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CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE
AND NATURAL HABITATS

Group of Experts for the setting up
of the Emerald Network of Areas of Special Conservation Interest

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The Emerald Network

a network of Areas of Special Conservation Interest
for Europe

Document established
by the Directorate of Culture
and Cultural and Natural Heritage

This document explains how the Emerald Network was born, its reach and development, and its relation with Natura 2000.

Contents

1. Introduction

In June 1989 the Standing Committee of the Bern Convention held an extraordinary meeting exclusively devoted to habitat conservation within the Convention. At the meeting the Committee adopted an interpretative resolution [Resolution No. 1 (1989) on the provisions relating to the conservation of habitats] and three operative recommendations [Recommendations Nos. 14, 15 and 16 (1989)] aimed at the development of a network of areas under the Convention. A further recommendation [Recommendation No. 25 (1991) on the conservation of natural areas outside protected areas proper] was adopted at a later meeting of the Committee. All relevant resolutions and recommendations mentioned in this paper appears in its appendices.

In Recommendation No. 16 (1989) "*on Areas of Special Conservation Interest*" (ASCIs), the Standing Committee recommended Parties to "*take steps to designate Areas of Special Conservation Interest to ensure that the necessary and appropriate conservation measures are taken for each area situated within their territory or under their responsibility where that area fits one or several of the following conditions...*" (a list of conditions followed).

The Committee had wished that all these recommendations on habitat conservation be rapidly implemented by Contracting Parties but two major events delayed their implementation. The first was the fundamental change in the political map of Europe that followed the fall of the Berlin wall in October 1989. The Bern Convention had to change its priorities from the building of a network of areas to the extension of the Convention to the new democracies of Central and Eastern Europe. The second was the preparation, at the European Community, of a legal instrument aimed at implementing the Bern Convention within the Community. (As any other Contracting Party to the Convention, the European Community had the obligation to take "*the appropriate and necessary legislative and administrative measures*" to implement the Convention.) The legal instrument was finalised in May 1992 and was called the "Directive on the conservation of natural habitats and of wild fauna and flora". Happily, that text did not simply take the text of the Bern Convention, but went much further in developing the obligations on habitat protection (so much that it is now best known as the "Habitats Directive"). The Habitats Directive created "*a coherent European ecological network of special areas of conservation ... to be set up under the title of Natura 2000*".

In order to assure coherence between the network of Areas of Special Conservation Interest (ASCIs) to be designated under the Bern Convention and the network of Special Areas of Conservation (SACs) designated under the Habitats Directive, the Standing Committee to the Convention thought preferable to wait for the establishment of the proper mechanism by the Directive. In January 1996, a sufficient number of States of Central and Eastern Europe had become Parties to the Convention and were requesting the development of the network of ASCIs. The Standing Committee, realising this wish and noting that the Habitats Directive was already sufficiently advanced in its work to build Natura 2000, decided to adopt its Resolution No. 3 (1996), in which it resolved to "*set up a network (Emerald Network) which would include the Areas of Special Conservation Interest designated following its Recommendation No. 16*"; it furthermore "*encouraged Contracting Parties and observer states to designate Areas of Special Conservation Interest and to notify them to the Secretariat*". Resolution No. 3 (1996) was, in a sense, a second act of birth of the network, after its first creation in 1989. More precisely it was an act of baptism as the network had not been given a name in 1989 and it had proved rather awkward to promote a network under the name of "network to develop Recommendation No. 16 (1989) of the Standing Committee of the Convention on areas of special conservation interest". Short names have advantages.

2. Legal support of the Emerald Network

The Bern Convention does not deal exclusively with the protection of species. Articles 1, 2, 3, 4, 6 and 9 of the Convention deal with the protection of natural habitats, in particular

- habitats of the wild flora and fauna species (specially those in Appendices I and II);
- endangered natural habitats;
- areas of importance for migratory species.

Relevant texts of the Convention and the Standing Committee concerning protection of natural habitats are appended to this document.

The Emerald Network was created by virtue of Recommendation No. 16 (1989) and Resolution No. 3 (1996) and thus benefits from the "soft law" approach characteristic of recommendations. Nevertheless, the obligations to protect the habitats of species and endangered natural habitats are not "soft law" but rather strict obligations clearly marked in the Convention, and forming part of international law. The Standing Committee recommended Contracting Parties to implement their obligations regarding natural habitats through the taking of a number of measures, among which the designation of the Areas of Special Conservation Interest (ASCIs) that form the Emerald Network. Obviously obligations under the Bern Convention can only be requested from Contracting Parties. Other European states were "invited" to participate in the exercise. As for member States of the European Union (which are all Contracting Parties to the Convention), Resolution No 5 (1998) concerning the Rules for the Network of Areas of Special Conservation Interest stipulates that "for contracting parties which are Member States of the European Union Emerald Network sites are those of the Natura 2000".

3. Areas of special conservation interest (ASCIs)

What are Areas of special conservation interest?

Recommendation No. 16 defines Areas of Special Conservation Interest as those designated by states where that area fits one or several of the following conditions:

a. it contributes substantially to the survival of threatened species, endemic species, or any species listed in Appendices I and II of the convention;
b. it supports significant numbers of species in an area of high species diversity or supports important populations of one or more species;
c. it contains an important and/or representative sample of endangered habitat types;
d. it contains an outstanding example of a particular habitat type or a mosaic of different habitat types;
e. it represents an important area for one or more migratory species;
f. it otherwise contributes substantially to the achievement of the objectives of the convention.

It must be stressed that for Contracting Parties which are member States of the European Union the procedures established in the Birds Directive and Habitats Directive will be those to apply so that criteria for choice of those areas will be those of the Directive (which are largely the same criteria anyway).

The conditions above point clearly towards areas of a great ecological value for both the threatened and endemic species listed in the Appendices of the Bern Convention and for the endangered habitat types which have been identified by the Standing Committee as "requiring specific conservation measures".

The Emerald Network would thus not be simply a box, into which any type of protected area can be put, or a mere collection of areas designated under other schemes. Its coherence – much like that of Natura 2000 – comes from the limited criteria for choice: they have to be important and contribute substantially (the adjective is important!) to the objectives of the Convention.

Which States may designate ASCIs?

Resolution No. 3 (1996) encourages "*Contracting Parties and observer states to designate ASCIs*" and to notify them to the Secretariat.

The following 40 European States are Contracting Parties to the Convention (in August 2001):

Albania, Andorra, Austria, Azerbaijan, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Moldova, Monaco, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, 'the former Yugoslav Republic of Macedonia', Turkey, Ukraine, United Kingdom;

and the following 7 European states have the status of observer at the meetings of the Standing Committee:

Armenia, Belarus, Bosnia-Herzegovina, Georgia, Holy See, Russia, San Marino.

The participation of non-European Parties in the Emerald Network was decided by the Standing Committee in 1998. Four African states are Contracting Parties: Burkina Faso, Morocco, Tunisia and Senegal.

This raises to 51 the number of States, which may participate in the Emerald Network.

The participation of States, which are not yet Contracting Parties, is not only possible, but highly desirable. Resolution No. 3 (1996) invites "*European states, which are observer States in the Standing Committee of the Bern Convention, to participate in the network and designate ASCIs*".

Resolution No. 5 (1998) establishes that for Contracting Parties that are member States of the European Union, Emerald Network sites are those of the Natura 2000. Indeed no further action would be expected from them, the Natura 2000 network having identical objectives (and a more solid legal basis) to those of the Emerald Network. In this respect, the full and thorough implementation of the Habitats Directive is contemplated as a necessary and fundamental step into the achievement of the common goals it shares with the Bern Convention, both concerning the protection of natural habitats and the conservation of wild flora and fauna.

What are the duties of states concerning the status and management of ASCIs?

Once ASCIs have been designated by the states, that is not the end of the Emerald Network, but rather the start, as states are recommended to take a number of steps (by legislation or otherwise, to ensure that ASCIs are properly managed. They are asked in Recommendation No. 16 (1989) to "*ensure, wherever possible that*":

a. ASCIs "*are the subject of an appropriate regime, designed to achieve the conservation of the factors*" responsible for the designation of the area;
b. "*the agencies responsible for the designation and/or management and/or conservation of ASCIs have available to it sufficient manpower, training, equipment and resources (including financial resources) to enable them properly to manage, conserve and survey the areas;*
c. *appropriate ecological and other research is conducted, in a properly co-ordinated fashion, with a view to furthering the understanding of the critical elements in the management of ASCIs and to monitoring the status of the factors giving rise to their designation and conservation;*
d. *activities taking place adjacent to such areas or within their vicinity do not adversely affect the factors giving rise to the designation and conservation of those sites.*"

Furthermore, the States are recommended to take steps, as appropriate, in respect of ASCIs to:

"*a.* *draw up and implement management plans which will identify both short- and long-term objectives (such management plans can relate to individual areas or to a collection of areas such as heathlands);*
b. *regularly review the terms of the management plans in the light of changing conditions or of increased scientific knowledge;*
c. *clearly mark the boundaries of ASCIs on maps and, as far as possible, on the ground;*
d. *advise the competent authorities and landowners of the extent of ASCIs and their characteristics;*
e. *provide for the monitoring of ASCIs and especially of the factors for which their conservation is important.*"

It is obvious from the paragraphs above that states are invited to pay much conservation attention to ASCIs. There is, however, no precise recommendation to give legal protection to ASCIs, the Standing Committee having preferred to keep a supple wording and having recommended that the areas "*be subject to the appropriate regime*". As usual the Standing Committee was more interested by the achievement of conservation results than by a particular "*area protection*" procedure. Some systems may work very well without strong legal obligations attached. In any case the Standing Committee asked states to look into the matter of the protection of ASCIs and the last point of Recommendation No. 16 reads as follows:

The Standing Committee recommends that Contracting Parties:

"*5. determine those areas which remain inadequately provided for under existing mechanisms and improve the conservation status of such areas, using whatever mechanisms are appropriate in order to meet the requirements of the convention.*"

Resolution No. 5 has a more precise wording: "*The governments are asked to inform the Secretariat of any important changes likely to affect negatively in a substantial way the ecological character of the designated ASCIs or the conditions having justified their designation. Where any such changes come to light, the Standing Committee may advise the government concerned on steps to be taken to ensure conformity with the provisions of Recommendation No.16 (1989)".*

Building the Emerald Network is designed to be a dynamic process, which will need regular updates of the information contained and the way the states comply with the recommendation. Point 2 of Recommendation No. 16 invites states to "*review regularly or continually in a systematic fashion their performance in the implementation of [the designation of ASCIs]*."

How are ASCIs designated?

Resolution No. 3 (1996), Recommendation No. 16 (1989) and Resolution No. 5 (1998) provide the fundamental basis for the designation of ASCIs. They encourage Contracting Parties and observer States "*to designate ASCIs and to notify them to the Secretariat*". Thus the responsibility for designating ASCIs lies with the government of the States concerned. As for the technical details, it is worth noting that Resolution No. 3 created "*a group of experts to carry out the necessary activities related to the building up of the network*".

The Group of experts has agreed in principle that the designation process would be done in such a way that it would be compatible with that of the Natura 2000 Network. Resolution No.5 (1998) establishes the procedure, which the governments should follow in designation of sites for the Emerald network.

In order to designate an ASCI, any government should deposit a standard Data Form with the Secretariat of the Council of Europe, that will register the designation. A Standard data form is based on the database designated for Natura 2000. The data has been modified to cover the larger geographical area and more numerous species of the Bern Convention. The forms can be filled in electronically and the software allows for the semi-automatic transfer of information gathered by other projects such as the CORINE-biotopes programme.

In accordance with the 'Rules for the Emerald Network', the Standing Committee has the right to advise the government concerned to designate one or more areas of particular interest to the Network. If a government designates an area, which does not meet the criteria, the Standing Committee may advice the government to withdraw the designation. If the government nevertheless maintains the designation, the Standing Committee may decide not to accept it.

The Standing Committee thought that, for the designation of ASCIs and for the protection of natural habitats, it was necessary to reinforce the work that Contracting Parties were carrying out in habitat protection. Thus, it decided to ask Parties (in Recommendation No. 14 (1989)) to:

"*1. identify in the areas within their jurisdiction:*

a. species requiring specific habitat conservation measures;

b. endangered natural habitats requiring specific conservation measures;

c. migratory species requiring specific habitat conservation measures;

d. species of which the breeding and/or resting sites require protection and their breeding and for each of these categories to indicate, as far as possible, their sites".

Although the above tasks were addressed to Contracting Parties, the Standing Committee decided, after 1989, to prepare, for the whole of Europe lists for points *a, b, c* and *d* above.

In December 1996 the Standing Committee adopted Resolution No. 4 identifying endangered natural habitats (point *b.* above) requiring specific conservation measures.

In 1998 at its 18th meeting the Standing Committee adopted Resolution No 6 (1998) listing the species requiring specific habitat conservation measures (including the migratory species mentioned in *c.* above).

The identification of species requiring specific habitat conservation measures is a useful step towards the designation of ASCIs because it will guide choices of sites of particular relevance for threatened species.

As for *d.* above (species of which the breeding and/or resting sites require protection), while all of them can be considered as included in *a.* above (*i.e* they require specific habitat conservation measures), the identification of breeding and/or resting sites requiring protection will be clearly associated with the designation of ASCIs, which has not yet started.

The information on ASCIs shall be public and stored in a database, except for the information communicated as confidential. The group of experts will endeavour, under the aegis of the Standing Committee, to publish regularly lists of designated ASCIs and their character and to make that information available in electronic form.

For Contracting Parties of the Convention, which are also member states of the European Community, the procedure will be different. In order to assure harmonisation and compatibility with the Natura 2000 Network, they need only to notify, which areas have been effectively included in the Natura 2000 Network, after all the necessary verification process agreed in the Habitats Directive. This procedure is designed to assure full compatibility and coherence of both networks.

4. Relations of the Emerald Network with Natura 2000

The Bern Convention (1979) and the Habitats Directive (1992) have a complete coincidence of objectives. Both are international legal instruments aimed at the conservation of wild flora, fauna and natural habitats. Their main differences come from the territory they apply to (European Union member States for the Directive and the whole of Europe and part of Africa for the Convention) and to the fact that the Directive is more explicit on the obligations concerning conservation of natural habitats.

