Topic report | 3/2002

# Nature conservation
# Annual topic update 2000

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# Contents

# 1. Introduction

## 1.1. Background

The European Environment Agency (EEA) and the related European Environment Information and Observation Network (EIONET) were conceived to provide timely, targeted and coordinated information to decision makers to support sustainable development of the environment. The main clients are the European Union institutions and EEA member countries as well as the general public.

As part of the European Environment Agency, the European Topic Centre for Nature Conservation (ETC/NC) worked from 1995 to 2000 towards providing the best available information on nature in a way useful to decision makers. This ranged from data collection, assessment of data to delivering data to other users or to reporting on conditions and changes in nature at a European level. A major part of the work supported the Commission and Member States in the Natura 2000 process.

In early 2001, the first European topic centres came to an end. From March 2001, the European Topic Centre for Nature Conservation gave way to a renewed ETC with broader geographical and thematic scope and with some new partners, the European Topic Centre on Nature Protection and Biodiversity, the ETC/NPB.

This topic update report (published in 2002 to complete the series of annual topic updates) assesses what has been achieved by the ETC/NC from 1995 to 2000 and points towards the tasks of the new ETC/NPB.

Since work in 2000 was mostly dedicated to consolidating and finalising the various products initiated since 1995 and few new projects were started, the progress made during 2000 is embedded in the report.

The fourth EIONET-NRC workshop for nature conservation was held in Paris on 30 and 31 March 2000. It focused on 'State of the art of ETC/NC's work since 1995 — Prospects for the future'. It provided an opportunity for stocktaking on projects and progress and allowed extensive exchanges with NRCs as a background for the new ETC (enlargement of the EEA, broadening the scope to biodiversity issues, further developing integrated environment assessment and helping in capacity-building at European and national levels...). The present 'annual topic update' report thus also forms the report on the fourth EIONET-NRC workshop.

## 1.2. Main lines of work

The EEA annual work programmes 1995-99 stated, that the ETC/NC work was to be developed as two integrated main projects:

- providing scientific and technical support to the European Commission and Member States for the implementation of the European Union Network of designated areas — the so-called Natura 2000 Network — under two nature protection instruments, the EU birds directive (1979) and the EU habitats directive (1992);
- assessing the state and trends of biodiversity in Europe.

Both projects covered methodological aspects, development of harmonisation tools, data collection, quality control, analysis and assessments, and both projects provided data needed for EEA reporting activities. During the period, assessments and contributions to EEA reporting grew in importance and became more and more developed.

From 1998 the work on nature conservation was extended to Phare countries. The main work was performed by the Phare Topic Link on Nature Conservation (PTL/NC), acting in close collaboration with the ETC/NC and growing over time.

The scope of the combined ETC-PTL/NC activities thus expanded greatly over time in relation to:

- new tasks attributed to the EEA — and therefore to ETCs — after amendment of the initial Council Regulation (EEC) No 1210/90 of 7 May 1990 by Council Regulation (EC) 933/1999 of 29 April 1999, with more focus on periodical and specific reporting, improving data flow from national to European level as well as public access to data warehouse and development of indicators;
- preparation for enlargement of the Natura 2000 process to accession countries;
- support to the progressive implementation of the Emerald initiative (a mirror initiative to Natura 2000 for non-EU European countries) under the Bern Convention;
- increasing and more precise demands for assistance to the European Commission for the implementation of the European biodiversity strategy under the global convention on biological diversity, including assistance to the European Clearing House Mechanism;
- increasing demands for coordination with and follow-up of biodiversity-relevant policies and programmes, including regional and international conventions;
- increasing needs for coordination with European-wide scientific research programmes as well as international NGO activities;
- focus on making data and information more widely available via the Internet.

All ETC-PTL/NC activities depend on access to consolidated data, collected from national data in a harmonised way and aggregated for use at European level. The main tool for handling such data is the European Information System on Nature (EUNIS), which incorporates core information on species, habitats and sites and which is linked to other specific databases, such as the Natura 2000 database managed by the ETC/NC on behalf of the European Commission, as well as other satellite databases.

**The European Topic Centre for Nature Conservation (ETC/NC) was created by the EEA in 1994.**

The ETC/NC consisted of a consortium of 15 institutions from 12 European countries (Annex 1). The French Muséum National d'Histoire Naturelle (MNHN) was the lead organisation. Each institution had a representative in the Management Committee, which was responsible to the Agency for the overall development of the ETC/NC Work Programme.The consortium had a variety of partner types, ranging from public science and research institutions to international organisations as well as partners from national administrative bodies or with NGO affiliations. ETC partners were also in several cases primary contact points (PCPs) or national reference centres for nature conservation (NRC/NC), and sometimes national focal points (NFPs) in EIONET in their country.

Several partners were members of the European Conservation Institutes Research Network (CONNECT). The JNCC (Joint Nature Conservation Council) is a coordination body involving three regional institutions (Scottish National Heritage, English Nature and the Countryside Commission). The ECNC (European Centre for Nature Conservation) partner is also a network of institutions, among which is included the World Conservation Monitoring Centre (UNEP-WCMC).

Since April 2000, the ETC/NC Leadership was taken over from Juan-Manuel de Benito by Dominique Richard, who was assisted in coordinating the Topic Centre's work programme by an international core team of specialists based at MNHN in Paris.

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From 1998, the activities of the ETC/NC were extended to the 13 Phare countries through the creation of the Phare Topic Link on Nature Conservation (PTL/NC) funded by the Commission. The PTL/NC consortium was lead by the Institute of Landscape Ecology of the Slovak Academy of Sciences, with two main partner organisations providing experts on individual basis: the Institute of Biology of the Romanian Academy, in Bucharest, and the Institute of Geography of the University of Tartu (Estonia).

The PTL/NC leader was Július Oszlány, assisted in coordinating the development of the work programme by a group of experts based at the ILE in Bratislava.

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**The ETC/NC leader was responsible for the implementation of the extended work programme.**

The ETC/NC Management Committee, which was chaired by Claus Stuffmann (former head of the Nature Conservation Unit of the Environment DG), consisted of:

- one representative of each partner of the Consortium (except ECNC which, according to an initial Memorandum of Understanding with EEA, has two representatives);
- one representative of the PTL/NC; the EEA project manager responsible for the ETC/NC;
- a representative of the Nature Conservation Unit of the Commission's Environment DG;
- some observers, including a representative of the Council of Europe.

The Management Committee met twice a year. The ETC/NC leader reported and received comments on progress and coordination of work, on the general context of the EEA work programme and EIONET activities as well as on budgetary issues. He/she also proposed priority projects for the future for discussion and amendment.

Since the Management Committee was large, ETC/NC set up a steering committee with those partners having contracts during the year, to assist the ETC/NC leader more closely and quickly. It used to meet at least three times a year. For specific tasks ad-hoc groups were formed (for example EUNIS/technical advisory and appraisal group, reporting/ technical advisory and appraisal group).

The ETC/NC work programme was performed both under EEA subvention and subvention from the French Ministry of the Environment to the MNHN as consortium lead organisation. The extension to the Phare countries was funded by the Commission (External Relations DG). Other partners also contributed in different ways.

The European Topic Centre on Nature Protection and Biodiversity (ETC/NPB) has taken over to extend the work of the ETC/NC from 2001.

*Conclusions:*
The ETC-PTL/NC's main achievements during the period 1995-2000 have been in:

- providing a scientific and technical support to the Commission for the implementation of the major EU nature conservation policy, i.e birds and habitats directives, for the Natura 2000 Network, including the work with accession countries;
- providing support to other European or regional policies such as with the Emerald Network under the Bern Convention and with marine conventions;
- gathering, in a harmonised way through the EUNIS system, core information on all vertebrates in Europe, as well as on plants and invertebrates listed in European legal texts;
- gathering core information on protected areas in Europe, in collaboration with the Council of Europe and UNEP-WCMC;
- developing tools (on species, habitats, protected areas, reference maps, reporting obligation database) for harmonising and facilitating data flow from national to European level;
- building a stable and coherent network of partners in Europe, both through EIONET national reference centres, international specialised NGOs, research teams and programmes;
- building a European-wide reporting capacity on state and trends of biodiversity in Europe;
- making progressively available the information gathered through the European Clearing House Mechanism.

## 1.3. Towards the future

The expansion from the European Topic Centre for Nature Conservation towards a European Topic Centre on Nature Protection and Biodiversity (ETC/NPB) resulted from a general review of the EEA's priorities and targets. While monitoring and data processing activities were core activities for the first generation of ETCs, the new ETC's activities will move towards a more strategic approach to data collection and information management, with much more focus on integrated assessments and reporting. The main tool for this will be development of a selection of biodiversity indicators. The geographical scope of activities will expand to new countries joining the EEA, and more particularly to EU accession countries.

The new ETC/NPB will have to provide well-balanced expertise between activities related to nature protection issues (Natura 2000, nationally designated sites, protected species and habitats) and wider biodiversity issues (including ecosystem and wider countryside approach, genetic aspects, integrated and sector-related approach to policies).

# 2. Progress between 1995 and 2000

## 2.1. Background

*Activities covered*
The ETC-PTL/NC combined activities have developed with the following aims:
- networking with EIONET and European biodiversity organisations;
- support to the implementation of European policies. This has been mainly the case for support to the Natura 2000 Network, but also regional marine conventions (Barcelona, Ospar...). as well as a few activities under the convention on biodiversity;
- developing tools for harmonisation of data at European level and as standard reference for countries reporting needs. Examples are: Natura 2000 software, biogeographical regions maps, species synonyms database, European habitat classification, reporting obligation database;
- contribution to EEA reporting activities.

*Networking: a key task for ETC-PTL/NC*
Data on nature are collected and provided by a large number of varied data holders and data providers: this ranges from national public institutions — which in general participate in EIONET as NRCs — to NGOs and scientific networks, international Convention secretariats and programmes.

A fundamental and resource-demanding task for the ETC-PTL/NC has been to coordinate and collaborate both with EIONET institutions and with the most relevant international institutions and programmes.

The information provided by networks outside EIONET is often already European-wide. In many cases NRCs contribute, from a national level, to such initiatives. In some cases the ETC/NC has actively supported the design of European-wide and EEA-relevant scientific projects on species and ecosystems to be developed under the Commission's fifth RTD programme.

The EIONET workshops have provided very useful occasions to meet with both the national institutions and the international bodies.

*Working frame*
As for all ETCs, the ETC-PTL/NC's activities had to be developed within two main EEA frameworks:
- streamlining the data collection according to the MDIAR chain: from monitoring to reporting (monitoring, data, information, assessment, reporting);
- assessing the state and trends of the environment according to the DPSIR scheme (driving forces, pressures, state, impact, response), using indicators.

*MDIAR*
The activities to support Natura 2000 covers the whole MDIAR chain:
- EU Member States collect and monitor species and habitats listed in annexes of the birds and habitats directives, and use this information to:
- propose and describe sites with data on status, extension, distribution of these species and habitats within sites (special protection areas and potential sites of community interest) according to a standardised procedure (see below) set-up by the European Commission;
- the data is analysed by the ETC/NC to produce information by ways of maps, statistics etc.;
- this information is the basis for evaluation or assessment of Members State proposals, within a bio-geographical region context (six regions for EU) in the biogeographic seminars to which the ETC/NC has contributed over the past years and will continue to contribute in the future;
- once the list of sites of Community interest has been politically agreed between the Commission and the Member States, these have six years to officially designate the sites under the habitats directive. After that, they will have to report regularly on the conservation status of corresponding species and habitats.

The work on assessments of state and trends of biodiversity encompasses broader issues, and the MDIAR frame has been more difficult to apply in a systematic way. For practical reasons, collection of data was limited to selected groups of species, habitats and sites; the information was built from many and various sources to fill different reporting needs in contribution to EEA periodic reports, *Environmental signals*, the report on Europe's biodiversity etc. The data situation has gradually improved over the past six years as a result of networking and because much larger data sets are now being made available to the public from Member States and international organisations via the Internet.

*DPSIR*

With increasing work on indicators, the experiences of the ETC/NC show that pressure, state and response indicators for nature and biodiversity are possible to develop, while impact indicators are still difficult to assess, due to limited knowledge on precise cause and effect relationships. Response indicators do not yet address well the effectiveness of policies. Further development of indicators is thus a main task for the new ETC/NPB.

## 2.2. Support to Natura 2000

The EU policy on nature conservation is part of the EU biodiversity strategy and is mostly based on the implementation of the EU birds and the habitats directives. One of the main tools to achieve the objectives of this policy is the setting up of an ecological network named the Natura 2000 Network, which consists of sites designated by EU Member States under the birds directive (special protection areas — SPAs) and those proposed (pSCIs) and later designated under the habitats directive (special areas of conservation — SACs).

