

European Topic Centre on Nature Conservation

Nature Conservation Annual Topic Update 1997

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NOTE

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1. BACKGROUND

The European Environment Agency (EEA) and the related European Environment Information and Observation Network (EIONET) were conceived to provide information - to screen, to evaluate, to validate, and to process data and information pertinent to the environment. Efficient information documents are produced principally for the European Union Institutions and the Member States, and also for the general public at large.

The European Topic Centre on Nature Conservation (ETC/NC) is one of the nine ETCs created by the EEA.

This Annual Topic Update presents a summary of ETC/NC's activities and products in 1997 and is the third in the series (the earlier reports were titled Annual Summary Report 1995 and Annual Summary Report 1996 (EEA Topic Reports 24/1996 and 2/1997 respectively).

ETC/NC consists of a consortium of fifteen institutions from twelve European countries. The French Muséum National d'Histoire Naturelle (MNHN) was appointed as the lead organisation of this consortium. Each institution has a representative in the Management Committee, which is responsible to the Agency for the overall development of the ETC/NC work programme.

The consortium has a variety of partner types, ranging from public science and research institutions to international organisations, partners from national administrative bodies or with NGO affiliations. As well as being ETC partners, these partner organisations are also in several cases Principal Contact Points (PCPs) or National Reference Centres for Nature Conservation (NRC/NC), and sometimes National Focal Points (NFPs) within EIONET.

Partners in the consortium of the ETC/NC are:		EIONET status
MNHN: Muséum National d'Histoire Naturelle (National Museum of Natural History). Paris (France)		Additional NRC/NC
BfN: Bundesamt für Naturschutz (Federal Agency for Nature Conservation). Bonn (Germany)		NRC/NC
NERI: Miljøministeriet (National Environmental Research Institute). Rønde (Denmark)		(NFP) *
MNCN: Museo Nacional de Ciencias Naturales (National Museum of Natural History). Madrid (Spain)		NRC/NC
DGCN: Dirección General de Conservación de la Naturaleza (General Directorate for Nature Conservation). Madrid (Spain)		--
FEI: Suomen Ympäristökeskus (Finnish Environment Institute). Helsinki (Finland)		NRC/NC (NFP) *
EKBY: Greek Biotope/Wetland Centre. Thermi (Greece)		NRC/NC
ANPA: Agenzia Nazionale per la Protezione dell'Ambiente (National Nature Protection Agency). Rome (Italy)		NRC/NC
NINA: Norsk Institutt for Naturforskning (Norwegian Institute for Nature Research). Trondheim (Norway)		(NRC/NC) *
ECNC: European Centre for Nature Conservation. Tilburg (The Netherlands)		--
ICN: Instituto para la Conservação da Natureza (Institute for Nature Conservation). Lisboa (Portugal)		NRC/NC
ISEGI: Instituto Superior de Estatística e Gestão de Informação (Higher Institute for Statistics and Information Management). Lisboa (Portugal)		--
ITE: Institute for Terrestrial Ecology. Monks Wood (United Kingdom)		--
JNCC: Joint Nature Conservation Committee. Peterborough (United Kingdom)		NRC/NC
SEPA: Naturvårdsverket (Swedish Environmental Protection Agency). Stockholm (Sweden)		NRC/NC (NFP) *
*()	another division of the organisation is part of EIONET, but not an ETC/NC partner	

Several of the partners are members of the European Conservation Institutes Research Network (CONNECT). The ECNC partner is also a network of institutions, among which is included the World Conservation Monitoring Centre (WCMC).

The **ETC/NC Leader** is Juan Manuel de Benito, who is assisted in co-ordinating the Topic Centre's work programme by an international Core Team of specialists based at the MNHN in Paris.

The ETC/NC Leader is responsible for the implementation of the work programme, either through the Core Team or by a partner of the Consortium. He assists the EEA Project Manager in preparing the technical annexes for the subventions and provides ad hoc support whenever requested and agreed. He develops and maintains contacts with EEA partner organisations, international organisations and international programmes (UN-ECE, EUROSTAT, OECD, International Conventions Secretariats).

The **Management Committee**, which is chaired by Claus Stuffmann (formerly head of the Nature Conservation Unit of EC-DG XI), meets twice per year and consists of:

- one representative of each partner of the Consortium, except ECNC, which according to the initial Memorandum of Understanding with EEA, has two representatives (the second one being an expert from WCMC);
- the EEA Project Manager responsible for ETC/NC;
- a representative of the head of the Nature Conservation Unit of EC-DG XI;
- furthermore, there are a number of observers, among which there is a representative of the Council of Europe.

Since the Management Committee is large, ETC/NC has set up a **Steering Committee** with those partners having contracts during the year, to assist the ETC/NC Leader more closely and quickly. It meets when necessary. For specific tasks **ad-hoc groups** are formed (for example EUNIS/Technical Advisory and Appraisal group, DMEER experts groups).

The **ETC/NC work programme** is developed both under EEA subvention and subvention from the French Ministry of the Environment to the MNHN as Consortium lead organisation. Other partners contribute additional resources in a variety of ways.

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NFP = National Focal Point, NRC/NC = National reference Centre on Nature Conservation, * = the organisation is also partner of the ETC/NC consortium.

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2. ETC/NC'S MAIN TECHNICAL TASKS

The ETC/NC's mission is to assist EEA in assessing the state and trends of Biodiversity in Europe. Activities related to the development of the NATURA 2000 Network are priority objectives.

To fulfil its mission, the ETC/NC:

Develops an information system for use by main clients and the general public

The European Nature Information System (EUNIS) by acquiring data stepwise and in blocks on datasources, species, habitats and sites, on a biogeographical background whenever relevant.

Builds a network of expertise with which to cooperate.

This implies not only working closely with National Reference Centres for nature but also following up on activities being developed by several specialised thematic networks all over Europe, such as European Atlases Committees, experts involved with other European and international organisations for programmes and/or conventions of relevance for nature (European Commission DGXI and XII, Council of Europe, UNEP, OECD, UNESCO, UN-ECE etc).

Provides various specific products and services:

- standards for collection of data:
 - for species:* a checklist of synonyms for species of main interest for environmental policies is being developed;
 - for habitats:* a proposal for a standardised classification of European habitats types is being developed, building upon previous initiatives (CORINE Biotopes classification and Palaeartic Habitats classification);
 - for mapping:* a proposal for a standardised grid UTM 50x50km is discussed with European Atlases Committees;
- reference maps:
 - Pan-European Map of Biogeographic regions* (as an extension of the map developed in the framework of the Habitats Directive);
 - Digitised Map of European Ecological Regions (DMEER)*, linked to a background database;
- individual specific datasets (e.g. on species, on nationally designated areas, on internationally designated areas) established as part of EUNIS;
- statistics and maps on species, habitats, sites. Together with the above-mentioned reference maps, these products will be a major input to a CD-ROM on Nature resources (NATLAN project) to be published in 1998;
- development of a Web interface on the Internet;
- expertise contributing to EEA reporting activities: Europe's Environment: The Second Assessment, State of the Environment in Europe 1998, Monograph on Nutrients;
- proposals for indicators of Biodiversity, in close relation with other international organisations working on these topics such as EUROSTAT, Alpine Convention Secretariat, SBBSTA of the Convention on Biological Diversity;
- scientific advice to the European Commission DGXI and the Council of Europe on specific issues related to annexes of Directives and Conventions involving species and habitats;

Provides ad-hoc support to the EEA

in various activities (developing the Work Programme, advising specific clients/users, providing reviews and comments on draft reports, participating on behalf of the EEA in working groups and committees, promoting the EEA/ETC and the results obtained etc);

- *contributes to activities of other ETCs;*

- explores the possibility of the establishment by the EEA Member Countries of a future *network of sites for the monitoring of Biodiversity* in Europe.
- *explores new possibilities of involvement* and application of nature-related aspects into other sectors.

ETC/NC works at Pan-European level, as far as possible.

Most of the ETC/NC's activities will be described in the EEA CD-ROM developed by the European Topic Centre on Catalogue of Data Sources.