In any case the Directive is a piece of legislation designed to implement the Bern Convention in the European Community and, as such, it is fundamentally coherent with the Convention. As Resolution No. 1 and Recommendations Nos. 14, 15 and 16 were adopted in 1989 and Recommendation No. 25 in 1991, at the time the Directive was being prepared, it is clear that they also influenced the content of the Directive. For instance, the "*species requiring specific habitat conservation measures*" mentioned in Recommendation No. 14 has its equivalent in Annex II of the Directive ("*Animal and plant species of Community interest whose conservation requires the designation of Special Areas of Conservation*"). Also the "*endangered natural habitats requiring specific habitat conservation measures*" of Recommendation No. 14 became Annex I of the Directive ("*Natural habitat types of Community interest whose conservation requires the designation of Special Areas of Conservation*). Even the term "*Areas of Special Conservation Interest*" (by the way, inspired by the United Kingdom's Sites of Special Scientific Interest) was taken in the Directive to become finally *Special Areas of Conservation.* The resemblance is even more striking in French (*Zones d'intérêt spécial pour la conservation/Zones spéciales de conservation*).

The great interest and merit of the Directive has been to convert into precise law the ideas and recommendations on habitat conservation contained in the Bern Convention, improving its reach and reinforcing its application in the member States of the European Union.

It is obvious to any independent observer that most of the implementation of the Bern Convention will be carried out within the European Union by the full implementation of the Directive.

Regarding the networks Natura 2000 and Emerald it seems clear that the member States of the European Union will satisfy the habitat requirements of the Bern Convention through the designation of sites to the Natura 2000 Network. Thus, the Special Areas of Conservation of Natura 2000 will also become Areas of Special Conservation Interest of the Emerald Network as it is foreseen in Resolution No. 5. This ensures the coherence of the Network for the whole of Europe.

There is an obvious advantage in this approach, which is that the building of the Emerald Network will benefit from the work carried out in the European Union to build Natura 2000, so that remaining work will be concentrated in States which are not members of the European Union. In this way it will be possible to extend to the whole of Europe a homogeneous network of areas, helping to break down in this sector the barriers that history, politics and economic reality have imposed on the European continent. This is in line with the missions, the challenges and the ambitions of the Council of Europe.

Additionally, it may also help some states, candidates to join the European Union, to do part of the preparatory work necessary to comply in advance with the Habitats Directive. It seems evident that if a state designates a coherent network of ASCIs within the Emerald Network, it will be in a more favourable position to designate its own SACs when it joins the Union. Such a possibility has led to close co-operation and co-ordination of the Council of Europe, serving the Bern Convention, and the European Commission, responsible for the Directive, in terms of technical and financial matters derived from the building of both networks.

In a sense the Emerald Network will take farther than the borders of the European Union the philosophy of the Natura 2000 Network and will materialise in the whole continent the fundamentally coincident objectives of both the Bern Convention and the Habitats Directive regarding conservation of natural habitats. Its success will be that of nature conservation in Europe.

5. Progress in setting up the Emerald Network

With the adoption in December 1998 of Resolution No. 5 (1998) "Rules for the Emerald network", Resolution No. 6 (1998) listing the species requiring specific habitat conservation measures and the development of the bilingual version of the Emerald software, preparatory work for the launching of the Emerald network was successfully concluded.

In the beginning of 1999, in order to assist the initial implementation phase of the Emerald Network, the Council of Europe proposed to a number of countries of Central and Eastern Europe to start the pilot projects in their respective countries. The overall objective of the Emerald network pilot project is to develop a pilot database, containing a fair proportion of the Areas of Special Conservation Interest and submit a proposal for the sites designation to the Standing Committee of the Bern Convention.

In order to achieve this objective, the countries have to form project teams, carry out the training of the teams (organise the workshop) and proceed with the scientific work (data collection on species and habitats concerned; field survey for a selected pilot area; mapping of distribution data on species and habitats) and technical tasks of installing the software, introduction of data on the sites into the database; preparing Standard Data sheets on the designated sites and transmitting this information in the electronic form to the Secretariat with the project report.

The tasks, which are to be carried out in the framework of the Emerald network pilot project, are described in detail in the document T-PVS/Emerald (2002) 16 "Building up the Emerald Network: a guide for Emerald Network country team leaders", which is intended as a user-friendly guide for the countries, that are implementing Emerald pilot projects.

Since the implementation phase of the Emerald Network has started, pilot projects have been launched in 17 countries of Central and Eastern Europe (Albania, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Latvia, Lithuania, Moldova, Poland, Romania, Russia, Slovenia, Slovakia, the former Yugoslav Republic of Macedonia and Ukraine) and 3 non EU Western States (Cyprus, Malta and Turkey). Iceland and Switzerland have joined in the Emerald process, using their own financial sources. To date Emerald training workshops took place in all of the pilot countries.

In 2002, five workshops have been or will be organised in Croatia (14-15 February), the former Yugoslav Republic of Macedonia (21-22 March), Albania (22-24 April), Georgia (23-24 May) and Senegal (November 2002). The results of these projects will be available by the end of this year. Short statements on the progress of Emerald projects in some of these countries are contained in the document T-PVS/Emerald (2002) 14 "Emerald network pilot projects in the year 2002: progress reports".

In April 2000 an informal meeting of the Emerald Network pilot project leaders took place in Bratislava. It was co-organised by the Council of Europe and the Phare Topic Link on Nature Conservation. The participants included members of the Emerald teams from the eleven countries of Central and Eastern Europe, which have either started Emerald projects or are planning to do so in the near future. In the course of the workshop the participants have exchanged experiences on the Emerald Network process; identified major obstacles and problems that arise in the course of practical project implementation and sought to find solutions to these problems.

The 6th meeting of the Group of experts took place in Strasbourg in September 2000. It assessed the progress achieved by the target countries in setting up the Emerald Network and proposed actions to stimulate further development of the network.

6. Work ahead

The Emerald Network remains a priority activity for the Bern Convention. It is politically relevant as an instrument to assist Central and Eastern European states which are candidates to EU to prepare for Natura 2000. For other states, it is important in the "standard-setting" perspective, as it will be possible to develop a common European approach to protection of natural habitats.

In the framework of the Memorandum of Co-operation signed with the European Environment Agency, it is envisaged to reinforce the co-coperation with EEA and with the Nature Thematic Centre in Paris, in particular by transferring to the Agency technical responsibilities involved in the setting-up of the Emerald Network. Greater responsibility could also be requested from interested states, particularly those that are candidates to EU and have the possibility to have this work financed from "approximation" funds.

Building the Emerald network is intended to be a dynamic process, requiring regular updates of information. The pilot projects are only a starting, though important point in setting up the network. Only with more and more countries joining the Emerald process in the future, will we be able to evaluate the successful implementation of the Emerald network.

Appendix 1

Articles 1, 2, 3, 4, 6.*b* and 9 of the Convention

"(...)

Chapter I – General provisions

Article 1

1 The aims of this Convention are to conserve wild flora and fauna and their natural habitats, especially those species and habitats whose conservation requires the co-operation of several States, and to promote such co-operation.

2 Particular emphasis is given to endangered and vulnerable species, including endangered and vulnerable migratory species.

Article 2

The Contracting Parties shall take requisite measures to maintain the population of wild flora and fauna at, or adapt it to, a level which corresponds in particular to ecological, scientific and cultural requirements, while taking account of economic and recreational requirements and the needs of sub-species, varieties or forms at risk locally.

Article 3

1 Each Contracting Party shall take steps to promote national policies for the conservation of wild flora, wild fauna and natural habitats, with particular attention to endangered and vulnerable species, especially endemic ones, and endangered habitats, in accordance with the provisions of this Convention.

2 Each Contracting Party undertakes, in its planning and development policies and in its measures against pollution, to have regard to the conservation of wild flora and fauna.

3 Each Contracting Party shall promote education and disseminate general information on the need to conserve species of wild flora and fauna and their habitats.

Chapter II – Protection of habitats

Article 4

1 Each Contracting Party shall take appropriate and necessary legislative and administrative measures to ensure the conservation of the habitats of the wild flora and fauna species, especially those specified in the Appendices I and II, and the conservation of endangered natural habitats.

2 The Contracting Parties in their planning and development policies shall have regard to the conservation requirements of the areas protected under the preceding paragraph, so as to avoid or minimise as far as possible any deterioration of such areas.

3 The Contracting Parties undertake to give special attention to the protection of areas that are of importance for the migratory species specified in Appendices II and III and which are appropriately situated in relation to migration routes, as wintering, staging, feeding, breeding or moulting areas.

4 The Contracting Parties undertake to co-ordinate as appropriate their efforts for the protection of the natural habitats referred to in this article when these are situated in frontier areas.

Chapter III – Protection of species

Article 6

Each Contracting Party shall take appropriate and necessary legislative and administrative measures to ensure the special protection of the wild fauna species specified in Appendix II. The following will in particular be prohibited for these species:

b the deliberate damage to or destruction of breeding or resting sites;

Article 9

1 Each Contracting Party may make exceptions from the provisions of Articles 4, 5, 6, 7 and from the prohibition of the use of the means mentioned in Article 8 provided that there is no other satisfactory solution and that the exception will not be detrimental to the survival of the population concerned:

– for the protection of flora and fauna;
– to prevent serious damage to crops, livestock, forests, fisheries, water and other forms of property;
– in the interests of public health and safety, air safety or other overriding public interests;
– for the purposes of research and education, of repopulation, of reintroduction and for the necessary breeding;
– to permit, under strictly supervised conditions, on a selective basis and to a limited extent, the taking, keeping or other judicious exploitation of certain wild animals and plants in small numbers.

2 The Contracting Parties shall report every two years to the Standing Committee on the exceptions made under the preceding paragraph. These reports must specify:

– the populations which are or have been subject to the exceptions and, when practical, the number of specimens involved;
– the means authorised for the killing or capture;
– the conditions of risk and the circumstances of time and place under which such exceptions were granted;
– the authority empowered to declare that these conditions have been fulfilled, and to take decisions in respect of the means that may be used, their limits and the persons instructed to carry them out;
– the controls involved."

(…)”

Appendix 2

Resolution No. 1 (1989) of the Standing Committee on the provisions relating to the conservation of habitats

(adopted by the Standing Committee of 9 June1989 at its 8th meeting)

The Standing Committee of the Convention on the Conservation of European Wildlife and Natural Habitats, acting under the terms of Article 14 of the convention,

Having regard to the obligations laid down by the convention, particularly in Articles 1, 2, 3, 4, 6.*b* and 9;

Conscious of the fact that most of these obligations bind Contracting Parties as to the results to be attained, while leaving them the choice of the means to be used for that purpose;

Recognising, however, that the absence of a common interpretation of certain provisions of the convention, and certain terms contained therein, may lead to considerable differences in the legal interpretation of the convention by individual Contracting Parties and may undermine the effectiveness of the convention;

Desirous to promote agreement, as much as possible, among Contracting Parties as to what is required to be done in order to implement the convention;

Convinced that a common interpretation of certain of the provisions and terms of the convention, particularly in Articles 4, 6.*b* and 9, will facilitate the achievement of the aims of the convention in a harmonised way by all Contracting Parties,

Resolves that, for the purpose of improving the effectiveness of the convention, the terms listed hereunder are to be interpreted as follows:

1. For the purpose of the convention:

a. "habitat" of a species (or population of a species) means the abiotic and biotic factors of the environment, whether natural or modified, which are essential to the life and reproduction of members of that species (or population of that species) and which occur within the natural geographical range of the species (or population of that species);
b. "natural habitat" means a biotope, that is a distinctive type of terrestrial or aquatic area distinguished by geographic, abiotic or biotic features, whether entirely natural or modified as a result of human activities;

2. For the purpose of Article 4:

a. "necessary measures" means in particular those measures which are required:
   i. to ensure the conservation of the habitats of those species which have been identified by the Standing Committee, on the basis of scientific evidence, as requiring specific habitat conservation measures and, most particularly, of those part of their geographical range which are essential for the conservation of those species (hereinafter referred to as "critical sites");
   ii. to ensure the conservation of those natural habitats which have been identified by the Standing Committee, on the basis of scientific evidence, as being endangered natural habitats and requiring specific conservation measures;

b. "appropriate measures" means in particular those measures, pursuant to paragraph *a* above, which are able to ensure the conservation of the habitat of particular species or of particular natural habitats;

c. "conservation" means the maintenance and, where appropriate, the restoration or improvement of the abiotic and biotic features which form the habitat of a species or a natural habitat, as defined in paragraph l above, and includes, where appropriate, the control of activities which may indirectly result in the deterioration of such habitats, including areas of importance for the migratory species specified in Appendices II and III, even where such areas are outside the jurisdiction of the Party in question;

d. "areas of importance for the migratory species specified in Appendices II and III" means the critical sites, wherever situated, of those migratory species which have been identified by the Standing Committee, on the basis of scientific evidence, as requiring specific habitat conservation measures;

e. the conditions attached by Article 9 to the making of exceptions from the provisions of Article 4, as well as the obligation laid down in that article to report such exceptions to the Standing Committee, shall apply to:

i. the critical sites of those species which have been identified by the Standing Committee, pursuant to paragraph *a*.i above;
ii. natural habitats which have been identified by the Standing Committee, pursuant to paragraph *a*.ii above;
iii. areas of importance for migratory species which have been identified by the Standing Committee, pursuant to paragraph *d* above;

3. For the purpose of Article 6.*b*:

a. "breeding and resting sites" means, in respect of each species for which the Standing Committee has identified that breeding and/or resting sites require protection, those breeding and/or resting site types in respect of which the Standing Committee has considered that such measures are required;

b. "deliberate damage to or destruction of breeding or resting sites" means, subject to relevant provisions of the law of each Contracting Party, any act committed with the intention of destroying or causing harm to breeding or resting sites as defined in paragraph *a* above, and any act committed without the intention to cause damage or destruction but in the knowledge that such would probably by the consequences of the act;

c. the conditions attached by Article 9 to the making of exceptions from the provisions of Article 6.*b*, as well as the obligation, laid down in that article, to report these exceptions to the Standing Committee, only apply to those breeding and resting site types in respect of which the Standing Committee has considered that they require protection pursuant to paragraph *a* above.

