



LIFE III

focus



LIFE for Natura 2000

10 years implementing the regulation



European Commission

**European Commission
Environment Directorate-General**

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¹ <http://europa.eu.int/comm/environment/nature/docum.htm> and <http://europa.eu.int/comm/environment/life/home.htm>

Recognising the importance of safeguarding biodiversity, in June 2002 the European Council of Göteborg set a target of halting its decline by 2010. Fulfilling this target has been adopted as one of the key aims of the 6th Community Action Plan for the Environment. The candidate countries have, by signing the El Teide declaration, also demonstrated their determination to stop the impoverishment of biodiversity. Entitled “*Natura 2000: A Partnership for Nature*”, this declaration marks a strong commitment to implementing the network.

With sites covering more than 10% of the surface area of the EU, the Natura 2000 network is now of major importance for nature conservation. The purpose of this network of protected areas is to protect natural habitats and species of Community interest. The objective is innovative and ambitious; its implementation therefore requires broad-based mobilisation and appropriate means.

LIFE-Nature, a specific Community financial instrument which has been targeting the conservation of natural environments since 1992, is a pilot for sustainable development serving Natura 2000. It is a flagship that mobilises stakeholders in the field around a large number of projects which constitute a veritable laboratory for the conservation of natural environments.

LIFE projects and their concrete effects on sustainable development are generally well known and favourably perceived at local level wherever the projects have been carried out. However, hitherto the consolidated effect of these projects has only been addressed by limited analyses within the various publications available on the Europa server⁽¹⁾. After 10 years of project implementation (1992-2001), the time has therefore come to draw up a review of the general impact of LIFE-Nature on the establishment of Natura 2000, and to assess its utility for the application of Community directives concerning nature. This publication evaluates the contribution of LIFE projects to the various articles of the “Habitats” directive, and illustrates the synergies between LIFE-Nature and the other instruments of Community policies.

In its “*Biodiversity action plan for the conservation of natural resources*”, and in the communication strategy adopted for the LIFE instrument in 2002, the Commission encourages co-operation between LIFE-Nature projects and undertakes to participate actively in the dissemination of their results. Such is the objective of this publication.



LIFE for Natura 2000

LIFE-Nature is one of the three parts of the LIFE regulation⁽¹⁾ of which the objective is to contribute to “the implementation, updating and development of Community environment policy and of environmental legislation”. For LIFE-Nature, it is the “Birds” directive⁽²⁾ of 1979 and the “Habitats” directive⁽³⁾ of 1992 which constitutes the reference with, in particular, the establishment of the Natura 2000 network. To start with, it appears fitting to put this Community policy for the conservation of biodiversity in its general context.



© Photo Martin Davies/RSPB

The European Community ratified the Convention on Biological Diversity (CBD) on December 21st 1993. This international convention was signed in Rio de Janeiro in 1992 during the United Nations conference on the environment and sustainable development. Its objectives are:

- > the conservation of biological diversity,
- > the sustainable use of its components,
- > the fair and equitable sharing of the benefits arising from the utilization of genetic resources.

The integration of Community policies is one of the important responses in

terms of implementing this convention. Thus one of the general principles of the Treaty instituting the European Community stipulates that *the requirements of protection of the environment should be integrated in the formulation and implementation of policies [...], in particular with a view to promoting sustainable development*⁽⁴⁾. Similarly, the **European Community biodiversity strategy**⁽⁴⁾ lays down targets for the conservation of biodiversity and for its sustainable use within several key activity sectors:

- > protection of natural resources,
- > agriculture,
- > fisheries,

- > regional policies and spatial planning,
- > forests,

¹ Regulation (EC) n° 1655/2000 of 17/07/2000

² Directive 79/409/EEC of the Council of April 2nd 1979 on the conservation of wild birds

³ Directive 92/43/EEC of the Council of May 21st 1992 on the conservation of natural habitats and wild fauna and flora

⁴ Communication from the European Commission to the Council and Parliament, COM (98) 42 final



- > energy and transport,
- > tourism, and
- > development and economic co-operation.

The Community's environment policy is developed within the framework of action plans for the environment spanning several years each. Presented at the World Summit on Sustainable Development (WSSD) held in Johannesburg in 2002⁵, the sixth Action Plan for the Environment was adopted in 2002 and will last until 2010. Among its priority targets is bringing the decline of biodiversity⁶ within the EU to a halt by 2010.

In March 2001, the European Commission prepared and adopted four sector-based action plans to promote biodiversity, which were approved during various sessions of the Council between June and November 2001⁷, and by the European Parliament in March 2002⁸. The first action plan concerns the protection of natural resources, and focuses on wild fauna and flora as well as on the corresponding ecosystems and habitats.

This action plan forms part of a series of initiatives designed to improve the state of the natural environment in the European Union. It is based on and complements legislative provisions and Community initiatives already adopted or planned, and is geared towards making the best use of these instruments in order to convert the objectives laid down in 1998 by the Community strategy for the promotion of biological diversity, into concrete and specific actions.