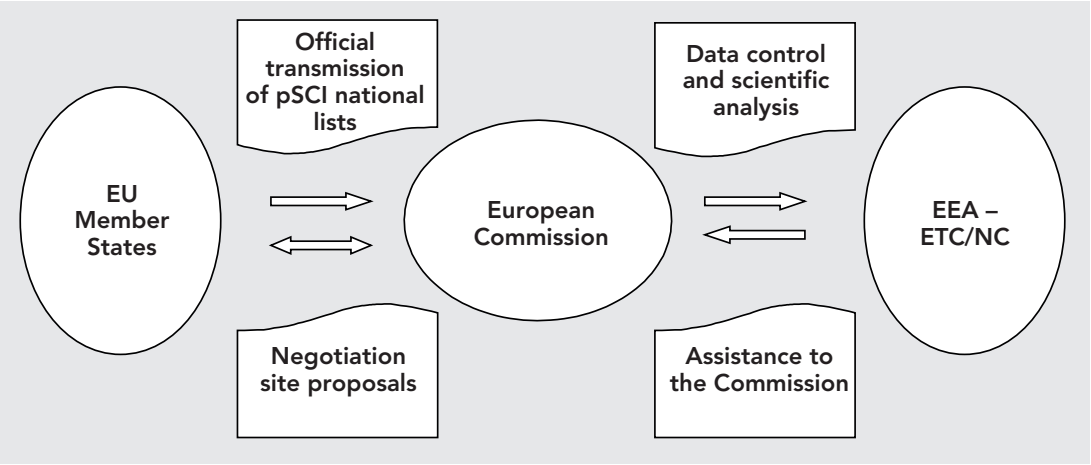
The ETC/NC provided scientific and technical support to the European Commission (Environment DG-D2) and to the Member States in this process (Figure 1). The ETC/NC involvement was described in detail in the 1998 Annual topic update report.

Data collected and analysed in the work, especially for the evaluation and assessments for seminars, has so far not been made public to any great degree, but there is a growing interest in gradually doing so. This requires an agreement of the Commission and Member States.

Since 1995, Natura 2000 related activities have focused on:

- software issues;
- updating of the interpretation manual of Annex I: Habitats;
- developing the bio-geographical regions map;
- handling the database of already designated areas (SPAs) and of proposed sites of community interest (pSCIs) to be further designated as SACs;
- support to the Commission in organisation of biogeographic seminars where pSCIs are assessed;
- EU enlargement process;
- specific outputs.

Working procedure between the Environment DG and the ETC/NC in relation to Natura 2000 activities — Figure 1



Since the national contact points and experts for Natura 2000 are very often not the same as the EIONET contact points, the work of the ETC/NC on Natura 2000 has not been very visible to EIONET.

### *2.2.1 Software issues (ETC/NC core team and Eureko)*

The ETC/NC was involved in the development of the software for describing the sites designated under the birds directive (SPAs) and the sites proposed (pSCIs) under the habitats directive. Countries use the Natura 2000 software as input medium. The ETC/NC received the digitised data from the Commission for incorporation into the Natura 2000 database and data handling.

Once the software was developed, ETC/NC's task consisted in finding bugs, acting as a helpdesk for national users, and proposing amendments. Thus, four successive versions were developed until most of the identified running problems were solved (version 1.4).

However, the Natura 2000 software requires further developments to be suitable for use in accession countries and to become a more modern in- and output system, also compatible with the GIS Natura 2000, which is foreseen to be developed by the Environment DG.

Based on the Natura 2000 software, a similar software has been developed by Council of Europe for the Bern Convention Emerald Network. It has been used by several non-EU countries, including accession countries, for descriptions of sites which include species listed in the Bern Convention and habitats identified in Resolution 14 of the Bern Convention. It is important to ensure the closest possible future development of these softwares to enable transfer of data and comparisons across Europe.

### *2.2.2 Developing the bio-geographical regions map (Eureko for ETC-PTL/NC)*

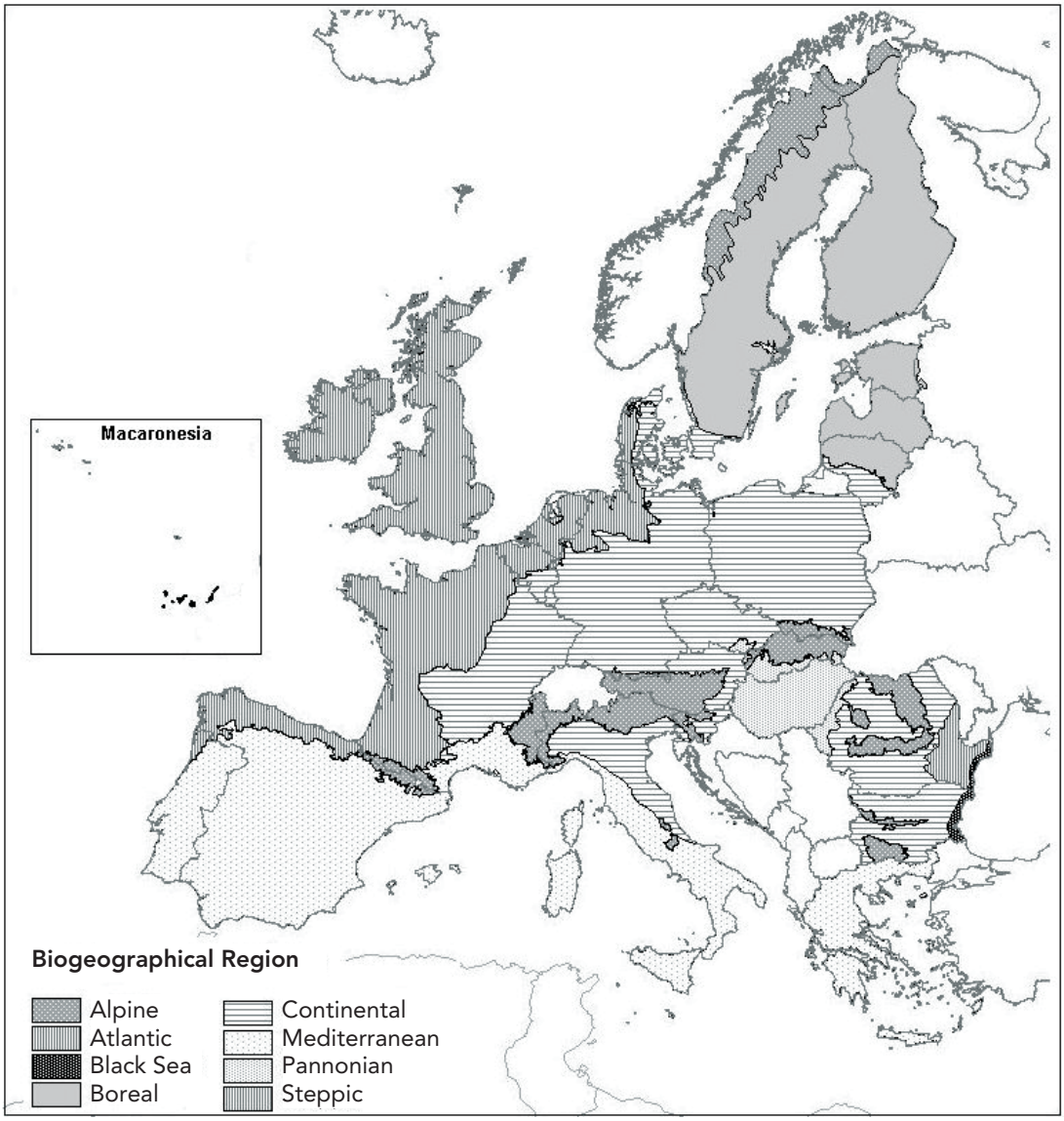
The bio-geographical regions map is a reference tool for assessing the sites proposed by MS under the habitats directive (pSCIs) in a context which is different from national boundaries, because it takes into account the variability of biodiversity features within Europe, depending on climatic and geographical conditions, which do not follow national borders.

The EU-15 bio-geographical regions map, including six regions (Boreal, Atlantic, Continental, Alpine, Mediterranean, Macaronesian) was initially developed in October 1995 by the Commission DG Environment, in paper form and then digitised by the ETC/NC (Arc-info and Map-info formats).

A number of activities have been undertaken by the ETC/NC since then:

- preparing the EU-15 + 12 bio-geographical regions map as a basis for the EU enlargement process (October 1999) (Figure 2);
- incorporating amendments as requested by Germany concerning the boundaries of the continental and the alpine region (October 2000);
- coordinating with the Council of Europe for the extension of the map to a pan-European map (+ 5 additional regions), as a basis for the development of the Emerald Network. A first version of the map was adopted by the Standing Committee of the Bern Convention in 1997. Amendments have been incorporated (October 2000).

Bio-geographical regions map EU-15 +12 — Map version December 2000 Figure 2




**Source:** ETC/NC by Eureko.

**Note:** the bio-geographical regions map has since then been finally corrected and adopted for use for Natura 2000 as well as for the Emerald Network (Bern Convention). The final version is uploaded on the EEA web site under 'Data Service, Natlan'.

### *2.2.3 Handling the Natura 2000 database (ETC/NC core team)*

The ETC/NC only handled digitised Natura 2000 data, not data which (especially in the first years) was delivered on paper.

*Database on special protection areas (SPAs)*

SPAs are sites designated officially by MS under the birds directive. As soon as designated, SPAs are included in the Natura 2000 Network. The ETC/NC work consists in incorporating annually the information related to new sites designated by EU Member States, as well as ensuring a permanent updating of the database by adding new data concerning already designated sites.

This information is the basis for the preparation of the Environment DG annual report 'special protected areas'.

The work started from an original version of the database (version 1997), prepared by the Institute of Terrestrial Ecology (UK) on behalf of the Commission, on the basis of data reported by Member States. This data was sent back by the ETC/NC to countries for validation and updating. The result of this validated database was published in 1999.

The results of this validation process were very surprising. Instead of validating the original database, countries changed most of the content. Thus, for the same sites described in 1997 and again in 1999 there

were many changes in terms of name, location, surface area, content of sites described, as shown in Table 1. This highlights the need for more strict reporting procedures if proper monitoring is to be established in the future.

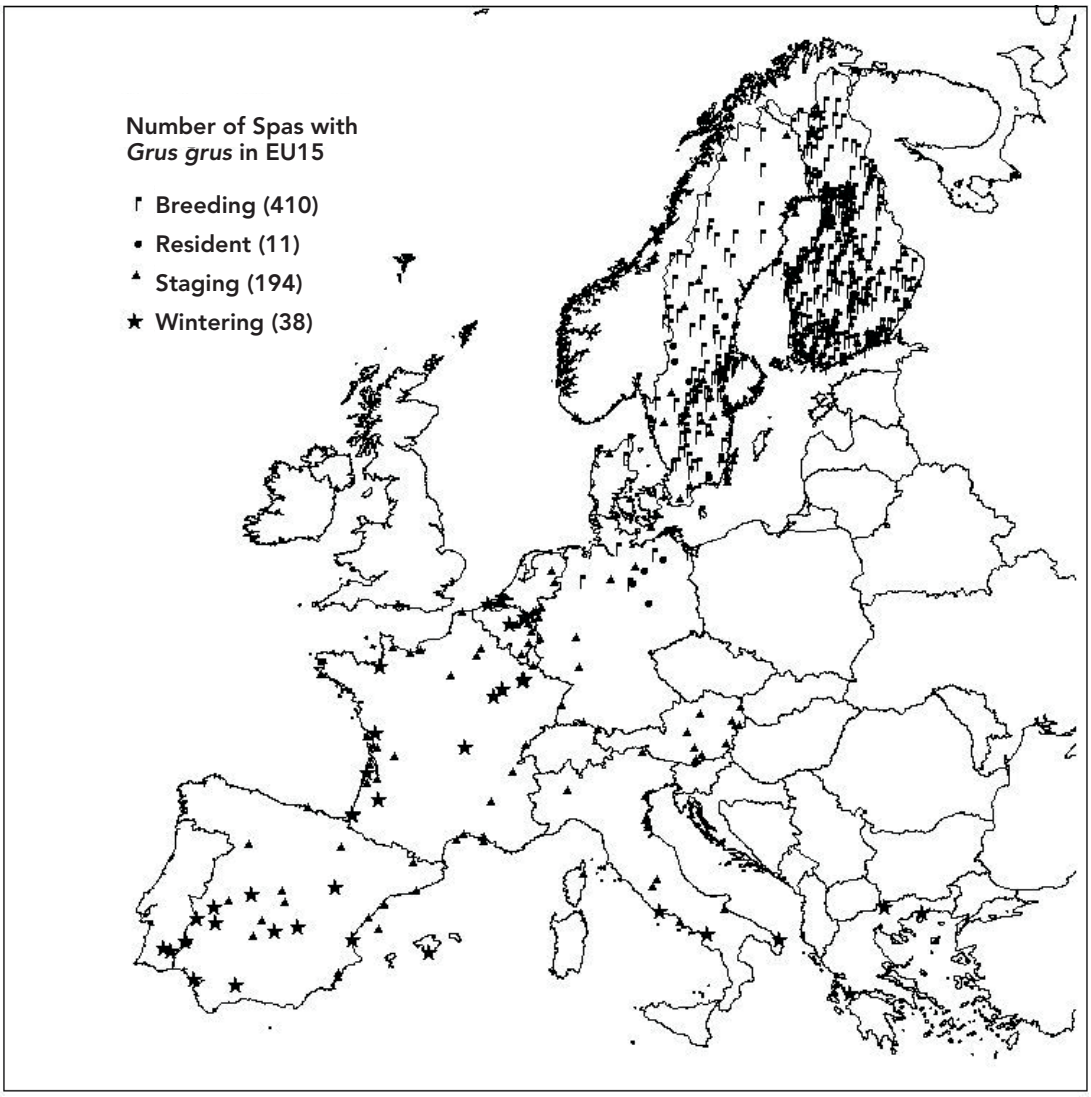
A series of assessments on SPAs were prepared for presentation by the Environment DG at the 20th anniversary of the birds directive held in Denmark in November 1999. An example of such an assessment is given in Figure 3, showing country responsibility in relation to the distribution range of a bird species: in the case of the common crane (*Grus grus*) both breeding, wintering and migrating areas have to be well protected through the designation of SPAs.

