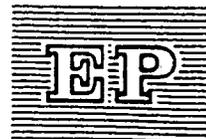




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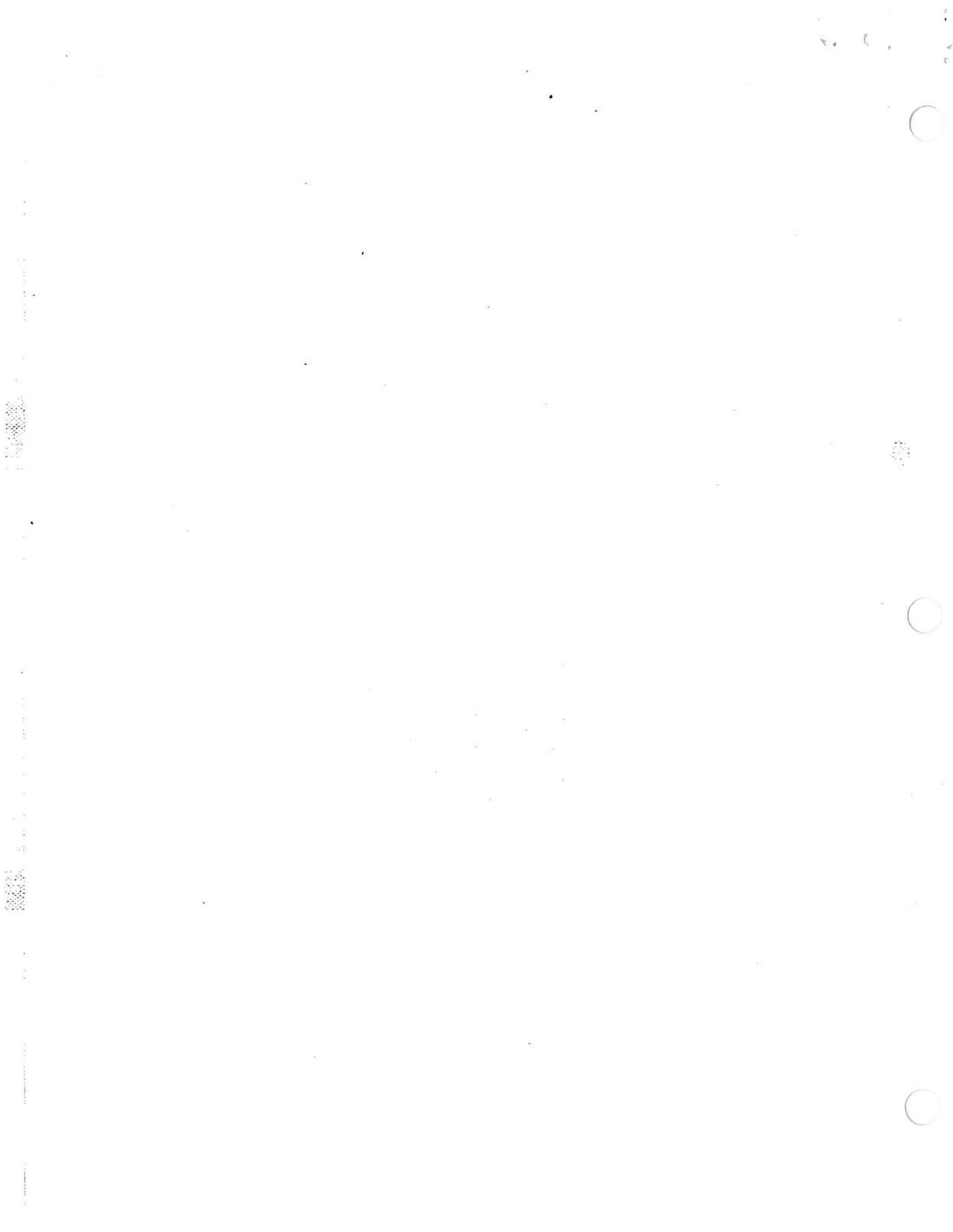
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INTERNATIONAL CONVENTIONS RELATED  
TO BIOLOGICAL DIVERSITY CONSERVATION:  
LISTS OF SPECIES AND AREAS



INTERNATIONAL CONVENTIONS RELATED TO  
BIOLOGICAL DIVERSITY CONSERVATION:  
LISTS OF SPECIES AND AREAS

Introduction

Most of the Conventions dealing with species, habitats and ecosystems include or generate Lists of species or areas.

The first purpose of this document is to review the use of Lists in existing conventions. In order to do so, a distinction must be made between instruments which list species and those which provide for the listing of areas, given the fact that very few instruments use both types of Lists and that the legal techniques involved are different for each type.