The most important Community regulations for the protection of nature and biodiversity are the "Birds" directive and the "Habitats" directive. The "Birds" directive mainly addresses the long-term conservation of all species of wild birds in the European Union. The directive stipulates that the Member States designate special protection areas (SPA), particularly for the conservation of migrating birds, which constitute a heritage shared by all Europeans. The "Habitats" directive protects certain species of wild fauna and flora as well

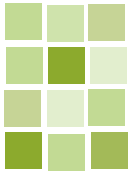
as their habitat. Under it, the Member States must designate special areas of conservation (SAC) and formulate management provisions which reconcile long-term conservation with the economic and social activities of

⁵ *A Sustainable Europe for a Better World: A European Union Strategy for Sustainable Development*. COM (2001) 264

⁶ *Communication of the Commission to the European Parliament and Council – Biodiversity Action Plans in the areas of Conservation of Natural Resources, Agriculture, Fisheries, and Development and Economic Co-operation*. COM (2001) 162

⁷ *Conclusions of the Council of June 18th (fisheries), June 19th (agriculture), October 29th (environment) and November 8th (development)*

⁸ *European Parliament, non-legislative resolutions A5-0063/2002*



the human population, with an eye to developing a sustainable development strategy. The various SPAs and SACs make up the Natura 2000 network, which is the cornerstone of the European Union's nature protection policy.

The financial and technical support needed for the conservation and sustainable use of the Natura 2000 areas is therefore going to play a major role in the maintenance of biological diversity within the Community, as will any action connected to the application of the two directives protecting the Community's natural heritage. This is why it appears relevant to examine the contribution of the LIFE financial instrument to the Natura 2000 process. Consequently, this publication seeks to provide information on the achievements of LIFE-Nature for Natura 2000.

LIFE-Nature and the concept of Natura 2000 came into being at the same moment in time. Unlike LIFE, the "Habitats" directive, the origin of the Natura 2000 network, first had to be transposed into national legislation and site inventories produced over several years. In contrast, the LIFE financial instrument started up quickly and LIFE-Nature has already financed 535⁽⁹⁾ projects in the European Union and candidate countries for accession, to which can be added 105 projects financed by two older instruments which were precursors to LIFE-Nature (ACE & ACNAT).

With the 640 nature protection projects financed up to 2001, the European Commission has a mass of very useful information which permits the stakes and the requirements involved in Natura 2000 to be better distinguished. This is why the European Commission launched the "LIFE for Natura 2000" project, which is the subject of this publication. The establishment of a database and the performance of surveys have allowed several themes arising from the obligations in the "Habitats" and "Birds" directives to be analysed.

An independent audit of LIFE was undertaken in 1997⁽¹⁰⁾, and an ex post evaluation of some projects was published in 2001⁽¹¹⁾. This brochure, which is more analytical, is a first attempt towards answering the fol-



lowing questions:

- > Which objectives has LIFE-Nature attained as regards the conservation of sites (articles 4 of the "Birds" and "Habitats" directives) and species and habitats targeted by the Community directives (articles 2 of the "Birds" and "Habitats" directives)?
- > How has LIFE-Nature promoted the Natura 2000 concept amongst the various stakeholders in the conservation of our environment (social and economic organisations, European citizens, government agencies and elected offi-

cial, non-governmental organisations...)?

- > Have thematic networks allowing the exchange and synthesis of data and techniques been established at a European level? Are the results of LIFE-Nature properly disseminated and put to good use?
- > What has been the contribution of LIFE-Nature to the management of the sites in the Natura 2000 network according to the meaning of article 6 of the "Habitats" directive?



© Photo Michel Pajard - The river Loire

> Which activities do the projects undertake on a day-to-day basis?

> Apart from maintaining species and habitats in a favourable conservation status, how does LIFE-Nature deal with the other conservation issues raised by the directives, such as ecological stepping stones and corridors (“Habitats” directive, article 10), monitoring the conservation status (“Habitats” directive, article 11), the conservation of wetlands (“Birds” directive, article 4), the re-creation of biotopes (“Birds”

directive, article 3), or the restoration of habitats to a satisfactory conservation status (“Habitats” directive, article 2)?

> Given the difficulties inherent in estimating the costs of Natura 2000, does LIFE-Nature provide pertinent references for assessing the funding requirements for Natura 2000 (article 8 of the “Habitats” directive)?

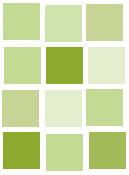
This publication, with abundant illustrations, forms part of the strategy for communicating the LIFE instrument. It draws on a stock of information

which is still being developed and which will enable more detailed analysis in the future. Emphasis has been placed on local examples; these are not exhaustive.

⁹ Over the period 1992-2001

¹⁰ Arthur Andersen (1998): *Evaluation of the LIFE financial instrument for the environment*

¹¹ Gazenbeek & Sundseth 2002 - *“Life after LIFE”*



LIFE-Nature and the Natura 2000 Network

Article 4 of the “Habitats” directive stipulates that Member States propose, for the establishment of the Natura 2000 network, a list of sites accompanied by the necessary geographic and scientific information, as well as an assessment of the conservation status of the habitats and species to be protected. Article 6 of the “Habitats” directive envisages the conservation measures required for the sites in the Natura 2000 network. This chapter investigates to which extent LIFE-Nature has promoted knowledge about, and overall conservation of, the sites in the network.