3. EUROPEAN NATURE INFORMATION SYSTEM EUNIS

3.1. Development of EUNIS

ETC/NC is developing the European Nature Information System EUNIS, which has two aims:

- to facilitate use of data by promoting harmonisation of terminologies and definitions;
- to be a reservoir of information on European environmentally important species, of habitats and sites.

3.1.1. Background

The contribution to EEA reporting activities and the support to the European Commission, DGXI, to build the NATURA 2000 Network are priority projects for ETC/NC. Therefore most data in EUNIS have been collected in the framework of these projects. The data include not only those provided by Member States (for example when describing the sites to be possibly designated), but also reference data collected by ETC/NC from literature and other sources on species and habitats in the related Biogeographic regions.

Moreover, EUNIS includes information on sites designated under national and international designations (Common Database on Designated Areas in Europe) and is progressively incorporating information on species and habitats taken into account in relevant international conventions. Though developed separately, at the request of the European Commission, the database on Special Protection Areas (Sites designated under the EC-Bird Directive) also provides important data.

Eventually, data collected in the framework of the report on Europe's Environment: The Second Assessment will also constitute a core set of data to be up-dated periodically, though most of the information is in an aggregated form and not in raw data form, which obviously limits the possibilities of exploitation.

EUNIS consists of several databases

3.2. Species

The goal is to include most of the environmentally important species in EUNIS over the next 2-3 years.

Overall Status in 1997:

By the end of 1997 the EUNIS Species database contained information around a core set of nearly **3500** species (or sub-species) names listed in:

- the EC Directives
- the Bern Convention
- the Barcelona Convention
- all European terrestrial Vertebrates
- all European Freshwater Fish
- some species listed in the CORINE-Biotopes database.

EUNIS contains information on species concerning mainly:

- names, synonyms
- spatio-temporal information/geographic distribution
- threat status

The amount of information on each species varies in accordance with the use of the data and was in 1997 developed in most details for the NATURA 2000 evaluation process.

3.2.1. The EUNIS Names and Synonyms database - a harmonisation tool:

Consistency in the use of species names for monitoring and for administrative and legal purposes is essential. However, for many species several synonyms are in use in legal texts (conventions, directives), in monitoring and in literature. This has caused confusion and reduced the possibilities for comparison of data. (Table 1)

Therefore development of a system of correspondence between species and their synonyms has been necessary from the beginning for the internal management of the EUNIS database and for the wider use of EUNIS data.

For synonyms the ETC/NC partner "Museo Nacional de Ciencias Naturales" (MNCN, ES) has developed an Access version of the database which is planned to be available on EEA's homepage in 1998. The work on validation of scientific names and synonyms was co-ordinated by the MNCN with the help of an experts network.

Names and Synonym Status in 1997:

The present set of species is identified by *reference information* such as:

- scientific name (the most accepted one);
- synonym(s);
- vernacular name(s).

At present, the number of synonyms in the database is around **6300** and there are only **295** species for which vernacular names (as far as possible in 11 languages) are included.

The species synonym work undertaken by ETC/NC can only address a limited number of species, considered of priority environmental concern.

It became rapidly obvious that this work was of wider interest and that several Member States had started to develop such a system for their own purposes.

- Among the main potential customers of synonym information are administrators and lawyers who have to deal with scientific names of species in legal texts and need to have reliable references, making clear which species is under attention. EUROSTAT has shown a particular interest in such an initiative.

Table 1: Different species synonyms used in closely related legal texts

The EC-Habitats Directive is a legal instrument to implement the Convention on the Conservation of European Wildlife and Natural Habitats (know as the Bern Convention) in the EU. Nevertheless, there are some discrepancies in the listing of species between the two legal texts e.g.:		
Animal group	Name in the Bern Convention	Name in the Habitat Directive
Lizard	Archaeolacerta bedriagae	Lacerta bedriagae
Lizard	Cyrtodactylus kotschy	Cyrtopodion kotschy
Dragonfly	Coenagrion freyi	Coenagrion hylas

Dealing with scientific synonyms of all species of Europe is a huge scientific work and is beyond the capacities of ETC/NC. Only a broad, scientifically-based initiative, actively involving a network of European taxonomic experts for each species group would meet the needs outlined for example by the Convention of Biological Diversity.

ETC/NC recommends that initiatives such as Fauna Europea and the Euro-Mediterranean Initiative in Plant Systematics - which would both constitute the European contribution to the international UNEP-endorsed initiative "Species 2000" concerning global checklists of species - be supported by European organisations, both scientifically and financially.

The basic EUNIS work has had to deal with the scientific names and synonyms and only a limited number of vernacular names are included. To allow a broad public use there is a need for vernacular names for many species groups in all relevant languages. However, this is a large and resource consuming task. It must involve the Member Countries but has not yet been agreed upon.

Figure 1: EUNIS Species Information

**European Information System on Nature
EUNIS**

INFORMATION ON SPECIES

- Search by biogeographical region
- Search by country
- Search by species group

INFORMATION ON HABITAT

- Search by biogeographical region
- Search by country
- Search by habitat type

INFORMATION ON SITE

- Search by country
- Search by type of designation



SPECIES - IDENTIFICATION FORM

Scientific name : Galemys pyrenaicus
(the most accepted one)

Authors(s) : (Geoffroy, 1811)

Synonyms : Mygale pyrenaica Geoffroy, 1811
Mygale pyrenaica Trouessart, 1910
Mygale rufula Graells, 1897

References : Wilson & Reeder (1991)



Access to information on species

- Description and Geographical distribution
- Presence in sites
- Population, Conservation status and Legal Status

SPECIES INFORMATION

Description

Insectivorous and adapted to aquatic life. Like a shrew but bigger (head-body length: 11-15 cm). Long tail (13-16 cm) laterally flattened at end as rudder. Chief distinguishing feature is its long proboscis-like snout. Fur dark brown/black above, grey/tan below. The Pyrenean Desman feed mainly on worms, insects and their larvæ, nematodes and plants.

Distribution

Spain, France, Portugal. [View Map](#)

Reasons for the need for protection/inclusion in annex II

The Pyrenean Desman requires rivers and streams of fresh water which are unpolluted and well-oxygenated. The southern range is declining, primarily through habitat deterioration and water pollution.

SPECIES INFORMATION

Range of population	
France	x
Spain	v
Portugal	z
.....	
Conservation Status	
at European level	
at Global level	V (1996)
Conservation Status at national level	
France	R (1994)
Spain	R (1992)
Portugal	V (1990)
.....	
Legal Status	
FFH EC Directive	annex II
Bem Convention	annex I
France	R (1994)
Spain	R (1992)
Portugal	V (1990)
.....	

3.2.2. The EUNIS Spatio-temporal and pressure-dependent information

Geographic information status in 1997:

The information is based mainly on data provided by Member States in the framework of the NATURA 2000 process and consists of:

- **42134** geographical records for species listed in the EU Directives (Birds and Habitats);
- **31553** geographical records of "other species" (about 5 900 species have been mentioned by Member States, due to their particular interest, though not considered in the EU Directives).

Habitat preference information status in 1997:

- Information exists for **236** species, extracted from the Interpretation Manual of European Union habitats (EC-DGXI).

Population information status in 1997:

So far population information is only being collected for a limited number of species.

- European population size information was collected for **10** species covering the period 1950s-1990s. Data was collected in the framework of the Second Assessment report process.

Threat information status in 1997:

Information on threat status of species is a key notion when dealing with state and trends of biodiversity. The status differs between countries and biogeographical region.

Threat status information on species exists at global level both for Fauna and Flora (IUCN red databooks). The information is not available at European level yet, though some work has been initiated.

3.2.3. Red Book of Vertebrates in Europe

ETC/NC is participating in a joint initiative on European vertebrates with the Council of Europe. The work was entrusted to WCMC.

Red Book of Vertebrates Status in 1997:

- The draft document, which has been circulated for comments to EIONET partners and to the Council of Europe network of Member States in 1997 shows that, among the 1400 Vertebrates species present in Europe, 172 are threatened at European level, with 130 present exclusively in Europe.