Thus, part one of the paper will discuss Lists of species. As the purpose, scope, obligations as well as creation and amendment procedures have many elements in common, a general overview will be given of these topics before the relevant conventions are reviewed regarding their specifics.

Part two of this paper will examine those international instruments which focus on the conservation of certain sites and which, in particular through the establishment of Lists, create immediate site specific obligations. Contrary to the situation regarding species Lists, the purpose, obligations and amendment procedures used in the listing of sites is specific to each accord and will, thus, be considered separately for each case.

To complement the information on binding instruments at global and regional levels, part three briefly considers relevant instruments of the European Communities.

The second purpose of this document is to illustrate the existence of lists of species and sites developed by international organisations for various purposes and which have no legal effects. Part four addresses lists prepared by intergovernmental organisations, while part five addresses several initiatives taken by international non-governmental institutions.

1. Lists of species in international conventions

1.1 The purpose and rationale of listing species

Listing species in Annexes to international instruments which deal with their conservation and sustainable use is a

technique which has been consistently used by the Contracting Parties to such instruments.

The purpose of such listings is usually to focus special attention on certain species for which the instrument provides specific obligations; thus, a convention would usually establish general obligations regarding all species, or certain types (e.g. migratory) of species, and continue by specifying more precise obligations regarding species listed in the Annex(es). The rationale for such a technique is made explicit in many instruments mentioned below: the agreement by the Contracting Parties that specific species deserve equal treatment and cooperative measures on the part of all Parties.

### 1.2 The scope of existing Lists

There presently exists a considerable number of species annexes and, thus, Lists of species which are given special treatment by international instruments.

Each Annex, however, is made for a specific purpose, which is intimately linked to the instrument of which it is a part. Thus, some of the Annexes reflect the fact that the instruments to which they pertain deal with specific issues (e.g. trade, migratory species, marine species); others reflect the regional nature of the Convention.

Of the existing global conventions, only two are relevant from the point of view of species listing: CITES, which lists species which are threatened by international trade, and the Migratory Species Convention, which lists species that cyclically and predictably move across borders. On the regional level, relevant instruments are more numerous, although not all regions of the world are presently covered by regional instruments.

### 1.3 Obligations related to species Lists

A clear trend may be ascertained from the international instruments reviewed below: obligations relating to the species covered increasingly include the adoption of measures to protect the habitat of those species. This can be seen both in the evolution of the general obligations vis-à-vis all species dealt with by each Convention, and, even more, in the specific obligations related to the species listed under such instruments.

Obligations related to habitats can only be concreted by attention to specific areas and, thus, raise a series of problems which the classical obligations related to the taking, trade and possession did not generate. In order to implement obligations pertaining to habitat protection, Parties have to identify those habitats, and apply land use

controls permitting their wildlife habitat function to be safeguarded. As it is not possible to ascertain a priori whether this obligation is realistically implementable, it is usually qualified by restrictions to such cases where protection is feasible.

Thus, listings of species, which originally seldom entailed site specific obligations, recently have become linked to such obligations, albeit indirectly.

#### 1.4 Procedures used to draw up and amend Lists

Virtually all modern Conventions listing species use the following technique:

- The initial Lists are adopted as Annex to the Convention, and integral part of it, in the same manner and at the same time as the Convention is adopted.

- Amendments may be proposed by any Party. In cases where the Convention has created a Scientific Advisory Committee, these proposals are examined by it and its recommendation directed to the Conference of the Parties.

- The Conference of the Parties reviews the proposals and related documentation, including the report and recommendations of the Advisory Committee.

- The Conference adopts the amendment by a qualified majority.

- The amendment enters into force a number of days (usually 90) after its adoption, except for the Parties which have notified the Depository, during this period, of a reservation with regard to any of the amendments adopted.

- Parties having entered a reservation with regard to an amendment to the annex may withdraw such reservation at any time.

#### 1.5 Instruments which use Lists of Species

Lists appended to international instruments may be grouped in three categories:

- (a) Those which list species the taking of which is prohibited by the instrument (usually also, as a consequence, prohibiting trade in, and, more recently, possession of, specimens of the species in question);

- (b) Those which list species the taking of which is regulated by the instrument;

(c) Those which carry with them an obligation to protect the habitat of the species listed.

In many instances a combination of these types of Lists is used in the same instrument. The following subsection reviews almost all international instruments using the above listing types.

#### 1.5.1 The early conventions

The following early conventions are mentioned only to indicate that the technique of species listing was employed by convention negotiators as early as the beginning of the century.

1902 Convention for the Protection of Birds Useful to Agriculture (although in theory still in force, in practice this convention has become obsolete)

The purpose of this Convention was to provide total protection to birds useful to agriculture, especially insectivorous birds and, in particular, those listed in an Annex to the Convention.

However, the Convention exempted birds considered pest to agriculture from the requirement of the Convention, and indicated that, if national legislations did not establish Lists of such birds, its Annex 2 would constitute the List of birds subject to this exemption.