Appendix 3

Recommendation No. 14 (1989) of the Standing Committee on species habitat conservation and on the conservation of endangered natural habitats

(adopted by the Standing Committee on 9 June 1989)

The Standing Committee of the Convention on the Conservation of European Wildlife and Natural Habitats, acting under the terms of Article 14 of the convention,

Considering Articles 3 and 4 of the convention;

Having regard to Resolution No. 1 (1989) on the provisions relating to the conservation of habitats, and to the decision it has taken to act by virtue of paragraph 2, sub-paragraphs *a* and *d*, and paragraph 3, sub-paragraph *a* of that resolution,

Recommends that Contracting Parties:

1. identify in the areas within their jurisdiction:
a. species requiring specific habitat conservation measures;
b. endangered natural habitats requiring specific conservation measures;
c. migratory species requiring specific habitat conservation measures;
d. species of which the breeding and/or resting sites require protection and their breeding and/or resting site types requiring protection;
and for each of these categories to indicate, as far as possible, their sites;

2. identify, furthermore, endangered species on their territory requiring recovery plans, and develop and implement such plans;

3. communicate to the Standing Committee the results of their work in the implementation of the recommendations above;

4. ensure that appropriate and necessary measures of conservation are taken for the species, habitats and sites identified according to paragraphs 1 and 2 above.

Appendix 4

Recommendation No. 15 (1989) of the Standing Committee on the conservation of endangered natural habitat types

(adopted by the Standing Committee on 9 June 1989)

The Standing Committee of the Convention on the Conservation of European Wildlife and Natural Habitats, acting under the terms of Article 14 of the convention,

Having regard to the provisions of Articles 4 and 9, paragraph 1, of the convention and to Resolution No. 1 (1989) on the provisions relating to the conservation of habitats;

Conscious of the need not to endanger the survival of habitat types,

Recommends that Contracting Parties make exceptions to Article 4, by virtue of Article 9, paragraph 1, with respect to endangered natural habitat types as identified by the Standing Committee in Resolution No. 1 (1989) only in exceptional circumstances and provided that the exceptions will not be detrimental to the survival of the habitat type concerned.

Appendix 5

Recommendation No. 16 (1989) of the Standing Committee on areas of special conservation interest

(adopted by the Standing Committee on 9 June 1989)

The Standing Committee of the Convention on the Conservation of European Wildlife and Natural Habitats, acting under Article 14 of the convention,

Having regard to Article 4 of the convention and to Resolution No. 1 (1989) on the provisions relating to the conservation of habitats;

Desirous of establishing common criteria for the identification of areas to be conserved;

Desirous also of ensuring that the conservation and management of such areas have regard to certain minimum requirements,

Recommends that Contracting Parties:

1. take steps to designate areas of special conservation interest to ensure that necessary and appropriate conservation measures are taken for each area situated within their territory or under their responsibility where that area fits one or several of the following conditions:

a. it contributes substantially to the survival of threatened species, endemic species, or any species listed in Appendices I and II of the convention;
b. it supports significant numbers of species in an area of high species diversity or supports important populations of one or more species;
c. it contains an important and/or representative sample of endangered habitat types;
d. it contains an outstanding example of a particular habitat type or a mosaic of different habitat types;
e. it represents an important area for one or more migratory species;
f. it otherwise contributes substantially to the achievement of the objectives of the convention;

2. review regularly or continually in a systematic fashion their performance in the implementation of paragraph 1 above;

3. take such steps, either by legislation or otherwise, to ensure wherever possible that:

a. areas referred to in paragraph 1 above are the subject of an appropriate regime, designed to achieve the conservation of the factors set out in that paragraph;
b. the agencies responsible for the designation and/or management and/or conservation of such areas or any one of them have available to it sufficient manpower, training, equipment and resources (including financial resources) to enable them properly to manage, conserve and survey the areas;
c. appropriate ecological and other research is conducted, in a properly co-ordinated fashion, with a view to furthering the understanding of the critical elements in the management of such areas and to monitoring the status of the factors giving rise to their designation and conservation;
d. activities taking place adjacent to such areas or within their vicinity do not adversely affect the factors giving rise to the designation and conservation of those sites;

4. take steps, as appropriate, in respect of areas referred to in paragraph 1 above, to:

a. draw up and implement management plants which will identify both short- and long-term objectives (such management plans can relate to individual areas or to a collection of areas such as heathlands);
b. regularly review the terms of the management plans in the light of changing conditions or of increased scientific knowledge;
c. clearly mark the boundaries of such areas on maps and, as far as possible, on the ground;
d. advise the competent authorities and landowners of the extent of the areas and their characteristics;
e. provide for the monitoring of such areas and especially of the factors for which their conservation is important;

5. determine those areas which remain inadequately provided for under existing mechanisms and improve the conservation status of such areas, using whatever mechanisms are appropriate in order to meet the requirements of the convention.

Appendix 6

Recommendation No. 25 (1991) of the Standing Committee on the conservation of natural areas outside protected areas proper

(adopted by the Standing Committee on 6 December 1991)

The Standing Committee of the Convention on the Conservation of European Wildlife and Natural Habitats, acting under Article 14 of the convention,

Having regard to Articles 1, 2, 3 and 4 of the convention and to its Resolution No. 1 (1989);

Conscious that most of the obligations under Articles 1, 2, 3 and 4 of the convention are binding upon the Contracting Parties as to the results to be attained while allowing them a choice of the means to be used for that purpose;

Conscious that the establishment of protected areas of the A and B categories defined in Resolution 73 (30) of the Committee of Ministers of the Council of Europe of 26 October 1973 may prove to be insufficient to comply with the obligations of the convention;

Recognising that measures to conserve natural habitats outside protected areas thus defined are necessary for the protection of some species;

Recognising, however, that certain forms of action have proved particularly effective in the countries where they have been adopted and that the experience thus acquired should be brought to the attention of all Contracting Parties;

Recognising that flora and fauna conservation is possible only in the context of a regional planning policy conserving their environments and habitats,

Recommends that Contracting Parties:

1. examine the possibility, for the purpose of the convention, of taking conservation measures such as those mentioned as examples in the appendix to this recommendation to improve conservation outside the protected areas of categories A and B of the above-mentioned Resolution (73) 30 of the Committee of Ministers;

2. communicate to the Secretariat, for the information of the other Contracting Parties, any other relevant measures they have already taken or intend to take as well as any available information on the effects of measures they have taken.

Appendix

Examples of conservation measures[1]

I. General measures for promoting ecological management of the environment as a whole

1. Submit all projects, plans, programmes and measures with an impact on the natural and semi-natural environment to an examination of environmental compatibility with a view to protecting nature and landscapes and conserving them intact in cases where there is an overriding general interest in doing so.

2. Take care to use agricultural land and forests in a sustainable way by making maximum possible use of natural protection capacities and by reducing inputs.

3. Encourage the use of environment friendly technologies when carrying out technical operations in natural or semi-natural environment, and replace large-scale single operations by regular maintenance measures which are more evenly distributed in time and space. If it is impossible to avoid affecting natural or semi-natural environments which are worth protecting, ensure that mitigation measures are taken to minimise as much as possible the negative effects of the operations, to restore, or failing this, to replace them by adequate compensation.

[1] These examples have been taken from document T-PVS (90) 52 on "The conservation of natural habitats outside protected areas proper – a juridical analysis", Cyrille de Klemm, 1990.

II. Areas of special consrvation interest

1. Draw up a detailed inventory of areas of special conservation interest as defined in paragraph 1 of the Standing Committee's Recommendation No. 16 (1989) and ensuring the conservation and management of those areas, when it is not possible or appropriate to include them in protected areas of categories A and B, by taking, in particular, the following measures:

a. including those areas in land-use planning zones which enjoy a high level of protection;

b. requiring that any development or activity liable to have an adverse ecological impact on those areas be subject to the authorisation, consultation, or agreement of the nature conservation authorities;

c. requiring that any request for permission submitted in accordance with paragraph b above be accompanied by an environmental impact assessment or equivalent assessment making it possible to determine the precise effects of the proposed development or activity on the ecological characteristics which warranted the inclusion of those areas in the inventory;

d. advising government agencies against carrying out, authorising or subsidising developments or activities which are shown by the environmental impact assessment or equivalent assessment adversely to affect significantly those ecological characteristics;

e. granting exceptions to these provisions only under the conditions specified in Article 9 of the convention and in Recommendation No. 15 (1989) of the Standing Committee;

f. taking the necessary measures to ensure that laws and regulations laying down obligations with regard to drainage, use of phytosanitary products, dredging of watercourses, consolidation of land-holdings or other activities liable to harm the natural environment are not compulsorily applicable to areas appearing in the inventory.

2. Facilitate the acquisition and management of areas of special conservation interest by the state or other public bodies in particular by taking the following measures:

a. Acquisition:
   i. establishing a right of pre-emption for the state or other public bodies in respect of land included in the said areas;
   ii. authorising land forming part of those areas to be transferred to the state in lieu of inheritance tax;
   iii. introducing incentives to encourage gifts and bequests of land included in those areas to the state or to other public bodies, such as tax concessions, the payment of an annuity to donors until their deaths or authorising donors to stay on until their death, as usufructuaries;

b. Management:
   i. when a government agency is not in a position to manage land it owns or is responsible for within an area of special interest, arranging for the land to be managed by another government agency or a private person;
   ii. authorising the conclusion of long-term management contracts between the government agency that owns or is responsible for the land and a public body or private person;
   iii. authorising the nature conservation agency to conclude co-operative agreements with the public body owning or responsible for the land, for the purpose of managing the land concerned.

3. Facilitate the acquisition, conservation and management of areas of special conservation interest by private persons, in particular by taking the following measures:

a. Acquisition:
   granting subsidies, loans and tax concessions to private nature conservation organisations for the acquisition of land included in such areas;

b. Conservation:
   i. setting up voluntary reserves approved by a government agency and enjoying as such the same level of protection as reserves set up by government agencies themselves;
   ii. authorising the imposition by contract of land use restrictions which may be binding upon successors in title;
   iii. granting tax concessions to owners or occupiers who comply with these restrictions. It should be possible to apply the concessions to property tax and inheritance tax. In the latter case, it should be possible to grant concessions to heirs who undertake to conserve and manage the areas concerned according to a management plan drawn up by the conservation authorities. In the event of failure to observe the conditions in this plan, inheritance tax would immediately become due;
   iv. providing the state with the necessary legal powers to introduce immediate controls prohibiting all potentially harmful activities in the event of a threat to the integrity of an area of special interest and, where necessary, to expropriate the land in question;

c. Management:
   i. setting up a system of management agreements, where such a system does not already exist, between the state or another public body on the one hand, and the owners of land included in areas of special interest on the other, whereby the latter undertake to perform or refrain from certain actions in return for fair remuneration and other possible benefits such as tax concessions;
   ii. eliminating legal obstacles liable to hamper the conservation of land within areas of special interest, particularly rules prohibiting the owner from including in a farm lease clauses that limit the tenant farmer's freedom, for example with regard to the removal of banks and hedges or the ploughing up of meadowland.

III. Ecological corridors

Encourage the conservation and, where necessary, the restoration of ecological corridors in particular by taking the following measures:

1. *Rights of way of roads, railways and high-voltage lines*

Authorising agreements between nature conservation authorities and government or other public bodies owning or responsible for such areas with a view to maintaining natural plant cover and preserving the sites of rare or endangered plant species, prohibiting or limiting the use of phytosanitary products and of fire in those areas, as well as restricting the use of machinery to the strict minimum necessary for safety reasons.

Taking measures to restore or to compensate for the loss of ecological corridors caused by the building of new roads and other constructions that prevent animals from migrating or interchanging. In these cases, the responsible authority has to safeguard such crossing routes, for example, by building special tunnels for otters, badgers, by building so-called cerviducts for deer, by closing roads during the spring migrational period for amphibians, or by any other appropriate measures.

2. *Watercourses*

Maintaining certain watercourses or parts thereof in their natural state, and where necessary restoring them, by prohibiting the building of dams, any straightening or canalisation work and the extraction of materials from their beds, and by maintaining or restoring vegetation along their banks. Ensuring that dredging operations, when they prove essential, do not harm the integrity of the aquatic ecosystem or of the banks.

On other watercourses, limiting canalisation and straightening work to whatever is absolutely essential, providing fish passes across dams, maintaining a minimum flow in low-water periods as far as possible, limiting extraction of materials from the bed and maintaining vegetation along the banks.

IV. Habitat types

1. Ensure the conservation of endangered habitat types such as wetlands, heathlands and dry grasslands by requiring that all projects liable to cause their deterioration or destruction be subject to the permission (or agreement) of the authority responsible for nature conservation.

2. Subject permission, once it has been granted, to an obligation, where appropriate, to take suitable compensation measures.

3. Set up a system of management agreements, together with financial incentives, to provide for the management of certain habitat types, whether or not they are protected.

V. Landscape features

Encourage the conservation of landscape features such as streams, ponds, small woods, individual trees, hedges and natural grassland, in particular, by taking the following measures:

1. drawing up in each municipality an inventory of landscape features which should be preserved;

2. taking these features into account in the preparation or revision of land-use plans by including them in zones enjoying a high level of protection;

3. setting up a system of management agreements for the preservation and, where appropriate, the management of the landscape features thus protected;

4. for each agricultural production unit, establishing, in agreement with the farmer, a conservation plan comprising:

a. an ecological analysis of the unit;
b. a map of landscape features and natural areas to be conserved and, where necessary, restored or reconstituted;
c. practicable and advisable "extensification" methods;
d. setting aside certain plots of land where appropriate, selected on the basis of an ecological study;
e. a management agreement specifying the results to be achieved, the means needed to achieve them and the amounts to be paid to the farmer by way of compensation or remuneration for services rendered.

VI. Ecologically sensitive areas

Set up special legal regimes applicable to certain areas requiring specific measures on account of their ecological vulnerability and the various kinds of pressure to which they are exposed, including, in particular, the following measures:

1. *Coastlines and adjacent marine areas*

a. setting up a legal regime for natural areas in the public maritime domain which takes account of the need to preserve the natural habitats comprising them and which regulates activities liable to affect them adversely;
b. instituting binding land-use plans for marine areas which are of special ecological interest or require special protective measures on account of their vulnerability;
c. adopting special planning regulations prohibiting or limiting new development, especially the building of roads, on the coastline;

d. protecting landscape features and habitats characteristic of coastal ecosystems, such as dunes, beaches, cliffs, wetlands, salt marshes and woodlands, by including them in land-use planning zones enjoying the highest level of protection;
e. as far as possible, eliminating the difficulties due to the division of powers between different government agencies on either side of the upper limit of the public maritime domain by setting up a co-ordinating mechanism allowing for the management of the coastline and the adjacent marine areas, particularly protected ones, as a single unit.