Table 1 **Comparison between sites described as SPAs in the original database and in the validated database (ETC/NC core team, March 2000)**

| | Original database (1997) | Validated database (June 1999) |
|---|---|---|
| **Site A** | Code: XX0000022 | Code: XX4080001 |
| | Name: AA Nature Reserve | Name: BB Forest, CC Forest and DD Mt |
| | Lat: N 43 50<br>Long: E 11 49 | Lat: N 43 51<br>Long: E 11 48 |
| | Area: 755 ha | Area: 3 975 ha (area increase >40 %) |
| | | Annex I species now missing:<br>A215 *Bubo bubo*, A101 *Falco biarmicus*, A103 *Falco peregrinus*, A346 *Pyrrhocorax pyrrhocorax* |
| **Site B** | Code: XX0000045 | Code: XX2000007 |
| | Name: ZZZ | Name: ZZZ |
| | Lat: N 52 25<br>Long: E 05 17 | Lat: N 52 25<br>Long: E 05 12 |
| | Area: 1 600 ha | Area: 350 ha (area decrease >75 %) |
| | | Annex I species now missing: A029, A222, A045, A119, A132, A166 |

Special protection areas (SPAs) designated by Member States for common crane (*Grus grus*), December 2000 — EU birds directive

Figure 3




**Source:**
ETC/NC core team, based on data reported by EU Member States to the Commission under the birds directive, December 2000.

The progress of MS in describing and reporting on SPA data was slower than in proposing sites to the Commission. Thus, the SPA data recorded in the database by the ETC/NC by December 2000 could not reflect fully the progress highlighted in the Natura Barometer published by the Commission in the December 2000 issue (No 13):

*Database on potential sites of community interest (pSCIs)*
Sites are proposed by MS under the habitats directive as pSCIs. Using the Natura 2000 software, MS provide data describing the sites. This information is incorporated into the database managed by the ETC/NC on behalf of the Commission, to make further assessments at bio-geographic and national level, using EUNIS data as well as other relevant sources.

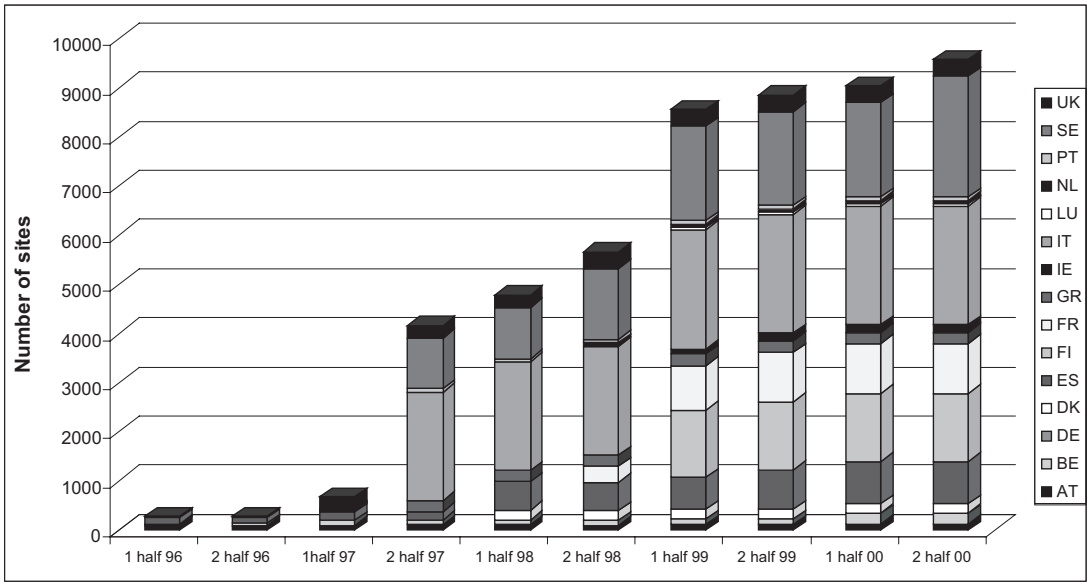
These assessments are only possible if the description of sites is sufficiently detailed. Few sites were proposed and sufficiently described until the second half of 1997. Since then there has been a significant and increasing number of reported data by Member States, as shown in Figure 4.

Table 2 **Number and surface area of SPAs in the Natura 2000 database by December 2000 (digital data) in comparison to number and surface area mentioned in the Natura 2000 barometer**

**Source:** Environment DG and the ETC/NC.

| EU country | Natura 2000 database (December 2000) managed by the ETC/NC (digital data) | | Natura barometer (13 December 2000) Published by the Environment DG (in paper form) | |
|---|---|---|---|---|
| | Number of described sites | Total area (km²) of described sites | Number of sites designated | Total designated area (km²) |
| Belgium | 36 | 4 313 | 36 | 4 313 |
| Denmark | 111 | 9 763 | 111 | 9 601 |
| Germany | 501 | 9 050 | 617 | 21 672 |
| Greece | 52 | 5 530 | 52 | 4 965 |
| Spain | 151 | 25 228 | 260 | 53 602 |
| France | 114 | 7 900 | 117 | 8 193 |
| Ireland | 106 | 2 055 | 109 | 2 236 |
| Italy | 342 | 18 746 | 342 | 13 707 |
| Luxembourg | 13 | 160 | 13 | 160 |
| The Netherlands | 30 | 3 522 | 79 | 10 000 |
| Austria | 83 | 12 152 | 83 | 12 080 |
| Portugal | 47 | 8 671 | 47 | 8 468 |
| Finland | 451 | 28 346 | 451 | 27 500 |
| Sweden | 394 | 24 647 | 394 | 24 647 |
| United Kingdom | 200 | 9 437 | 209 | 8 648 |
| EU-15 | 2 631 | 169 520 | 2 920 | 209 792 |

Data on pSCIs provided to the ETC/NC in digital form between 1996 and 2000 — Figure 4




**Source:** ETC/NC, December 2000.

As in the case of SPAs, the number and surface area of sites recorded in the database in December 2000 was less than that indicated in the Natura barometer published by the Commission in the December 2000 issue (No 13), due to delays of MS in describing the sites in a digitised format:

Number and surface of pSCIs in the Natura 2000 central module by 31 December 2000, in comparison to number and surface area mentioned in the Natura 2000 barometer — Table 3

| EU country | Natura 2000 database (December 2000) (managed by ETC/NC) (digital data) | | Natura barometer (13 December 2000) (published by the EC, Environment DG) (paper form) | |
|---|---|---|---|---|
| | Number of sites described | Total area (km²) of sites described | Number of sites proposed as pSCIs | Total area (km²) of pSCIs |
| Belgium | 209 | 110 453 | 209 | 1 105 |
| Denmark | 194 | 1 025 922 | 194 | 10 259 |
| Germany | 7 | 74 112 | 2 196 | 20 434 |
| Greece | 236 | 2 722 845 | 234 | 26 522 |
| Spain | 860 | 8 740 808 | 937 | 90 129 |
| France | 1 016 | 3 100 638 | 1 028 | 31 440 |
| Ireland | 155 | 252 833 | 317 | 6 140 |
| Italy | 2 425 | 3 924 617 | 2 507 | 49 364 |
| Luxembourg | 38 | 35 215 | 38 | 252 |
| The Netherlands | 76 | 707 822 | 76 | 7 078 |
| Austria | 127 | 914 385 | 127 | 9 144 |
| Portugal | 65 | 1 215 779 | 94 | 16 502 |
| Finland | 1 380 | 4 713 572 | 1 381 | 47 154 |
| Sweden | 2 454 | 5 086 449 | 2 454 | 50 908 |
| United Kingdom | 340 | 1 765 955 | 386 | 17 941 |
| EU-15 | 9 582 | 34 391 405 | 12 178 | 384 372 |

**Source:** Environment DG and the ETC/NC.

### *2.2.4 Assessment of pSCIs (ETC/NC core team)*

The assessment of pSCIs has been one of the most important tasks of the ETC/NC in support to Natura 2000. It consists in analysing the pSCI proposals of each Member State within a bio-geographic context, according to a methodology developed by the ETC/NC, agreed upon by the Habitats Committee in 1997 (Report Habitat 97/2 rev. 4 18 November 1997), and described in the ETC/NC Annual topic update 1997.

The work consists of different steps:

- a first technical analysis of each described pSCI, aiming at identifying a lack of information (empty fields in the data sheets, species or habitat types not considered), mechanical errors (obviously wrong data in the fields) or inconsistencies (contradictory data in different fields of a single data sheet). This analysis is sent to each concerned Member State;
- a second more in depth scientific analysis to assess the global representation, completion and coherence according to the EC habitats directive obligations. This assessment results in a series of documents (Box 1) prepared by the ETC/NC. These are background documents for discussions to be held between EU Member States, the European Commission and the ETC/NC and others (see Box 2) during the 'Bio-geographic seminars';
- assisting the European Commission in the negotiations with Member States for ensuring a proper representation of species and habitats of European concern by bio-geographical region and by country;
- reporting on conclusions from the bio-geographic seminars. These conclusions are the scientific basis for the setting up of the different regional community lists of pSCIs.

