses using standard terminology and reference to biotic provinces, when applicable. (For details see appendix 2).

16. Ecological disturbances or deficiencies

Forest fires, overgrazing, overfishing, tourism, etc.

17. Relevance to tourism or education

Number of visitors annually; recreational or education facilities (hotels, public roads, camping sites, picnic areas, zoos, aquaria, permanent exhibitions, etc.). Period of maximum visitation/spring, summer, winter and autumn.

18. Management

Description of management practices, in particular the management of natural resources. Management plan exists management plan does not exist; comment.

19. Staff: Professionals _____ mid level _____
Guards _____ labourers _____

20. Budget:

21. Diagnosis: Are the budgets and staff resources adequate to achieve management objectives at:

- (1) high level
- (2) moderate level
- (3) low level

22. Scientific Research

Type of research carried out in the national park or protected area, results obtained, research facilities in the national park or protected area.

23. Publications

List of general publications describing the national park or protected area (author, title, publisher, year of publication, language of publication and of scientific publications resulting from research listed under 22)

CYPRUS

1. Name: Limassol salt-water lake (Alikí Lemesou).
2. Postal address: S.B.A., Akrotiri, Limassol, Cyprus
3. Executive Officer: no information
4. Operational responsibility: no information available
5. Classification: Wildlife Sanctuary
6. Legal protection: information insufficient
7. Date of establishment: established in 1963 under the Game and Wild Birds (Protection and Development) Law.
8. Location: 34°30'N-32°57'E
9. Surface and altitude/depth: The reserve is covering. The maximum area covered by water in winter is 940 ha. and it contains 7.85 million m³ of water. At its maximum, the surface water level is 1.7 m below sea level. The maximum depth of water is about 1 m. Even at peak level, some 50 per cent of the lake surface is covered by water which is less than 30 cm deep and this makes feeding conditions for wildfowl ideal.
10. Land tenure: Government property
11. Physical features: The lake is a natural depression and it contains water from about the beginning of December until about the end of July, when it becomes nearly dry. The bottom of the lake is covered by a layer of recent sand and loams having a probable depth of 1.5 to 6.0 metres.

The Limassol salt lake was formerly a gulf of the sea but as a consequence of long-shore drift and the slight retreat of the sea, a pair of spits grew seawards from the mouths of the Kouris and Garyllis Rivers towards the Akrotiri Island. There two spits eventually reached the island forming a tombolo and isolated a patch of sea-water between them which is now the lake.

12. Climate or hydrographic conditions: long dry period without any rain from June to beginning of November, with temperature ranging from 12-17°C minimum to 32-37°C maximum. Short rainy season in winter with average annual rainfall 450 mm and temperature ranging from 2-10°C minimum to 20-23°C maximum. Short spring with some rain from March to May.

The lake is replenished from time to time by sea-water during storms through two low places of the sea shore. It is also replenished by fresh water from the marsh area at the north and northwest border of the lake.

13. Flora: north of the lake: a belt of tree growth, dominated by Eucalyptus spp. with rushes, juncus and reeds and a few exotic species.

Just outside the forest the marshy area is covered with Tamarisk, rushes couch grass, reeds, bramble. The lake margin itself is border with juncus, Salicornia fruticosa, Suaeda fruticosa. The lake itself is devoid of any vegetation due to high salinity.

14. Fauna: large concentration of birds during migration season, especially Phoenicopterus ruber (2,500 to 7,000), Anas acuta (2,000 to 4,000), A. penelope, A. platyrhynchos, A. crecca, Tadorna tadorna, Plegadis falcinellus, Egretta garzetta, Ixobrychus minutus, Nycticorax nycticorax. Of importance, apart from wildfowl: Falco peregrinus brookei and F. eleonora which breed on rocks in the vicinity.

15. Biotic provinces: 2.17.7 Mediterranean sclerophyll.

16. Ecological disturbances or deficiencies: The marshy area and the lake margin are subject to certain grazing in the summer and autumn months.

17. Relevance to tourism or education: A great number of visitors, both local and overseas visit the area every year, especially during the wet period when the lake is alive with wildfowl, the Flamingos attracting most of the attention.

For most of the year the lake is easily accessible from all sites. The western parts are served by a major asphalted public road and are accessible at all times. The other sides are accessible through earth roads.