2. *Montains*

a. providing for financial means of encouragement along with management agreements to maintain the rural mountain population, while promoting farming methods respectful of natural habitats and the balance of nature; adjusting aid arrangements for stock-breeding in mountain areas to the carrying capacity of the pasture land;
b. designating areas where the building of roads, except access tracks to pastures and forests, and the construction of buildings and other structures are prohibited;
c. including in land-use planning zones enjoying the highest level of protection the landscape features and habitats typical of mountain ecosystems, such as glaciers, névés, moraines, rock faces, scree, high-altitude lakes, torrents, peat bogs and dry grasslands;
d. regulating off-piste skiing, the spreading of artificial snow, the use of cross-country vehicles and any other activities liable to harm mountain ecosystems.

3. *Flood plains*

a. maintaining and, where possible, restoring the natural cycle of flooding in flood-plains;
b. designating flood-risk areas and subjecting them to special restrictions, particularly with regard to building;
c. protecting landscape features and habitats that are typical of flood plains, such as alluvial forests, water meadows, oxbow lakes and islands, by including them in land-use planning zones enjoying the highest level of protection;
d. encouraging the continuation of traditional agricultural and stock breeding methods by means of subsidies and management agreements;
e. requiring prior authorisation for any drainage or conversion of wetlands in a flood plain;
f. creating river nature parks, in accordance with paragraph VII.3 below.

4. *Forests*

a. maintaining at least 2% of the surface area of publicly-owned indigenous and natural forests in its natural state by letting biological cycles, including the recycling of dead wood, occur freely;
b. setting up a system of management agreements with the owners of private forests to encourage the conservation of certain forest ecosystems or the continuation of certain forestry practices;
c. adopting regulations to ensure the protection of forest clearings and edges;
d requiring that, after an environmental impact assessment has been carried out, any afforestation of semi-natural or natural non-wooded land and any conversion of natural forest into artificial forest be subject to the permission (or agreement) of the authority responsible for nature conservation and/or forest management.

VII. Protected landscapes

1. Set up a network of nature parks of the C and D categories defined in Resolution (73) 30 of the Committee of Ministers with a view to conserving European landscapes by managing all their component elements in an integrated way.

2. Provide each nature park thus defined with the following means of action:

a. a specific land-use planning instrument with which the land-use plans of municipalities situated in the park must comply, and which includes the zoning and regulation of human activities according to the conservation needs of each zone;
b. incentives to encourage the maintenance of traditional activities compatible with the conservation needs of each zone, or necessary to achieve them;
c. administration specific to each park and empowered to grant the permits required to carry out those activities which are regulated in each zone;
d. adequate funds and staff for providing information, encouragement and financial or technical assistance to all public bodies and private individuals that own land or carry out activities in the park.

3. Pay particular attention to establishing river nature parks covering the whole width of the flood plain, on either side of certain watercourses or parts thereof, where hydraulic schemes, drainage and any activities liable to harm river and alluvial ecosystems are regulated.

Appendix 7

Resolution No. 3 (1996) of the Standing Committee concerning the setting up of a Pan-European Ecological Network

(adopted by the Standing Committee on 26 January 1996)

The Standing Committee of the Convention on the Conservation of European Wildlife and Natural Habitats, acting under the terms of Article 14 of the convention,

Desirous to pursue the implementation of its Recommendation No. 16 (1989) on areas of special conservation interest;

Desirous also to contribute as a first step to the implementation of the Pan-European Biological and Landscape Diversity Strategy, in particular to Theme 1 of the strategy "Establishing the Pan-European ecological network", as endorsed at the Ministerial Conference "Environment for Europe" (Sofia, Bulgaria, October 1995),

Resolves to:

1. set up a network (Emerald Network) which would include the areas of special conservation interest designated following its Recommendation No. 16;

2. create a group of experts to carry out the necessary activities related to the building up of the network;

3. encourage contracting parties and observer states to designate areas of special conservation interest and to notify them to the Secretariat;

4. invite European states which are observer states in the Standing Committee of the Bern Convention to participate in the network and designate areas of special conservation interest.

Appendix 8

Resolution No. 4 (1996) of the Standing Committee listing endangered natural habitat requiring specific conservation measures

(adopted by the Standing Committee on 6 December 1996)

The Standing Committee of the Convention on the Conservation of European Wildlife and Natural Habitats, acting under the terms of Article 14 of the convention,

Having regard to its Resolution No. 1 (1989) on the provisions relating to the conservation of habitats,

Having regard to its Recommendation No. 14 (1989) on species habitat conservation and on the conservation of endangered natural habitats,

Acknowledging that for Contracting Parties which are Member States of the European Union the list of natural habitats requiring specific conservation measures corresponds to Annex I of the Council Directive 92/43/EEC,

Resolves to identify the natural habitats listed in Annex I to this resolution as endangered natural habitat types requiring specific conservation measures. (Selected habitats are marked with the sign !)

Resolves to update periodically Annex I to this resolution.

Annex 1

ENDANGERED NATURAL HABITAT TYPES

1 . COASTAL AND HALOPHYTIC COMMUNITIES

11. OCEAN AND SEAS, MARINE COMMUNITIES

11.2 Benthic communities
! 11.22 Sublittoral soft seabeds
! 11.24 Sublittoral rocky seabeds and kelp forests
! 11.25 Sublittoral organogenic concretions
! 11.26 Sublittoral cave communities
! 11.27 Soft sediment littoral communities

! 11.3 Sea-grass meadows

11.4 Brackish sea vascular vegetation
! 11.42 Marine spike-rush beds

12. SEA INLETS AND COASTAL FEATURES

! 12.7 Sea-caves

13. ESTUARIES AND TIDAL RIVERS

! 13.2 Estuaries

! 14. MUD FLATS AND SAND FLATS

15. SALTMARSHES, SALT STEPPES, SALT SCRUBS, SALT FORESTS

15.1 Annual salt pioneer swards
! 15.1132 Venetian glasswort swards
! 15.114 Iberian glasswort swards
! 15.115 Continental glasswort swards
! 15.13 Sea-pearlwort communities
! 15.14 Central Eurasian crypsoid communities

15.3 Boreo-nemoral coastal salt meadows
! 15.32 Atlantic lower schorre communities
! 15.33 Atlantic upper schorre communities
! 15.34 Atlantic brackish saltmarsh communities

! 15.4 Suboceanic inland salt meadows

! 15.5 Mediterranean salt meadows

! 15.6 Mediterraneo-Nemoral saltmarsh scrubs

! 15.7 Mediterraneo-Canarian xero-halophile scrubs

! 15.8 Mediterranean salt steppes

! 15.9 Mediterranean gypsum scrubs

! 15.A Continental salt steppes and saltmarshes

16. COASTAL SAND DUNES AND SAND BEACHES

! 16.2 Dunes

! 16.3 Humid dune-slacks

17. SHINGLE BEACHES

! 17.3 Sea kale communities

1A. COASTAL AGROSYSTEMS

! 1A.1 Machair

2 . NON-MARINE WATERS

! 21. COASTAL LAGOONS

22. STANDING FRESH WATER

22.1 Permanent ponds and lakes
! 22.11 Lime-deficient oligotrophic waterbodies

22.3 Amphibious communities
! 22.31 Euro-Siberian perennial amphibious communities
22.32 Euro-Siberian dwarf annual amphibious swards
! 22.321 Dwarf spike-rush communities
! 22.322 Dune-slack centaury swards
22.323 Dwarf toad-rush communities
! 22.3232 Small galingale swards
! 22.3233 Wet ground dwarf herb communities
22.34 Mediterraneo-Atlantic amphibious communities
! 22.341 Short Mediterranean amphibious swards
! 22.342 Tall Mediterranean amphibious swards
! 22.344 *Serapias* grasslands
22.35 Central Eurasian amphibious communities
! 22.351 Pannonic riverbank dwarf sedge communities

22.4 Euhydrophyte communities
22.41 Free-floating vegetation
! 22.412 Frogbit rafts
! 22.413 Water-soldier rafts
! 22.414 Bladderwort colonies
! 22.415 Salvinia covers
! 22.416 Aldrovanda communities
22.43 Rooted floating vegetation

22.431 Floating broad-leaved carpets
! 22.4316 Sacred lotus beds
22.432 Shallow-water floating communities
! 22.4321 Water crowfoot communities
! 22.4323 Water violet beds
! 22.44 Chandalier algae submerged carpets

! 22.5 Turlough and lake-bottom meadows

23. STANDING BRACKISH AND SALT WATER

! 23.1 Athalassal saline lakes

! 23.3 Salt lake islands

24. RUNNING WATER

! 24.2 River gravel banks

3. SCRUB AND GRASSLAND

31. TEMPERATE HEATH AND SCRUB

! 31.1 European wet heaths

! 31.2 European dry heaths

! 31.3 Macaronesian heaths

31.4 Alpine and boreal heaths
31.42 Alpenrose heaths
! 31.424 Carpathian Kotschy's alpenrose heaths
! 31.425 Balkan Kotschy's alpenrose heaths
! 31.46 *Bruckenthalia* heaths

! 31.7 Hedgehog-heaths

31.8 Western Eurasian thickets
31.8B South-eastern deciduous thickets
! 31.8B1 Pannonic and sub-Pannonic thickets

32. SCLEROPHYLLOUS SCRUB

32.2 Thermo-Mediterranean shrub formations
! 32.22 Tree-spurge formations
! 32.24 Palmetto brush
! 32.25 Mediterranean pre-desert scrub
! 32.26 Thermo-Mediterranean broom fields (*retamares*)
! 32.2B Cabo de Sao Vicente brushes

! 33. PHRYGANA

34. STEPPES AND DRY CALCAREOUS GRASSLANDS

34.1 Middle European pioneer swards
34.11 Middle European rock debris swards
! 34.112 Houseleek communities

! 34.2 Lowland heavy metal grasslands

! 34.3 Dense perennial grasslands and middle European steppes

! 34.5 Mediterranean xeric grasslands

! 34.9 Continental steppes

! 34.A Sand steppes

35. DRY SILICEOUS GRASSLANDS

35.1 Atlantic mat-grass swards and related communities

! 35.11 Mat-grass swards

! 35.7 Mediterraneo-montane mat-grass swards

37. HUMID GRASSLAND AND TALL HERB COMMUNITIES

37.1 Lowland tall herb communities
! 37.13 Continental tall herb communities
! 37.14 Eastern nemoral tall herb communities

! 37.2 Eutrophic humid grasslands

! 37.3 Oligotrophic humid grasslands

! 37.4 Mediterranean tall humid grasslands

37.7 Humid tall herb fringes
37.71 Watercourse veils
! 37.711 *Angelica archangelica* fluvial communities
! 37.712 *Angelica heterocarpa* fluvial communities
! 37.713 Marsh mallow screens

38. MESOPHILE GRASSLANDS

38.2 Lowland high meadows
! 38.25 Continental meadows

4. FORESTS

41. BROAD-LEAVED DECIDUOUS FORESTS

! 41.1 Beech forests

! 41.2 Oak-hornbeam forests

! 41.4 Mixed ravine and slope forests

! 41.5 Acidophilous oak forests

! 41.6 *Quercus pyrenaica* forests

! 41.7 Thermophilous and supra-Mediterranean oak woods

! 41.8 Mixed thermophilous forests

! 41.H Euxino-Hyrcanian mixed deciduous forests

42. TEMPERATE CONIFEROUS FORESTS

42.1 Western Palaearctic fir forests
! 42.15 Southern Apennine silver fir forests
! 42.16 Southern Balkan silver fir forests
! 42.17 Balkano-Pontic fir forests
! 42.19 Afro-Asian fir forests

42.2 Western Palaearctic orogenous spruce forests
! 42.21 Alpine and Carpathian sub-alpine spruce forests
! 42.22 Inner range montane spruce forests
! 42.23 Hercynian subalpine spruce forests
42.24 Sub-Mediterranean Norway spruce forests
! 42.241 Rhodope spruce forest
! 42.243 Montenegrine spruce forest
! 42.244 Paeonian spruce forest
! 42.245 Balkan Range spruce forest
! 42.27 Omorika spruce forests

! 42.28 Oriental spruce forests

42.3 Alpine larch-arolla forests
! 42.31 Eastern Alpine siliceous larch and arolla forests
! 42.32 Eastern Alpine calcicolous larch and arolla forests
! 42.35 Carpathian larch and arolla forests
! 42.36 *Larix polonica* forests

42.4 Mountain pine forests
! 42.41 Rusty alpenrose mountain pine forests
! 42.42 Xerocline mountain pine forests

42.5 Western Palaearctic Scots pine forests
! 42.51 Caledonian forest
42.52 Middle European Scots pine forests
42.523 Western Eurasian steppe pine forest
! 42.5232 Sarmatic steppe pine forest
! 42.5233 Carpatian steppe pine frests
! 42.5234 Pannonic Scots pine steppe woods
42.54 Spring heath Scots pine forests
! 42.542 Carpatian relict calcicolous Scots pine forest
! 42.5C South-eastern European Scots pine forests
! 42.5F Ponto-Caucasian Scots pine forests

42.6 Black pine forests
! 42.61 Alpino-Apennine *Pinus nigra* forests
! 42.62 Western Balkan *Pinus nigra* forests
! 42.63 Salzmann's pine forests
! 42.64 Corsican laricio pine forests
! 42.65 Calabrian laricio pine forests
! 42.66 Banat and Pallas' pine forests

! 42.7 High oro-mediterranean pine forests

42.8 Mediterranean pine woods
42.81 Maritime pine forests
! 42.811 Charente pine-holm oak forests
! 42.812 Aquitanian pine-cork oak forests
! 42.814 Iberian maritime pine forests
! 42.82 Mesogean pine forests
! 42.83 Stone pine forests
42.84 Aleppo pine forests
! 42.841 Iberian Aleppo pine forests
! 42.842 Balearic Aleppo pine forests
! 42.843 Provençe-Ligurian Aleppo pine forests
! 42.844 Corsican Aleppo pine woods
! 42.845 Sardinian Aleppo pine woods
! 42.846 Sicilian Aleppo pine woods
42.847 Italic Aleppo pine forests
! 42.8471 Gargano Aleppo pine forests
! 42.8472 Metapontine Aleppo pine forests
! 42.8473 Umbrian Aleppo pine forests
! 42.848 Hellenic Aleppo pine forests
! 42.849 Illyrian Aleppo pine forests
! 42.84A East Mediterranean Aleppo pine forests
! 42.85 Aegean pine forests