Box 1 **Data sets produced between 1996 and 2000 to support the assessments of pSCIs**

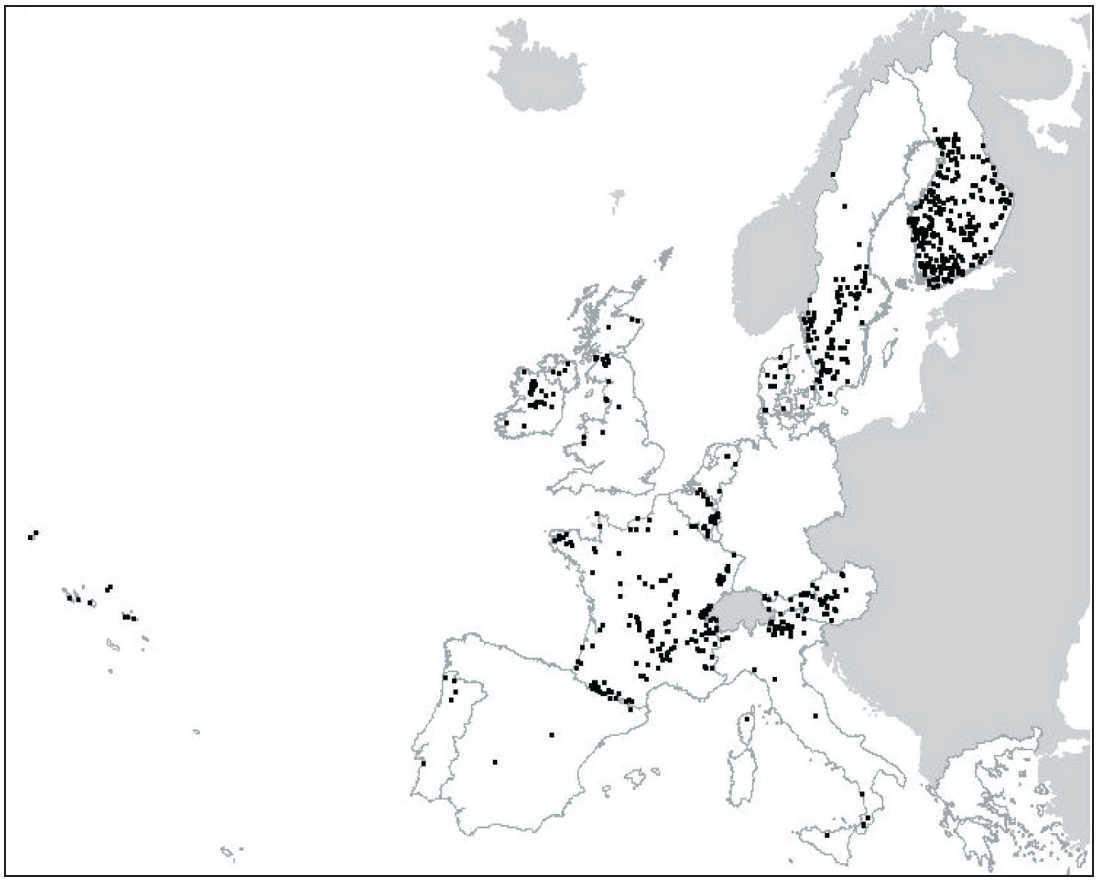
In total, for the 13 bio-geographic seminars held so far (1996-2000):

| | |
|---|---|
| • information synthesis from the validated dataforms of sites proposed by MS | 13 syntheses |
| • distribution maps of the proposed sites | 120 maps of sites |
| • distribution maps of each habitat noted in the proposed sites | 1 000 maps of habitat distribution |
| • distribution maps of each species noted in the proposed sites | 2 000 maps of species distribution |
| • pre-analysis of the representivity of habitat and species | |

An example of one of the 1 000 maps produced on Annex I Habitat types by the ETC/NC is shown in Figure 5.

**Proposed sites of community interest (pSCIs) designated by Member States for a specific Annex I Habitat type: active raised bogs (December 2000)**

Figure 5



**Source:**
ETC/NC core team, based on data reported by EU Member States to the Commission under the habitats directive, December 2000

**Typical attendance of a biogeographic seminar. Example of the Alpine region**

Box 2

| | |
|---|---|
| **National designations** | |
| — the national representative to the Habitats Committee | 7 |
| — the national representative to the Scientific Working Group of the habitats directive | 7 |
| — a maximum of four other national experts. | 0-4 |
| **Non-governmental organisation delegation (proposed by European Habitat Forum)** | |
| — as many representatives as concerned Member States | 7 |
| **Independent experts (appointed by the ETC/NC)** | |
| — scientists with an appropriate Natura 2000 background | 5-6 |
| **European Commission — Environment DG delegation** | 3-4 |
| **ETC/NC staff (Natura 2000 team)** | 3 |
| **Observers** | |
| — 1-2 representatives of accession countries of the bio-geographical region concerned | 8 |
| **Total average** | **30-35** |

Since 1996, the calendar of biogeographic seminars was not followed as expected, due to delays in data provision by countries. It was originally estimated that three seminars should be organised per bio-geographical region between 1996 and 1998. However, several 'sub-seminars' had to be organised for the Alpine region (Alps, Pyrenees, Fennoscandinavian mountains), which changed the supportive efforts of ETC/NC over time considerably.

By the end of 2000, the situation was as follows (table 4):

Table 4 **Calendar of biogeographic seminars (Environment DG**

| Region | Pre-seminar in | Seminar 1 | | Seminar 2 | | Seminar 3 | |
|---|---|---|---|---|---|---|---|
| | Place | Place | Date | Place | Date/Foreseen date | Place | Foreseen date |
| Alpine | Italy | Austria | 19-21 October 1997 | Sweden/ France/ Spain | 21-23 April 1999 and 5-6 July 1999 and 24 September 1999 | Italy | 5-6 July 2001 |
| Atlantic | United Kingdom | Ireland | 6-7 September 1999 and 16 November 1999) | Nether-lands | 10-12 September 2001 | | |
| Boreal | Finland | Sweden | 21-23 April 1999 | Finland | 6-8 June 2001 | | |
| Continental | Germany | Belgium | 21-23 March 2000 | Denmark | 22-24 October 2001 | | |
| Mediterranean | Spain | Greece | 1-3 February 1998 | Portugal | 4-5 November 1999 | Spain | 2-4 May 2001 |
| Macaronesia | Portugal | Spain | 7-9 November 1996 | Portugal | 13-16 July 1997 | – | – |

By the end of 2000, the list of sites of Community interest for the Macaronesian bio-geographical region was nearly finalised.

### *2.2.5 EU Enlargement (ETC/NC core team and PTL/NC)*

The ETC-PTL/NC has been involved in the preparation of the EU enlargement to the 12 accession countries. This contribution has been focused on two main issues:

- preparation of scientifically-based documents to assist the negotiation process. This included:
  - — EU-15 +12 bio-geographical regions map (see point 2.2.2):
  - — reference list of Annex I and II Habitats and species (based on the existing annexes) for each bio-geographical region;
  - — proposals for changes to the Interpretation manual of Annex I Habitats. These cover new habitats and amendments to existing habitats to adequately reflect an enlarged EU;
- assessment of accession country proposals of habitat types and species to be added to the annexes of the directives and for geographical restrictions (where appropriate) (Box 3). An extract from a typical assessment summary table is given below (Table 5).

Box 3 **Assessment of proposals from 12 accession countries (Turkey not included in 2000) (ETC-PTL/NC)**

**On habitat types**

- assessment of 47 habitat type proposals:
  - — 26 habitat types accepted (some as extensions of existing Habitats)
  - — 1 habitat type with a proposed geographical restriction (refused)
  - — 20 habitat proposals refused.
- updating of the *Interpretation manual of the EU Habitats:*
  - — 13 new accounts for the manual
  - — 13 revised accounts for the manual.

**On species**

- assessment of 134 bird proposals:
  - — for Annex I: 14 new bird proposals accepted, 18 proposals refused and 20 with a geographical restriction
  - — for Annex II/2: 9 refused new birds species, 24 refused proposals and 25 accepted proposals
  - — for Annex III/2: 2 accepted proposals and 32 refused proposals.
- assessment of 564 other species proposals:
  - — 145 new species for Annexes II, IV and V
  - — 29 species with a geographical restriction
  - — 390 refused proposals in the three annexes.

Table 5 **Extract of a summary of proposals by accession countries to add to Annex 1 Habitat types (ETC-PTL/NC, November 2000**

| Priority | Habitat | Proposed by | Present in EU-15 | Present in AC | Already covered in present Annex I? | Comment | Habitat in danger of disappearance in its natural range | Habitat with small range | Typical of zone | Threat | ETC/NC technical advice on proposal |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Glacial cirques in the Hercynian Mountains | CZ | DE, FR | PL, SI(?), SK(?) | | A mosaic of habitats, many already included on Annex 1 (also proposed habitats) | | ✔ | | Air pollution, Overgrazing tourism | Negative |
| | Peatmoss-bladderwort pools (Utricularietea intermedio-minoris) 22.45 | PL | Probably present in most MS | Probably present in most AC | Occurs within 3 160 Natural dystrophic lakes and ponds, often in association with 7 110, 7 120, 7 130 and 7 140 (acidic mires) | Widespread in northern and western Europe where it occurs as a component of 3 160 natural dystrophic lakes and ponds, often in association with 7 110 * active raised bogs 7 130 Blanket bogs and 7 140 transition mires and quaking bogs. | ✔ | | | drainage, disturbance to water conditions, exploitation of peat | Negative |
| | Hercynian and Carpathian *Pinus mugo* scrub 31.55 and 31.56 | CZ | DE | SK, RO, (BG?) | Very similar to 4070 * Bushes with *Pinus mugo* and *Rhododendron hirsutum* (*Mugo-Rhododendretum hirsuti*) | | | | ✔ Continental Alpine | Grazing, skiing, air pollution | Negative |
| ✔ | Subalpine dwarf mountain pine scrub (*Pinetum mughi*) | PL | | | | | | ✔ | ✔ Alpine | Tourism (skiing) | |
| ✔ | Continental deciduous thickets (*Prunion spinosae* Soó 1947, *Spiraeion mediae* Borhidi et Varga, 1999)) 31.8B12 | HU | No (AT?) | SE Europe | | Good proposal, a better definition is required to exclude some widespread, non threatened plant communities PTL/NC suggest removing *Prunetum fruticosae* from proposal to give a more focused unit | ✔ | | | Fragmentation, development, change of landuse, (Lack of management?) | Positive |
| | *Genista fasselata* scrub 32.21G1 | CY | No (but GR noted later) | No | Similar to 5330 (32.22 – 32.26) Extend definition? | 32.21G1 ((*Genista fasselata*) brush) — distribution 'Eastern Med basin' Distribution of *G fasselata* is Greece, Cyprus, Israel/Jordan (MedCheckList) | | | ✔ | | ? |

#### *2.2.6 Outputs and use*

Most of the concrete results of the work undertaken by the ETC/NC on the assessment of the Natura 2000 proposals are considered as confidential, until the community list of SCIs is finalised. They are therefore not made public. However, a specific agreement allows the ETC/NC to process the national data collected in this framework and to use them for EEA reporting purposes. The data has been used:

- as input to the EUNIS species and habitats databases;
- for the report on Europe's biodiversity (see below);
- to develop indicators for use in the *Environmental signals* report (such as the chapter on grasslands in *Environmental signals 2001*).

#### *2.2.7 Monitoring of Natura 2000 sites (JNCC-SNH and NERI)*

This issue is of high importance for the future of the Natura 2000 Network and ETC/NC was asked by the Commission to start gathering ideas and experiences in that field. However, due to insufficient progress in the establishment of the Network itself, the monitoring issue was not set up as a priority in the ETC/NC work.

An internal report was prepared on behalf of ETC/NC by Scottish Natural Heritage/JNCC (UK) and NERI (DK) partners in 1998 (see table in section 4). A presentation on the main results, focusing on the Scottish experience was made during the fourth EIONET workshop in Paris.

### 2.3. The European nature information system (EUNIS): a tool for managing data and reporting on biodiversity at European level

*(ETC-PTL/NC core team, FEI, CEH, WCMC, MNCN, Eureko)*

Apart from specific data collected through the Natura 2000 process, many other data sets are needed to report on general state and trends of biodiversity at European level.

The ETC-PTL/NC set-up the European nature information system, (EUNIS), as an information tool to:

- be a reservoir of selected core information on European nature;
- facilitate access and use of nature data from different sources by promoting harmonisation of terminology and definitions.

EUNIS was developed, taking into account lessons learnt from the previous Corine biotopes sites project. It consists of a central unit integrating data models on species, habitat types and sites, several secondary databases which are managed by different partners and an increasing number of satellite databases.

EUNIS is managed separately from the Natura 2000 database, though with close relationships. EUNIS data are used, together with other sources, to assess Natura 2000 proposals; on the other hand data gathered by Member States under Natura 2000 feed EUNIS.

#### *2.3.1 EUNIS species in 2000 (ETC-PTL/NC core team and MNCN)*

*Content of EUNIS species*

The collection of data on species has focused in priority on:

- All European terrestrial vertebrate species (mammals, breeding birds, amphibians, reptiles) and freshwater fish, with different geographical scope depending on the groups;
- Plant species listed in Annex II of the habitats directive and in Annex I of the Bern Convention;
- Invertebrates listed in Annex II of the habitats directive and in Annex II of the Bern Convention.

The basic type of information for each species is:

- *Reference information:*
  - — scientific name
  - — synonyms
  - — vernacular (common) name in 26 languages (not complete)
  - — international and European protection status
  - — habitat-type preferences.

- *Spatio-temporal information:*
  - — presence/absence per country
  - — presence/absence per bio-geographical region within each country
  - — population size
  - — populations trends.

- *Conservation status:*
  — at national level
  — at international level
  — at European level.

However, not all the information could be collected with the same accuracy for all species.