1933 Convention relative to Preservation of Fauna and Flora in their Natural State (now superseded by the 1968 Algiers Convention)

The Convention was the first to include two categories of protection, reflected in two Lists, namely:

(a) Class A species, to be protected as completely as possible in the territory of the Contracting Governments; and

(b) Class B species which, not requiring as rigorous protection, were, however, not to be hunted, killed, or captured except under licence from the competent authorities.

1940 Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere

The protection of the species mentioned in the Annex to the Convention is declared to be of special urgency and importance. Species therein are to be protected as completely as possible.

### 1.5.2 Major modern instruments in force

#### 1964 Agreed Measures for the Conservation of Antarctic Fauna and Flora (now to become, in an updated version, part of the Protocol on Environmental Protection to the Antarctic Treaty adopted in October 1991) (regional application)

Species of native mammals and birds listed in Annex A are designated as "Specially Protected Species", and accorded special protection by the Participating Governments. Such protection is concretised as follows: the taking of such species requires a permit; such a permit shall only be issued for compelling scientific purposes, and the action will not jeopardise the existence of natural ecological systems of which they form a part, or the survival of the species.

The Agreed Measures are one of the rare instruments also containing a List of areas (see below under 2.1).

#### 1968 Algiers African Convention on the Conservation of Nature and Natural Resources (regional application)

This Convention first establishes the principle that the Contracting States have the obligation to ensure conservation, wise use, and the development of faunal resources and their environment, within the framework of land-use planning and of economic and social development.

Against this background, the Contracting States further recognise that it is important and urgent to accord a special protection to those animal and plant species that are threatened with extinction, or which may become so, and to the habitat necessary to their survival; the special responsibility of States which host endemic species on their territory is also acknowledged.

The species in question are listed in two annexes: Class A species shall be totally protected throughout the entire territory of the Contracting States; Class B species shall be totally protected, but may be hunted, killed, captured or collected under special authorisation granted by the competent authority.

#### 1973 Washington Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (global application)

This Convention deals exclusively with one type of threat, namely international trade (export, import). The Lists, thus, only contain species which are at risk because of such trade; two categories of species are taken into consideration by the Convention. Annex I species, the conservation status of which no longer allows them to be traded;

and Annex II species, the trade in which must be controlled in order to prevent their becoming threatened. The Convention establishes a permit system based on these two categories of species. In addition, an Annex III allows the additional listing of species by individual Parties with a view to regulating the trade of specimens of such species originating from these Parties.

1969 Bonn Convention on the Conservation of Migratory Species of Wild Animals (global application)

This Convention is, as its title indicates, restricted to one kind of animals species - those which cyclically and predictably cross borders; the Convention contains two Lists:

(a) Appendix I contains migratory species which are endangered. Parties that are Range States of those species undertake:

- to conserve and restore those habitats of the species which are of importance in removing the species from danger of extinction;

- to prevent, remove, compensate or minimise the adverse effects of activities or obstacles that seriously impede or prevent the migration;

- to the extent feasible, to prevent, reduce or control factors that are endangering or are likely to further endanger the species.

In addition, the taking of these species is, in principle, prohibited.

(b) Appendix II contains species which have an unfavourable conservation status and which require international agreements for their conservation and management, as well as those species which have a conservation status which would benefit from international cooperation achieved through the conclusion of international agreements by Range States of those species.

The Convention therefore makes it an obligation for Parties which are Range States of the species so listed to endeavour to conclude Agreements, and gives an indicative list of the elements which those Agreements should address.

1979 Berne Convention on the Conservation of European Wildlife and Natural Habitat (regional application)

The Convention contains three lists of species:

(a) One of plant species, for which deliberate picking, collecting, etc. is prohibited;

(b) One of animal species, subject to a prohibition of taking, capture, trade and possession;

(c) One of animal species the exploitation of which is to be regulated in order to keep the population out of danger.

In addition to these "classical" obligations related to listed species, the Convention makes it an obligation for the Parties to take appropriate measures to ensure the conservation of the habitat of the wild fauna and flora species, in general, but especially of the habitats of those specified in the Appendices I and II.

1985 Nairobi Protocol Concerning Protected Areas and Wild Fauna and Flora in the Eastern African Region (regional application)

This Protocol contains three Lists of species:

(a) Annex I contains flora species; the Parties undertake to take all appropriate measures to ensure their protection, and to this end prohibit, as appropriate, activities having adverse effects on their habitats, as well as prohibiting picking, collecting, possession and sale.

(b) Annex II contains endangered wild fauna species which the Parties undertake to protect strictly, by, inter alia, and as required, prohibit their capture, killing and keeping, the destruction of their critical habitats and possession and sale of their specimens.