! 42.9 Canary Island pine forests

! 42.A Western Palaearctic cypress, juniper and yew forests

! 42.B Western Palaearctic cedar forests

44. TEMPERATE RIVERINE AND SWAMP FORESTS AND BRUSH

! 44.1 Riparian willow formations

! 44.2 Boreo-alpine riparian galleries

! 44.3 Middle European stream ash-alder woods

44.4 Mixed oak-elm-ash forests of great rivers
! 44.41 Great medio-European fluvial forests
! 44.43 South-east European ash-oak-alder forests
! 44.44 Po oak-ash-alder forests

! 44.5 Southern alder and birch galleries

44.6 Mediterraneo-Turanian riverine forests
! 44.66 Ponto-Sarmatic mixed poplar riverine forest
! 44.69 Irano-Anatolian mixed riverine forests
! 44.7 Oriental plane and sweet gum woods

! 44.8 Southern riparian galleries and thickets

44.9 Alder, willow, oak, aspen swamp woods
44.91 Adler swamp woods
44.911 Meso-eutrophic swamp alder woods
! 44.9115 Eastern Carpathian alder swamp woods
! 44.914 Steppe swamp alder woods

! 44.A Birch and conifer mire woods

! 44.B Euxino-Hyrcanian wet ground forests

! 45. TEMPERATE BROAD-LEAVED EVERGREEN FORESTS

5 . BOGS AND MARSHES

51. RAISED BOGS

! 51.1 Near-natural raised bogs

! 52. BLANKET BOGS

53. WATER-FRINGE VEGETATION

! 53.3 Fen-sedge beds

54. FENS, TRANSITION MIRES AND SPRINGS

54.1 Springs
! 54.12 Hard water springs

! 54.2 Rich fens

! 54.3 Arcto-alpine riverine swards

54.4 Acidic fens
54.42 Black-white-star sedge fens
! 54.426 Peri-Danubian black-white-star sedge fens

! 54.5 Transition mires

! 54.6 White beak-sedge and mud bottom communities

! 54.8 Aapa mires

! 54.9 Palsa mires

! 54.A Polygon mires

6 . INLAND ROCKS, SCREES AND SANDS

61. SCREES

61.3 Western Mediterranean and thermophilous screes
61.31 Peri-Alpine thermophilous screes
! 61.313 Paris Basin screes

! 64. INLAND SAND DUNES

! 65. CAVES

9 . WOODED GRASSLANDS AND SCRUBS

91. PARKLANDS

! 91.2 Dehesa

! 93. WOODED STEPPE

Appendix 9

Resolution No. 5 (1998) of the Standing Committee concerning the rules for the Network of areas of special conservation interest (Emerald Network)

(adopted by the Standing Committee on 4 December 1998)

The Standing Committee of the Convention on the Conservation of European Wildlife and Natural Habitats, acting under the terms of Article 14 of the convention,

Having regard to its Resolution No. 1 (1989) on the provisions relating to the conservation of habitats;

Having regard to its Recommendation No. 14 (1989) on species habitat conservation and on the conservation of endangered natural habitats;

Having regard to its Recommendation No. 16 (1989) on Areas of Special Conservation Interest;

Having regard to its Resolution No. 3 (1996) on the setting-up of a pan-European Ecological Network;

Having regard to its Resolution No. 4 (1996) listing endangered natural habitats requiring specific habitat conservation measures;

Having regard to its Resolution No. 6 (1998) listing the species requiring specific habitat conservation measures;

Considering that for Contracting Parties which are Member States of the European Union Emerald Network sites are those of the Natura 2000 Network. Thus the procedures established by European Council Directives 79/409/EEC and 92/43/EEC will be the only rules to apply;

Noting that, following points 3 and 4 of Resolution No 3 (1996), the use of the term "governments" in this resolution means the governments of the States Contracting Parties to the Convention, of other Council of Europe States and of other States which are observer States in the Standing Committee of the Convention,

Resolves to adopt hereby the Rules for the Emerald Network of Areas of Special Conservation Interest:

Article 1

Any area, whether land or sea, where that area fits one or several of the conditions established in Recommendation No. 16 (1989), point 1, may form part of the Emerald Network.

Article 2

2.1. Areas of Special Conservation Interest (ASCIs) to be included in the Emerald Network shall be designated by the governments.
2.2. The Standing Committee may advise the government concerned on the advisability of designating one or more ASCIs that are of a particular interest to the Emerald Network.

Article 3

3.1. Any government designating an ASCI shall deposit a standard Data Form with the Secretariat. A model for this Standard Data Form, derived from and compatible with the Natura 2000 Standard Data Form, is found as appendix to this resolution. Governments are encouraged to provide the information for the Standard Data Form on electronic support.
3.2. Where the designations conform with the provisions of Article 1 of this resolution, the Secretariat shall notify the government of the fact and shall register them.
3.3. If not, the Standing Committee shall advise the government concerned to withdraw the designation. If the overnment nevertheless maintains the designation, the Standing Committee may decide not to accept it.

3.4. The information on ASCIs shall be public and stored in a database, except for information communicated as confidential. Governments are requested not to send any confidential information in electronic form, but to do it separately, mentioning its confidentiality. Confidential information shall not be included in the database and shall not become public.

Article 4

4.1. The governments shall undertake surveillance of the conservation status of species and natural habitats in designated ASCIs.
4.2. The governments shall inform the Secretariat of any important changes likely to affect negatively in a substantial way the ecological character of the designated ASCIs or the conditions having justified their designation.
4.3. Where any such changes come to light, the Standing Committee may advise the government concerned on steps to be taken to ensure conformity with the provisions of Recommendation No. 16 (1989).
4.4. Exceptions to the provisions of Articles 4, 5, 6 and 7 of the Convention in designated ASCIs shall be regulated by Article 9 of the Convention.

Article 5

5.1. The Group of Experts on the Setting-up of the Emerald Network shall follow the progress of the Emerald Network under the aegis of the Standing Committee. It will endeavour, under the aegis of the Standing Committee, to publish regularly lists of designated ASCIs and their character and to make that information available in electronic form.
5.2. The Standing Committee shall periodically review the contribution of the Emerald Network towards the achievement of the objectives of the Convention. In this context a designated ASCI may be considered for declassification where this is warranted by natural developments noted as a result of the surveillance provided for in Article 4.1.

Article 6

The Standing Committee shall encourage governments to implement Recommendation No. 16 (1989) on designated ASCIs and shall use its best endeavours to solve any difficulty that may arise in the implementation or interpretation of this resolution.

Appendix to Resolution No. 5
Model data form to be adapted following the list of species in annex 1 of Resolution No. 6

Appendix 10

Resolution No. 6 (1998) of the Standing Committee listing the species requiring specific habitat conservation measures

(adopted by the Standing Committee on 4 December 1998)

The Standing Committee of the Convention on the Conservation of European Wildlife and Natural Habitats, acting under the terms of Article 14 of the convention,

Having regard to its Resolution No. 1 (1989) on the provisions relating to the conservation of habitats;

Having regard to its Recommendation No. 14 (1989) on species habitat conservation and on the conservation of endangered natural habitat types;

Conscious that habitat protection measures are only a part of the measures required for the long term conservation of species;

Taking into account the reservations made by the Contracting Parties at the time of signature or when depositing its instruments of ratification, acceptance, approval or accession;

Taking note of the conclusions of the Council of the European Union of 6 October 1995: "*The Council notes that the European Union will be represented in the framework of the Strategy (pan-European Biological and Landscape Diversity Strategy) by Natura 2000*", for the European Union the list of species requiring special habitat conservation measures corresponds to Annex II of the Council Directive 92/43/EEC, such as modified by Directive 97/621/CEE and to Annex I of the Council Directive 79/409/EEC of 2 April 1979;

Conscious that some species listed may be abundant in parts of Europe and may not require specific habitat conservation measures everywhere, and marking those species with the sign (#);

Recalling that some species listed may be abundant in some of the Member States of the European Union, and that the appropriate notes in Annex II of the Council Directive 92/43/EEC need to be taken into account for European Union Member States, and marking those species with the sign [1];

Noting that some species or subspecies listed are not included in Appendices I or II of the Convention, although they appear in Annex II of the Council Directive 92/43/EEC such as modified by Directive 96/62/CEE or in Annex I of the Council Directive 79/409/EEC, and marking those species with the sign [2],

1. Resolves to identify the species in Appendix 1 to this resolution as requiring specific habitat conservation measures;

Appendix 1
Species requiring specific habitat conservation measures

PLANTS / PLANTES

PTERIDOPHYTA

ASPLENIACEAE
Asplenium jahandiezii (Litard.) Rouy

BLECHNACEAE
Woodwardia radicans (L.) Sm.

DICKSONIACEAE
Culcita macrocarpa C. Presl

DRYOPTERIDACEAE
Diplazium sibiricum (Turcz. ex Kunze) Kurata
Dryopteris corleyi Fraser-Jenk.
Dryopteris fragans (L.) Schott

HYMENOPHYLLACEAE
Trichomanes speciosum Willd.

ISOETACEAE
Isoetes boryana Durieu
Isoetes malinverniana Ces. & De Not.

MARSILEACEAE
Marsilea batardae Launert
Marsilea quadrifolia L.
Marsilea strigosa Willd.

OPHIOGLOSSACEAE
Botrychium simplex Hitchc.
Ophioglossum polyphyllum A. Braun

GYMNOSPERMAE

PINACEAE
Abies nebrodensis (Lojac.) Mattei

ANGIOSPERMAE

ALISMATACEAE
Alisma wahlenbergii (Holmberg) Juz.
Caldesia parnassifolia (L.) Parl.
Luronium natans (L.) Raf.

AMARYLLIDACEAE
Leucojum nicaeense Ard.
Narcissus angustifolius Curt.
Narcissus asturiensis (Jordan) Pugsley
Narcissus calcicola Mendonça
Narcissus cyclamineus DC.
Narcissus fernandesii G. Pedro
Narcissus humilis (Cav.) Traub
Narcissus nevadensis Pugsley
Narcissus pseudonarcissus L. subsp. nobilis (Haw.) A. Fernandes
Narcissus scaberulus Henriq.
Narcissus triandrus L. subsp. capax (Salisb.) D. A. Webb.
Narcissus viridiflorus Schousboe
Sternbergia candida B.

ARISTOLOCHIACEAE
Aristolochia samsunensis Davis

ASCLEPIADACEAE
Vincetoxicum pannonicum (Borhidi) Holub

BORAGINACEAE
Anchusa crispa Viv.
Lithodora nitida (H. Ern) R. Fernandes
Myosotis lusitanica Schuster
Myosotis rehsteineri Wartm.
Myosotis retusifolia R. Afonso
Onosma halophilum Boiss. & Heldr.
Onosma polyphylla Lebed.
Onosma proponticum Aznav.
Omphalodes kuzinskyanae Willk.
Omphalodes littoralis Lehm.
Solenanthus albanicus (Degen & al.) Degen & Baldacci
Symphytum cycladense Pawl.

CAMPANULACEAE
Asyneuma giganteum (Boiss.) Bornm.
Campanula damboldtiana
Campanula gelida Kovanda
Campanula lycica
Campanula romanica Savul.
Campanula sabatia De Not.
Jasione crispa (Pourret) Samp. subsp. serpentinica Pinto da Silva
Jasione lusitanica A. DC.

CARYOPHYLLACEAE

Arenaria ciliata L. ssp. pseudofrigida Ostenf. & O.C. Dahl
Arenaria humifusa Wahlenberg
Arenaria nevadensis Boiss. & Reuter
Arenaria provincialis Chater & Halliday
Cerastium alsinifolium Tausch
Dianthus arenarius L. subsp. arenarius
Dianthus cintranus Boiss. & Reuter subsp. cintranus Boiss. & Reuter
Dianthus hypanicus Andrz.
Dianthus marizii (Samp.) Samp.
Dianthus nitidus Waldst. et Kit.
Dianthus rupicola Biv.
Dianthus serotinus Waldst. et Kit.
Dianthus urumoffii Stoj. et Acht.
Gypsophila papillosa P. Porta
Herniaria algarvica Chaudhri
Herniaria latifolia Lapeyr. subsp. litardierei Gamis
Herniaria lusitanica (Chaudhri) subsp. berlengiana Chaudhri
Herniaria maritima Link
Minuartia smejkalii Dvorakova
Moehringia hypanica Grynj. et Klok.
Moehringia lateriflora (L.) Fenzl.
Moehringia tommasinii Marches.
Petrocoptis grandiflora Rothm.
Petrocoptis montsicciana O. Bolos & Rivas Mart.
Petrocoptis pseudoviscosa Fernandez Casas
Saponaria halophila
Silene cretacea Fisch. ex Spreng.
Silene furcata Rafin. ssp. angustiflora (Rupr.) Walters
Silene hicesiae Brullo & Signorello
Silene hifacensis Rouy ex Willk.
Silene holzmanii Heldr. ex Boiss.
Silene longicilia (Brot.) Otth.
Silene mariana Pau
Silene orphanidis Boiss.
Silene rothmaleri Pinto da Silva
Silene salsuginae Hub.-Mor.
Silene sangaria Coode & Cullen
Silene velutina Pourret ex Loisel.