3.2.4. Survey of National Red-Books on Species

ETC/NC has carried forward the survey from 1995 by WCMC on existing redlists (Red Data Books and Lists in Europe, WCMC and ETC/NC, 1995)forward in the report : Situation of existing and on-going initiatives on red books of Species and Habitats of European concern.

National Red Book survey status 1997:

The report was circulated among EEA Member Countries and PHARE Countries in 1997 for validation and amendments. By the end of 1997 30 % of EEA and PHARE countries had provided comments. The list was made available on the ETC/NC's home page (<http://www.mnhn.fr/ctn/redlist.html>).

The survey showed that most countries now have or are developing red books for the most important species and species groups.

Information was extracted from these national red books by the end of 1997 only for Vertebrates. Information on plant conservation status should benefit from the IUCN Global Red Book of Plant Species.

It is foreseen to develop further links with national data sources which provide such red lists and to keep the list updated.

3.3. Habitats

Collection of information on species has several hundreds years of tradition. For habitats, co-ordinated collection of information on habitats and ecosystems at the European level is much more recent.

The habitat concept is the underlying concept under several Community and international initiatives such as NATURA 2000 and EMERALD, while the Convention on Biological Diversity and the Pan-European Landscape and Biological Diversity Strategy are based on major ecosystem types. Also marine initiatives such as HELCOM and OSPARCOM use the habitat concept for describing changes.

The EUNIS habitat work consists of:

- developing a harmonised classification with links to important other classifications
- collecting information on European habitats of importance.

Overall Status in 1997:

By the end of 1997, the EUNIS Habitats work had resulted in:

- proposals for criteria for the European Habitats Classification
- selected spatio-temporal information on habitats in the Annex 1 of the Habitats Directive (with biogeographic approach)
- development of a descriptive habitat parameter frame

3.3.1. The European Habitat Classification - a harmonisation tool

There are several national habitat and ecosystem classification systems in use for monitoring and description of habitats. These systems have many similarities, but they are not identical and reporting at European level is difficult. This also applies for the habitats listed in the EU Directives, the Bern Convention and the marine conventions.

For habitats there is thus the same initial need as for species for harmonisation at European level of terminology and definitions in order to allow reporting, comparison and analysis of habitat information in Europe.

ETC/NC is therefore developing a common reporting language on Habitats at European level: the European Habitat Classification. It builds upon previous habitat classification initiatives such as the Palaeartic Habitats Classification, developed for Council of Europe, but re-structures and re-defines this classification. The Palaeartic Habitats Classification was an extension of the EU Corine Biotopes Classification. The European Habitat Classification is being linked as closely as possible with the CORINE Land-Cover classification and with other initiatives.

Close links are being developed with a European initiative on phytosociological data, the European Vegetation Survey, which is currently developing a "European Overview of Alliances".

Initiated in 1996, the work was undertaken by the ETC/NC partner, the Institute of Terrestrial Ecology (ITE, UK).

The European Habitat Classification Status in 1997:

- preparation of reasoned proposals for criteria for levels 1 and 2 of the classification and their discussion by an informal working group of scientific experts (example for criteria of level 1 are presented in annex I);
- preparation of reasoned proposals for criteria extending levels 1-2 to level 3 and when necessary level 4 and their discussion by an informal working group of scientific experts.

The aims are to make an agreed first release of a European Habitat Classification available in 1998, to begin to use this as a reporting and comparison frame for habitats and also to allow use of the classification for future extensions or amendments of the habitats in the annexes of the Habitats Directive in order to promote converging use of classifications in Europe. A Steering Group is foreseen to be set up in 1998 by EEA in order to ensure future coordination mainly with the European Commission and Council of Europe as well as with conventions dealing with habitats.

3.3.2. Habitat descriptions - the Habitat parameter frame

The Habitat database model developed in EUNIS includes a general descriptive element, the so-called Habitat parameter frame.

The goal is to incorporate, stepwise, information related to habitat description and distribution from different sources of information, including national data sources.

At the moment spatio-temporal data are limited to information provided in the framework of the NATURA 2000 process and from a selected use of the CORINE-Biotopes database.

The work on the Habitats parameter frame was mostly developed in 1996 by ITE. It is intended to describe any "habitats-type" in Europe and to make possible the correspondence with a European Habitat Classification (see above).

The frame is in database form and includes three groups of parameters:

- identification descriptors;
- distinguishing characteristics and parameters;
- information data.

The Habitat parameter frame general status in 1997:

- The work consisted of completing look-up tables and a test on Habitat-types of the Annex 1 of the EU-Habitats Directive (254 habitat-types from the Annex).
- No data were entered into the parameter frame database in 1997.

3.3.3. Habitat spatio-temporal information

Status for the spatio-temporal habitat information in 1997:

The information was collected to be used mainly for assistance to the Commission for evaluation of sites under the Habitats Directive and consisted of :

- a reference list of habitat-types listed in Annex 1 of the Habitats Directive, present in the Macaronesian and the Alpine regions (validated during the Biogeographic seminars; see point 3.2.3);
- **17863** geographical records of habitat-types listed in Annex 1 of the Habitats-Directive, which were provided by Member States in the framework of their national inventories of Potential Sites of Community Interest;
- **19122** geographical records on habitat-types listed in Annex 1 of the Habitats-Directive, which are extracted from the CORINE Biotopes Sites database.

3.4. Sites

The terms "site" or "area" are both used in the following and substitute each other in the general text. In legal texts and in titles of documents and databases care should be taken to use the official term. In the EUNIS database the information type is called "site".

The goal is to obtain information or to have easy access to site based information on nationally, Community and internationally protected or designated areas and to information on sites with valuable nature content or information.

General Status on sites in 1997:

- Updating ongoing for Nationally Designated Areas
- Updating ongoing for Internationally Designated Areas
- Handling incoming national data for the NATURA 2000 process, ongoing
- Other site information: data from EU12 CORINE Biotopes Sites, not updated. Copies of Polish, Baltic and some Russian recent data provided to EEA.

All countries make national inventories of sites for the purpose of understanding the extension, value and conditions of species and habitats and for using this information as a background for selecting and managing sites for protection and monitoring.

Information on sites concerns actual information of occurrence of species and habitats, use, threats, legal status and value etc. in geographically concretely defined areas (sites). It is based on national and international information.

In all countries site protection for nature conservation has a long history. Most countries have several national protection types and are committed to one or several international or Community site protection related activities.

Many sites have more than one type of nature protection and sometimes also other kinds of protection or bindings. These protections do not always have fully the same boundaries. This makes handling information on designated areas complicated if the boundaries are not digitised.

Not all site based information is readily available and special agreements have to be reached to gain access and use site information, because the information on site boundaries or on the content of sites (endangered or valuable species) is considered sensitive and not to be published widely. EUNIS has to take such conditions into account.

In the case of official nationally or internationally protected areas, information on boundaries is officially agreed, while some species or habitat information can still be sensitive to wide distribution.

In the case of preliminary inventories such as the Potential Sites of Community Interest (being proposed by Member States under the Habitats Directive), use of the information for purposes other than handling the data for the Commission for NATURA 2000 is dependent on agreement of Member States.

3.4.1. Nationally Designated Areas

Data is collected in the framework of the Common Database on Designated Areas (see below under Internationally Designated Areas).

The database contains information on:

- country, site name, surface area, co-ordinates, designation, IUCN category, year of establishment;

No information on boundaries has been collected yet.