In addition, Parties undertake to regulate and, where required prohibit, activities having adverse effects on the habitats of such species.

(c) Annex III contains harvestable species of wild fauna, the exploitation of which is to be regulated in order to restore or maintain the populations at optimum levels.

1990 Kingston Protocol Concerning Specially Protected Areas and Wildlife to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (regional application)

Article 10 of this Protocol concerns national measures for the protection of wild flora and fauna; it requires each Party to identify endangered or threatened species within areas over which it exercises sovereignty, or sovereign

rights or jurisdiction, and to accord protected status to such species.

In addition to this general obligation, the Protocol addresses co-operative measures for the protection of wild flora and fauna which the Parties agree to take in order to ensure the protection and recovery of endangered and threatened species, listed in three Annexes.

Annex I lists flora species for which all forms of destruction and disturbance is prohibited; provision is also made for the regulation, to the extent possible, of activities that could have harmful effects on the habitats of such species.

Annex II contains fauna species; Parties undertake to ensure their total protection and recovery by prohibiting certain activities related to them, i.e. taking, possession, commercial trade, etc.

For species in Annex III (containing both flora and fauna species), Parties undertake to adopt appropriate measures to ensure their protection and recovery, and may regulate their use in order to ensure and maintain their populations at the highest possible levels. Parties are to develop and implement plans for the management and use of such species in cooperation with other Parties.

## 2. Lists of sites in international conventions

### 2.1 Purpose, rationale and procedures of listing sites

International instruments of relevance to the conservation of biological diversity which provide for the designation of sites are only a few. As with species listing, there are two global instruments of relevance, however, regional accords so far seldom use this technique.

It must be noted at the outset that the mechanisms used for the listing of sites markedly differs from that used to list species. Contrary to species listings, sites are usually not listed in a convention a priori and, thus, the lists are not an integral part of the instruments themselves, nor are initial listings negotiated together with the text of the convention as is the case for species.

Sites are always listed at the initiative of the State which has sovereignty over the area in question; criteria for listing sites may be included in the convention itself, or developed in common by the Parties at a later stage.

In some instances, a nomination procedure is provided for, and a review of the nomination by a body established under

the Convention required. The possibility to delist sites is usually also provided for, albeit in different manners.

In all instances, the perceived benefits from the designation of sites cover the following two aspects:

- the special attention given at national level, by the designating state, to the sites in question, and a corresponding international recognition that this attention is of global or regional importance;

- the commitment on the part of all parties to co-operate in the conservation of such sites; this commitment usually includes the development of common programmes, mutual assistance and cooperative arrangements, and also may take the form of financial contribution to conservation and management measures.

## 2.2 Instruments which use Lists of sites

### 1964 Agreed Measures for the Conservation of Antarctic Fauna and Flora (regional application)

This instrument is the first to provide for a List of sites, which are listed in an Annex; these Specially Protected Areas (SPA) are to be accorded special protection by the Participating Governments in order to preserve their unique natural ecological system. The pertinent provisions state that driving any vehicle in a SPA is prohibited and that permits are required for taking specimens of native flora and fauna from the area.

The Agreed Measures also provide for an amendment procedure regarding the Annexes.

It must be noted that this instrument is the only one in existence listing areas in an Annex. This is, no doubt, due to the particular situation prevailing in Antarctica.

### 1971 Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat (global application)

UNESCO is the Depository for this Convention, while IUCN carries out the Bureau functions, provided for in the Convention.

#### (a) Objectives

This Convention is the only international instrument dealing with one type of ecosystem/habitat. The broad objectives of the Convention are to ensure the conservation of wetlands, and to meet this aim the Convention places general obligations on Parties relating to wetlands throughout their

territory (e.g. the promotion of the wise-use of wetlands), as well as special obligations pertaining to wetlands which have been designated.

(b) Obligations related to designated sites

A main obligation for the Parties to the Ramsar Convention is to designate suitable wetlands within their territory for inclusion in a "List of Wetlands of International Importance", which is maintained by the Bureau to the Convention. By the end of 1991, 65 Parties had designated 546 sites covering more than 33 million hectares.

The main obligation deriving from designation is to formulate and implement planning so as to maintain the ecological character of the wetlands included in the List.

(c) Procedure for establishing the List

Wetlands to be designated should be selected on account of their international significance in terms of ecology, botany, zoology, limnology or hydrology. No further criteria are provided by the Convention itself; the Parties have, however, developed and adopted a set of criteria for the guidance of the Parties in determining the international importance of wetlands situated in their territory. These criteria include social and economic elements as well as ecological functions.

Each Contracting Party must designate at least one site to the List upon its accession to the Convention. The designation of additional wetlands for inclusion on the List is effected by notification to the Bureau by the Party concerned. The Convention does not provide for a screening or review procedure. However, a monitoring procedure was recently established, the purpose of which is to follow the evolution of the site, once listed, and provide the basis for assistance to developing countries in the management of their sites.