CHENOPODIACEAE

Bassia (Kochia) saxicola (Guss.) A. J. Scott
Beta trojana Pamuk. apud Aellen
Microcnemum coralloides subsp. anatolicum
Suaeda cucullata Aellen
Salicornia veneta Pignatti & Lausi

CISTACEAE

Cistus palhinhae Ingram
Halimium verticillatum (Brot.) Sennen
Helianthemum arcticum (Grosser) Janch.
Helianthemum alypoides Losa & Rivas Goday
Helianthemum caput-felis Boiss.
Tuberaria major (Willk.) Pinto da Silva & Rozeira

COMPOSITAE

Achillea glaberrima Klok.
Achillea thracica Velen.
Anacyclus latealatus Hub.-Mor.
Andryala levitomentosa (E. I. Nayardy) P. D. Sell
Anthemis glaberrima (Rech. f.) Greuter
Anthemis halophila Boiss. & Bal.
Artemisia campestris L. subsp. bottnica A.N. Lundström ex Kindb.
Artemisia granatensis Boiss.
Artemisia laciniata Willd.
Artemisia oelandica (Besser) Komaror
Artemisia pancicii (Janka) Ronn.
Aster pyrenaeus Desf. ex DC
Aster sorrentinii (Tod) Lojac.
Carduus myriacanthus Salzm. ex DC.
Centaurea akamantis Th Georgiades & G Chatzikyriakou
Centaurea alba L. subsp. heldreichii (Halacsy) Dostal
Centaurea alba L. subsp. princeps (Boiss. & Heldr.) Gugler
Centaurea attica Nyman subsp. megarensis (Halacsy & Hayek) Dostal

Centaurea balearica J. D. Rodriguez
Centaurea borjae Valdes-Berm. & Rivas Goday
Centaurea citricolor Font Quer
Centaurea corymbosa Pourret
Centaurea dubjanskyi Iljin.
Centaurea gadorensis G. Blanca
Centaurea hermannii F. Hermann
Centaurea horrida Badaro
Centaurea jankae Brandza
Centaurea kalambakensis Freyn & Sint.
Centaurea kartschiana Scop.
Centaurea lactiflora Halacsy
Centaurea micrantha Hoffmanns. & Link subsp. herminii (Rouy) Dostál
Centaurea niederi Heldr.
Centaurea peucedanifolia Boiss. & Orph.
Centaurea pinnata Pau
Centaurea pineticola Iljin.
Centaurea pontica Prodan & E. I. Nayardy
Centaurea pseudoleucolepis Kleop
Centaurea pulvinata (G. Blanca) G. Blanca
Centaurea rothmalerana (Arènes) Dostál
Centaurea tchihatcheffii Fich. & Mey
Centaurea vicentina Mariz
Crepis crocifolia Boiss. & Heldr.
Crepis granatensis (Willk.) B. Blanca & M. Cueto
Crepis tectorum L. subsp. nigrescens
Dendranthema zawadskyi (Herb.) Tzvel.
Erigeron frigidus Boiss. ex DC.
Hymenostemma pseudanthemis (Kunze) Willd.
Jurinea cyanoides (L.) Reichenb.
Jurinea fontqueri Cuatrec.
Lagoseris purpurea (Willd.) Boiss.
Lamyropsis microcephala (Moris) Dittrich & Greuter
Leontodon microcephalus (Boiss. ex DC.) Boiss.
Leontodon boryi Boiss.
Leontodon siculus (Guss.) Finch & Sell
Leuzea longifolia Hoffmanns. & Link
Ligularia sibirica (L.) Cass.
Santolina impressa Hoffmanns. & Link
Santolina semidentata Hoffmanns. & Link
Senecio elodes Boiss. ex DC.
Senecio jacobea L. subsp. gotlandicus (Neuman) Sterner
Senecio nevadensis Boiss. & Reuter
Serratula tanaitica P. Smirn.
Sonchus erzincanicus Matthews

CONVOLVULACEAE
Convolvulus argyrothamnus Greuter
Convolvulus fernandesii Pinto da Silva & Teles
Convolvulus pulvinatus Sa'ad

CRUCIFERAE
Alyssum pyrenaicum Lapeyr.
Arabis sadina (Samp.) P. Cout.
Armoracia macrocarpa (Waldst. & Kit.) Kit. ex Baumg
Biscutella neustriaca Bonnet
Biscutella vincentina (Samp.) Rothm.
Boleum asperum (Pers.) Desvaux
Brassica glabrescens Poldini
Brassica insularis Moris
Brassica macrocarpa Guss.
Brassica sylvestris (l.) Mill. subsp. taurica Tzvel.
Braya linearis Rouy
Cochlearia polonica Frohlich
Coincya rupestris Rouy
Coronopus navasii Pau
Crambe koktebelica (Junge) N. Busch.
Crambe litwinonowii K. Gross.
Diplotaxis ibicensis (Pau) Gomez-Campo
Diplotaxis siettiana Maire
Diplotaxis vicentina (P. Cout.) Rothm.
Draba cacuminum Elis Ekman
Draba cinerea Adams

Erucastrum palustre (Pirona) Vis.
Erysimum pieninicum (Zapal.) Pawl.
Iberis arbuscula Runemark
Iberis procumbens Lange subsp. microcarpa Franco & Pinto da Silva
Jonopsidium acaule (Desf.) Reichenb.
Jonopsidium savianum (Caruel) Ball ex Arcang.
Lepidium turczaninowii Lipsky.
Rhynchosinapis erucastrum (L.) Dandy ex Clapham subsp. cintrana (Coutinho) Franco & P. Silva (Coincya cintrana (P. Cout.) Pinto da Silva)
Schivereckia podolica (Besser) Andrz.
Sisymbrium cavanillesianum Valdes & Castroviejo
Sisymbrium supinum L.
Thlaspi cariense

CYPERACEAE
Carex holostoma Drejer
Carex panormitana Guss.
Eleocharis carniolica Koch

DIOSCOREACEAE
Borderea chouardii (Gaussen) Heslot

DIPSACACEAE
Dipsacus cephalarioides

DROSERACEAE
Aldrovanda vesiculosa L.

ERICACEAE
Vaccinium arctostaphylos L.

EUPHORBIACEAE
Euphorbia margalidiana Kuhbier & Lewejohann
Euphorbia transtagana Boiss.

GENTIANACEAE
Centaurium rigualii Esteve
Centaurium somedanum Lainz
Gentiana ligustica R. de Vilm. & Chopinet
Gentianella anglica (Pugsley) E. F. Warburg

GERANIACEAE
Erodium astragaloides Boiss. & Reuter
Erodium paularense Fernandez-Gonzalez & Izco
Erodium rupicola Boiss.

GLOBULARIACEAE
Globularia stygia Orph. ex Boiss.

GRAMINEAE
Arctagrostis latifolia (R. Br.) Griseb.
Arctophila fulva (Trin.) N. J. Anderson
Avenula hackelii (Henriq.) Holub
Bromus grossus Desf. ex DC.
Bromus psammophilus
Calamagrostis chalybaea (Laest.) Fries
Cinna latifolia (Trev.) Griseb.
Coleanthus subtilis (Tratt.) Seidl
Eremopoa mardinensis
Festuca brigantina (Markgr.-Dannenb.) Markgr.-Dannenb.
Festuca duriotagana Franco & R. Afonso
Festuca elegans Boiss.
Festuca henriquesii Hack.
Festuca summilusitana Franco & R. Afonso
Gaudinia hispanica Stace & Tutin
Holcus setiglumis Boiss. & Reuter subsp. duriensis Pinto da Silva
Micropyropsis tuberosa Romero - Zarco & Cabezudo
Poa granitica Br.- Bl.
Poa riphaea (Ascherson et Graebner) Fritsch
Pseudarrhenatherum pallens (Link) J. Holub
Puccinellia phryganodes (Trin.) Scribner + Merr.
Puccinellia pungens (Pau) Paunero
Stipa austroitalica Martinovsky
Stipa bavarica Martinovsky & H. Scholz

Stipa danubialis Dihoru & Roman
Stipa styriaca Martinovsky
Stipa syreistschikowii P. Smirn.
Stipa veneta Moraldo
Trisetum subalpestre (Hartman) Neuman

GROSSULARIACEAE
Ribes sardoum Martelli

HIPPURIDACEAE
Hippuris tetraphylla L. Fil.

HYPERICACEAE
Hypericum aciferum (Greuter) N.K.B. Robson
Hypericum salsugineum

IRIDACEAE
Crocus abantensis

JUNCACEAE
Juncus valvatus Link
Luzula arctica Blytt #

LABIATAE
Dracocephalum austriacum L.
Micromeria taygetea P. H. Davis
Nepeta dirphya (Boiss.) Heldr. ex Halacsy
Nepeta sphaciotica P. H. Davis
Origanum dictamnus L.
Sideritis incana subsp. glauca (Cav.) Malagarriga
Sideritis javalambrensis Pau
Sideritis serrata Cav. ex Lag.
Teucrium lepicephalum Pau
Teucrium turredanum Losa & Rivas Goday
Thymus camphoratus Hoffmanns. & Link
Thymus carnosus Boiss.
Thymus lotocephalus G. López & R. Morales (Thymus cephalotos L.)

LEGUMINOSAE
Anthyllis hystrix Cardona, Contandr. & E. Sierra
Astragalus aitosensis Ivanisch.
Astragalus algarbiensis Coss. ex Bunge
Astragalus aquilanus Anzalone
Astragalus centralpinus Braun-Blanquet
Astragalus kungurensis Boriss.
Astragalus maritimus Moris
Astragalus peterfii Jav.
Astragalus physocalyx Fischer
Astragalus tremolsianus Pau
Astragalus setosulus Gontsch.
Astragalus tanaiticus C. Koch.
Astragalus verrucosus Moris
Cytisus aeolicus Guss. ex Lindl.
Genista dorycnifolia Font Quer
Genista holopetala (Fleischm. ex Koch) Baldacci
Genista tetragona Bess.
Glycyrrhiza iconica
Hedysarum razoumovianum Fisch. et Helm.
Melilotus segetalis (Brot.) Ser. subsp. fallax Franco
Ononis hackelii Lange
Sphaerophysa kotschyana
Thermopsis turcica
Trifolium banaticum (Heuffel) Majovsky
Trifolium pachycalyx
Trifolium saxatile All.
Trigonella arenicola
Trigonella halophila
Trigonella polycarpa
Vicia bifoliolata J.D. Rodriguez

LENTIBULARIACEAE
Pinguicula nevadensis (Lindb.) Casper
LILIACEAE

Allium grosii Font Quer
Allium regelianum A. Beck.
Allium vuralii
Androcymbium rechingeri Greuter
Asparagus lycaonicus
Asphodelus bento-rainhae P. Silva
Chionodoxa luciliae
Colchicum davidovii Stef.
Colchicum fominii Bordz.
Colchicum micranthum
Fritillaria montana Hoppe.
Hyacinthoides vicentina (Hoffmans. & Link) Rothm.
Lilium jankae A. Kerner
Lilium rhodopaeum Delip.
Muscari gussonei (Parl.) Tod.
Tulipa hungarica Borbas

LINACEAE
Linum dolomiticum Borbas
Linum muelleri Moris (Linum maritimum muelleri)

LYTHRACEAE
Lythrum flexuosum Lag.

MALVACEAE
Kosteletzkya pentacarpos (L.) Ledeb.

NAJADACEAE
Najas flexilis (Willd.) Rostk. & W.L. Schmidt
Najas tenuissima (A. Braun) Magnus

OLEACEAE
Syringa josikaea Jacq. fil.

ORCHIDACEAE
Calypso bulbosa L.
Cephalanthera cucullata Boiss. & Heldr.
Cypripedium calceolus L.
Dactylorhiza chuhensis
Gymnigritella runei Teppner & Klein
Liparis loeselii (L.) Rich.
Ophrys isaura
Ophrys lunulata Parl.
Ophrys lycia
Platanthera obtusata (Pursh) subsp. oligantha (Turez.) Hulten
Steveniella satyrioides (Stev.) Schlechter.

PAEONIACEAE
Paeonia cambessedesii (Willk.) Willk.
Paeonia parnassica Tzanoudakis
Paeonia clusii F.C. Stern subsp. rhodia (Stearn) Tzanoudakis
Paeonia tenuifolia L.

PALMAE
Phoenix theophrasti Greuter

PAPAVERACEAE
Corydalis gotlandica Lidén
Papaver laestadianum (Nordh.) Nordh.
Papaver radicatum Rottb. subsp. hyperboreum Nordh.

PLANTAGINACEAE
Plantago algarbiensis Sampaio (Plantago bracteosa (Willk.) G. Sampaio)
Plantago almogravensis Franco

PLUMBAGINACEAE
Armeria berlengensis Daveau
Armeria helodes Martini & Pold
Armeria neglecta Girard
Armeria pseudarmeria (Murray) Mansfeld
Armeria rouyana Daveau
Armeria soleirolii (Duby) Godron
Armeria velutina Welw. ex Boiss. & Reuter
Limonium anatolicum

Limonium dodartii (Girard) O. Kuntze subsp. lusitanicum (Daveau) Franco
Limonium insulare (Beg. & Landi) Arrig. & Diana
Limonium lanceolatum (Hoffmans. & Link) Franco
Limonium multiflorum Erben
Limonium pseudolaetum Arrig. & Diana
Limonium strictissimum (Salzmann) Arrig.
Limonium tamaricoides

POLYGONACEAE
Persicaria foliosa (H. Lindb.) Kitag.
Polygonum praelongum Coode & Cullen
Rheum rhaponticum L
Rumex rupestris Le Gall

PRIMULACEAE
Androsace mathildae Levier
Androsace pyrenaica Lam.
Cyclamen kuznetzovii Kotov et Czernova
Cyclamen mirabile
Primula apennina Widmer
Primula nutans Georgi
Primula palinuri Petagna
Primula scandinavica Bruun #
Soldanella villosa Darracq.

RANUNCULACEAE
Aconitum corsicum Gayer (Aconitum napellus subsp. corsicum)
Aconitum flerovii Steinb.
Adonis distorta Ten.
Anemone uralensis Nevski.
Aquilegia bertolonii Schott
Aquilegia kitaibelii Schott
Aquilegia pyrenaica D.C. subsp. cazorlensis (Heywood) Galiano
Consolida samia P.H. Davis
Pulsatilla grandis Wend. (Pulsatilla halleri (All.) Willd. subsp. grandis (Wend.) Meikle
Pulsatilla patens (L.) Miller
Pulsatilla vulgaris Hill. subsp. gotlandica (Johanss.) Zaemelis & Paegle
Ranunculus lapponicus L.
Ranunculus weyleri Mares

RESEDACEAE
Reseda decursiva Forssk.

ROSACEAE
Agrimonia pilosa Ledebour
Potentilla emilii-popii E. I. Nayardy
Potentilla delphinensis Gren. & Godron
Potentilla silesiaca Uechtr.
Pyrus anatolica
Sorbus teodori Liljefors

RUBIACEAE
Galium cracoviense Ehrend.
Galium globuliferum
Galium litorale Guss.
Galium moldavicum (Dobrescu) Franco
Galium viridiflorum Boiss. & Reuter

SALICACEAE
Salix salvifolia Brot. subsp. australis Franco

SANTALACEAE
Thesium ebracteatum Hayne

SAXIFRAGACEAE
Saxifraga berica (Beguinot) D.A. Webb
Saxifraga florulenta Moretti
Saxifraga hirculus L. #
Saxifraga osloënsis Knaben
Saxifraga tombeanensis Boiss. ex Engl.