*EUNIS species outputs and use*

- The spatio-temporal information on species contained in EUNIS has been one of the main sources of reference data to assess the Natura 2000 national proposals (see above) at bio-geographic level. It has also allowed rapid responses to many specific questions asked by the Environment DG-D2 on ad-hoc matters;
- figures, tables and graphics in the report on Europe's biodiversity, are direct outputs from the EUNIS;
- development of a red list of vertebrates in Europe. Based on a joint initiative with the Council of Europe, this list shows for the first time a European approach to assess the conservation status of the concerned species, using — as far as possible — the 1994 IUCN categories;
- development of a CD-ROM application with synonyms, legal and threat status[1];
- content of a full EUNIS species web application under development 2000-02 (Figure 6).

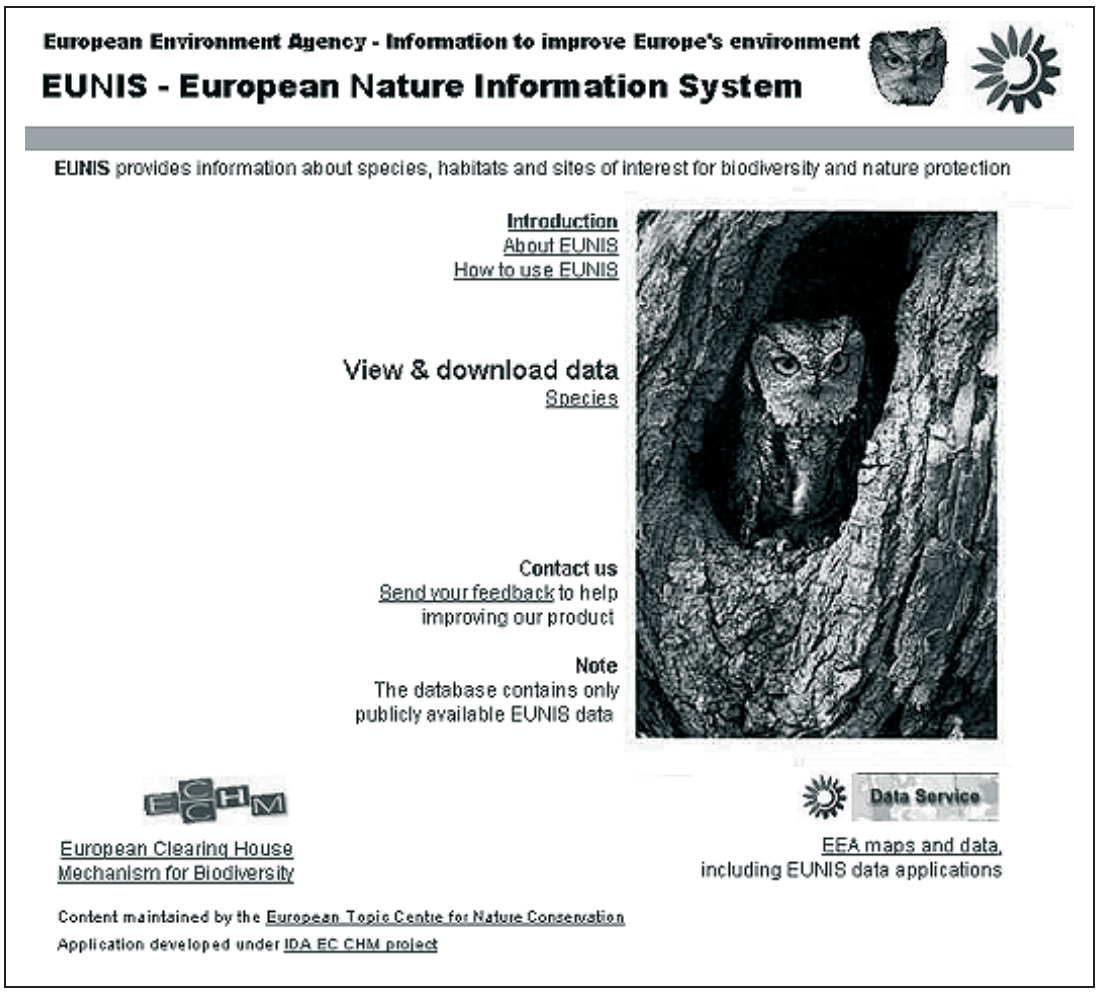
*Links with other European initiatives on species*

The ETC-PTL/NC has focused on a limited number of species for EUNIS.

However, as part of its mandate, the ETC-PTL/NC has supported and helped guide the development of major European taxo-

Front page of the EUNIS species web application. Version December 2000 (accessible from the EEA web site front page)

Figure 6




1 Due to copyright problems for the software used, the official publication was restricted.

nomic initiatives, funded by the Research DG. These projects aim at providing a full checklist of all European species, according to current knowledge and taxonomy. They are:

- Fauna Europaea project for all European terrestrial animal species;
- Euro+Med Plantbase for all European and part of Mediterranean vascular plants;
- European register of marine species.

Such Networking efforts will be the fundament under the emerging large efforts such as GBIF with its national nodes and ENBI — the European coordinative node.

### *2.3.2 EUNIS habitats in 2000 (CEH for ETC-PTL/NC)*

*The EUNIS habitat classification*

Habitat types have different names and classification hierarchies in different countries and in international instruments. This leads to big problems in aggregated reporting and comparisons. The EUNIS habitat classification was conceived as a common reporting language on habitat types at European level. The EUNIS habitat classification builds upon previous initiatives (Corine biotopes followed by the Palaearctic habitats classification), but introduces agreed-upon criteria for the identification of each habitat type and provides a correspondence with other classification types (the two mentioned above, Corine Land Cover typology, habitats directive Annex I, Nordic vegetation classification system, European vegetation survey and potentially national systems). During 1999 and 2000 it was expanded to cover marine habitats through collaboration with regional marine conventions such as Barcelona and OSPAR. Links with national systems are being explored.

*The EUNIS habitats database*

The goal is to include in EUNIS basic information (mostly habitat description, distribution and legal status) on habitat types of European concern.

Despite the difficulty of accessing harmonised spatio-temporal data on habitats, the EUNIS habitats includes by the end of 2000 more than 45 000 geographical records on habitat types, corresponding to the 198 habitat types listed in Annex 1 of the habitats directive. Data was extracted from both the Natura 2000 and the Corine biotopes sites databases.The habitat type information needs much improvement in coming years to support the emerging ecosystem assessments.

*EUNIS habitats outputs and use*

A first release of the EUNIS habitat classification will be available in early 2001 on the following web site (http://mrw.wallonie.be/dgrne/sibw/EUNIS/home.html) and will begin to be used as a reporting and comparison frame for habitats by EEA. The aim is 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, set up in 1998 by EEA, ensured future coordination, particularly with the Commission and Council of Europe.

As for species, figures, tables and graphics used in the report on Europe's biodiversity (in preparation) are direct outputs from the EUNIS habitat database. Furthermore, several habitat maps included in Natlan (see later) are also based on data coming from EUNIS.

### *2.3.3 EUNIS sites in 2000 (CEH and Eureko, for ETC-PTL/NC)*

*The EUNIS sites database*

There are two main approaches to geo-referenced species and habitats data: by site or by distribution over large areas (often reported in geo-referenced grids 10km x 10km or 5km x 5km). The two approaches support each other as tools for analysis.

There are several large site based nature systems where sites are selected according to specific criteria of European relevance. These are for example: the Corine biotopes project, the important birds areas project (developed by BirdLife International) and the important plant areas (developed by Plantlife).

The Corine biotopes data is incorporated in EUNIS. For Phare countries, it represents an important reservoir of updated information on these countries.

A specific type of sites are the sites designated for protection according to legal instruments. There are three main categories:

1. Sites designated at national level according to each country's specific legal instruments;
2. Sites designated at Community level, under the birds and habitats directives, namely the Natura 2000 sites;
3. Sites designated under other international instruments: international and regional conventions and programmes, such as Ramsar sites, biosphere reserves etc.

A joint project was set up in collaboration between the EEA, the Council of Europe and UNEP-WCMC to streamline the collection of data on these three categories of designated areas, avoiding duplication of requests to countries from different organisations. This project is the common database on designated areas (CDDA). The nationally designated areas of EEA countries are part of EUNIS.

The responsibility for collecting CDDA data is shared between ETC/NC (for national designations in EEA and accession countries, Community designations), UNEP-WCMC (for eastern European countries and international designations) and Council of Europe for Bern Convention and European diploma sites. A copy of national data in the updated database is transmitted every year to Eurostat and UNEP-WCMC for their use.

Figure 7 synthesises this process.

The data collected from EEA and accession countries on nationally designated areas are validated and updated through an EIONET process in order to enhance more automated data-flow from national level to European level, using Circle facilities. This has been identified by the EEA as the first priority data flow project for nature.

A series of country visits was organised by ETC/NC during 2000 (all EEA countries, except Italy) to explain in detail the project, to get familiar with each national information system and to initiate the data flow.

Common database on designated areas — CDDA data flow Figure 7

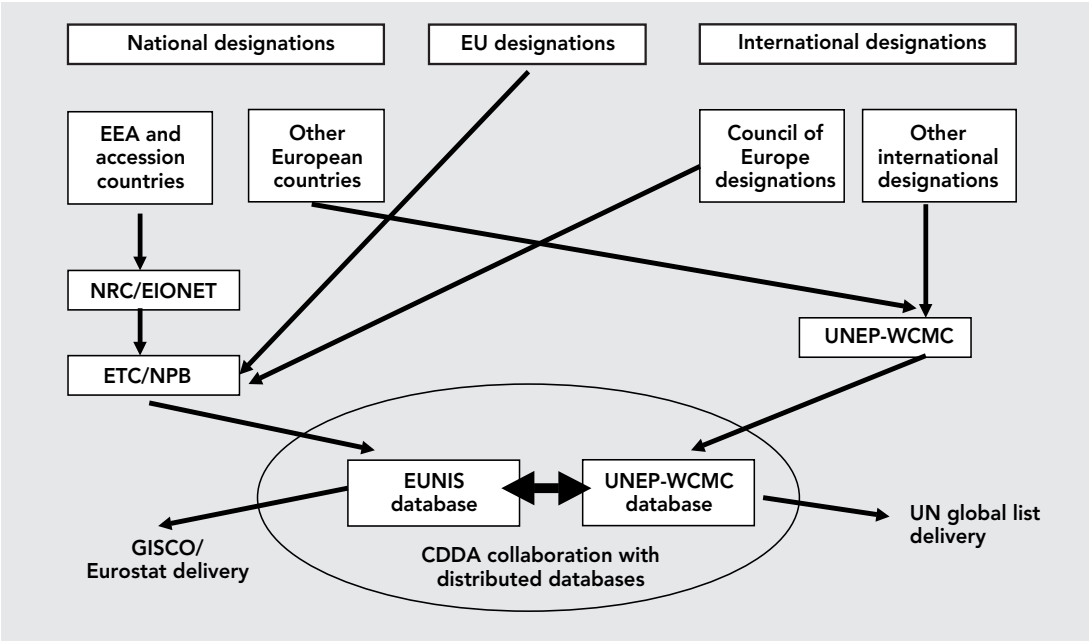


Table 6 **Progress in data flow on CDDA — national designations (December 2000)**

Source: ETC/NC.

| | ETC visit to country | NFP confirmed contact points | Interest group on EIONET server or named Internet site | Data posted |
|---|---|---|---|---|
| Austria | ■ | ■ | ■ | ■ |
| Belgium | ■ | | ■ | ■ |
| Denmark | ■ | ■ | ■ | ■ |
| Finland | ■ | ■ | ■ | |
| France | ■ | | | |
| Germany | ■ | ■ | ■ | ■ |
| Greece | ■ | ■ | ■ | |
| Iceland | ■ | | | |
| Ireland | ■ | ■ | ■ | |
| Italy | | | ■ | |
| Liechtenstein | ■ | | | |
| Luxembourg | ■ | | | |
| The Netherlands | ■ | | | |
| Norway | ■ | ■ | | |
| Portugal | ■ | ■ | ■ | |
| Spain | ■ | | ■ | |
| Sweden | ■ | | | |
| UK | ■ | | ■ | |

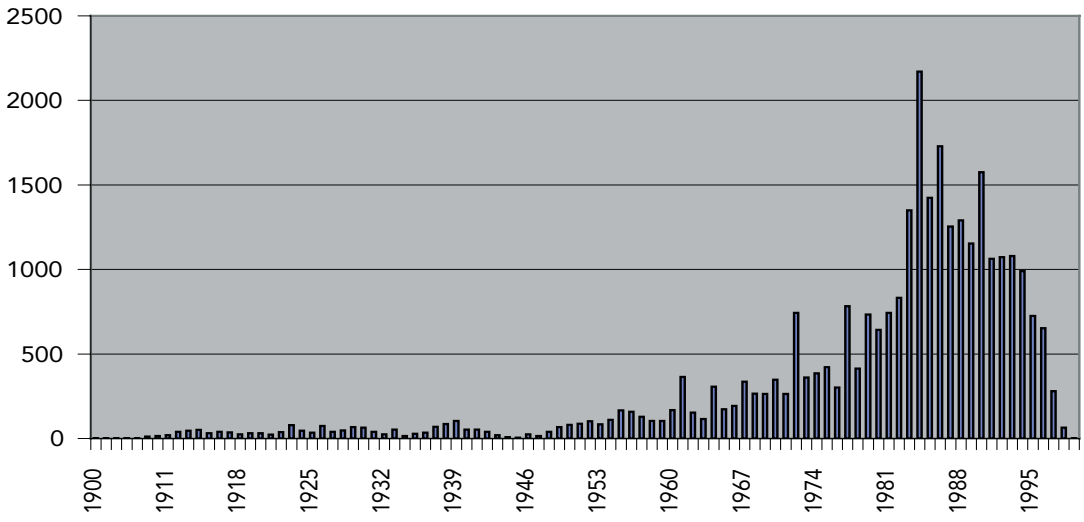
■ Action completed

■ Existing data posted

By the end of 2000, there were 44 000 records (29 000 for EEA member countries and 15 000 for other European countries). Figure 8 shows the progress in national designations over time. The data refer mainly to the 18 EEA member countries, but similar pictures are expected from other European countries when they will be fully integrated in the CDDA initiative.