Each Party may add to the List or, if necessitated by urgent national interests, delete or restrict the boundaries of wetlands already included by it on the List. Such deletions or restrictions must be compensated by appropriate additional listings.

(d) Advantages of the designation

Numerous advantages are perceived by the Parties in the listing of sites, as is demonstrated by the national reports presented to each Conference of the Parties. The international recognition which a designation attaches to a site, in many instances has facilitated action at national level; in addition, the Convention has assisted in achieving

cooperation, particularly North-South, with regard to specific sites. The 1990 Conference of the Parties has also established a Wetlands Conservation Fund, to provide Parties which are developing countries with financial support for wetlands conservation practices, including wise-use. Special attention is given in fund allocation to projects for the management of listed sites.

1972 UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage (global application)

The Convention provides for the establishment and maintenance of the World Heritage List.

(a) Objectives

In accordance with articles 4 and 6 of the Convention on the World Cultural and Natural Heritage, the objective is the identification, protection, conservation, presentation and the transmission to future generations of cultural and natural heritage of exceptional universal value. This section will confine itself to natural heritage which is defined in article 2 of the Convention as:

"natural features consisting of physical and biological formations, which are of outstanding universal value from the aesthetic or scientific point of view;

"geological and physiographical formation which constitute the habitat of threatened species of animals and plants of outstanding universal value from the point of view of science or conservation;

"natural sites or areas of outstanding universal value from the point of view of science, conservation and beauty."

The World Heritage List today consists of 98 sites inscribed for their natural values. In most cases the sites are of global importance from the point of view of biological diversity. As examples one may cite the Great Barrier Reef of Australia, La Amistad of Costa Rica and Panama, Garajonay National Park of Spain and Salonga National Park of Zaire.

(b) Obligations related to designated sites

The general obligation for the conservation and the transmission to future generations (mentioned above) has gradually become more precise in practice. First of all, the World Heritage Committee will not inscribe a natural (or cultural) property, which at the moment of inscription, does not have legal protection, accompanied in most cases by a satisfactory management plan. IUCN will evaluate the latter

aspect as well. (For details of IUCN role in the process, see below in subsection (c).)

Furthermore, the Committee has put in place a procedure for monitoring the state of conservation of properties once they have been inscribed. IUCN is also called upon to report to the Committee, at each of its sessions, on all properties whose integrity is, for one reason or the other, threatened. In case of serious and identified threat, the Committee may decide to inscribe the property on the List of World Heritage in Danger.

Finally, if a property does not correspond any more to the criteria for which it had been inscribed, the Committee may decide on its withdrawal from the World Heritage List. While such a case has not yet been encountered, this procedure for withdrawing a property could be applied in the future to those sites which might have degraded to an irremediable extent.

(c) Procedure for establishing the List

The initiative for proposing a property for inscription on the World Heritage List is incumbent on the State party to the Convention on whose territory the property is situated. To do this the State Party submits to the Intergovernmental Committee set up by the Convention, the World Heritage Committee, an inventory of properties situated on its territory and suitable for inscription on the World Heritage List (article 11.1).

It is on the basis of these inventories that the Committee "keeps up to date" the World Heritage List (article 11.2).

In practice, States Parties present, once the inventories have been established, detailed nomination dossiers for each site which it wishes to be inscribed. These dossiers are transmitted by UNESCO to IUCN, which proceeds with a detailed evaluation and recommends either inscription or non-inscription, in accordance with the criteria for Article 2 (mentioned above) which have been elaborated by the Committee itself. This key, consultative role of IUCN has been foreseen by the Convention (article 8.3).

(d) Advantages of the designation

Owing to the emphasis placed upon the universal value of the site, inscription provides it with a priority for safeguarding projects of different organisations, governmental or others, and for attracting bi- and multi-lateral financing. In addition, the properties inscribed can benefit directly through assistance from the World Heritage Fund, set up by Article 15 of the Convention (about US\$ 2.5 million per year). This support includes

studies of problems, provision of experts and equipment, etc. As far as possible the Fund is used to mobilise additional resources. A number of management plans of sites have been elaborated and implemented with the support of the Fund. Properties could also obtain emergency assistance in case of unexpected damage.

Furthermore, the World Heritage Fund is utilised for supporting training activities, which may also benefit States Parties to the Convention that do not have any sites inscribed on the World Heritage List.

1982 Geneva Protocol Concerning Mediterranean Specially Protected Areas (regional application)

(a) Objectives

The main objective of the Protocol is to protect those marine areas which are important for the safeguard of the natural resources and natural sites of the Mediterranean Sea Area.