Status on nationally designated areas in 1997:

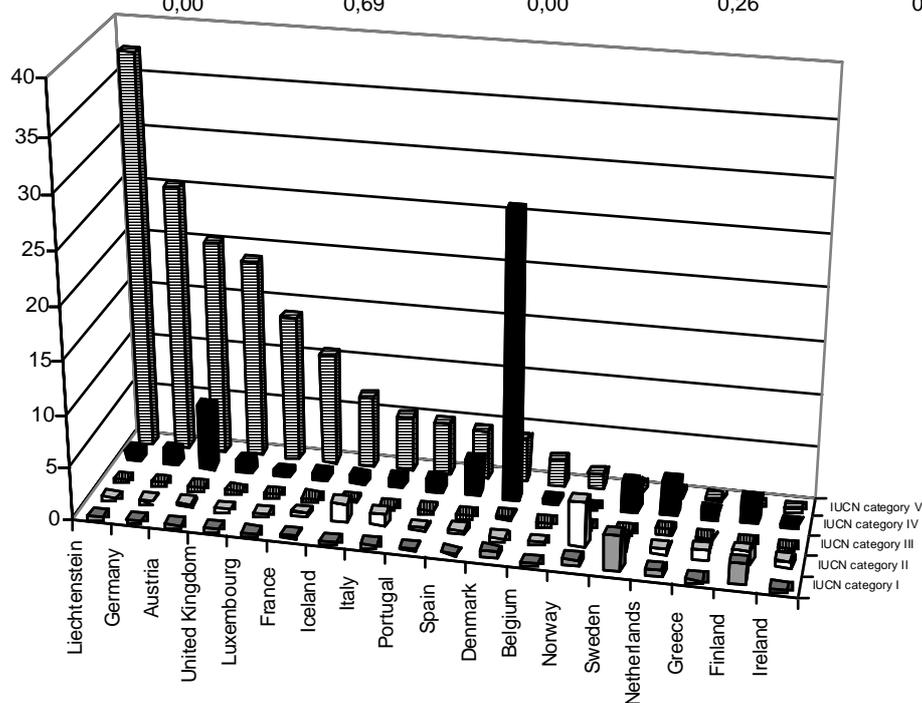
- about **22000** records have been collected for all European countries. Since relations between different designations is not yet recorded for sites, it is difficult to estimate the total number of individual sites represented in the database.

- the use of data were explored in 1997 for the EEA report Europe's Environment: The Second Assessment (Figure 2).

The updating and validation process continued in 1997 through EIONET and many sites are still to be added. The number of records is expected to grow considerably.

Figure 2: Nationally designated areas. Percentage by country of area according to IUCN categories. 1997

CTRYNAME	IUCN category I	IUCN category II	IUCN category III	IUCN category IV	IUCN category V
Liechtenstein	0,00	0,00	0,00	1,08	37,50
Germany	0,00	0,10	0,00	1,48	25,37
Austria	0,01	0,21	0,01	6,08	20,37
United Kingdom	0,00	0,00	0,00	1,17	18,90
Luxembourg	0,00	0,00	0,00	0,48	13,93
France	0,26	0,48	0,00	0,65	10,50
Iceland	0,00	1,72	0,28	0,76	6,77
Italy	0,00	1,23	0,00	0,90	5,17
Portugal	0,16	0,23	0,04	1,21	4,96
Spain	0,02	0,44	0,00	3,42	4,53
Denmark	0,58	0,00	0,15	27,19	4,12
Belgium	0,00	0,00	0,00	0,41	2,41
Norway	0,66	4,26	0,00	0,04	1,49
Sweden	3,40	1,18	0,00	2,75	0,80
The Netherlands	0,57	0,65	0,59	3,30	0,52
Greece	0,01	0,98	0,14	0,90	0,24
Finland	1,98	1,26	0,00	2,30	0,00
Ireland	0,00	0,69	0,00	0,26	0,00



Although the database is not complete, the figure still reflects the main commonalities and differences between the countries in relation to specifically designated areas. Countries are protecting their natural and landscape values using different approaches related to biophysical as well as cultural aspects:

- Northern countries still have large natural areas
- Germany has a large number of landscape protection areas
- The high percentage of IUCN-category IV in Denmark is related to the large marine areas

IUCN category I : Strict nature reserve/Wilderness Area
 IUCN category II : National Park
 IUCN category III: Natural Monument
 IUCN category IV: Habitat/Species Management Area
 IUCN category V: Protected Landscape/Seascape

3.4.2. Internationally Designated Areas

An agreement has been reached between EEA-ETC/NC, the Council of Europe and WCMC on combining previous separate efforts on designated area information to create one Common Database on Designated Areas. It should be developed to cover both nationally and internationally designated areas and be based on official national information from member countries and official international information from the relevant responsible organisations such as the Ramsar Secretariat etc.

A database on internationally designated areas was developed by the Council of Europe with the support of the EEA Task Force in 1993. Since then, the EEA-ETC/NC has undertaken an update of the CoE existing database (1995). This was done on the basis of bibliography, consultation of Web sites and informal requests, but the formal agreements with the Secretariats of International Conventions and programmes are on the way. Data are held at WCMC.

Status for the Internationally Designated Areas in 1997:

- The up-dated database provided information for the production by WCMC and ECNC of a map of international designations in Europe, to be presented on behalf of the Council of Europe at the Pan-European Conference of Ministers of the Environment in Aarhus (DK), in June 1998.

3.4.3. Community Designations for the Bird and Habitats Directives

Sites designated in application of Community legislation such as the Birds and Habitats Directives are considered as a separate category of designated areas. They have a stronger status in terms of legal enforcement.

Each EU country is preparing the National List of Potential Sites of Community Interest in the framework of the Habitats Directive.

Data from the Member States on these areas are submitted directly to the Commission. The responsibility for handling and updating the data has been entrusted officially to EEA by the European Commission and is handled by ETC/NC. By the end of 1997, 3982 sites were recorded from 8 countries. Further details are provided in Section 3.2.

3.4.4. Other site information - Non-designated sites

The only site information on non-designated sites held at present at European level concerns CORINE Biotopes.

The EEA Topic Report 1996/27 provided a critical review of the CORINE-Biotopes Sites database, explaining the situation of update and content for the EU 12 countries. The data is available in the Nature CD-Rom published by EEA in 1995 and the CORINE-Biotopes database is maintained by ITE.

Under PHARE Programme funding, nine central and eastern European countries have developed or are developing national inventories to be further incorporated in EUNIS. The other four PHARE countries are beginning this process in 1998.

3.5. EUNIS as a functional system

Although the actual EUNIS data work and the concept are divided into three parts (species, habitats and sites) and there are several contributors within the Consortium (partners and Core Team), the coherence of the system is ensured by regular validation against the EUNIS data model (developed in 1996), technical discussion within the Technical Advisory and Appraisal Group (TAAG)¹, and exchange of information between experts in charge of the different activities.

¹ The TAAG is composed by FEI, ITE, MNHN, WCMC and Core Team

EUNIS data on the Web

The goal is to give access to EUNIS information as it is progressively developed.

Targeted potential users are: Member Country administrations, NGOs, teachers and scientists requiring information on specific species (description, distribution, status of conservation) or habitat (description, distribution).

A prototype was initiated in 1997 on a limited number of species and it will be further developed in 1998.

4. SUPPORT TO NATURA 2000

4.1. Background

NATURA 2000 is the EU network of sites designated by Member States under the Bird Directive (Special Protection Areas = SPAs) and under the Habitats Directive (Special Areas of Conservation = SACs, to develop from the lists of proposed Sites of Community Interest pSCIs).

The EEA-ETC/NC provides scientific and technical support to the European Commission, DGXI-D2, in handling data provided to the Commission by Member States.

The work is somewhat different for SPAs and pSCIs.

For the Birds Directive (SPAs), the work consists in incorporating annually the new sites designated by Member States, as well as ensuring a permanent update of the full database through the incorporation of new data concerning already designated sites. This information is the basis for the preparation of the EC DGXI annual report "Special Protected Areas".

For the Habitats Directive, the work consists in assistance in evaluation of sites submitted by Member States as proposed Sites of Community Interest (pSCIs) on a European biogeographic basis². If finally retained in the Community List, the SCIs have to be designated by Member States as SACs before the year 2004.

The work is performed in four steps:

- assessment of the acceptability of national list-related datasheets;
- analysis of the national list coverage on species and habitats-types;
- analysis of the national list representativity of species and habitat types;
- assistance to the European Commission to build the Community List.