Figure 8 **Progress in number of national designations over time for all EEA member countries (March 2000)**

Source: ETC/NC.



Areas may be designated for one or more purposes, nationally and internationally, based on one or more legal instruments. Such different designations do however often not cover fully the same area. This leads to a complex situation of overlaps of designation types, which are very difficult to work with, as long as the boundaries are not digitised or only partly so.

This makes estimates of area, proximity to infrastructure, species and habitat distribution analysis difficult to perform with accuracy. However, this data situation is expected to improve in coming years with the use of digitalised boundary data.

*EUNIS sites output and use*
Information on designated areas fulfil several purposes:

- designated areas are considered a 'response indicator';
- as such, data have long been collected by OECD, Eurostat;
- regular publication of the UN list of designated areas at global level;
- with the development of regional conventions (Barcelona, Alpine, Helsinki, OSPAR...), there is a need to gather data on designated areas on a supra-national basis;
- an increasing number of international programmes such as 'Forests and protected areas' (FAO-WWF), Ministerial Conference for the Protection of Forests in Europe (MCPFE), Circumpolar Protected Areas Network (CPAN) take into consideration designated areas;
- various requests have been made to the ETC/NC on comparisons between national systems of designations and others in Europe;
- provides background for various spatial analyses in relation to land-use changes.

An overview report on the various national legal designation types is being developed, based on inputs from Member States and amended during country visits.

#### *2.3.4 Access to EUNIS data through the European Community Clearing House Mechanism*

The European Environment Agency has the responsibility to develop the European Community Clearing House Mechanism, on behalf of the European Commission (web site URL: http://biodiversity-chm.eea.eu.int/).

Six main topics are considered:

- convention and policy
- information
- organisations and networks
- cooperation
- EC biodiversity news
- meetings and events.

Under the topic 'Information', worldwide access to various European databases is foreseen. Work is going on to facilitate access to EUNIS data through a web application via the European Community Clearing House Mechanism.

### 2.4. Information and reporting on state and trends of Europe's biodiversity

Nature-related aspects of the environment have to be included, in an integrated approach, in the EEA reports. The ETC/NC has contributed through data gathering and processing, as well as through writing and illustrating specific parts of EEA-related products.

#### *2.4.1 Contribution to EEA reports (ETC-PTL/NC core team)*

The ETC/NC contributed to:

- *Europe's Environment, the second assessment*, 1998, Chapter on biodiversity
- *Environment in the European Union at the turn of the century*, 1999, Chapter on changes and loss of biodiversity.

#### *2.4.2 Contribution to EEA indicator based reports*

Use of indicators as tools for reporting on environmental trends has become part of most international and national policy strategies. Several categories can be identified, depending on the questions addressed. EEA uses types A-D to illustrate this.

Type A: Descriptive indicators
'What is happening?'

Type B: Performance indicators
'Does it matter?'

Type C: Efficiency indicators
'Are we improving?'

Type D: Total welfare indicators
'Are we on the whole better off?'

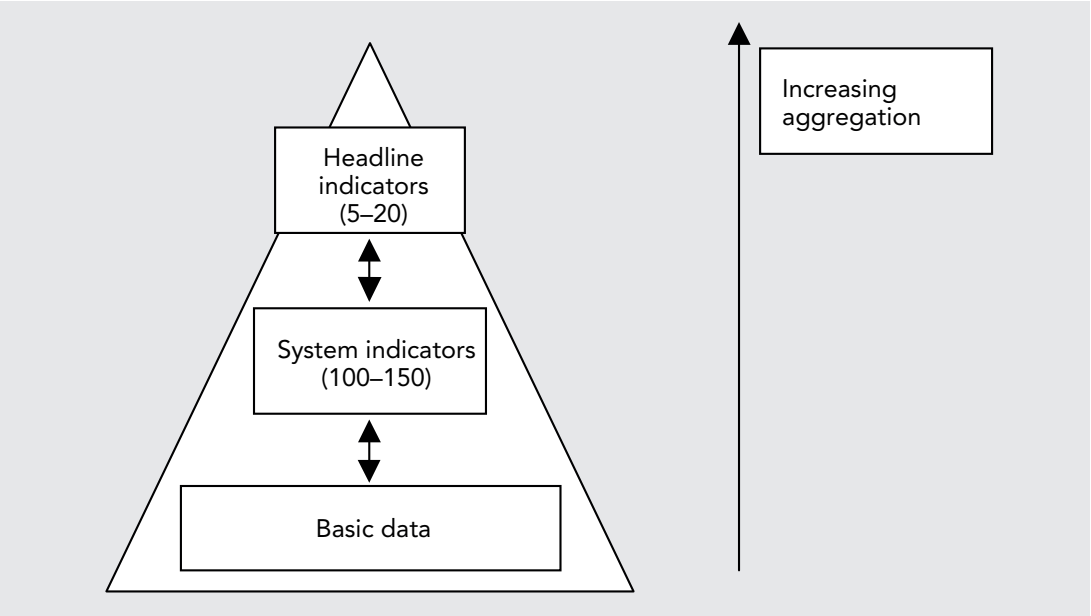
Indicators result from different levels of aggregation in environmental information, within the so-called 'Environmental information pyramid'.

*Headline indicators (ETC-PTL/NC core team)*
For the sixth environmental action programme, a set of highly aggregated indicators are being developed in order to monitor the progress in sorting out the major environmental priorities over the next 10 years. This set of environmental headline indicators should give the European Community a better understanding of its environmental footprint and should help inform better and more effective actions to protect the environment. The EEA supports the Commission in this work.

For nature and biodiversity, the single selected headline indicator in 2000 is related to the progress in the implementation of the birds directive. The ETC/NC has contributed by providing an update of the Natura 2000 database, related to special protection areas (under the birds directive). This indicator is expected to be supplemented with a broader species and ecosystem based indicator in the future.

*Indicator systems (ETC-PTL/NC core team, NINA, ECNC, CEH, NERI)*
Of most relevance for decision makers are indicators that can assess impacts of pressures, as well as efficiency of responses. The complexity of nature and biodiversity-related issues, due to many types of components and differences in scales (from genes to ecosystem), dispersion of data among various data holders, very little data in time series etc. are severe limitations for development of indicators at European level. Both the second EIONET workshop on nature conservation held in Battleby in 1998, under the heading 'From national monitoring to European reporting'

Figure 9 **Environmental information pyramid (EEA)**



(Annual topic update 1998) and the third EIONET workshop, held in Madrid on 15–16 April 1999 on 'Biodiversity indicators' addressed these difficulties. Even for what seems to be simple types of 'State indicators', there are still problems of definition and harmonisation as shown in Box 4.

At present, there are many ongoing and uncoordinated international as well as national and regional initiatives on indicators working at very different scales, with different aims, terminologies and concepts. Some work has been started towards convergence and coordination among international initiatives connected with policies and legislation, though not very much so in science and research.

It is important to realise therefore that in nature and biodiversity indicators will have to be accepted as not fully accurate or as proxies.

As a contribution to the EEA projects on yearly indicators reports (Environmental signals and TERM report), and in reference to the European Commission's obligations to report under the convention on biological diversity, the ETC-PTL/NC has defined some sets of indicators:

- indicators related to the DPSIR frame on wetlands *(Environmental signals 2000)*, and on grasslands with focus on dry grasslands *(Environmental signals 2001)* (see Figure 10);
- indicators illustrating the fragmentation effects of linear infrastructures as well as the potential impacts due to proximity of designated areas (TERM report).

A core set of biodiversity indicators will be developed by the new ETC/NPB.

**The number of known mammal species reported per country varies highly according to sources** Box 4

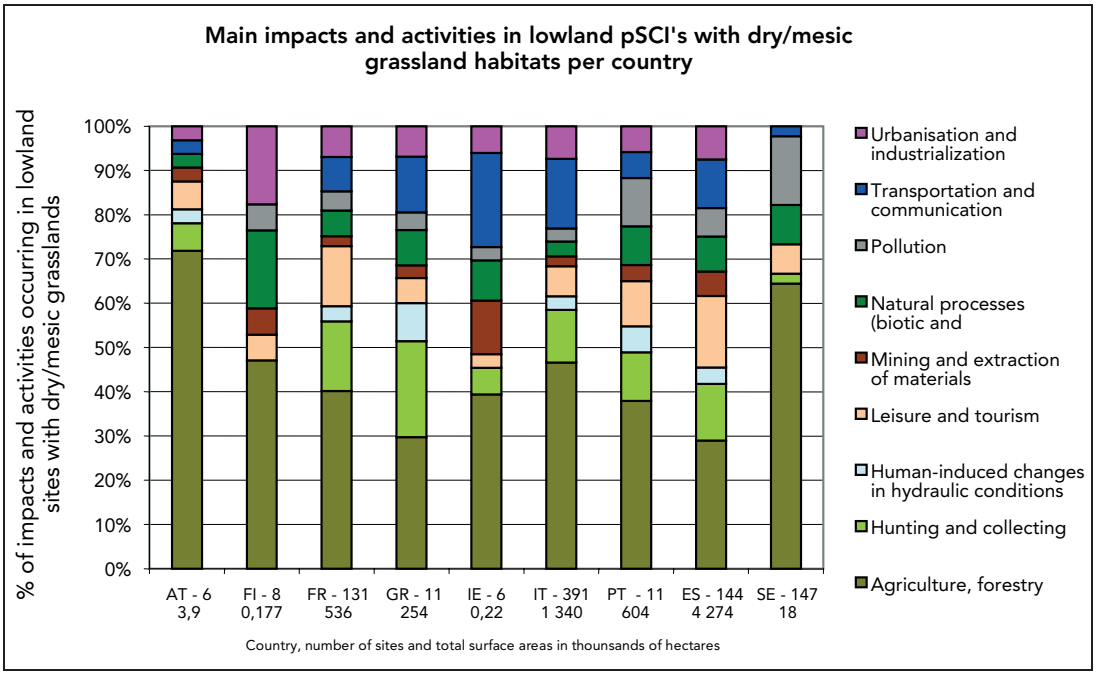
| Source | United Kingdom | Portugal |
|---|---|---|
| **WCMC, 1992** | 50 species | 63 species |
| **EIONET, 1997** | 44 breeding species (includes seals but not cetaceans) | 97 species |
| **National CBD report** | 48 except marine species(1997) | 69 taxa(1998) |
| **European Atlas of Mammals, 1999 (EUNIS reference)** | 51 species including seals but not cetaceans | 62 species including seals but not cetaceans and except the Macaronesian region |
| **OECD, 1999** | 63 terrestrial and marine species except cetaceans | 98 mammals |

Differences in reporting may have various reasons:

- Do we consider terrestrial, marine, freshwater species?
- Are they native, naturalised, introduced?
- For birds mainly: Are they breeding, migrant, accidental?
- Are they domestic, cultivated?
- In some cases there are problems in geographical scope of the source.

Figure 10 **Example of a pressure indicator on dry/mesic grasslands**

**Source:** ETC/NC, on the basis of the Natura 2000 database.




### *2.4.3 Frame for response indicators (ECNC for ETC-PTL/NC)*

In 1999, the ETC-PTL/NC developed a conceptual frame including key components of response indicators relevant for assessing biodiversity. These can relate to policy, science and economy through different means. Table 7 shows examples of response indicators assigned to different categories.