(b) Obligations related to designated sites

The main obligation relates to the designation and establishment of specially Protected Areas, to safeguard, in particular, sites of biological and ecological value, genetic diversity, satisfactory levels of species and their breeding grounds and habitats, as well as representative types of ecosystems.

Common guidelines, standards and criteria relating to the selection, establishment, management of protected areas are to be formulated and adopted by the Parties.

(c) Procedures for establishing the List

Although the Protocol does not explicitly require the establishment of a List of Specially Protected Areas, such a List has been prepared, with Parties informing the Secretariat of those protected areas within their territory which they consider "Specially Protected Areas" under this Protocol.

(d) Advantages of the designation

As provided for in the Protocol, the Parties have established a co-operation programme with a view to creating a network of protected areas in the region and regularly sharing information and experiences. The focal points designated by the Parties meet regularly to steer the programme.

1990 Kingston Protocol concerning Specially Protected Areas and Wildlife to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (regional application)

(a) Objectives

The Protocol objectives are to protect, preserve and manage in a sustainable way areas that require protection in order to safeguard their special value and to establish protected areas in order to sustain the natural resources of the Wider Caribbean Region and encourage ecologically sound and appropriate use of these areas.

(b) Obligations related to designated sites

Parties establish a co-operation programme to further the objectives of the Protocol, and thus to assist in, inter alia, the management and conservation of protected areas. In order to support this cooperation programme, a List of protected areas is to be established. The listing of protected areas on this List carries with it special obligations, such as: accordance of priority to listed areas for scientific and technical research; accordance of priority to listed areas for mutual assistance; refraining from authorising activities that would undermine the purpose for which a listed area was created.

(c) Procedure for establishing the List

A procedure for listing such areas is provided for in Article 7:

- The Party exercising sovereignty over a protected area nominates it for inclusion on the List.
- Adequate supporting documentation is to be provided, and the criteria to be adopted by the Parties for identification, selection, management and protection are to be taken into consideration by the nominating Party.
- Nominations and documentation are provided to the Scientific and Technical Advisory Committee through the Secretariat.
- The Committee evaluates the nomination and advises the Secretariat whether it fulfils the common guidelines and criteria established under the Convention. If these have been met, the Secretariat advises the Conference of the Parties who will include the site in the List of Protected Areas.

(d) Advantages of the designation

The Parties are to establish co-operation programmes, among which the co-operation programme to support the listing of protected areas is preeminent.

3. Binding instruments of the European Communities

Several instruments of the European Communities address the conservation of species of habitats and make use of the listing system.

These instruments are:

- Council Directive 79/409/EEC on the Protection of Birds of 2 April 1979.
- Council Regulation (EEC) 3626/82 for the implementation of CITES in the Community.
- The Habitat Directive adopted by the Environment Council on 12 December 1991 (final version not yet available).
- Council Regulation (EEC) No. 3907/91 of 19 December 1991 on action by the Community relating to nature conservation (ACNAT).

This section will concentrate only on the recently adopted Habitat Directive and describe those elements related to listing mechanisms.

(a) Objectives

The aim of the Directive is to contribute towards ensuring bio-diversity through the conservation of natural habitats and of wild fauna and flora in the European territory of the Member States.

The conservation of natural habitats and habitats of species are dealt with in a first group of articles; the protection of species in another. Each of these groups refers to Annexes containing lists of habitat types or species.

(b) Related to the lists of natural habitats and habitats of species

The Directive provides for a network of special areas of conservation to be set up (entitled Natura 2000). The network objective is to maintain natural habitat types listed in Annex I and the habitats of species listed in Annex II at a favourable conservation status and, as appropriate, restore them to such status.

Sites selected according to a procedure described below are to be designated by the Member States concerned as a special area of conservation within a certain time frame, and with the establishment of necessary conservation measures.

(c) Obligations related to species

Several species lists are annexed to the Directive:

- Animal species listed in Annex IV (a) are to benefit from a system of strict protection established by the Member State.
- Plant species listed in Annex IV (b) are similarly to benefit from a system of strict protection.
- Plant and animal species listed in Annex V are to be submitted to taking controls in cases where Member States deem it necessary.

(d) Procedure to amend the Annexes

Amendments to Annex I (habitat types), Annex II (species for which it is necessary to designate SACs) Annex V (species which may be subject to taking controls) are adopted by the Council (qualified majority) upon proposal from the Commission.

Annex IV (species to be strictly protected) is adopted in the same manner but requires unanimity.

(e) Procedure for establishing the network of sites

On the basis of criteria set out in the Directive, each Member State is to propose a list of sites indicating the Annex I natural habitat types and the Annex II species which the sites host.

These lists are to be transmitted to the Commission within three years of notification of the Directive.

The Commission, in agreement with each Member State, shall establish a draft list of sites of Community importance drawn from the Member States's lists.