The deadline, set by the Directive, for the provision of all national lists of pSCIs to the European Commission was June 1995, but the process has been delayed by late submission by Member States.

4.2. Running Assistance to Member States on the NATURA 2000 Software

Under the Directives, the format of data to be provided by EU Member States is agreed between the European Commission and Member States. In order to facilitate the data collection and transfer a computerised system was developed : the NATURA 2000 software system.

Several versions of the software have been developed, in order to improve performance and eradicate bugs.

NATURA 2000 software status in 1997:

- Comments were collected from users by ETC/NC and a new version of the software (vs. 1.3) was prepared by Cray Systems. The new software was distributed to EU Member States in November 1997.

² There are 6 Biogeographic regions in EU: Alpine, Atlantic, Boreal, Continental, Macaronesian and Mediterranean Regions

4.3. Handling incoming Data

4.3.1. Handling data on Special Protected Areas (SPAs)

In March 1997 the report "Special Protected Areas EUR 15/03.97" was published by The European Commission on the basis of the information provided by the ETC/NC. There are **1472** SPAs included in the database, distributed as follows within the 15 EU countries (Table 2):

Table 2: Special Protected Areas (SPAs) in 1997

Country	Number of SPAs	Surface area (km ²)
BE	36	4 313
DK	111	9 601
DE	501	8 590
GR	29	1 930
ES	148	25 207
FR	104	7 452
IE	106	2 055
IT	101	4 530
LU	6	14
NL	23	3 292
AT	44	2 471
PT	36	3 323
FI	15	967
SE	75	1 408
UK	134	4 951

4.3.2. Handling incoming data on Proposed Sites of Community Interest (pSCIs) for the Commission

The work consists of transferring data sent by Member States, in the agreed format using Cray Systems software, into the NATURA 2000 software central module to make the data directly accessible by the European Commission.

As mentioned in Section 3.1 on EUNIS, at the end of 1997 the database included 3982 sites (see Table 3)

Table 3: Proposed Sites of Community Interest (pSCIs) in 1997

Country	Number of pSCI	Surface area (ha)
BE	101	90.832
DK		--
DE	--	--
GR	--	--
ES (partial)	219	741.110
FR	--	--
IE	--	--
IT	2204	3.882.218
LU	--	--
NL (partial)	27	281.946
AT	71	824.062
PT (partial)	65	1.193.910
FI	--	--
SE	1040	4.353.260
UK	255	1.331.334

4.3.3. Assistance to the Commission on assessment of NATURA 2000 proposals

It is an ETC/NC task to assist the European Commission in preparing the necessary scientific information material for the so-called Biogeographic regional seminars in which national proposals related to each particular biogeographic region are discussed by:

- the European Commission;
- Member States (one representative of the Habitat Committee, one representative of the Scientific Working Group);
- individual experts invited by ETC/NC;
- representative of the European Habitat Forum NGO.

Two meetings are foreseen for each biogeographic region:

- during the first seminar, the work consists in agreeing upon a reference list of Annex 1 Habitats and Annex 2 species of the Habitats Directive present in the concerned biogeographic region and assessing the degree of representativity of each of them in the proposed sites;
- during the second seminar, the work consists in agreeing upon the selection of Sites of Community Interest, according to criteria defined in 1996 by ETC/NC (according to a methodology approved by the Habitats Committee).

Status for biogeographical seminars in 1997:

Two biogeographical seminars were held:

- the second Macaronesian seminar, in July 1997, involving two countries (Spain, Portugal), leading to the establishment of the Community List of Sites for this region, 200 sites.
- the first Alpine seminar, in October 1997, involving 7 countries. Only data provided by 4 countries (Austria, Spain, Sweden and Italy) could be used (Figures 3 and 4).

The provisional agenda for upcoming seminars is provided in the chapter on Plans for 1998.

The work undertaken by the ETC/NC on NATURA 2000 results from a specific agreement between the Commission DGXI and the EEA. The data handled can only be used for other purposes with the strict agreement of the Commission.

Figure 3: Percentage of Alpine Biogeographic Region area by EU country

The Alpine region not only comprises the Alps but also the Pyrenees, Apennines and Scandinavian mountains. Therefore, 7 EU countries are involved in this region in different proportions, with a maximum for Sweden and a minimum for Germany.

		Alpine Area (km ²)
Spain		9 500
France	Pyrenees	9 000
	Alps	21 700
Austria		47 040
Germany		4 160
Italy	Alps	47 210
	Apennines	2 871
Finland		10 390
Sweden		100 600
Europe		258 471

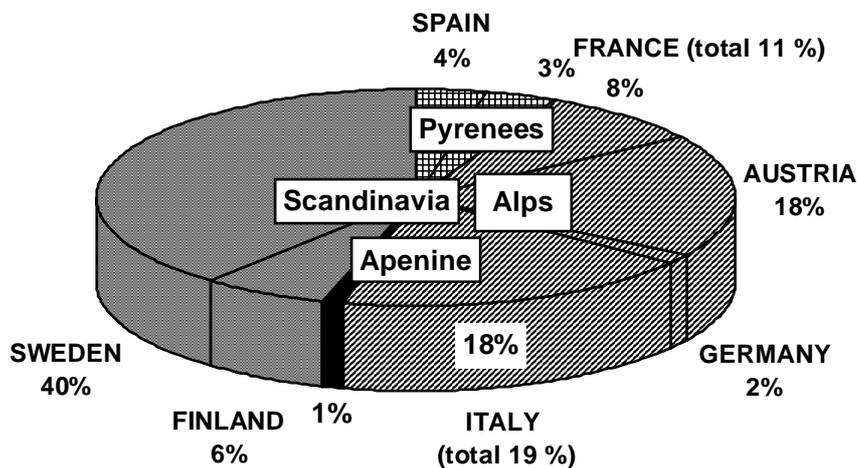
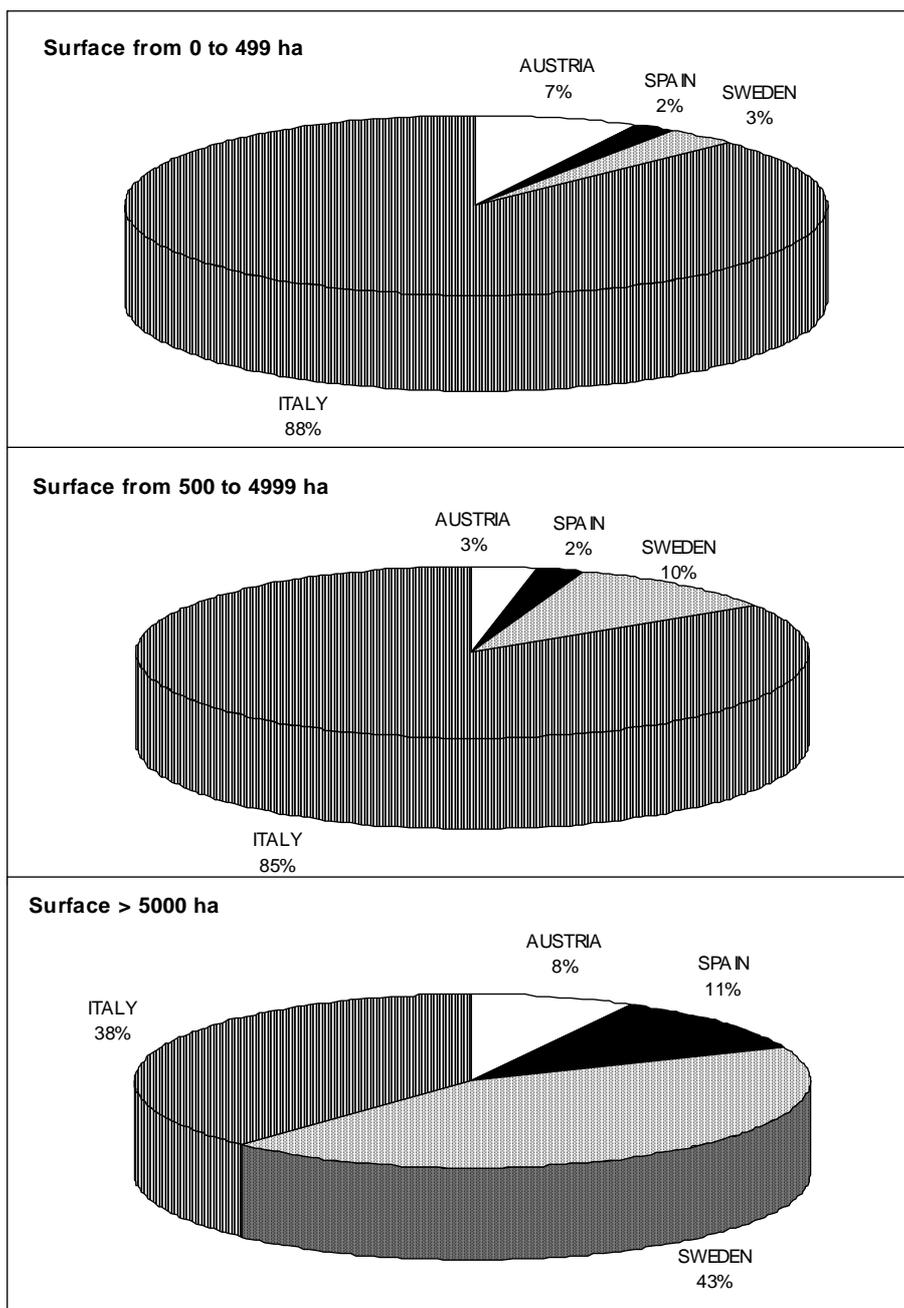