© Photo Countryside Council for Wales – Wales, Great Britain

Financing Site Inventories

Scientific evaluation at national level of the habitats and species of Community interest was the first step towards the constitution of the Natura 2000 network foreseen by the directive. These evaluations enable the identification of sites which are important in function of common cri-

teria described in Annex III of the “Habitats” directive: ecological quality of the habitat; size and density of the population of the species concerned; degree of isolation of the population present in relation to the natural range; surface area occupied; etc. A national list of sites proposed

was supposed to be submitted to the Commission by mid-1995 on the basis of these inventories. The level of knowledge was extremely varied in 1992. Some Member States, like the United Kingdom, with its SSSIs⁽¹⁾, had a sophisticated toolkit for knowledge and

management. In other States, scientific knowledge existed but there was no instrument at national level. The European Union therefore participated in the financing of this preliminary stage under LIFE I (1992-1995). In 1993 and 1994, the funding priorities of the LIFE programme, which at the time were published annually, included: *“Promoting (...) inventories and improvement of knowledge in preparation for the setting-up of the Natura 2000 network”*. In 1994, it was stipulated that this priority applied to *“locations where national resources are unable to remedy shortcomings in scientific knowledge within the timeframes required by the directive...”*. This was a political will to advance the implementation of Article 4 of the “Habitats” directive. Between 1992 and 1994, five countries of the European Union – Italy, Greece, Spain, Portugal and Ireland – received LIFE I financing for the completion of national projects to draw up inventories of habitats and species for the “Habitats” directive. During the same period, two regional projects – in the Azores and in Corsica – also received LIFE financing. Finally, under the “Third Countries” section of the LIFE instrument, Cyprus also benefited from a project starting in 1998 for its national inventory.

Large-scale National Projects

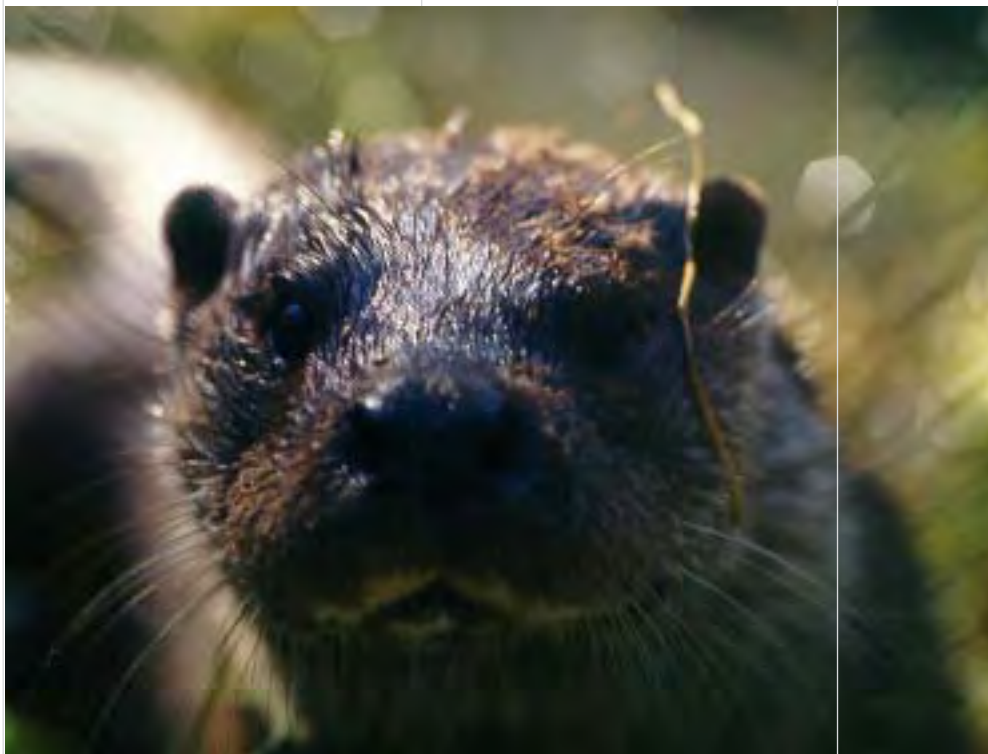
The national inventory projects financed by LIFE have been ambitious, and have involved many parties and considerable resources. Six projects⁽²⁾, accounting for more than 10% of the total budget for LIFE I, were launched between 1992 and 1994, extending over periods ranging from 2 to 5 years. Their average budget for the inventory work⁽³⁾ was around 2.5 million euros, and they were all co-financed by LIFE to the tune of 75%, except for the Irish project (50%). The Cypriot project (Life Third Country), amounting to ± 0.3 million euros, was co-financed at 50%. In other candidate countries, financial instruments such as PHARE were able to play an equivalent role (in Poland, for example). The beneficiaries of these projects were either national authorities (the Directorate-General for Nature Conservation of the Ministry of the Environment in Spain, the Italian Ministry of the Environment, the I.C.N. [Instituto da Conservação da Natureza] in Portugal, the Ministry of Agriculture,

Natural Resources and the Environment in Cyprus...) or an organisation linked to the government of the benefiting country (in Greece, the Goulandris Natural History Museum, Greek Biotope/Wetland Centre). Because of its importance, the inventory work was delegated to a large number of national experts and scientists. In Italy, for example, the Ministry of the Environment commissioned the 21 regions of the country to undertake the inventory of sites of Community interest through their environmental directorates. Non-governmental organisations, such as the Italian WWF and the Società Botanica, were also major partners in these projects. The inventories were mainly drawn up by compiling existing data but also – and above all – on the basis of very extensive fieldwork. Field surveys were, depending on the country, carried out covering the entire national territory or were restricted to pre-determined sites. In Ireland, for example, surveys were carried out on the 1600 sites identi-

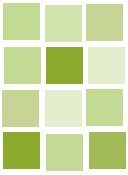
¹ Sites of special scientific interest

² Ireland (Protection of habitats of community importance under the EC Birds and Habitats directives), Italy (Habitat Italia: the implementation of the Habitats Directive in Italy), Greece (Inventory, identification, evaluation and mapping of the habitat types and flora and fauna species in Greece.), Spain (Inventory of habitat types and species according to Directive 92/43/EEC) and 2 for Portugal (Inventory and management of Portugal's natural heritage, and Natural habitats and flora species of Portugal)

³ Certain projects involved other work



© Photo Götz Ellwanger - Otter



fied as being “Areas of Scientific Interest”, amounting to more than 10% of the country’s surface area. Scientists completed the work by prospecting for lesser-known habitats and species of Community interest. In Spain, habitats of Community interest were identified and inventoried throughout the country. The studies involved three phases: an inventory of species of Community interest, an inventory and mapping of habitats of Community interest, and the creation of national databases. For Cyprus, the identification of species and habitats to be added to the “Habitats” and “Birds” directives constituted an additional task.