Apart from its ornithological interest, the area also attracts picnickers who use mostly the forest.

18. Management: Apart from the forest, which is being managed by the Department of Forests of the Ministry of Agriculture and Natural Resources, no other part of the area is under any management.

19. Staff: no information

20. Budget: no information

21. Diagnosis: no information

22. Scientific research: Work on the environment and on the microfauna of the wetland is being carried out by the Department of Fisheries. No other organized scientific research takes place, apart from bird observation and occasional counts by ornithologists.

23. Publications: Cyprus Ornithological Society Third Bird Report, 1972.

MARINE AREAS

Parc national de Port Cros

Réserve naturelle de Cerbère-Banyuls; see in the Directory of specially protected areas of the Mediterranean.

1. Name: Cerbère-Banyuls-sur-Mer Marine Nature Reserve
2. Postal address: Dr. H. Bourtière, Laboratoire Arago, 66650 Banyuls-sur-Mer
3. Executive officer: Same
4. Operational responsibility: Ministère de l'environnement et du cadre de vie (or whatever its name is now). Address: probably Bd. ? Général Leclerc, Neuilly-sur-Seine.
5. Classification: Marine nature reserve.
6. Legal protection: Under water area totally protected, with controlled fishing.
7. Date established: 5 March 1974
8. Geographical location: From Banyuls to Cape Peyrefitte, Mediterranean coast of France near border with Spain: N42°27'-42°29'; E 3°08'-3°11'.
9. Area: 550 ha. Altitude: From sea level to c.-60 m below sea level.
10. Land tenure: Maritime area under the authority of the Secretary of the Merchant Marine.
11. Physical features: Marine bedrock composed of metamorphic schists covered by incrustations of corals, extending from the headlands and the sands and mudflats between the headlands to a depth of 60 m. Relatively turbid water with visibility of 10-20 m (measured using Secchi discs). Salinity of between 37.70 and 38.00 parts per million.
12. Climate or hydrographic conditions: Water temperature reaches 21°C in summer and 11°C in winter. In summer the thermocline is very steep, the temperature dropping by as much as 5 or 6 degrees C as one descends from 20 m below the surface to 30 m below the surface. Strong winds are frequent, with subsequent superficial currents which may reach 80 cm/second.
13. Flora: A covering of Lithothamnion species tends to carpet the rocks, the intervening spaces being filled with many species of Cystoseira seaweeds and a great variety of red algae. Beds of Posidonia are also present.
14. Fauna: The marine fauna is one of the richest of the Mediterranean coast due to the presence of a coral substratum. More than 580 species of invertebrate have been recorded, including many types of Sponges, Octocorallia, Echinoids and Ascidians. The fish fauna is equally rich with characteristic species of the rocky coast of the Mediterranean. Many pelagic fish and coastal migratory species, such as porgies Sparidae, herrings Clupeiformes and tunnies Thunnidae, are to be found.

15. Biotic provinces: zoogeographical region: west Mediterranean, S.W. basin, S.W. extremity of the Golfe du Lion. (Reference to biotic provinces does not apply here).
16. Ecological disturbances or deficiencies: Surveillance is insufficient as is information on the use being made of the marine environment. The sedentary fauna is subject to great depredations during the summer season. Out of season poaching by methods ranging from the use of trawls or dragnets to underwater fishing by aqualung-equipped wet-suited swimmers still takes place.
17. Relevance to tourism or education: The reserve is accessible to anyone having a line-fishing permit; skin diving for viewing the underwater scene is also permitted.
18. Management: Part of the reserve (about one-fifth) is a strict nature reserve. In the rest, strictly controlled fishing is allowed.
19. Staff: Director, assisted by a management committee under the chairmanship of the Prefect of the Pyrénées Orientales Department.
20. Budget: For 1975, NF 100,000-200,000 (or between 20,000 and 40,000 US dollars) were theoretically made available for the maintenance and development of this reserve.
21. Diagnosis: no information
22. Scientific research: Up till now the only research has been the numerous and very diverse studies undertaken by the Arago Laboratory of the Pierre and Marie Curie University, Paris, and by the University Centre, Perpignan. The reserve is a marine pollution monitoring point. The "Laboratoire de biologie marine Arago" at Banyuls is studying the fauna on rocky substratum in particular. Scientific records on this area go back to 1950 and give evidence of the continuing depredations on the fixed fauna and the complete vanishing of some species (Pinna).
23. Publications: Various articles in the journal Vie Milieu, produced by the Laboratoire Arago, Banyuls-sur-Mer, deal with organisms living in the reserve.