SCROPHULARIACEAE
Antirrhinum charidemi Lange

Chaenorrhinum serpyllifolium (Lange) Lange subsp. lusitanicum R. Fernandes
Euphrasia genargentea (Feoli) Diana
Euphrasia marchesettii Wettst. ex Marches.
Linaria algarviana Chav.
Linaria coutinhoi Valdés
Linaria ficalhoana Rouy
Linaria flava (Poiret) Desf.
Linaria hellenica Turrill
Linaria ricardoi Cout.
Linaria tursica B. Valdes & Cabezudo
Linaria tonzigii Lona
Odontites granatensis Boiss.
Pedicularis sudetica Willd.
Verbascum basivelatum
Verbascum degenii
Verbascum litigiosum Samp.
Verbascum purpureum (Janka) Huber-Morath
Verbascum stepporum
Veronica micrantha Hoffmanns. & Link
Veronica euxina Turrill
Veronica oetaea L.-A. Gustavsson
Veronica turrilliana Stoj. et Stef.

SOLANACEAE
Atropa baetica Willk.

THYMELAEACEAE
Daphne petraea Leybold
Daphne rodriguezii Texidor

ULMACEAE
Zelkova abelicea (Lam.) Boiss.

UMBELLIFERAE
Angelica heterocarpa Lloyd
Angelica palustris (Besser) Hoffm.
Apium bermejoi Llorens
Apium repens (Jacq.) Lag.
Athamanta cortiana Ferrarini
Bupleurum capillare Boiss. & Heldr.
Bupleurum kakiskalae Greuter
Eryngium alpinum L.
Eryngium viviparum Gay
Ferula halophila
Laserpitium longiradium Boiss.
Naufraga balearica Constans & Cannon
Oenanthe conioides Lange
Petagnia saniculifolia Guss.
Rouya polygama (Desf.) Coincy
Seseli intricatum Boiss.
Thorella verticillatinundata (Thore) Briq.

VALERIANACEAE
Centranthus kellereri (Stoj. Stef. et Georg.) Stoj. et Stef.
Centranthus trinervis (Viv.) Beguinot

VIOLACEAE
Viola hispida Lam.
Viola jaubertiana Mares & Vigineix
Viola rupestris F.W. Schmidt subsp. relicta Jalas

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BRYOPHYTA
Bruchia vogesiaca Schwaegr.
Bryhnia novae-angliae (Sull & Lesq.) Grout
Bryoerythrophyllum campylocarpum (C. Müll.) Crum. (Bryoerythrophyllum machadoanum (Sergio) M.O. Hill)
Buxbaumia viridis (Moug.) Moug. & Nestl.
Cephalozia macounii (Aust.) Aust.
Cynodontium suecicum (H. Arn. & C. Jens.) I. Hag.
Dichelyma capillaceum (Dicks) Myr.
Dicranum viride (Sull. & Lesq.) Lindb.

Distichophyllum carinatum Dix. & Nich.
Drepanocladus (Hamatocaulis) vernicosus (Mitt.) Warnst.
Encalypta mutica (I. Hagen)
Hamatocaulis lapponicus (Norrl.) Hedenäs
Herzogiella turfacea (Lindb.) I. Wats.
Hygrohypnum montanum (Lindb.) Broth.
Jungermannia handelii (Schiffn.) Amak.
Mannia triandra (Scop.) Grolle
Marsupella profunda Lindb.
Meesia longiseta Hedw.
Nothothylas orbicularis (Schwein.) Sull.
Orthothecium lapponicum (Schimp.) C. Hartm.
Orthotrichum rogeri Brid.
Petalophyllum ralfsii (Wils.) Nees & Gott.
Plagiomnium drummondii (Bruch & Schimp.) T. Kop.
Riccia breidleri Jur.
Riella helicophylla (Bory & Mont.) Mont.
Scapania massolongi (K. Müll.) K. Müll.
Sphagnum pylaisii Brid.
Tayloria rudolphiana (Garov) B. & S.
Tortella rigens (N. Alberts)

SPECIES FROM THE MACARONESIAN REGION
ESPÈCES DE LA REGION MACARONÉSIENNE

PTERIDOPHYTA

HYMENOPHYLLACEAE
Hymenophyllum maderensis Gibby & Lovis

DRYOPTERIDACEAE
Polystichum drepanum (Sw.) C. Presl.

ISOETACEAE
Isoetes azorica Durieu & Paiva ex Milde

MARSILEACEAE
Marsilea azorica Launert & Paiva

ANGIOSPERMAE

ASCLEPIADACEAE
Caralluma burchardii N. E. Brown
Ceropegia chrysantha Svent.

BORAGINACEAE
Echium candicans L. fil.
Echium gentianoides Webb & Coincy
Myosotis azorica H. C. Watson
Myosotis maritima Hochst. in Seub.

CAMPANULACEAE
Azorina vidalii (H. C. Watson) Feer
Musschia aurea (L. f.) DC.
Musschia wollastonii Lowe

CAPRIFOLIACEAE
Sambucus palmensis Link

CARYOPHYLLACEAE
Spergularia azorica (Kindb.) Lebel

CELASTRACEAE
Maytenus umbellata (R. Br.) Mabb.

CHENOPODIACEAE
Beta patula Ait.

CISTACEAE
Cistus chinamadensis Bañares & Romero
Helianthemum bystropogophyllum Svent.

COMPOSITAE
Andryala crithmifolia Ait.
Argyranthemum lidii Humphries
Argyranthemum thalassophylum (Svent.) Hump.
Argyranthemum winterii (Svent.) Humphries
Atractylis arbuscula Svent. & Michaelis
Atractylis preauxiana Schultz.
Calendula maderensis DC.
Cheirolophus duranii (Burchard) Holub
Cheirolophus ghomerytus (Svent.) Holub
Cheirolophus junonianus (Svent.) Holub
Cheirolophus massonianus (Lowe) Hansen & Sund.
Cirsium latifolium Lowe
Helichrysum gossypinum Webb
Helichrysum monogynum Burtt & Sund.
Hypochoeris oligocephala (Svent. & Bramw.) Lack
Lactuca watsoniana Trel.
Onopordum nogalesii Svent.
Onorpordum carduelinum Bolle
Pericallis hadrosoma (Svent.) B. Nord.
Phagnalon benettii Lowe
Stemmacantha cynaroides (Chr. Son. in Buch) Ditt
Sventenia bupleuroides Font Quer
Tanacetum ptarmiciflorum Webb & Berth

CONVOLVULACEAE
Convolvulus caput-medusae Lowe
Convolvulus lopez-socasii Svent.
Convolvulus massonii A. Dietr.

CRASSULACEAE
Aeonium gomeraense Praeger
Aeonium saundersii Bolle
Aichryson dumosum (Lowe) Praeg.
Monanthes wildpretii Banares & Scholz
Sedum brissemoretii Raymond-Hamet

CRUCIFERAE
Crambe arborea Webb ex Christ
Crambe laevigata DC. ex Christ
Crambe sventenii R. Petters ex Bramwell & Sund.
Parolinia schizogynoides Svent.
Sinapidendron rupestre (Ait.) Lowe

CYPERACEAE
Carex malato-belizii Raymond

DIPSACACEAE
Scabiosa nitens Roemer & J. A. Schultes

ERICACEAE
Erica scoparia L. subsp. azorica (Hochst.) D. A. Webb

EUPHORBIACEAE
Euphorbia handiensis Burchard
Euphorbia lambii Svent.
Euphorbia stygiana H. C. Watson

GERANIACEAE
Geranium maderense P. F. Yeo

GRAMINEAE
Deschampsia maderensis (Haeck. & Born.) Buschm.
Phalaris maderensis (Menezes) Menezes

GLOBULARIACEAE
Globularia ascanii D. Bramwell & Kunkel
Globularia sarcophylla Svent.

LABIATAE
Sideritis cystosiphon Svent.
Sideritis discolor (Webb ex de Noe) Bolle
Sideritis infernalis Bolle
Sideritis marmorea Bolle

Teucrium abutiloides L'Hér.
Teucrium betonicum L'Hér.

LEGUMINOSAE
Anagyris latifolia Brouss. ex. Willd.
Anthyllis lemanniana Lowe
Dorycnium spectabile Webb & Berthel
Lotus azoricus P. W. Ball
Lotus callis-viridis D. Bramwell & D. H. Davis
Lotus kunkelii (E. Chueca) D. Bramwell & al.
Teline rosmarinifolia Webb & Berthel.
Teline salsoloides Arco & Acebes.
Vicia dennesiana H. C. Watson

LILIACEAE
Androcymbium psammophilum Svent.
Scilla maderensis Menezes
Semele maderensis Costa

LORANTHACEAE
Arceuthobium azoricum Wiens & Hawksw.

MYRICACEAE
Myrica rivas-martinezii Santos.

OLEACEAE
Jasminum azoricum L.
Picconia azorica (Tutin) Knobl.

ORCHIDACEAE
Goodyera macrophylla Lowe

PITTOSPORACEAE
Pittosporum coriaceum Dryand. ex. Ait.

PLANTAGINACEAE
Plantago malato-belizii Lawalree

PLUMBAGINACEAE
Limonium arborescens (Brouss.) Kuntze
Limonium dendroides Svent.
Limonium spectabile (Svent.) Kunkel & Sunding
Limonium sventenii Santos & Fernandez Galvan

POLYGONACEAE
Rumex azoricus Rech. fil.

RHAMNACEAE
Frangula azorica Tutin

ROSACEAE
Bencomia brachystachya Svent.
Bencomia sphaerocarpa Svent.
Chamaemeles coriacea Lindl.
Dendriopoterium pulidoi Svent.
Marcetella maderensis (Born.) Svent.
Prunus lusitanica L. subsp. azorica (Mouillef.) Franco
Sorbus maderensis (Lowe) Dode

SANTALACEAE
Kunkeliella subsucculenta Kammer

SCROPHULARIACEAE
Euphrasia azorica H.C. Watson
Euphrasia grandiflora Hochst. in Seub.
Isoplexis chalcantha Svent. & O'Shanahan
Isoplexis isabelliana (Webb & Berthel.) Masferrer
Odontites holliana (Lowe) Benth.
Sibthorpia peregrina L.

SOLANACEAE
Solanum lidii Sunding

UMBELLIFERAE
Ammi trifoliatum (H. C. Watson) Trelease
Bupleurum handiense (Bolle) Kunkel
Chaerophyllum azoricum Trelease
Ferula latipinna Santos
Melanoselinum decipiens (Schrader & Wendl.) Hoffm.
Monizia edulis Lowe
Oenanthe divaricata (R. Br.) Mabb.
Sanicula azorica Guthnick ex Seub.

VIOLACEAE
Viola paradoxa Lowe

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BRYOPHYTA
Echinodium spinosum (Mitt.) Jur.
Thamnobryum fernandesii Sergio

VERTEBRATES/VERTÉBRÉS

Mammals/Mammifères

INSECTIVORA
Talpidae
Desmana moschata
Galemys pyrenaicus

CHIROPTERA
Rhinolophidae
Rhinolophus blasii
Rhinolophus euryale
Rhinolophus ferrumequinum
Rhinolophus hipposideros
Rhinolophus mehelyi
Vespertilionidae
Barbastella barbastellus
Eptesicus bottae
Miniopterus schreibersi
Myotis bechsteini
Myotis blythii
Myotis capaccinii
Myotis dasycneme
Myotis emarginatus
Myotis myotis

RODENTIA
Sciuridae
Pteromys volans (Sciuropterus russicus)#
Spermophilus citellus (Citellus citellus)#
Spermophilus suslicus (Citellus suslicus) #
Castoridae
Castor fiber # [1, 2]
Microtidae
Microtus cabrerae
Microtus oeconomus arenicola # [2]
Microtus tatricus
Spalax graecus
Cricetidae
Mesocricetus newtoni

CARNIVORA
Canidae
Alopex lagopus #
Canis lupus # [1]
Cuon alpinus

Ursidae
Ursus arctos # [1]
Ursus maritimus

Mustelidae
Gulo gulo #
Lutra lutra #
Mustela lutreola
Felidae
Caracal caracal
Lynx lynx # [1]
Lynx pardinus
Panthera pardus
Odobenidae
Odobenus rosmarus
Phocidae
Halichoerus grypus # [2]
Monachus monachus
Phoca hispida bottnica [2]
Phoca hispida saimensis
Phoca hispida ladogensis
Phoca vitulina # [2]

ARTIODACTYLA
Cervidae
Cervus elaphus corsicanus
Rangifer tarandus fennicus [2]
Bovidae
Capra aegagrus (natural populations/populations naturelles)
Capra pyrenaica pyrenaica
Gazella subgutturosa
Gazella dorcas
Ovis gmelini musimon (Ovis ammon musimon) (natural populations - Corsica and Sardinia / populations naturelles - Corse et Sardaigne) [2]
Rupicapra pyrenaica ornata (Rupicapra rupicapra ornata)
Rupicapra rupicapra balcanica [2]

CETACEA
Delphinidae
Tursiops truncatus #
Phocoenidae
Phocoena phocoena #

Birds/Oiseaux

GAVIIFORMES
Gaviidae
Gavia adamsii
Gavia arctica
Gavia immer
Gavia stellata

PODICIPEDIFORMES
Podicipedidae
Podiceps auritus

PROCELLARIIFORMES
Hydrobatidae
Hydrobates pelagicus #
Oceanodroma castro
Oceanodroma leucorhoa #
Pelagodroma marina
Procellariidae
Bulweria bulwerii
Calonectris diomedea (Procellaria diomedea)
Puffinus assimilis
Puffinus yelkouan mauretanicus (Puffinus puffinus mauretanicus)
Puffinus yelkouan yelkouan (Puffinus puffinus yelkouan)[1]
Pterodroma feae
Pterodroma madeira
PELECANIFORMES
Phalacrocoracidae
Phalacrocorax aristotelis desmarestii [2]
Phalacrocorax pygmaeus
Pelecanidae
Pelecanus crispus
Pelecanus onocrotalus

CICONIIFORMES
- *Ardeidae*
  - Ardea purpurea
  - Ardeola ralloides
  - Botaurus stellaris
  - Casmerodius albus (Egretta alba)
  - Egretta garzetta
  - Ixobrychus minutus
  - Nycticorax nycticorax
- *Ciconiidae*
  - Ciconia nigra
  - Ciconia ciconia
- *Threskiornithidae*
  - Plegadis falcinellus
  - Platalea leucorodia
- *Phoenicopteridae*
  - Phoenicopterus ruber