The work of surveying and locating species was often accompanied by *ad hoc* studies. In Portugal, 28 species of flora and fauna listed in the directives, which were the least well-known at national level, were subjected to more precise studies regarding their distribution, but also concerning their biology and ecology, threats and their conservation status. Among them were the wolf and the otter. This work considerably increased knowledge of the species concerned and gave a better idea of their distribution. The new results translated into a 400% increase in the otter’s distribution range in Portugal while for the priority plant species the results indicate a regression in distribution of more than 70% on average compared to previous analyses.

The work done sometimes went beyond the requirements of the “Habitats” directive, strictly speaking. In Italy, for example, a national list of all animal species present in the country was drawn up, and all sites hosting species on the Italian red list were identified.

The beneficiary countries chose widely differing degrees of precision when preparing inventories and maps of habitats. Some preferred to keep to what was strictly required by the directive, whereas others went for a more detailed level of description. The cartographic scales of maps also varied.

The habitats inventory was frequently an opportunity to gather



© Photo Marc Thauront

many other bits of information about the land use or their degree of deterioration. In Ireland, the landowner was systematically identified – a crucial information for site management.

The first two phases of work enabled several planning tools useful for both the establishment of the Natura 2000 network as for conservation policies in general, to be produced: databases, geographic information systems and atlases.

To sum up, LIFE permitted an accumulation of field knowledge necessary for identifying sites of the

Natura 2000 network and for involving the scientific community in the inventory work of the Member States. For certain projects, the foreseen output included the official transmission of site lists and the compulsory databases and maps. This data allowed the Commission to evaluate the adequacy of the Natura 2000 sites proposed by the States concerned.

The Spanish Inventory Project

The Spanish inventory project has been chosen to better illustrate this work. In 1992, at the time of the adoption of the “Habitats” directive, knowledge about the species and habitats of Annexes I and II was not sufficient to enable Spain to compile a list of sites to propose for the Natura 2000 network. Therefore, a LIFE project was started by the Ministry of the Environment (see interview next page). The following studies were conducted and material was produced for the habitats and the plant and animal species listed in the directive and present on Spanish territory:

- > An interpretation manual for Spanish habitats was prepared for the inventory and mapping exercise;

- > the habitats in the directive were comprehensively surveyed and mapped at a scale of 1: 50,000 throughout the country. This work was done by 30 Spanish institutes, involving a team of more than 200 scientists in 8 regions (including the Canaries and the Balearic Islands). The level of detail chosen for the habitats description was greater than specified in the directive: the 124 habitats in the directive present in Spain were divided into a total of more than 1600 plant communities;

- > a database and 1127 digital maps covering the entire country were produced;

- > studies and inventories of terrestrial mammals, bats, cetaceans, fish, amphibians, reptiles, arthropods and other invertebrates and the flora of the Canaries, were undertaken;
- > an atlas allowing particularly favourable and important sites for these animal groups to be identified, was compiled;
- > national data on habitats and species was compiled into a geographic information system (GIS) in order to facilitate the selection of sites for designation.

Map of sites proposed for the Natura 2000 network in Spain (2002)





Interview with Cosme MORILLO (SPAIN)

Co-ordinator of Biodiversity Inventories in Spain

Former manager of LIFE Project “Inventory of Habitats and Species in Directive 92/43/EEC in Spain”

PROJECT TITLE: Directive 92/43/EEC Inventory of Habitats and Species in Directive 92/43/EEC in Spain.

BENEFICIARY: The Directorate General for Nature Conservation, Ministry of the Environment.

BUDGET: 4.667 million euros, 75% Community co-finance.

DURATION: September 1993 to December 1997 (2 phases).

What was the state of knowledge in Spain regarding the habitats and species in the directive prior to the project? Why was the project necessary?

There was knowledge about some species but not all. We had excellent, up-to-date information on the most important, the flagship species, but others had never been inventoried even though scientists did have scattered data. The habitat situation was completely different: nothing had ever been mapped.

What progress was made in terms of scientific knowledge? Did the project give rise to particular discoveries?

All the species and habitats were well-known to scientists and there was no true discovery. However, it is clear that we had never collected so much data in such a short time and, in particular, in the framework of a common objective.

How did the project help Spain to fulfil its obligations under the ‘Habitats’ directive?

In my opinion it is impossible to face our obligations under the directive in the same way without data as with it. It would have been very difficult to build a coherent Natura 2000 network with the data we had at the outset.



How did the management of a project with such a wide scope go? What were the main difficulties?

Co-ordinating a project of such dimensions can seem like a serious problem etc., and it certainly was at the beginning. The best way to overcome these problems is, first and foremost, to avoid telling the collaborators what to do, because they often know it better than we do. It's better to explain what you need, what you hope they will produce and why you need it. So the main job is to prepare the project, to choose the right people and to provide assistance - and from time to time to remind them of the deadline! The main lesson I learned is that you must keep things as simple as possible and to concentrate on results rather than methods.