Appendix 1

Categories of Protected Areas

Based on the paper "Categories, objectives and criteria for protected areas", IUCN, Morges, 1978. Much reflection is desired on adapting the terminology utilized in this paper to accommodate the current terminology used in marine protected area planning.

CATEGORY I. Scientific Reserve/Strict Nature ReserveSelection and Management

These areas possess some outstanding ecosystems, features and/or species of flora and fauna of national scientific importance. These areas are generally closed to public access, recreation and tourism. They often contain fragile ecosystems or life forms, areas of important biological or geological diversity, or are of particular importance to the conservation of genetic resources. Size is determined by the area required to ensure the integrity of the area to accomplish the scientific management objective and provide for its protection.

Natural processes are allowed to take place in the absence of any direct human interference. These processes may include natural acts that alter the ecological system or physiographic feature at any given time such as naturally occurring fires, natural succession, insect or disease outbreaks.

CATEGORY II. National Parks/Provincial Parks

The criteria for the selection of national parks for the list is the same as the criteria used in 1975 with the exception of "effective protection". In its meeting in February 1978 in Portugal the Commission decided to delete the financial and staff criteria for effective protection. A task force will be established to re-define what is considered to be effective protection.

Definition of National Park

The tenth General Assembly of IUCN held at New Delhi in November 1969 approved a definition of the term "national park" in accordance with the following resolution:

Considering the importance given by the United Nations to the national park concept, as a sensible use of natural resources, and considering the increasing use which has been made during these last few years in some countries of term "national park" to designate areas with increasingly different status and objectives. The tenth General Assembly of IUCN meeting in New Delhi in November 1969 recommends that all governments agree to reserve the term "national park" to areas answering the following characteristics and to ensure that their local authorities and private organizations wishing to set aside nature reserves do the same:

A national park is a relatively large area: (1) where one or several ecosystems are not materially altered by human exploitation and occupation, where plant and animal species, geomorphological sites and habitats are of special scientific, educative and recreative interest or which contains a natural landscape of great beauty; and (2) where the highest competent authority of the country has taken steps to prevent or eliminate as soon as possible exploitation or occupation in the whole area and to enforce effectively the respect of ecological, geomorphological or aesthetic features which have led to its establishment; and (3) where visitors are allowed to enter, under special conditions, for inspirational, educative, cultural and recreative purposes.

Governments are accordingly requested not to designate as "national park":

1. A scientific reserve which can be entered only by special permission (strict nature reserve).
2. A natural reserve managed by a private institution or a lower authority without some type of recognition and control by the highest competent authority of the country.
3. A special reserve as defined in the African Convention on the Conservation of Nature and Natural Resources of 1968 (fauna or flora reserve, game reserve, bird sanctuary, geological or forest reserve, etc.).
4. An inhabited and exploited area where landscape planning and measures taken for the development of tourism have led to the setting up of "recreation areas" where industrialization and urbanization are controlled and where public outdoor recreation takes priority over the conservation of ecosystems (parc naturel régional, nature park, Naturpark, etc.). Areas of this description which may have been established as "national parks" should be redesignated in due course.

This resolution was subsequently adopted by the Second World Conference on National Parks (Yellowstone and Grand Teton National Parks, 1972).

Size

The minimum surface area for inclusion in the list is 1,000 ha. and this must consist entirely of zones in which protection of nature takes precedence (e.g. strict natural zones, managed natural zones or wilderness zones). Zones developed or modified for administrative or touristic purposes are excluded in calculating the minimum area. Exceptions will be made for islands.

Exploitation

In general, exploitation of natural resources must be prohibited in an area which is to be included in the list. Exploitation in this sense, is considered to include the removal of mineral resources, timber and other vegetation, and animal life, or the development of dams or other structures for irrigation or hydroelectric power. Prohibition should extend to agricultural and pastoral activities, hunting, fishing, lumbering, mining, public works construction (transportation, communications, power, etc.), and residential, commercial or industrial occupation.