Figure 4: Percentage of pSCIs sites (according to size) in the Alpine Biogeographic Regions of four countries in Europe

Among the 7 Alpine EU countries, only 4 have provided a national list of pSCIs for the given biogeographic region.

The average size of sites proposed by Member States can be both an indicator of the extent of large remote areas in the given country or of a political will to designate in the future large areas in the NATURA 2000 Network

ha	AUSTRIA	SPAIN	SWEDEN	ITALY
0-499	20	5	9	234
500-4999	8	6	27	218
>5000	11	15	60	53
n sites	39	26	96	505



5. INFORMATION AND REPORTING ON EUROPE'S NATURE

In 1997 the ETC/NC reporting activities have consisted in:

- contribution to EEA reports on state of the environment:

Europe's Environment: The Second Assessment, The State of the Environment Report 1998 and the monograph on Excessive Anthropogenic Nutrients in European Ecosystems;

- contribution to the EEA project on NATLAN (CD-Rom and Web application for 1998-99) including data on Nature and Land-Cover);
- work on Nature Indicators;
- follow-up of monitoring activities concerning nature and biodiversity.

5.1. Contribution to the report "Europe's Environment: The Second Assessment" (The Dobris +3 report)

ETC/NC was mostly involved in chapter 8 (Nature and Biodiversity) contributing to the identification of data needs, data collection and interpretation and comments on the different drafts.

ETC/NC requested information from Member States and from international data sources.

Request to NFPs for information

A questionnaire was sent by ETC/NC to NFPs on the state and trends of different species and habitats (wetlands, dunes). 80 % of EEA countries, 90 % of PHARE countries and 65 % of other countries replied, but only the species part was well filled, whereas the habitat part was very poor (partly due to the tight timetable required for responses).

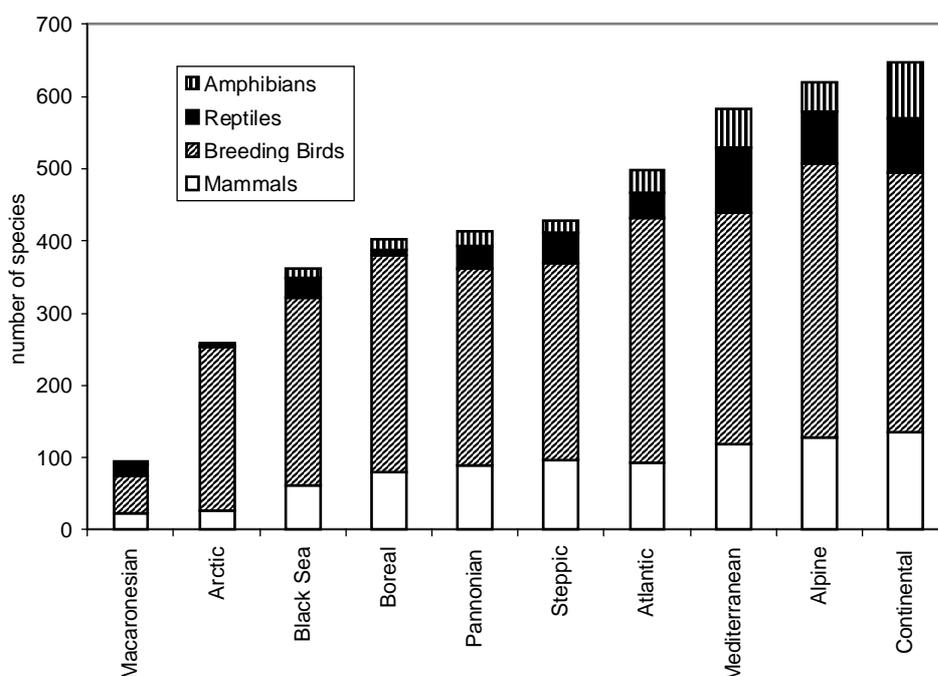
Requests to international datasources for specific datasets

Several datasets have been provided by scientific organisations working at European level with their own network.

- The European Atlases Committees (European Atlas of Amphibians and Reptiles, European Atlas of Breeding Birds, European Atlas of Mammals) have provided data and maps on:
 - * species richness for Europe;
 - * species richness by biogeographical region (Figure 5);
 - * species richness by UTM grid cell;
 - * species richness by major habitat type (Figure 6).
- The European Forest Institute (EFI, FIN) provided information on "natural and semi-natural forests", based on a separate questionnaire to Member States.
- Experts from the international Diversitas Programme provided information on "wild relatives of cultivated plants in Europe" (Figure 7).
- The IUCN Law Centre (Bonn, DE) provided information on implementation, by Member States, of different international conventions.

Figure 5: Species richness by biogeographical region (Sources : European Atlases)

	Mammals	Breeding Birds	Reptiles	Amphibians	Total
Macaronesian	23	52	16	3	94
Arctic	27	227	2	3	259
Black Sea	62	259	28	13	362
Boreal	81	300	7	15	403
Pannonian	89	273	32	19	413
Steppic	97	273	41	18	429
Atlantic	93	339	34	32	498
Mediterranean	119	321	89	54	583
Alpine	128	380	71	41	620
Continental	135	359	77	77	648
Macaronesian data on Amphibians and Reptiles provided by EEA					



The difference in number of species between biogeographic regions is related to the size of the region in itself as well as to the particular climate and ecological conditions and its relative isolation or closeness to other regions.

The Continental region has the largest extension of the regions. The isolated Macaronesian region has a high degree of endemism. The Arctic region is the species poorest for all groups of species considered here. Comparing the richest region for each group of species with the poorest, the situation is for:

- * Birds: 2 times more species in the Alpine region than in the Arctic;
- * Mammals: 5 times more in the Continental region than in the Arctic;
- * Reptiles: 45 times more in the Mediterranean region than in the Arctic;
- * Amphibians: 25 times more in the Continental region than in the Arctic.