5. Has the project had an incentive effect? Has it given rise to new projects?

It became clear, before the end of the project, that there was an excellent opportunity to expand the inventory beyond the species and habitats in the annexes of the directive. A new project called Inventario Nacional de Hábitats y Taxones was launched in 1998 to inventory and monitor biodiversity in Spain. The data on freshwater fish, amphibians and reptiles have now been published while data regarding birds, mammals and habitats should be ready for the end of the year, followed by a publication on threatened vascular plants next year.

Regional projects

These more modest projects had smaller budgets (850,000 € for Corsica and 266,000 € for the Azores), but the stakes were just as significant.

The Portuguese Azores project surveyed and assessed the distribution of endemic species and habitats of Community interest in order to draft a map of sites. It complemented the national project, which focused on the Portuguese mainland.

The Corsican project chalked up a remarkable score in terms of knowledge of habitats and flora, to such an extent that after this project Corsica had become one of the best-known regions in France for its natural heritage. Along the coast, the project covered and completed the distribution of items of interest practically exhaustively. For certain habitats in the interior about which very little had been known before (Corsi-

can forests with *Taxus baccata* or petrifying springs with tufa formations) or which had been discovered recently (active raised bogs), the inventories done by the project permitted a synthesis of distribution and conservation status. The project gave local stakeholders valuable baselines for preserving and managing the extremely rich natural heritage of the island. This region is now very dynamic, submitting new LIFE projects based on this precise knowledge.

*Fazzio islet, Bonifacio Inlet, Corsica.
This islet hosts an important population of *Silene velutina*, priority species listed on Annex II of the "Habitats" directive. The Corsican project has considerably improved knowledge of the island's habitats and plant species.*





Going into action in the Natura 2000 sites with LIFE-Nature

At the end of 2001, 1,776 of the 17,786 sites proposed or designated for Natura 2000 had been involved in at least one of the 640 LIFE-Nature, ACE and ACNAT projects⁽¹⁾.

© Photo Juan Carlos Blanco



Asturias, Spain.

This figure does not include projects which are not precisely located in a given site. This is the case for the horizontal inventories projects in the preceding chapter, for the methodological projects and for those which target a species in a general manner. Nevertheless, in some cases these projects did carry out pilot actions on a few sites (see fig.1). Other projects have been undertaken in candidate countries and are therefore outside the scope of Natura 2000. Finally, there were some for which this information was not available, but these are rare.

Table 1: Proportion of the Natura 2000 network targeted by LIFE-Nature projects.

Natura 2000 sites	Number of sites targeted by LIFE	Total number of sites in the Natura 2000 Network*
SPA	376	2885
PSCI or SCI	1400	14901
Total	1776	17786

10% of Natura 2000 covered

More than half the projects which have a precise location targeted a single Natura 2000 site only. The others share the remaining sites affected between them, with an average of 6 Natura 2000 sites per project (see fig. 1). A few pilot projects covered a large number of sites. This was the case for the management plan projects in Ireland (165 sites!) and France (35 sites), for national programmes such as the *Osmoderma eremita* beetle project in Sweden (45 sites) and the peat bog action plans in Finland, Sweden and France. Great Britain has also developed several multi-site partnership projects in the context of co-ordinated national programmes.

Natura 2000 comprises the Special Protection Areas (SPA) already des-

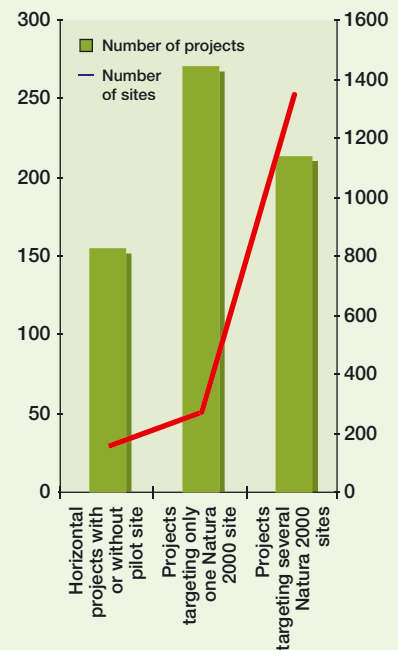


Fig. 1: Life-Nature projects and Natura 2000 sites.

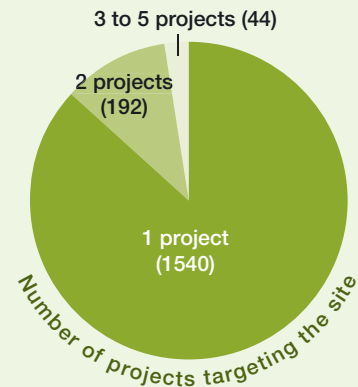


Fig. 2: Frequency of projects per the 1776 sites targeted.

* March 2002

¹ Data are incomplete for these two financial instruments which preceded LIFE from the end of the eighties to 1992. For the 105 ACE and ACNAT projects, data on sites targeted is available for only half of them. However, regarding the 535 LIFE projects, the information is, a priori, complete.



© Photo Marc Thauront

ignated under the 'Birds' directive and Sites of Community Interest (SCI) which are being designated at present under the 'Habitats' directive. These SCI remain provisional until the Council finally adopts the lists.

The SPAs have generally existed for several years and it is not surprising that 13% have already been the subject of at least one project. Three hundred seventy-six of the 2,885 designated SPA sites have already been targeted by LIFE-Nature. Even though the 'Birds' directive dates back to 1979, LIFE still mobilises local stakeholders around these sites. In 2001, for instance, over 20% of new projects related exclusively to SPA.