Certain exceptions to this general rule may be permitted:

1. Some of the activities included in the general prohibition must be permitted in those national parks and related reserves in which zones have been established to protect a cultural heritage (e.g. managed agricultural or pastoral landscape zones; villages, town or urbanized areas of historical or archaeological interest, etc.), since these activities form part of the heritage to be protected.

2. Sport fishing is regarded in the same category as sport hunting and should normally be excluded from national parks and equivalent reserves. It must be totally excluded from strict natural areas or nature reserves. In wilderness areas the continuance of sport fishing, where this has been a traditional practice, will not be a basis for exclusion from the list, providing adequate fauna exist on other areas. Sport fishing may be accepted in zones developed for intensive recreational or touristic use.

It is recognized that within the boundaries of certain national parks there are existing villages, towns, communication networks, and the on-going activities connected with them (apart from those referred to under exception 1. above). Provided that these areas do not occupy a significant part of the land and are de facto zoned and so arranged that they do not disturb the effective protection of the remaining area, they will not be considered as a basis for exclusion from the list.

Similar considerations apply in regard to private rights which existed before the reserve was created, such as residential rights or rights to practise agricultural, pastoral or mining activities, always provided that these rights are confined to a small part of the area. They should not be permanent and their redemption or termination should be anticipated in the long term.

The general requirement against exploitation must be rigidly enforced.

Management activities

Not to be considered under the category of exploitation are those activities necessary for the administration and management of the protected area, or for the reasonable development of a national park or provincial park as a site for public outdoor recreation or tourism. Amongst these activities are the following:

1. Since public access is allowed in areas in the List of National Parks and Related Reserves and in the List of Provincial Parks, the construction and maintenance of a road network, the setting aside of areas for public accommodation with consequent cultivation of gardens and the construction of recreation facilities, and related services must be permitted. However, accommodation, recreation facilities and the like should not be scattered throughout the protected area, and the area they occupy should be restricted to a minimum. They should be located in areas zoned for this purpose or preferably located outside the reserve.
2. The public works necessary for the actual administration and management of the protected area, including staff housing, offices, access roads, gardens, and so on are permitted but should also be restricted to a minimum.
3. Management activities for the purpose of maintaining the desired flora or fauna are an essential ingredient in the conservation of protected areas in the managed natural zones and nature reserves and are permitted in them. These may include the removal of animals by shooting or capturing to maintain population levels, the removal of undesirable vegetation, and the use of controlled burning or grazing to maintain particular plant communities.

Zoning

At the eleventh General Assembly of IUCN at Banff it was agreed by CNPPA that areas to be designated as national parks should include areas here designated as "strict natural zones", "managed natural zones", and "wilderness zones".

In addition it was agreed that they could appropriately contain areas of the kind designated as "protected anthropological zones" or "protected historical" or "archaeological zones". To be considered as national parks, however, they must be available for public visitation. This use, it was agreed, could be combined with the primary function of nature conservation through a system of zoning. In this, one zone would be established in which roads or other access ways may be constructed, building or other structures to accommodate tourism and park administrative functions may be located, and in which appropriate recreational facilities may be placed. This special tourism/administrative zone would not be one designated primarily for nature conservation, but would be so delimited and located as to create minimum interference with the nature conservation function of the park. National parks can also satisfy the public visitation function by establishment of wilderness areas over all or part of the national park, thus providing for limited tourism of a special kind.

To qualify as a national park, in the IUCN sense, an area may consist of various combinations of zones, as follows:

1. Wilderness zone only.
2. Wilderness zone combined with strict natural zone, managed natural zone or both.
3. Any or all of the above zones combined with a tourist/administrative zone.
4. Any or all of the above zones combined with one or more zones classified as anthropological, archaeological or historical.

CATEGORY III. Natural Monument/Natural Landmark

Selection and Management

This category normally contains one or more several specific natural features of outstanding national significance such as geological formation, a unique natural site, animal or plant species or habitat which, because of uniqueness or rarity, may be threatened and should be protected. The specific feature to be protected ideally has little or no evidence of man's activities. These features are not of the size nor do they contain a diversity of features or representative ecosystems which would justify their inclusion as a national park. These areas have particular potential for public education and appreciation. Size is not a significant factor. The area should only be large enough to protect the integrity of the site.