Figure 6: Species richness by major habitat type (Sources : European Atlases)

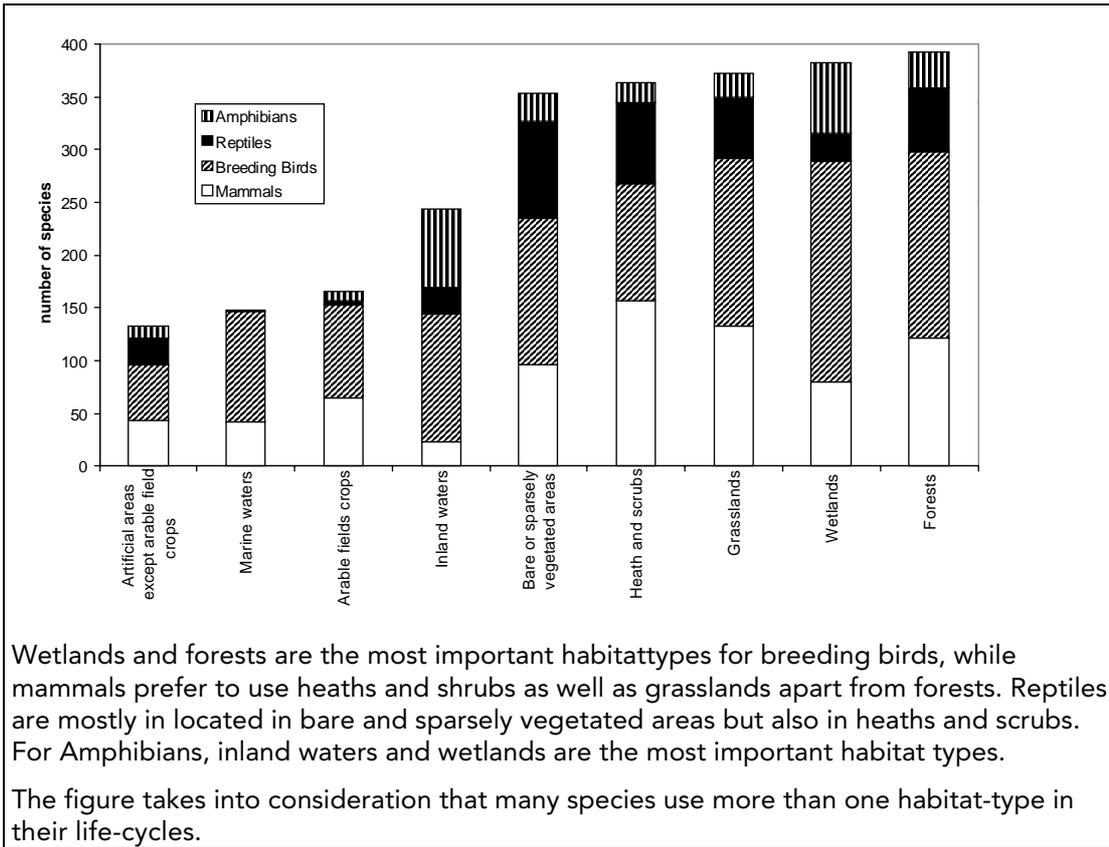
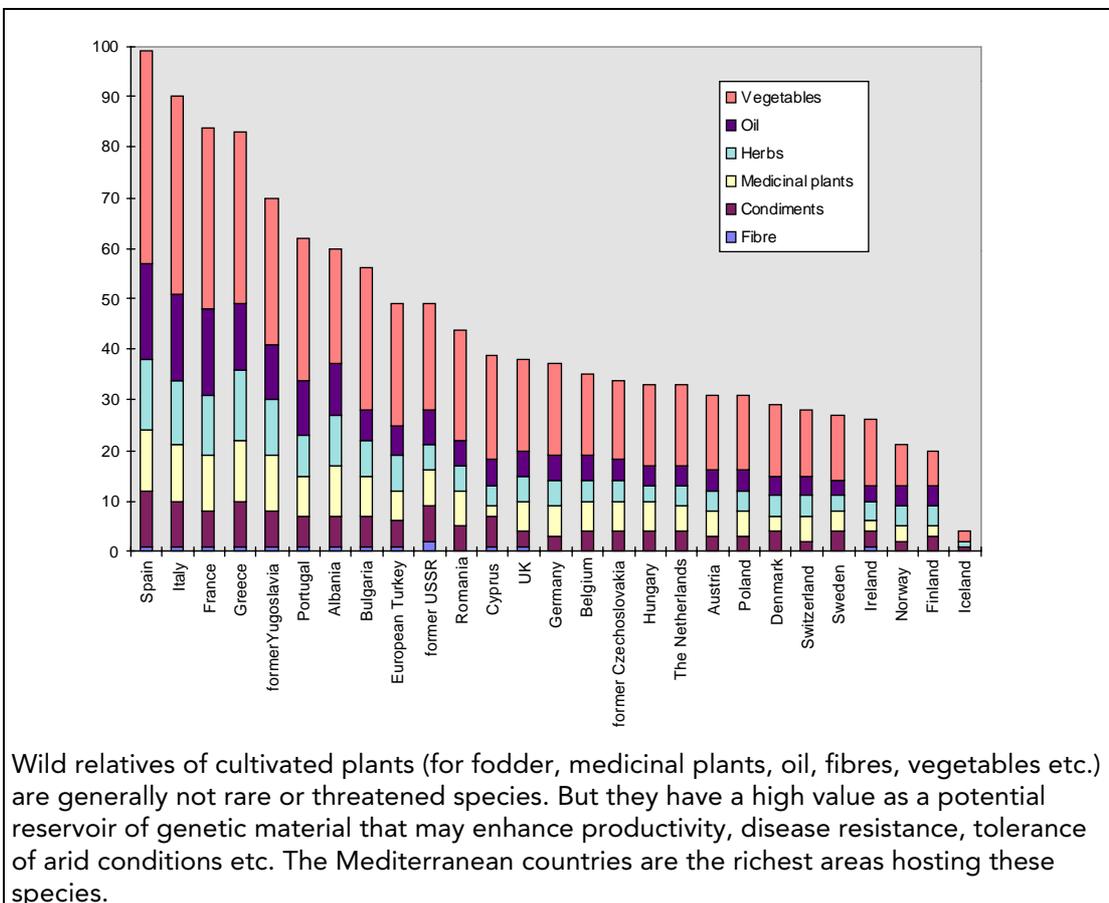


Figure 7: Wild relatives of cultivated plants in Europe



5.2. Contribution to the report on "Excessive Anthropogenic Nutrients in European Ecosystems"

The ETC on Inland Waters coordinated the preparation of the EEA monograph on Excessive Anthropogenic Nutrients in European Ecosystems to be published in 1998.

ETC/NC was responsible for preparing the chapter on Terrestrial Habitats, including Wetlands. The task was undertaken by the partner NERI.

5.3. The NATLAN project

In order to make widely accessible the large amount of information collected for different interconnected reporting and information activities during 1996-1997 EEA is planning to develop NATLAN as an information package during 1998. NATLAN's main content will be several maps based on analysis of Nature and Land-Cover data. Both ETC/NC and ETC/LC contributed to the development of this project in 1997.

A draft list of maps is mentioned in the chapter on "Plans for 1998". Several maps have been developed directly by ETC/NC and ETC/LC, while others are developed by other organisations and to be included only after final agreements.

Among the maps developed during 1997 for inclusion in NATLAN were:

- Pan-European map of Biogeographic regions

This map was developed and adopted by Council of Europe under the Bern Convention in 1997 as an extension of the map developed in the framework of the Habitats Directive to be used as a basis for the development of the Emerald network³.

The map includes 11 Biogeographic regions.

- Digitised Map of Ecological Regions in Europe (DMEER)

DMEER, the Digitised Map of European Ecological Regions, is a pan-European biogeographic digitised vector map that illustrates the distribution of ecological regions or reporting units, on the basis of a unified concept and updated knowledge of climatic, topographic and geobotanical European data.

The map was produced by the Higher Institute for Statistics and Information Management (ISEGI, PT) of the New University of Lisbon, based on information from maps of the Institute of Terrestrial Ecology (ITE, UK) and of the Federal Institute for Nature Conservation (BfN, DE) (all three are ETC/NC consortium partners). An ad-hoc group of experts was also steadily implicated into its development.

The methodology developed during this work led to a map with 28 classes of ecological regions, based on a combination of vegetation classes by BfN as a function of land classes by ITE. Each of the classes gives access to an underlying extended database on ecological conditions.