For the SCI proposed under the 'Habitats' directive the percentage covered by the LIFE projects is lower (9.4%) than for the SPA, but the number of sites is much larger (see table 1). The network comprises 14,901 sites; of which 1,400 have been affected by a project over a ten-year period – quite an achievement for Life-Nature. It is not certain that this rate of 10% can be increased by supplementary funding during the initial phases of Natura 2000. In fact, this rate reflects the real capacity of the locally available stakeholders to man-

age projects. Most of the rejected projects were dismissed on grounds of quality. Bearing in mind the funds invested, LIFE-Nature has met its main objective, to cover a sizeable part of the Natura 2000 network, well. LIFE-Nature's technical support for Natura 2000 will be dealt with in succeeding chapters.

Generally speaking the new LIFE-Nature projects concern sites which have not yet been covered by LIFE projects. Only 2.5% of the sites targeted by LIFE have been involved in more than two projects (see fig. 2); among these 44 (mainly Mediterranean) sites, only one has been the subject of 5 projects. This is the laurel forest in the Madeira National Park, which covers over 13,000 hectares with a very high level of endemic species (plants, birds etc.). However, the fact of having a larger number of projects does not have any particular significance for costs. Other sites only had one project whose budget was in the same range as the total cost of the five projects in Madeira (e.g. in Germany, Unteres Odertal, Austria, Dürrenstein, the Netherlands, Friesland Buitendijks or Spain, Cabaneros).

It would be interesting to see if the LIFE-Nature projects target the

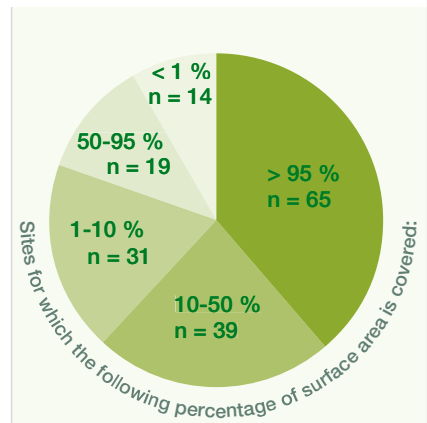
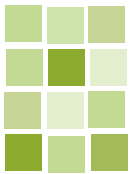


Fig. 3: Surface area of Natura 2000 sites covered by LIFE-Nature in 2001 (n = 168).

whole surface area of their Natura 2000 sites. So far this criterion has only been applied to the year 2001, and that only partially, as the data is still incomplete. Of the 168 projects which were processed (see fig. 3) 38.7% of the sites were completely or almost completely covered. However, in 26.8% of these projects LIFE-Nature targeted less than 10% of the surface area, indeed, less than 1% for 14 Natura 2000 sites.



National Differences

Member States have not all taken the same approach to the Natura 2000 network; there are differences in inventory and consultation methods, in the size of sites (with or without a buffer zone), in the proportion of areas already protected and above all in the time frames for submitting lists of proposals. Each country has its own scientific or organisational traditions and competence for managing the natural environment may be at different administrative levels.

percentage. In spite of the large number of projects the percentage of SPAs targeted is still low. The percentage of SCI sites targeted by LIFE-Nature is appreciably lower than for the SPA and the data are less heterogeneous from country to country. Whereas in Greece or Ireland many sites are covered thanks to management plans funded by LIFE, Portugal, and to a lesser extent France and Great Britain, seem to have used LIFE-Nature extensively

for their network. However, this information is relative, firstly because states may use other Community instruments (EAGGF, ERDF, Interreg etc.) or national sources to finance projects and secondly because LIFE-Nature's impact on a site depends on the surface area targeted by the project. Many beneficiaries are organisations which are responsible for managing protected areas and many Natura 2000 sites targeted encompass pro-

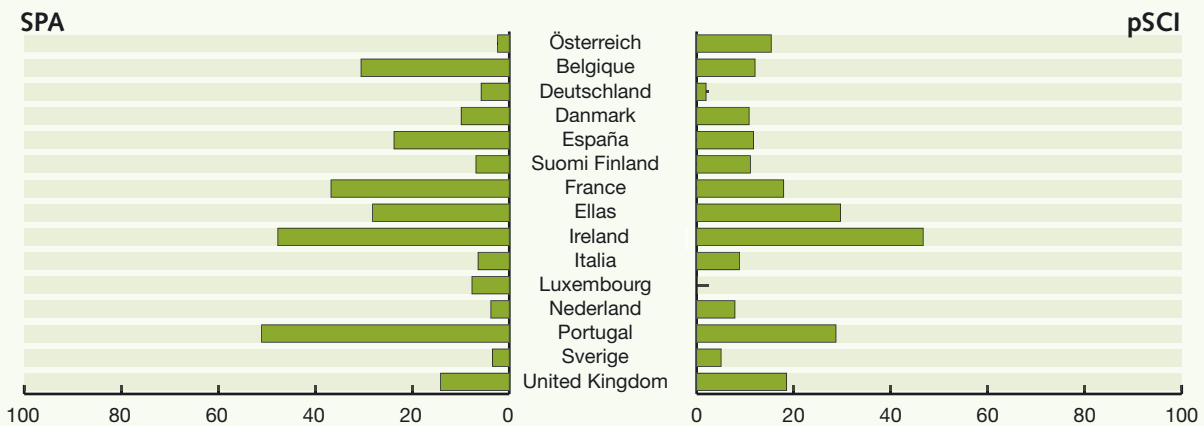


Fig. 4 : Percentage of Natura 2000 network targeted by LIFE-Nature per member state.