Although Category III areas may have recreational and touristic value, they should be managed in such a way that they remain relatively free of human disturbance. These areas may be owned and managed by either central or other government agencies or non-profit trusts or corporations as long as there is assurance that they will be managed to protect their inherent features for the long term.

CATEGORY IV. Nature Conservation Reserve/Managed Nature Reserve/Wildlife Sanctuary

Selection and Management

A Category IV area is desirable when protection of specific sites or habitats is essential to the continued existence or well-being of individual biotic species, resident or migratory fauna of national or global significance.

Although a variety of (protected) areas fall within this category, each would have as its primary purpose the protection of nature, and not the production of harvestable, renewable resources, although this may play a role in the management of particular areas. The size of the area or in certain instances seasons in which special management is necessary, will be dependent upon the habitat requirement or specific characteristics of the species to be protected. These need not require vast areas but could be relatively small consisting of nesting areas, marshes, or lakes, estuaries, forest, or grassland habits.

The area may require habitat manipulation to provide optimum conditions for the species, vegetative, community, or feature according to individual circumstances. For example, a particular grassland or heath community may be protected and perpetuated through a limited amount of livestock grazing. A marsh for wintering waterfowl may require continual removal of excess reeds and supplementary planting of waterfowl food, whereas a reserve for an endangered animal may need protection against predators. These areas may be developed in limited areas for public education and appreciation of the work of wildlife management. Ownership may be by the central government or with adequate safeguards and controls in which long-term protection is ensured, by lower levels of government, non-profit trusts or corporation or private individuals or groups.

CATEGORY V. Protected Landscape

Selection and Management

The scope or character of areas that fall within this category are necessarily broad because of the wide variety of semi-natural and cultural landscape that occur within various nations. This may be reflected in two types of areas: those whose landscapes possess special aesthetic qualities which are a result of the interaction of man and land and those that are primarily natural areas managed intensively by man for recreational and tourism uses.

In the first case, these landscapes may demonstrate certain cultural manifestations such as: customs, beliefs, social organization, or material traits as reflected in land use patterns. These landscapes are characterized by either scenically attractive or aesthetically unique patterns of human settlement. Traditional land use practices associated with agriculture, grazing, and fishing would be dominant. The size of the area would be large enough to ensure the integrity of the landscape pattern.

In the latter case, natural or scenic areas found along coastlines and lake shores or in hilly or mountainous terrain or along the shores of rivers and inland adjacent to important tourist highways or population centres offering scenic views and climatic variation are often included. Many will have the physical qualities and potential to be developed for a variety of outdoor recreational uses with national significance.

In some cases the land would be privately held and the use of either central or delegated planning control would likely be necessary to assist in the perpetuation of both the land use and life style. Means of subsidization, or other government assistance, might be required for external renovations or construction to disguise improvements in the standard of living while recognizing the dynamics of evolution of the land and its use. Efforts would be made to maintain the quality of landscape through appropriate management practices. In other instances the areas are established and managed under public ownership in perpetuity.

GROUP B - Areas of interest to IUCN in General

CATEGORY VI. Resource Reserve - (Interim Conservation Unit)

Selection and Management

Category VI areas will normally comprise an extensive and relatively isolated and uninhabited area having difficult access, or regions that are lightly populated yet may be under considerable pressure for colonization and greater utilization. In many cases, there has been little study or evaluation of these areas, and the consequence of converting these lands to agriculture, mineral or timber extraction, or the construction of roads, etc. is unclear. Similarly, use of the resources may not be appropriate because of the lack of technology, human, or financial resource restrictions or alternate national priorities. Consequently, natural, social, and economic values are not sufficiently identified to permit the area to be managed for specific objectives or to justify its conversion to other land uses. Restricted access is implied so areas will normally require control, depending upon the pressures to enter and utilize the area. Lands may be government-owned while others may be owned or administered by public corporations.

Maintenance of existing condition to allow for studies as to the potential use for the designated areas is a prerequisite. Protection, studies, and planning are envisioned as the major activities while under this short-term designation. No exploitation should occur with the exceptions of use of resources by indigenous inhabitants. There is an acceptance of ongoing ecosensitive activities.