ANSERIFORMES
- *Anatidae*
  - Anser albifrons flavirostris [2]
  - Anser erythropus
  - Aythya nyroca [2]
  - Branta leucopsis
  - Branta ruficollis
  - Bucephala islandica
  - Cygnus bewickii (Cygnus columbianus bewickii) #
  - Cygnus cygnus #
  - Histrionicus histrionicus
  - Marmaronetta angustirostris (Anas angustirostris)
  - Mergus albellus
  - Oxyura leucocephala
  - Tadorna ferruginea

FALCONIFORMES
- *Accipitridae*
  - Accipiter brevipes
  - Accipiter gentilis arrigonii
  - Accipiter nisus granti
  - Aegypius monachus
  - Aquila adalberti
  - Aquila chrysaetos
  - Aquila clanga
  - Aquila heliaca
  - Aquila nipalensis
  - Aquila pomarina
  - Buteo rufinus
  - Circaetus gallicus
  - Circus aeruginosus
  - Circus cyaneus
  - Circus macrourus
  - Circus pygargus
  - Elanus caeruleus
  - Gypaetus barbatus
  - Gyps fulvus
  - Haliaeetus albicilla
  - Hieraaetus fasciatus
  - Hieraaetus pennatus
  - Milvus migrans
  - Milvus milvus
  - Neophron percnopterus
  - Pernis apivorus
- *Pandionidae*
  - Pandion haliaetus
- *Falconidae*
  - Falco biarmicus
  - Falco columbarius #
  - Falco eleonorae
  - Falco naumanni
  - Falco peregrinus
  - Falco rusticolus
  - Falco vespertinus

GALLIFORMES
- *Tetraonidae*
  - Bonasa bonasia [2]
  - Lagopus mutus helveticus [2]
  - Lagopus mutus pyrenaicus [2]
  - Tetrao tetrix tetrix [2]
  - Tetrao urogallus [2] (only T.u. cantabricus in App II / seulement T.u.cantabricus est à l'annexe II)
- *Phasianidae*
  - Alectoris barbara [2]
  - Alectoris graeca saxatilis [2]
  - Alectoris graeca whitakeri [2]
  - Perdix perdix hispaniolensis [2]
  - Perdix perdix italica [2]

GRUIFORMES
- *Turnicidae*
  - Turnix sylvatica
- *Rallidae*
  - Crex crex
  - Fulica cristata
  - Porphyrio porphyrio
  - Porzana parva
  - Porzana porzana
  - Porzana pusilla
- *Gruidae*
  - Grus grus
- *Otididae*
  - Chlamydotis undulata
  - Otis tarda
  - Tetrax tetrax

CHARADRIIFORMES
- *Charadriidae*
  - Charadrius asiaticus [2]
  - Charadrius leschenaultii
  - Charadrius morinellus (Eudromias morinellus)
  - Chettusia gregaria [2]
  - Hoplopterus spinosus
  - Pluvialis apricaria # [2]
- *Scolopacidae*
  - Gallinago media
  - Limosa lapponica
  - Numenius tenuirostris
  - Philomachus pugnax [2]
  - Tringa glareola
  - Xenus cinereus (Tringa cinereus) [2]
- *Recurvirostridae*
  - Himantopus himantopus
  - Recurvirostra avosetta
- *Phalaropodidae*
  - Phalaropus fulicarius
  - Phalaropus lobatus
- *Burhinidae*
  - Burhinus oedicnemus
- *Glareolidae*
  - Cursorius cursor
  - Glareola nordmanni
  - Glareola pratincola

- *Laridae*
  - Chlidonias hybridus
  - Chlidonias leucopterus
  - Chlidonias niger
  - Gelochelidon nilotica
  - Larus audouinii
  - Larus genei
  - Larus melanocephalus
  - Pagophila eburnea
  - Sterna albifrons
  - Sterna caspia (Hydroprogne caspia)
  - Sterna dougallii
  - Sterna hirundo
  - Sterna paradisaea (macrura)
  - Sterna sandvicensis

Alcidae
Uria aalge ibericus [2]

COLUMBIFORMES
Pteroclididae
Pterocles alchata
Pterocles orientalis
Columbidae
Columba bollii
Columba junoniae
Columba palumbus azorica [2]
Columba trocaz [2]

STRIGIFORMES
Strigidae
Aegolius funereus
Asio flammeus
Bubo bubo
Glaucidium passerinum
Ketupa zeylonensis
Nyctea scandiaca
Strix nebulosa
Strix uralensis
Surnia ulula

CAPRIMULGIFORMES
Caprimulgidae
Caprimulgus europaeus

APODIFORMES
Apodidae
Apus caffer

CORACIIFORMES
Alcedinidae
Alcedo atthis
Halcyon smyrnensis
Coraciidae
Coracias garrulus

PICIFORMES
Picidae
Dendrocopos leucotos
Dendrocopos major canariensis
Dendrocopos major thanneri
Dendrocopos medius
Dendrocopos syriacus
Dryocopus martius
Picoides tridactylus
Picus canus

PASSERIFORMES
Alaudidae
Calandrella brachydactyla
Chersophilus duponti
Galerida theklae
Lullula arborea [2]
Melanocorypha calandra
Melanocorypha yeltoniensis
Motacillidae
Anthus campestris
Laniidae
Lanius collurio
Lanius minor
Troglodytidae
Troglodytes troglodytes fridariensis
Muscicapidae
Turdinae
Luscinia svecica (Cyanosylvia svecica)
Oenanthe cypriaca (Oenenathe pleschanka cypriaca)
Oenanthe leucura
Saxicola dacotiae
Sylviinae
Acrocephalus melanopogon
Acrocephalus paludicola

Hippolais olivetorum
Sylvia nisoria
Sylvia rueppelli
Sylvia sarda
Sylvia undata
Muscicapinae
Ficedula albicollis
Ficedula parva
Ficedula semitorquata
Sittidae
Sitta krueperi
Sitta whiteheadi
Emberizidae
Emberiza caesia
Emberiza cineracea
Emberiza hortulana [2]
Fringillidae
Bucanetes githagineus (Rhodopechys githaginea)
Fringilla coelebs ombrosa [2]
Fringilla teydea
Loxia scotica
Pyrrhula murina [2]
Corvidae
Pyrrhocorax pyrrhocorax

Reptiles

CHELONIA (TESTUDINES)
Testudinidae
Testudo graeca
Testudo hermanni
Testudo marginata
Cheloniidae
Caretta caretta
Chelonia mydas
Emydidae
Emys orbicularis
Mauremys caspica
Mauremys leprosa
Tryonychidae
Rafetus euphraticus
Tryonix triunguis

SAURIA
Lacertidae
Gallotia galloti insulanagae
Gallotia simonyi
Lacerta bonnali (Lacerta monticola)
Lacerta clarkorum
Lacerta monticola (Archaeolacerta monticola)
Lacerta schreiberi
Podarcis lilfordi
Podarcis pityusensis
Scincidae
Chalcides simonyi (Chalcides occidentalis)
Gekkonidae
Phyllodactylus europaeus

OPHIDIA (SERPENTES)
Colubridae
Coluber cypriensis
Elaphe quatuorlineata #
Elaphe situla #
Viperidae
Macrovipera schweizeri (Vipera lebetina schweizeri)
Vipera albizona
Vipera barani
Vipera kaznakovi
Vipera pontica
Vipera ursinii
Vipera wagneri

Amphibians/Amphibiens

CAUDATA
- *Salamandridae*
  - Chioglossa lusitanica
  - Mertensiella luschani (Salamandra luschani)
  - Salamandra atra aurorae[2]
  - Salamandrina terdigitata
  - Triturus carnifex (Triturus cristatus carnifex)
  - Triturus cristatus (Triturus cristatus cristatus)#
  - Triturus dobrogicus (Triturus cristatus dobrogicus)
  - Triturus karelinii (Triturus cristatus karelinii)#
  - Triturus montandoni
- *Proteidae*
  - Proteus anguinus
- *Plethodontidae*
  - Hydromantes ambrosii (Speleomantes ambrosii)[2]
  - Hydromantes flavus (Speleomantes flavus)
  - Hydromantes genei (Speleomantes genei)
  - Hydromantes imperialis (Speleomantes imperialis)
  - Hydromantes strinatii (Speleomantes strinatii) [2]
  - Hydromantes supramontes (Speleomantes supramontes)

ANURA
- *Discoglossidae*
  - Alytes muletensis
  - Bombina bombina#
  - Bombina variegata#
  - Discoglossus galganoi (incl. Discoglossus jeanneae)
  - Discoglossus montalentii
  - Discoglossus sardus
  - Neurergus crocatus
  - Neurergus strauchi
- *Ranidae*
  - Rana holtzi
  - Rana latastei
- *Pelobatidae*
  - Pelobates fuscus insubricus

Fish/Poissons

OSTEICHTHYES

PETROMYZONIFORMES
- *Petromyzonidae*
  - Eudontomyzon spp. [2]
  - Lampetra fluviatilis [1, 2] #
  - Lampetra planeri [1,2] #
  - Lethenteron zanandreai (Lampetra zanandreai)
  - Petromyzon marinus[1, 2] #

ACIPENSERIFORMES
- *Acipenseridae*
  - Acipenser naccarii
  - Acipenser sturio

SALMONIFORMES
- *Salmonidae*
  - Hucho hucho (natural polulations/populations naturelles) [2]
  - Salmo macrostigma[2]
  - Salmo marmoratus [2]
  - Salmo salar (only in freshwater/uniquement en eau douce) # [1, 2]
- *Coregonidae*
  - Coregonus oxyrhynchus [1] #

CYPRINIFORMES
- *Cyprinidae*
  - Alburnus albidus (Alburnus vulturius) [2]
  - Anaecypris hispanica [2]
  - Aspius aspius # [1, 2]
  - Barbus capito

Barbus comiza [2]
Barbus meridionalis [2]
Barbus plebejus [2]
Chalcalburnus chalcoides [2]
Chondrostoma genei [2]
Chondrostoma lusitanicum [2]
Chondrostoma polylepis [1, 2]
Chondrostoma soetta [2]
Chondrostoma toxostoma [2]
Gobio albipinnatus [2]
Gobio uranoscopus [2]
Iberocypris palaciosi [2]
Ladigesocypris ghigii [2]
Leuciscus lucumonis [2]
Leuciscus souffia [2]
Phoxinellus spp. [2]
Rhodeus sericeus amarus # [2]
Rutilus alburnoides [2]
Rutilus arcasii [2]
Rutilus frisii meidingeri [2]
Rutilus lemmingii [2]
Rutilus macrolepidotus[2]
Rutilus pigus [2]
Rutilus rubilio [2]
Scardinius graecus [2]

Cobitidae

Cobitis taenia [1, 2] #
Cobitis trichonica [2]
Misgurnus fossilis [2]
Sabanejewia aurata [2]
Sabanejewia larvata (Cobitis larvata et Cobitis conspersa) [2]

SILURIFORMES

Siluridae

Silurus aristotelis[2]

ATHERINIFORMES

Cyprinodontidae

Aphanius iberus
Aphanius fasciatus
Valencia hispanica
Valencia letourneuxi

SCORPAENIFORMES

Cottidae

Cottus gobio [1, 2] #
Cottus petiti

PERCIFORMES

Percidae

Gymnocephalus schraetzer [2]
Romanichthys valsanicola [2] (proposed for Appendix II/proposition pour l'Annexe II)
Zingel spp. [2]

Gobiidae

Knipowitschia panizzae (Padogobius panizzae) [2]
Padogobius nigricans [2]
Pomatoschistus canestrini [2]

CLUPEIFORMES

Clupeidae

Alosa spp. # [2]

INVERTEBRATES/INVERTEBRES

Arthropods/Arthropodes

INSECTA

Mantodea

Apteromantis aptera

Odonata

Coenagrion hylas (Coenagrion freyi)
Coenagrion mercuriale

Cordulegaster trinacriae
Gomphus graslinii
Leucorrhinia pectoralis
Lindenia tetraphylla
Macromia splendens
Ophiogomphus cecilia
Oxygastra curtisii

Orthoptera

Baetica ustulata

Coleoptera

Agathidium pulchellum
Boros schneideri
Buprestis splendens
Carabus menetriesi pacholei[2]
Carabus olympiae
Cerambyx cerdo
Corticaria planula [2]
Cucujus cinnaberinus
Dytiscus latissimus
Graphoderus bilineatus
Limoniscus violaceus [2]
Lucanus cervus [2]
Macroplea pubipennis[2]
Mesosa myops [2]
Morimus funereus [2]
Osmoderma eremita
Oxyporus mannerheimii [2]
Pytho kolwensis [2]
Rosalia alpina
Stephanopachys linearis [2]
Stephanopachys substriatus [2]
Xyletinus tremulicola [2]

Hemiptera

Aradus angularis [2]

Lepidoptera

Agriades glandon aquilo [2]
Callimorpha (Euplagia, Panaxia) quadripunctaria # [2]
Clossiana improba [2]
Coenonympha oedippus
Erebia calcaria
Erebia christi
Erebia medusa polaris [2]
Eriogaster catax
Euphydryas (Eurodryas, Hypodryas) aurinia
Graellsia isabellae [2]
Hesperia comma catena [2]
Hypodryas maturna
Lycaena dispar
Maculinea nausithous
Maculinea teleius
Melanargia arge
Papilio hospiton
Plebicula golgus
Xestia borealis [2]
Xestia brunneopicta [2]

CRUSTACEA

Decapoda

Austropotamobius pallipes [2]

ARACHNIDA

Pseudoscorpiones

Anthrenochernes stellae [2]

Molluscs/Mollusques

GASTROPODA

Dyotocardia

Gibbula nivosa (Med.)

Stylommatophora

Caseolus calculus
Caseolus commixta
Caseolus sphaerula
Discus guerinianus
Discula leacockiana

Discula tabellata
Elona quimperiana
Geomalacus maculosus
Geomitra moniziana
Helicopsis striata austriaca [2]
Idiomela (Helix) subplicata [2]
Leiostyla abbreviata
Leiostyla cassida
Leiostyla corneocostata
Leiostyla gibba
Leiostyla lamellosa
Vertigo angustior [2]
Vertigo genesii [2]
Vertigo geyeri [2]
Vertigo moulinsiana [2]

BIVALVIA

Unionoida

Margaritifera durrovensis (Margaritifera margaritifera) [2]
Margaritifera margaritifera [2]

Unio crassus

Appendix 11

Extension of the biogeographical regions map of Natura 2000 to Pan-Europe