Nature itself is not the same either - biodiversity is greater in Mediterranean and Alpine regions, for example. LIFE-Nature may involve Natura 2000 sites in different ways from one Member State to another. LIFE-Nature has respected these national differences without conceding on the desired intrinsic quality of the projects.

Figure 4 and table 2 show that the number of SPA sites covered is appreciably greater in Portugal, Ireland, France, Greece and Belgium. Projects in Germany and the Netherlands are often sizeable but cover only one site, which explains the low



Pond excavation work in the Termoncarragh lake SPA, in Ireland.

Table 2: Natura 2000 sites targeted by LIFE-Nature projects between 1985 and 2001.

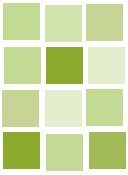
Country	SPA targeted once	SPA targeted several times	Total number of SPA targeted by LIFE	Total number in the Natura 2000 network (18/3/02)	Percentage of SPA targeted by Life
Österreich	2		2	83	2,41%
Belgique	5	6	11	36	30,56%
Deutschland	23	3	26	448	5,80%
Danmark	11		11	111	9,91%
España	50	22	72	303	23,76%
Suomi Finland	31		31	451	6,87%
France	31	12	43	117	36,75%
Ellas	21	10	31	110	28,18%
Ireland	47	5	52	109	47,71%
Italia	20	2	22	342	6,43%
Luxembourg	1		1	13	7,69%
Nederland	3		3	79	3,80%
Portugal	15	9	24	47	51,06%
Sverige	14		14	403	3,47%
United Kingdom	26	7	33	233	14,16%
TOTAL	300	76	376	2 885	13,03%

Country	pSCI targeted once	pSCI targeted several times	Total number of pSCI targeted by LIFE	Total number in the Natura 2000 network (18/3/02)	Percentage of pSCI targeted by life	Total number of Natura 2000 targeted by LIFE
Österreich	20		20	130	15,38%	22
Belgique	30	3	33	274	12,04%	44
Deutschland	65		65	3 352	1,94%	91
Danmark	21		21	194	10,82%	32
España	111	32	143	1 219	11,73%	215
Suomi Finland	150	3	153	1 381	11,08%	184
France	166	33	199	1 109	17,94%	242
Ellas	51	19	70	236	29,66%	101
Ireland	149	21	170	364	46,70%	222
Italia	176	38	214	2 425	8,82%	236
Luxembourg			0	38	0,00%	1
Nederland	6		6	76	7,89%	9
Portugal	24	3	27	94	28,72%	51
Sverige	172	2	174	3 453	5,04%	188
United Kingdom	99	6	105	567	18,52%	138
TOTAL	1 240	139	1 400	14912	9,39%	1 776

tected areas covered by an IUCN category⁽²⁾. Sometimes LIFE-Nature has supported the establishment of classic national protection systems, such as the assistance it gave to the large national parks in East Germany, acquisitions in the Spanish parks or the nature reserves created following projects in Belgium. However, it has also introduced innovations in the way areas of Community interest outside protected areas are taken into consideration. This was the case for the new consultation and management methods developed in France via the 'Documents

d'Objectifs' (= document setting management targets for Natura 2000 sites), and in Great Britain with the marine areas. It was also the case with the involvement of local communities and stakeholders in many of the Natura 2000 sites targeted by LIFE-Nature (see next chapter).

² International Union for The Conservation of Nature



LIFE-Nature Completes the Natura 2000 Network

Two phases can be distinguished in the history of LIFE. From 1992 to 1995, during the period of the first LIFE Regulation, the sites funded had to be designated *a posteriori* at the very least. For LIFE II and LIFE III, on the contrary, sites have to be proposed *a priori*. This shift was linked to the deadline specified in the directive for the submission of national site lists (June 1995).

Only 7 of the over 600 sites covered in the first phase of LIFE had not been designated by the end of 2002, in spite of the fact that a project had been carried out (four in France, one in Italy, one in Spain and one in Denmark). This strategy has therefore proved to be appropriate. However, it should be noted that the sites were sometimes designated years after the end of a project, following several reminders from the European Commission.

The requirement of *a priori* inclusion in the Natura 2000 network had several consequences during LIFE II

(1996-1999). First of all, Member States for which the Natura 2000 process was blocked or delayed were unable to present as many projects as they would have liked. This was particularly true of France and to a lesser extent of Germany. On the other hand countries such as Italy and Greece, which had submitted their lists early, gained an advantage. In several cases the preparation of LIFE projects induced a Member State to propose sites in order to make them eligible for funding. Thus in France, where the nomination of SPA sites had been moribund for several years, the Gorges de la Jonte were designated in the context of preparing a project on vultures. In the same way Germany fast-tracked the proposal of several Bavarian sites in order to obtain projects. LIFE-Nature has thus undeniably had an effect on Member States' proposals for Natura 2000 sites.

LIFE projects have often been the cause of changes in scientific data

concerning sites and in particular concerning their limits. Thus more than ten LIFE II projects in Italy have expanded pSCI boundaries (Valle del Braulio, Lago di Villa...). There have been similar commitments in Spain following the acquisition of land in the national parks of Doñana and Tablas de Daimiel and in the wetlands of Villacañas.

Projects for the re-creation of habitats, which is one form of nature restoration, are special cases. These sites cannot be designated as long as they do not present adequate scientific characteristics. An undertaking has therefore been given to propose these sites when the works have been carried out (Asnaes in Denmark and Västra Tunhem in Sweden).

Finally, LIFE projects have contributed to the understanding of the Natura 2000 process and its gradual acceptance, particularly in countries such as France, Ireland and Finland, where stakeholders were rather wary vis-à-vis Natura 2000.