CATEGORY VII. Anthropological Reserve/Natural Biotic Area

Selection and Management

Category VII areas are characterized by natural areas where the influence or technology of modern man has not significantly interfered with or been absorbed by the traditional ways of life of the inhabitants. These areas may be remote and isolated and their inaccessibility may be maintained for a considerable period of time. The societies are considered relatively unique and may be of particular significance to the maintenance of genetic diversity and/or for research as to the evolution of man. These are predominantly natural areas of which man is an integral component. There is a strong dependence of man upon the natural environment for food, shelter, and other basic material to sustain life. Extensive cultivation or other major modifications of the vegetation and animal life is not permitted.

Management is oriented toward the maintenance of habitat for traditional societies so as to provide for their continuance within their own cultural mores.

CATEGORY VIII. Multiple Use Management Area/Managed Resource Area

Selection and Management

A large area, containing considerable territory suitable for production of wood products, water, pasture, wildlife, and outdoor recreation. Parts of the area may be settled and may have been altered by man. Generally, these forest or other wildland areas do not possess nationally unique or exceptional natural features.

Planning to ensure the area is managed on a sustained yield basis would be a prerequisite. Land ownership would be under government control. Through proper zoning, significant areas could be given specific additional protection. For instance, the establishment of wilderness-type areas is consistent with the purpose of these areas as would be setting aside the nature reserves. Multiple use, in the context of Category VIII, is considered to be the management of all renewable surface resources, utilized in some combination to best meet the needs of the country. The major premise in the management of these lands is that they will be managed to maintain the over-all productivity of the land and its resources in perpetuity.

GROUP C - Internationally Affiliated Designations

CATEGORY IX. Biosphere Reserve

Selection and Management

Each biosphere reserve will include one or more of the following:

(a) representative examples of natural biomes; (b) unique communities or areas with unusual natural features or exceptional interest; (c) examples of harmonious landscapes resulting from traditional patterns of land use; and (d) example of modified or degraded ecosystems capable of being restored to more natural conditions. A biosphere reserve will be large enough to be an effective conservation unit, and to accommodate different uses without conflict. Each reserve must be approved by the Man and the Biosphere International Co-ordinating Council before it can receive designation as a biosphere reserve.

Each biosphere reserve will be zoned to provide direction as to its management. Four zones may be delineated as follows: (a) Natural or Core Zone; (b) Manipulative or Buffer Zones; (c) Reclamation or Restoration Zone; and (d) Stable Cultural Zone.

CATEGORY X. World Heritage Sites (Natural)

Selection

The World Heritage List is intended to include only areas of "outstanding universal value". In this respect each nation will not necessarily have a World Heritage Site. Sites can only be nominated by a country which is a Party to the World Heritage Convention. Nominated sites are screened by IUCN in relation to the criteria established by the World Heritage Committee. Criteria for the inclusion of natural properties in the World Heritage List as established by the World Heritage Committee.

Outstanding universal value will be recognized when a natural heritage property - as defined in Article 2 of the Convention - submitted for inclusion in the World Heritage List, is found to meet one or more of the following criteria. Therefore, properties nominated should meet the following (abridged) criteria:

- (i) be outstanding examples representing the major stages of the earth's evolutionary history
- (ii) be outstanding examples representing significant ongoing geological processes, biological evolution and man's interaction with his natural environment
- (iii) contain unique, rare or superlative natural phenomena, formations or features or areas of exceptional natural beauty
- (iv) be habitats where populations of rare or endangered species of plants and animals still survive.

It should be realized that individual sites may not possess the most spectacular or outstanding single example of the above, but when the sites are viewed in a broader perspective with a complex of many surrounding features of significance, the entire area may qualify to demonstrate an array of features of global significance.

All areas must also meet the criteria of "integrity".

Appendix 2

Classification of Biotic Provinces

Terrestrial ecosystems

The following tentative classification of the biotic provinces, recommended as relevant to this Directory, is based on IUCN Occasional Paper No. 18, Classification of Biogeographical Provinces of the World by M.D.F. Udvardy.

- Atlantic 2.9.5
- Mediterranean sclerophyll 2.17.7
- Balkan highlands 2.33.12
- Iberian highlands 2.16.6
- Atlas steppe 2.28.11
- Coastal European highlands 2.32.12
- Arabian desert 2.19.7
- Sahara 2.18.7
- West Anatolian 2.13.5

Marine ecosystems

To be developed.