Assignment of response indicators to various categories (examples) Table 7

| Subject | Response indicator |
|---|---|
| **Policy** | |
| Promotion | Development of national strategies for the use of own genetic resources<br>Mainstreaming biodiversity objectives with developing countries and economies in transition<br>Promotion of target-setting for funded projects |
| Implementation | Implementation of action plans aimed at conservation and sustainable use of biodiversity<br>Establishment of the Natura 2000 Network<br>Creation of biological corridors between protected areas |
| Control | Checking that financial agreements for social and economic development are not in conflict with biodiversity interests<br>Investigation of the degree of cooperation between organisations dealing with biodiversity<br>Monitoring the effects of agri-environmental measures related to EU policies |
| **Science** | |
| Basic science | Environmental effects of new agriculture policy initiatives<br>Development of valid methodologies for landscape and biodiversity assessment<br>Evaluation of a liberalised CAP on the environment |
| General applied science | Investigation of the insight into the level of use of biodiversity themes in product advertising<br>Estimating the impact of greenhouse gas emissions caused by agricultural practices |
| Site-specific applied science | Restoration and regeneration of areas that have suffered deforestation<br>Impact of agricultural production on site specific characteristics<br>Representativeness and distribution of protected areas |
| **Economy** | |
| Product and process | Evaluation of the trade offs between social/economic development and the environment<br>Promotion of good agricultural practice standards<br>Use of eco-labelling for products which affect biodiversity |
| Investments | Effectiveness of bilaterally-funded biodiversity projects and their impact on biodiversity<br>Environmental impact of reducing subsidies to the agriculture sector<br>Determination of the comparative levels of budgetary commitments to biodiversity institutions |
| Cooperation | Methods to involve stakeholders in assessment procedures and in remedial and preventive actions<br>Integration of biodiversity concerns into liability mechanisms<br>Incorporation of sustainable indigenous practices in productive processes |

#### *2.4.4 Report on Europe's biodiversity (ETC-PTL/NC core team, ANPA, NINA, CEH, ECNC, BfN, EKBY and other contributors)*

This EEA report in preparation builds upon the important amount of data collected within EUNIS, including from Phare countries (via the PTL-NC), as well as from literature and expert advice. It has also provided the opportunity for a close collaboration between ETC and PTL/NC and ETC/Marine and Coastal Environment as well as ETC/Inland Waters and ETC/Land Cover.

The report will consist of:

- a general part introducing main issues related to changes and losses of biodiversity in Europe;
- a series of 11 chapters, each describing the main characteristics in terms of a state of biodiversity, but also pressures and responses, of the bio-geographical regions of Europe (as defined in the pan-European map of Europe approved by the Bern Convention Standing Committee);
- a series of six chapters describing the main European seas, in terms of a state of biodiversity, pressures and responses;
- a series of 'country profiles' for 43 European countries, providing some facts and figures of relevance for biodiversity, including forests in those countries.

#### *2.4.5 Contribution to Natlan (ETC-PTL/NC core team, ISEGI, BfN)*

Natlan is an information package designed for viewing and distributing EEA information, geo-reference data and applications on land cover and nature in an easy-to-use

way for policy makers, specialists and the general public (CD-ROM and web application). Natlan was developed by EEA with support from its ETC-PTL/ Nature Conservation and ETC/ Land Cover. It is now incorporated in the EEA Data Service.

ETC-PTL/NC has contributed with maps or methodologies for maps such as:
- pressure from urban areas (from Corine Land Cover) on designated areas
- designated areas and transport networks
- forest fragmentation (GISCO data) and road network
- Corine Biotopes
- bio-geographical regions.

Natlan also now contains:
- the digitised map of ecological regions in Europe (DMEER). This pan-European digitised vector map (1:2.5 million) is a product of the ETC/NC, in a joint collaboration between ISEGI, CEH, BfN partners. It results from overlapping the map of European land classification developed by ITE (now CEH) in 1995 on the basis of climatic and altitudinal data and the potential vegetation map of Europe developed by BfN (see below). It was further amended to be compatible with the map developed by the WWF on Ecoregions of the world. The DMEER provides 67 ecologically homogeneous units. It is compatible with the pan-European map of bio-geographical regions (11 classes). The digitised map is supported by a database describing climatic and vegetation features within each class.

Selected maps from Natura 2000 are expected to be incorporated in the future.

### *2.4.6 Biodiversity reference net and monitoring (ETC-PTL-NC core team and ECNC)*

Monitoring is a key issue for ensuring long term, reliable and comparable data from a coordinated network. At European level, several so-far un-coordinated but major biodiversity-related activities exist which, through collaboration might form a European Naturenet[2], equivalent to the already set-up nets for air and water. preliminary discussions have been held, during a workshop in Copenhagen in mid January 2000 with the responsible persons of some main monitoring programmes of relevance for biodiversity in Europe (Table 8), and an overview report is foreseen by the new ETC/NPB.

Table 8 **Monitoring activities examined for this project**

| Focus | Initiative | Organisation |
|---|---|---|
| **Species** | International Waterbird Census (IWC) | Wetlands International |
| | Important Bird Areas of Europe (IBA) | Birdlife International |
| | International Phenological Gardens (IPG) | International Phenological Gardens |
| | Biosphere Reserve Integrated Programme (BRIM)* | Unesco/EUROMAB |
| **Ecosystems** | International Cooperative Programme on Integrated Monitoring of Air Pollution (ICP IM) | UN ECE |
| | International Cooperative Programme Forests (ICP F) | UN ECE/BFH |
| | Biosphere Reserve Integrated Programme (BRIM)* | Unesco/EUROMAB |
| **Environment** | Euroairnet | ETC/Air Quality |
| | Eurowaternet | ETC/Water |
| | MARS | Joint Research Centre |

* BRIM has both species as well as ecosystem components.

2 This type of site-based integrated monitoring is different from the one foreseen, as a legal obligation to EU Member States for future Natura 2000 sites. In the latter, the goal is to ensure that the species and/or habitat for which the site has been designated will remain in a ' favourable conservation status '. The Naturenet monitoring-type aims at assessing general trends of biodiversity in a changing environment. However, several Natura 2000 sites could be part of the Naturenet.

At pan-European level, the Århus Conference of Ministers (1998) called for the launching of a European Biodiversity Monitoring and Indicator Framework (EBMI-F), to be developed by the EEA and ECNC (NL).

The potential use of the above-mentioned programmes for EBMI-F is large but variable, as shown in Table 9 (a preliminary assessment).

Potential use of existing monitoring initiatives for a European biodiversity monitoring and indicator framework (EBMI-F) — Table 9

| Network | Number of sites | Geographic coverage | Size of Sites | Rationale for selection | Potential for EBMI-F |
|---|---|---|---|---|---|
| **SPECIES** | | | | | |
| IWC | ~ 2.000 | Pan-Europe | 1ha - 750 000ha | Expert volunteers | Relative high overlap between IWC and IBA. |
| IBA | 3.619 | Pan-Europe | 1ha-19 000km² | Ramsar Convention and EC birds directive | Highly biodiversity.-specific ✸✸✸ |
| IPG | 49 | 16 countries | 1 000m² | Region-specific, diverse criteria | Biodiversity unspecific ✸ |
| BRIM | ~125 | Pan-Europe | Between <100ha and >100 000 ha | Reserves as model areas for sustainable Development | Currently not well managed. ✸✸ |
| **ECOSYSTEMS** | | | | | |
| ICP IM | 50 | 22 countries | 10ha-1 000ha | international programme | On little (protected) sites ✸✸ |
| ICP Forests | Level I: 5700 points, 35 countries Level II: 860 plots | Pan-European Level I: 35 countries Level II: 23 (?) countries | Level I: no fixed size Level II: 0.25ha-5ha | Level I: grid net 16*16 km Level II: Selection according to criteria by countries | Wide coverage and good opportunities of biodiversity-specific information. ✸✸✸ |
| BRIM | 125 Biosphere Reserves | Europe | Between <100ha and >100 000 ha | Reserves as model areas for sustainable development | Currently not well managed. ✸✸ |
| **ENVIRONMENTAL** | | | | | |
| Euroairnet | – | 29 countries | | Euroairnet status report | Biodiversity unspecific ✸ |
| Eurowaternet | 2 500 river sites | 29 countries | | National focal point designations | High site number and well managed ✸✸ |
| MARS | 60 sites (40 x 40km) | EU | validation | Remote sensing random grid sampling | Little site numbers, no consistent ground data ✸✸ |

✸ = low potential ✸✸ = moderate potential ✸✸✸ = high potential

Coordination, collaboration and complementarity with these existing networks will be discussed further with EIONET.

### *2.4.7 Reporting obligation database — ROD (JNCC for ETC-PTL/NC)*

A number of activities are required to support EC and Member State reporting requirements and related work. The objective is to streamline the data-flows and analysis from Member States to the EU, international organisations and secretariats of international conventions.

The ETC/NC has therefore contributed to the development of the 'reporting obligations database' (ROD) of EEA. This consisted in an inventory of the country requirements to report data under legal and 'moral/voluntary' obligations. The main objective is to provide MS with tools

for planning and implementing their obligations more efficiently.

In 2000, the ROD-Nature included the analysis of 12 instruments: EU habitats and birds directives, biodiversity-related conventions (Bern, Bonn and 3 corresponding specific agreements, Ramsar, World Heritage, Biodiversity), as well as joint OECD-Eurostat questionnaires and UN-ECE FAO questionnaires. The results of the analysis were:

- the 12 instruments led to 49 obligations;
- the 49 obligations create a demand for response to a total of 1 752 questions;
- instruments contain annexes with lists of species or habitats, and in a number of instances information on each species or habitat is required as part of a Member State's report. This has been addressed through a general question, with a comment indicating that it needs to be answered for each of the species or habitats to which it relates and which are present within the country concerned. It is estimated that more than 10 000 additional questions might be generated if a more specific approach were taken;
- it should be noted that there was considerable room for interpretation in determining 'questions' Many of them have been derived by considering the reporting which has currently been undertaken to demonstrate compliance or implementation of the provisions of the articles of instruments (e.g. the substantial questionnaire created for the first CBD national report).

*Recommendations for improvement of the database*

- consultation of Member States on the biodiversity related contents of the ROD;
- map the reporting cycles of instruments;
- analysis of the database to find duplication;
- develop a national-specific biodiversity-related ROD;
- map Eurostat information against the questions;
- conversion of the inventory spread sheet to the ROD;
- feasibility visualisation and decision-support tools;
- priorities for extending the scope of the inventory;
- further 15 instruments for data input.
- estimated: 1 000–1 500 questions to be keyworded;
- improving the structure of the ROD for qualitative reporting obligations.

# 3. Issues raised during the fourth EIONET workshop — State of the art of ETC-PTL/NC's work since 1995 Prospects for the future

(Ei) = representative of EIONET, (EEA) = representative of EEA, (CEC) = representative of Environment DG

**On the work achieved so far:**

- (Ei): General feeling that a lot of work had been achieved, both in terms of support to policy (mostly Natura 2000) and in terms of harmonisation products;
- (Ei): Now there is a need for better availability of the products. Natlan and EC CHM are seen as good tools in that respect;
- (Ei): From a few participants' view point: too much focus has been given on collection of data, not enough on assessments. More modelling approaches should be used for analysis of future trends.

**On priorities for the future**

- (Ei): A general fear expressed that the EEA will in the future give priority to integrated assessments and reporting, while there is still a large need for data collection (on which to base the assessments) and harmonisation among countries for reporting;
- (EEA): EEA clarified that data collection will not be stopped but should be more focussed and the resulting information should be more accessible. Integrated assessment is meant as an intelligent use of data to have more input into policy. The EEA message is to move from best available information (BAI) to Best needed information (BNI);
- (Ei): General feeling that the EEA-ETC work should concentrate on obligatory requirements. In that respect, the extension to the CBD umbrella should be considered with caution. The ETC cannot cover all topics under this convention;
- (CEC): Nowadays the political climate for nature conservation is not as favourable as it was when the habitats directive was accepted. So need to make cautious priorities. These are:
  — continuing the support to the implementation of Natura 2000 in EU countries;
  — enlargement process;
  — facilitation of nature conservation issues into sectorial policies through timely and targeted reports. An extensive shopping list of needs was transmitted to the EEA for consideration in the next ETC Technical Annex (2001);
- (EEA): No clear idea on which kind of support the Commission will need from the ETC in relation to the EC biodiversity strategy under the CBD;
- (Ei): Long-term perspective seems lacking at the EEA, there is a need for continuity rather than jumping from one theme to another.