The list of sites selected as of Community importance shall be adopted by the Commission according to a procedure determined by the Directive.

#### 4. Lists of species or sites established by Intergovernmental Organisations

Several Intergovernmental Organisations have established lists of species and ecosystems/habitats, usually in relation to specific programmes carried out by them or under their auspices.

Such lists are reviewed below; this review does not, however, pretend to be either exhaustive or comprehensive.

##### 4.1 List with a global scope: The UNESCO List of Biosphere Reserves

###### (a) Objectives

Biosphere reserves have three major objectives:

(i) conserving the diversity and the integrity of biotic communities for present and future use and safeguarding the genetic diversity of species in a systematic manner;

(ii) providing areas for ecological and environmental research, including baseline monitoring;

(iii) providing laboratories for learning to find solutions to local land-use problems -- this implies that the local people directly benefit from the biosphere reserve which in addition provides facilities for education and training.

These various objectives are reflected in the zoning system of the biosphere reserve: the core area, strictly protected, the buffer zone, where certain activities are possible, and the transition area, devoted to cooperation with local people and to the implementation of rural sustainable development.

The biosphere reserves -- 300 reserves in 78 countries in early 1992 -- constitute the only operational world network: it facilitates cooperation in the field of research, monitoring and exchange of experience. The research programme on the ecosystem function of biodiversity, launched by UNESCO, IUBS and SCOPE, is therefore based on this network.

###### (b) Obligations related to designated sites

In the current absence of a legal instrument on biosphere reserves, the obligations of States concerning them can only be considered as moral obligations. However, participation in the network implies acceptance of the Biosphere Reserves Action Plan, adopted by the General Conference of UNESCO in 1985, and subsequently endorsed by UNEP and IUCN.

In the event that the UNESCO Secretariat is informed of actions being undertaken in a given biosphere reserve which are not compatible with the objectives set out for biosphere reserves in the Action Plan, the Secretariat points out the moral obligation of the State concerned to implement the Action Plan and meet the different objectives of individual biosphere reserves and their contribution to the international network.

The 26th Session of the UNESCO General Conference, which took place in 1991, requested the Secretariat to study the elaboration of a Recommendation in order to reinforce the legal study of the biosphere reserve network.

(c) Procedures for establishing the List

Biosphere reserves are nominated by countries which participate in UNESCO's Man and the Biosphere (MAB) Programme. In selecting suitable candidate sites, countries should consider the possibilities for their national contribution to complete the international network: hence the selection of a site should consider the need to cover biogeographical areas and habitats which so far are under-represented in the network. The scientific contribution in terms of potential to contribute to comparative ecological studies or a coordinated programme of inventories and monitoring of biological diversity should also be considered.

The country concerned prepares a nomination dossier accompanied by maps, species lists, legal texts and a description of the proposed management body. This dossier is transmitted to UNESCO.

The designation procedure consists of a preliminary review by the UNESCO Secretariat to ensure the nomination is receivable, an evaluation by the Advisory Committee for Biosphere Reserves, with subsequent endorsement by the Bureau of the International Coordinating Committee of the MAB Programme. The Director-General of UNESCO approves the inclusion of the proposed site in the international biosphere reserve network and a certificate is issued, bearing the name of the biosphere reserve, to the country concerned.

(d) Advantages of the designation

One advantage of biosphere reserve designation is the recognition by the international community of the concerned country's efforts to protect biological diversity on a systematic world-wide basis.

Another advantage is the acceptance of a site within an international network with a vocation for cooperation for comparative studies, contribution to global scientific efforts such as improving the global inventory of biological diversity or detecting global change. This network furthermore facilitates contacts with analogous sites with similar ecological problems for exchanges of experience and personnel.

Finally, the inclusion of a site in the international network facilitates bi- or multi-lateral support to implement programmes for conserving biological diversity, better understanding global changes and promoting sustainable development projects.

#### 4.2 Lists with regional scope or objectives

##### 4.2.1 European Network of Biogenetic Reserves

The European Network of Biogenetic Reserves was set up by the Council of Europe in 1976. The objective of the network is to conserve representative samples of natural areas and critical habitats of endangered species, as well as to promote scientific research and develop the interest of the public in conservation. It is designed to complement, at the European level, the world biosphere reserve network of UNESCO.

To be eligible for inclusion in the network, a site must be of European interest for nature conservation, and have an effective protection status.

Sites are proposed for inclusion by the Member States concerned. Proposals are screened by the Committee for the Conservation and Management of the Environment and Natural Habitats of the Council of Europe (CDPE) and accepted for inclusion if they meet the criteria described above.

Sites may be withdrawn from the network by the concerned state at any time; they may also be removed from the network by the Committee in cases where irreversible changes to their biological values have occurred. Recommendations may also be made by the Committee to the Government concerned as to steps needed in order to bring a site in question in conformity with the objectives of the network.