The final draft was sent for comments to EIONET partners late in 1997. The map will be revised during 1998 for final publication.

- Map of low pressure on habitats (habitats fragmentation).

ETC/NC has explored the possibility to develop with ETC/Land-Cover, which manages the CORINE Land Cover database, a map showing an index of anthropogenically introduced pressure and fragmentation of major habitat types.

A first attempt of this map will be included in the State of Europe's Environment 1998 report.

³ The Secretariat of the Bern Convention is currently working on an extension of the rationale of the NATURA 2000 Network, towards the countries of the Council of Europe, under the programme "Emerald", as an implementation of Recommendation n°16 of the Bern Convention.

5.4. Work on Indicators

Since 1995 EUROSTAT has been developing the Pressure Indices Project, designed to provide indicators in ten environmental areas. The indicators in the area "Loss of Biodiversity" have been developed with active input from the ETC/NC. So-called methodology sheets have been drafted by EUROSTAT for the initial test of selected indicators.

NERI (DK) was contracted by EEA to provide a "Feasibility study on the production of a Yearly EEA Indicator report". Nine environmental issues were analysed, and the ETC/NC provided detailed input for the topic on Nature and Biodiversity. The main outcome shows, that yearly indicators concerning biodiversity can be best obtained in a 3-5 year cycle between different types of ecosystems.

The Secretariat of the Alpine Convention has worked on environmental indicators in the framework of the "Système d'Observation et d'Information sur les Alpes (SOIA)". ETC/NC provided information for nature indicators.

ETC/Land Cover is developing environmental indicators based on land cover data, for use at European scale in the State of Europe's Environment 1998 report, as well as in NATLAN. The indicators proposed shall reflect the situation within the fields of biodiversity, agriculture/forest, transportation, water resources, urban environments, coastal zones or soil degradation. ETC/NC collaborates in the fields related to nature conservation.

5.5. Follow-up of Monitoring activities

Several EEA activities aim at establishing European networks for monitoring changes in the state of the environment and in particular the effects of various pressures on the environment such as for air, water and soil.

For nature it was originally foreseen to discuss this topic both with National Reference Centres and members of the scientific community during an EIONET meeting to be held in Autumn 1997. But due to budgetary limitations, this workshop was postponed.

Nevertheless, a preliminary discussion was held on Biodiversity Monitoring issues during the last ETC/NC Management Committee meeting (Helsinki, November 1997), on the basis of two internal background reports prepared in May 1997:

- "Establishment of a Reference Site Network for Monitoring State and Changes in Nature", prepared by ECNC ;
- "Monitoring the Condition and Biodiversity Status of European Conservation Sites" prepared by Scottish Natural Heritage, as a member of the Joint Nature Conservation Committee (UK), and NERI (DK).

The work is foreseen to continue during 1998 and 1999 with assistance from the Scientific Committee.

6. PARTICIPATION IN WORKING GROUPS AND STEERING COMMITTEES

On behalf of EEA, ETC/NC is involved in various working groups, steering committees or fora of international or European programmes. This has proven to be of major importance for the exchange of information and for maintaining and developing contacts with the network of experts, as a complement to EIONET.

In 1997 ETC/NC participated as:

- Observer in the Scientific Working Group of the EU-Habitats Directive (European Commission DGXI);
- Contributor to the European Working Group on Research on Biodiversity EWGRB (European Commission DGXII);
- Observer in Bern Convention groups of experts (Emerald Expert meetings and Plant Expert meetings - Council of Europe);
- Representative of the EEA to the Pan-European Strategy on Biological and Landscape Diversity (Council of Europe and UNEP);
- Participant in the EEA Inter-regional Forum co-ordinated by ETC/Marine and Coastal Environment);
- Observer in the Steering Group of the Euro-Mediterranean Initiative in Plant Systematics (so-called "Sisyphus project") (Scientific initiative launched by the Linnean Society of London, including an international group of experts);
- Observer in the Steering Group of the Fauna Europaea project (Scientific initiative launched by the Linnean Society of London, including a European group of experts);
- Observer in the Planta-Europa network (Plantlife NGO and French Ministry of the Environment);
- Observer in the European Vegetation Survey.

7. MAIN ETC/NC REPORTS, CONTRIBUTIONS AND DATABASES IN 1997

Subjects	Main client	Status
Annual Summary Report 1996 (EEA Topic Report 2/1997)	EEA, EIONET	Published
Common Database on Nationally Designated Areas in Europe	EIONET, COM, MS, CoE	under validation through EIONET
Common Database on Internationally Designated Areas	EIONET, COM, MS, CoE, Secretariats of International Conventions	under validation and up-dating. Availability on EEA's and CoE's web sites to be considered
NATURA 2000 database including: - Proposed Sites of Community Interest (pSCIs) - Special Protection Areas (SPAs)	COM	- on-going, depending on provision of data by MS - up-dated regularly
EUNIS Functional System (including DB on Selected species and habitats)	EIONET, COM, MS	availability on EEA's web site to be considered
Database on synonyms of species	EIONET, MS, CoE EUROSTAT	availability on EEA's web site to be considered
Habitats frame database	EIONET, COM, CoE, PHARE, MS	wide consultation through experts network in 1998
Proposal for a European Habitat classification	EIONET, PHARE, MS	wide consultation through expert networks in 1998 First version release foreseen late 1998
Draft European Red Book of Vertebrates (in collaboration with CoE)	EIONET, COM, CoE, PHARE, MS, public	to be finalised in 1998
List of National Red Books on Species and Habitats in Europe	EIONET, PHARE, MS, public	available on ETC/NC's web site. Links foreseen with national web sites

8. PLANS FOR 1998

Most activities undertaken in 1997 will be further developed in 1998. The main focus of WTC/NC activities will be on support to NATURA 2000 and reporting activities.

- State of Europe's Environment 1998 report:

ETC/NC is in charge of collecting relevant information and writing two chapters in the State of Europe's Environment 1998 report to be published early 1999 on changes in Nature and Biodiversity and changes in Ecosystems.

- EEA will continue to develop the NATLAN project with the assistance ETC/NC and ETC/LC.

The draft list of maps involving ETC/NC to be discussed and agreed with the relevant institutions is:

- * Biogeographic regions in Europe (Council of Europe)
 - * Ecological regions in Europe
 - * Nationally designated areas in Europe
 - * Internationally designated areas in Europe (Convention Secretariats)
 - * Areas under Community Designation in Europe (European Commission)
 - * Potential vegetation in Europe (BfN)
 - * Country profiles for nature protection
 - * Major Habitats-types in Europe
 - * Percentage of FFH Annex 1 Habitats-types per EU country
 - * Distribution of selected animal species (Atlases)
 - * Distribution of selected plant species
 - * Distribution of different species of *Brassica*
 - * Pressures on designated areas
 - * Some important nature sites in Europe
 - * Major animal migration routes in Europe
 - * Forest maps of Europe
- In support to the Commission on NATURA 2000, depending on provision of data by Member States, the following biogeographical seminars are foreseen in 1998:
 - * Mediterranean first Biogeographic seminar in Thessaloniki (GR)
 - * Alpine first Biogeographic seminar (Apennine region) in Roma (IT)
 - * Scientific meeting on NATURA 2000, setting-up of Reference lists of species and habitats for the Boreal Biogeographic region. Paris (FR)
 - * Scientific meeting on NATURA 2000, setting-up of Reference lists of species and habitats for the Continental Biogeographic region. Paris (FR)
 - * Scientific meeting on NATURA 2000, setting-up of Reference lists of species and habitats for the Atlantic Biogeographic region. Paris (FR)
 - * Boreal first Biogeographic seminar
 - * Atlantic first Biogeographic seminar
 - * Mediterranean second Biogeographic seminar
 - The European Red Book of Vertebrates in Europe is foreseen to be finalised in 1998 in collaboration with Council of Europe. It will consist of a technical report and related database on Vertebrates in Europe.
 - A publication on the database of Designated Areas is foreseen by the end of 1998.