**On genetic biodiversity**

- (Ei): The genetic approach to biodiversity should be limited to a few issues: many political issues are coming on cultivated biodiversity but focus should be on biodiversity of wild populations;
- (Ei): Important to deal with genetic erosion of wild species populations by cross-breeding with cultivated species;
- (EEA): These aspects should be considered in relation to fisheries, forestry and agriculture.

**On research issues**

- (Ei): Integrated assessments and analysis of the impacts of pressures on biodiversity need a better knowledge on cause/effects relationships. These are research issues;
- (Ei): While the Agriculture DG makes large use of research programmes, it seems that Environment — at least for biodiversity issues — does less so;
- (Ei): EEA and ETCs should be closely involved as stakeholders in the assessment of research projects to be funded by the Research DG;
- (EEA): ETCs should not carry out research but provide the relevant necessary data;
- (Ei): Also, need for constant dialogue between the research community and ETCs for the development of models: ETCs to raise the questions that need to be answered, researchers to advise on the availability of data.

**On monitoring**

- (CEC): Though the idea of a Naturenet is interesting, doubt is expressed on the possibility to develop it: if monitoring on forests works, it is because of a legal background. Why not start and focus on Natura 2000 monitoring? EEA and ETC/NC comments: directions from the CEC are needed.

**On scales and spatial approaches**

- (Ei):Though the spatial approach to biodiversity and use of Corine Land-Cover data for integrated assessments are obviously to be developed, the scale issue should be considered carefully.

**On EIONET**

- (Ei): As the main network of data providers, EIONET gives access to national datasets. However, these are not always ideal. We need to encourage member countries to improve the basic datasets;
- (Ei): EIONET is a very good skeleton. Now need to put flesh on it;
- (EEA): There is a need for feedback from countries: how far is the work developed by EEA/ETCs useful to them?

Many of the comments from the EIONET workshop were included in the technical annex for the new ETC/NPB's future work.

# 4. Main products delivered by the end of 2000

| Subject | Availability |
|---|---|
| **Products achieved in 2000** | |
| ***Natura 2000 products*** | |
| Natura 2000 database:<br>— special protection areas (SPAs)<br>— proposed sites of community interest (pSCIs) | Available on the Environment DG's web site<br>Not available to the public |
| Reference list of species and habitat types (occurrence by country/bio-geographical region) | Available on the Environment DG's web site |
| Interpretation manual of EU-15 habitat types of European interest (rev.) | To be printed by the Environment DG |
| Assessment of pSCIs (different documents) | At the Environment DG. Not available to the public |
| Conclusions from the Natura 2000 seminars | Printed documents. Distribution limited to the participants |
| ***EUNIS products*** | |
| EUNIS data on species | Technical report + CD-ROM (database & application) |
| Legal status of species of European concern | Available on ETC/NC's web site |
| Preliminary red list on European vertebrates (with CoE) | Draft EEA Topic Report, to be validated by EIONET |
| National red books on species and habitats in Europe (2000 updated list) | Available on ETC/NC's web site<br>Links foreseen with national websites |
| EUNIS Habitat classification &<br>Exploitation tools | EEA Topic Report<br>Web site available in 2001 |
| Common database on designated areas (2000 update) | Ongoing data flow and validation through EIONET |
| ***Reporting activities*** | |
| Grasslands-related indicators | Four fact sheets as contribution to the EEA *Environmental signals 2001* |
| Designated areas and fragmentation | 2 fact sheets as contribution to the EEA TERM 2001 |
| 11 Bio-geographical regions chapters and country profiles | As part as the report on Europe's biodiversity in work |
| Reporting obligation database (Biodiversity) | Report and database on EEA Circle |
| EIONET nature status report | Report |
| Map of (EU + AC) bio-geographic regions | Digitised map available on Natlan on EEA web site |
| Digitised map of European ecological regions | Available early 2001 on EEA web site |
| ***PTL/NC reports*** | |
| Strengthening capacity in accession countries in environmental reporting.<br>Quaterly progress reports<br>— February–April 2000<br>— November 1999–January 2000<br>— May–July 2000<br>— August–October 2000<br>— November 2000–February 2001 | http://nic.savba.sk/sav/inst/uke/ptl-nc/ |
| PTL/NC Final Report, April 1998–March 2000 | http://nic.savba.sk/sav/inst/uke/ptl-nc/ |
| Strengthening capacity in accession countries in environmental reporting, Final Report, April 2000-February 2001 | http://nic.savba.sk/sav/inst/uke/ptl-nc/ |
| Evaluation of the questionnaire on biodiversity monitoring in accession countries.<br>Status January 2000 | http://nic.savba.sk/sav/inst/uke/ptl-nc/ |

| Previous reports and products | Title |
|---|---|
| ***Contribution to EEA reports*** | |
| Chapter on 'Biodiversity' | *Europe's environment: the second assessment (1997)* |
| Section on'Biodiversity' | Report on nutrients |
| Chapter 'Changes and loss of biodiversity' | *Environment in the European Union at the turn of the century (1999)* |
| Chapter 'Wetlands' | *Environmental signals 2000* |
| Section on 'Biodiversity' | TERM 2000 |
| ***Published as Topic reports*** | |
| Topic Report 24/1996 | *Annual Summary report 1995* |
| Topic Report 23/1996 | *Databases on species, habitats and sites. Survey and analysis 1995–96* |
| Topic Report 27/1996 (ITE) | *Corine-Biotopes Database Status and Perspectives 1995* |
| Topic Report 28/1996 (ITE) | *Towards a European habitat classification, background review 1989-95* |
| Topic Report 2/1997 | *Annual Summary report 1996* |
| Topic Report 7/1998 | *Nature Conservation Annual Topic Update 1997* |
| Topic Report 10/1999 | *Nature Conservation Annual Topic Update 1998* |
| Topic Report 5/2000 | *Nature Conservation Annual Topic Update 1999* |
| ***EIONET workshops proceedings*** | |
| Technical international workshop, Paris, 5–6 0ctober 1995 | Corine-Biotopes sites database and habitat classification |
| 1st EIONET-NRC workshop, Copenhagen, 6–7 May 1996 | General approach on nature-related information |
| 2nd EIONET-NRC workshop, Battleby, 16–17 April 1998 | From monitoring to reporting |
| 3rd EIONET-NRC workshop, Madrid, 15–16 April 1999 | Biodiversity indicators. State of the art |
| **ETC/NC Internal reports (not published by EEA)** | |
| ECNC, 1995 | The wider landscape for nature conservation: ecological corridors and buffer zones |
| NERI and ECNC 1995 | Nature indicator survey |
| NERI and ECNC 1995 | Site monitoring survey |
| ECNC and NINA 1997 | Biodiversity assessment/monitoring methodology |
| ECNC 1997 | Pilot studies for the assessment of state and trends of Europe's biodiversity |
| SNH and NERI 1998 | Survey of indicators for biodiversity status and changes (Natura 2000 sites) |
| ITE 1998 | Modelling changes in biodiversity: the Mirabel model |
| EFI, 1998 | Biodiversity in forests and tree dominated ecosystems |
| ECNC, 2000 | Response Indicators for policy implementation in the field of biodiversity conservation<br>Building an operational framework |
| ECNC, 2000 | Site based monitoring network initiatives |
| ETC/NC Core team (1995–99) | Natura 2000 related products:<br>— Background documents for Natura 2000 seminars<br>— Conclusions of Natura 2000 seminars<br>— Annual reports to the Commission |

# 5. Towards an ETC/nature protection and biodiversity

Taking over from the ETC-PTL/NC, the ETC/NPB will develop its future activities:

- in line with the EEA's second Multiannual Work Programme (1999–2003);
- by adapting to the priorities defined within each EEA annual work programme;
- taking into account the lessons learnt from five years of ETC-PTL/NC'activities, both on the content of projects and products developed and on the functioning of EIONET, and networking with complementary data providers;
- adopting a more integrated approach, with focus on indicators along the driving forces/pressures/state/impacts/response scheme (DPSIR), with particular emphasis on pressures and responses;
- developing further the monitoring/data/integrated assessment/reporting chain (MDIAR), taking into account a constantly evolving policy framework. This means facilitation of collaboration and better targetted data flow. Also increase collaboration with Eurostat (statistical data) and JRC (Joint Research Centre, remote sensing data and monitoring);
- making best use of potential spatial approaches for the territorial dimension.

The policy framework will be considered:

- in a general way:
  *EU general:*
  — Gothenburg Council in June 2001
  — adoption of the sixth environmental action programme 'Our future, our choice'
  — follow-up of the Cardiff process (integration of environmental concerns into key sectoral policies).
  *International:*
  — reporting for two major international conferences (Kiev, Rio + 10)
  — UNEP's report: *Global Environmental Outlook Series*
  — millenium assessment report.
  *EU institutional:*
  — enlargement of the EU
  — new membership to the EEA starting 2001.

- in a specific way:
  *EU*
  — implementation of the *Natura 2000 process*
  — implementation of the *EC strategy for the convention of biological diversity* which integrates the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies.
  *International:*
  — follow-up of other international or regional biodiversity-relevant conventions.

Developing these activities, the ETC/NPB will contribute to the *three operational pillar*s of the EEA:

— networking
— reporting
— EEA reference centre.

Experience gained after six years of the ETC-PTL/NC activities allows the assessment of:

— where the 'building blocks' have been sufficiently ensured, but need to be maintained;
— where work should continue as in the past or be reinforced;
— where more effort is required;
— where additional expertise will be developed.

*Maintenance and continued coordination*
Further work will consist in:

Continued support to the Environment DG on building the Natura 2000 Network:

- expand Natura 2000 software to accession countries;
- expanding the bio-geographical regions map to accession countries;
- provide scientific support (expert Network) for assessment of Member State proposals for Natura 2000;

- provide scientific support for preparation of Natura 2000 implementation in accession countries;
- continue to handle (including periodical update) the legal database for Natura 2000;
- ensure close relation with the on-going work on Emerald (under the Bern Convention).

Consolidating general biodiversity-related information:
- continue EUNIS with selected collection of quantified and comparable reference data on habitat types and species:
  - — on vertebrate species at European level, as well as plant species and invertebrates of Community importance;
  - — on designated areas at international, national and Community level
  - — on Annex-I habitat-types (habitats directive);
  - — on important general trends and species and habitats other than in directives.
- ensure consistency and complementarity with other international initiatives and with national initiatives.

*More efforts to be made*
On the content of the work:
- stabilise a frame for a core set of indicators on biodiversity, to be developed at different time scales, in collaboration with other ETCs;
- the spatial approach has to be further developed, with closer links to ETC/Terrestrial Environment.

On the functioning:
- Now that important building blocks for information on nature and biodiversity have been set-up through EUNIS, the *EIONET-NRCs relations have to be enhanced*, with more frequent visits to countries. This will allow a better understanding of country specificities and a better consideration of how ensure a data flow with minimum effort on their part.

On making products available:
- Visibility and accessibility of products will be enhanced through the EC Clearing House Mechanism and the European Environment Reference Centre (EEA Data service).

*Additional expertise to be developed*
New capacities need to be developed in the ETC/NPB for:
- ecosystem-approach (mostly forests, wetlands, grasslands). Explore the feasibility of gathering data on ecosystem production, restoration …
- genetic diversity
- use of models
- evaluation of sectoral policies on biodiversity.

Furthermore close links need to be maintained or developed with research institutions, including the Joint Research Centre (JRC), both to use results of research activities (under the fifth framework programme for instance) and to guide design of research projects. Close links will also need to be maintained with WCMC, in its new function as a UNEP body.

# Annex 1. ETC/NC partners

| | Partners in the consortium of the ETC/NC are: | EIONET status |
|---|---|---|
| MNHN | Muséum National d'Histoire Naturelle (National Museum of Natural History). Paris (France) | 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) | – |
| DGCN | Direccion General de Conservacion de la Naturaleza (General Directorate for Nature Conservation). Madrid (Spain) | NRC/NC |
| 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 (NFP) * |
| 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 Consevaçao da Natureza (Institute for Nature Conservation). Lisboa (Portugal) | NRC/NC |
| ISEGI | Instituto Superior de Estatistica e Gestào de Informaçào (Higher Institute for Statistics and Information Management). Lisboa (Portugal) | – |
| ITE | Institute for Terrestrial Ecology. Monkswood (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.

*PTL/NC partners:*
— Institute of Landscape Ecology, (Slovak Republic)
— Institute of Biology, Romanian Academy (Romania)
— Institute of Geography, University of Tartu (Estonia)

# Annex 2. Contact points for nature

## EIONET primary contact points for Nature in 2000

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