As of 1991, 195 sites had been included in the network.

##### 4.2.2 1991 European Red List of Globally Threatened Animals and Plants

This List was adopted by the 46th session of the Economic Commission for Europe in April 1991.

It was prepared by the Designated Experts on Flora and Fauna of the Senior Advisers to ECE Governments on Environmental and Water Problems, with the aim of identifying species which are globally threatened and found in Europe and of facilitating and promoting, inter alia, the elaboration and implementation of conservation measures at the national level and the establishment of bilateral and multilateral arrangements to provide for joint conservation of flora and fauna particularly threatened in the region.

The List derives from several documents and activities of the ECE, such as:

- the ECE Declaration on Conservation of Flora, Fauna and their Habitats (1988);
- the ECE Regional Strategy for Environmental Protection and Rational Use of Natural Resources (1988);

and is used, inter alia, in relation to:

- the Draft Code of Practice for the Conservation of Threatened Animals and Plants and Other Species of International Significance, to be considered by the Senior Advisers at their fifth session in March 1992.

#### 5. Lists of species and sites prepared by international non-governmental organisations and scientists

Several international non-governmental organisations carry out activities and programmes resulting in lists of species and sites of particular importance at global or regional level prepared on scientific grounds. Prominent among these organisations are IUCN-The World Conservation Union and the International Council for Bird Preservation (ICBP). Since its establishment in 1988 by IUCN, UNEP and WWF, the World Conservation Monitoring Centre (WCMC) is the primary repository of the relevant information and carries out numerous projects and programmes for its analysis and practical application.

The focus in the following subsections is on activities which resulted in the establishment of lists and serve as illustrations only.

##### 5.1 Lists of species

Efforts have concentrated on the identification of threatened species in the world, with a view to assisting the setting of priorities in carrying out conservation programmes.

In recent years, an increasing number of lists of threatened species have been prepared at the national level. For international purposes, synthesis from national accounts and numerous other information from, e.g., networks of scientists available. They have permitted, inter alia, the preparation of:

- Global accounts of the lists prepared at national level, such as IUCN's book "Plants in Danger: What do we Know?".

- Red Data Books of Threatened Species, including the Red List of Globally Threatened Species, compiled and maintained by the World Conservation Monitoring Centre for IUCN. The most recent IUCN Red List of Threatened Animals was published in 1990.

Threatened animals and plants include species and subspecies in the categories of extinct, endangered, vulnerable, rare and indeterminate.

This list and reported information is backed up at WCMC by an extensive database that contains information on the distribution and status of virtually all species known to be threatened on a world scale and is continually updated.

## 5.2 Lists of sites

### 5.2.1 Areas of high species diversity

There are various lists of which areas of the world have the most species. Examples of two such projects which prepare and refine such lists are:

- Centres of Plant Diversity: an IUCN project to identify and describe about 200 sites around the world which, if conserved, would include the majority of the world's plant species (to be completed in 1992).

- Centres of Avian Diversity: The International Council for Bird Preservation has developed a list of 220 sites which, if protected, would conserve the habitats of all birds with a restricted range (defined as less than 50,000 sq km) and many other birds besides (a draft report listing the sites will be issued in 1992 for comment).

### 5.2.2 Areas of importance for genetic resources

Major areas of importance for genetic resources were identified in the beginning of this century by the Russian botanist Nikolai Vavilov. The Vavilov Centres following recent revision now are interpreted as four main areas where agriculture originated, ten major and eight minor regions of crop diversity and have been periodically refined.

It must be noted that while there is likely to be considerable congruence between the Centres of Plant diversity and the Centres of Avian Diversity, which both attempt to measure species diversity, there is little congruence between them and the Vavilov Centres which cover crops and, thus, are intimately bound up with human history.

### 5.2.3 Protected areas and ecosystems

A well-known list of protected areas is the United Nations List of National Parks and Equivalent Reserves which was drawn up at the request of the United Nations following a resolution adopted by the General Assembly in 1962. IUCN has prime responsibility for the compilation and maintenance of the List. Its aim is to provide a definitive list of protected areas meeting certain criteria.

The compilation of the UN List is now jointly handled by IUCN and the World Conservation Monitoring Centre. Protected areas of the world are documented in the WCMC protected areas database, which covers about 28,000 protected areas worldwide and assigns each to one of the biogeographical units in the system devised by M. Udvardy (Udvardy, 1975). This data base also provides information about the biological diversity in many of these protected areas and serves as a basis for the preparation of various Directories.

Several other important programmes of WCMC are of relevance to the identification of sites of major importance for biological diversity; among them are the Conservation Atlas of the Tropical Forests of the World and the Biodiversity Status Report.

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