*Griffon Vulture.
Thanks to NGOs and local elected representatives, the Gorges of the Jonte (in France) have been designated during the preparation of a project on vultures.*

© Photo Mac Thauront



© Photo Ignacio Torres - Boardwalk leading to a bird observatory in El Hondo de Eliche Nature Park in Spain.



LIFE-Nature and the Natura 2000 Stakeholders

By involving beneficiaries, through the role assigned to the local stakeholders and by means of partnership strategies, LIFE-Nature responds to the requirements of the 'Habitats' directive, which calls for the local context to be taken into consideration. Thus Natura 2000 measures shall take account of "economic, social and cultural requirements and regional and local characteristics".



© Photo John A. Houston/NLI - Field meeting on the Salisbury plains (UK).

Once a LIFE-Nature project has been selected⁽¹⁾, the European Commission works with the beneficiary, who then becomes 'the sole (body) legally and financially responsible for carrying out the project' However, the strength of a LIFE project resides above all in the partnerships developed in the context of the project. The beneficiary is like the conductor of an orchestra, guiding the institutional and socio-economic stakeholders, the non-governmental

organisations and the general public in the local community towards nature conservation. The great majority of projects are the result of multi-faceted collaboration. LIFE is open to all types of beneficiary – national, regional or local authorities, public bodies, non-governmental organisations (NGOs) or private foundations, even non-profit enterprises. This diversity has enabled it to develop varied approaches, both in management methods and in scales

of operation, which range from an entire country to the few square metres of a temporary pool in a rural community. After a brief presentation of the beneficiaries, this chapter will concentrate not only on the role of the various local stakeholders but also on the partnership strategies which have been set up at Community level to make been Natura 2000 a true network.

Who are the beneficiaries of LIFE-Nature?

Between 1992 and 2001 the European Commission invested 415.4 million € in 535 LIFE-Nature projects⁽²⁾. The average co-financing rate was 53%, and the total costs of the projects was in excess of 780 million €. Table 3 shows that 73% of LIFE-Nature funds were allocated to public bodies and 25% to non-governmental organisations.

Of the public bodies, the Regions⁽³⁾ were the largest beneficiaries, with 157 million euros, or 38% of the allocated funding. A total of 208 LIFE-Nature projects was carried out by 145 Regions, almost 60% of all the Regions in the European Union⁽⁴⁾. A more modest 5% of the funding was allocated to local authorities such as municipalities or groups of municipalities.

National authorities received 20% of the total funding and the average sum allocated to individual projects was larger because of the national dimension of the projects' subject matter. The ministries responsible for the environment of almost all countries participating in LIFE were involved, as well as some ministries of agriculture. Sometimes their regional antennae were the beneficiaries. Public bodies, with 11% of the funds, belong to the same group as the national authorities on which they are often dependent. Although

	Share of total Community aid %	Percentage of total number of projects
Local authorities	5,25 %	8,13 %
Regional authorities	37,77 %	36,75 %
National authorities	19,79 %	13,78 %
Public bodies	10,95 %	13,60 %
Private sector non-profit enterprises	1,72 %	0,88 %
NGO	24,53 %	26,86 %
TOTAL	100 %	100 %

research institutes and universities are rarely direct beneficiaries of LIFE-Nature projects, they are strongly present as project partners. Less than 2% of the funding went to private institutions, so few private investors appear on the scoreboard. They are also not common among project co-financiers, though they sometimes support non-government organisations which are beneficiaries.

The nations of the European Union have approached LIFE-Nature projects in function of their specific traits and their record in nature conservation. In Spain, for example, the Regions are very often project beneficiaries, as their responsibilities in nature conservation are broader than in most other European countries. They then rely on collaboration

Table 3 : LIFE-Nature beneficiaries

with non-governmental organisations for implementation. In Sweden, Denmark, Portugal and Ireland the national authorities regularly embark on projects via their environment agencies. In Italy, on the other hand, the local level is often the prime mover and municipalities are frequent beneficiaries of LIFE projects. In France non-governmental organisations and public bodies are the leading LIFE-Nature players. Over and above the contribution to the Natura 2000 network, all project beneficiaries, whatever their kind, use LIFE-Nature as an instrument to support their orientations in nature conservation policy and as a Community label.

¹ based on a Community Decision

² In 2002 70 additional projects were chosen and a similar number will be chosen in 2003. These data were received too recently for inclusion in the summary of 10 years' activity.

³ The European regions are defined by the Declaration on Regionalism in Europe, which was adopted by the Assembly of European Regions, as "the territorial body of public law established at the level immediately below that of the State and endowed with political self-government".

⁴ EUR 15.





LIFE-Nature stakeholders

Nature at the service of local and regional policies

LIFE-Nature projects are often used to implement local and regional nature conservation policies, where they are in synergy with the establishment of the Nature 2000 network.

Local and regional authorities are the primary beneficiaries of LIFE-Nature projects, with close to 45% of the funding and projects. These local and regional authorities are not only involved as beneficiaries; very often they co-finance projects which create employment (see inset). Regional institutions are federal

structures, sufficiently solid politically and financially to take on ambitious projects. In some Member States such as Spain and Germany they also play a major part in proposing sites for the Natura 2000 network.

LIFE-Nature and employment

A study of the LIFE-Nature projects selected in 1996⁽⁵⁾ underlined the number of jobs created by this financial instrument. In this selection round alone, jobs worth an estimated 500 full-time equivalents over three years were created. Three hundred and thirteen of these jobs were directly dedicated to project implementation and 200 were created by sub-contracts.

The employment funded by LIFE-Nature mainly covers university-level staff (45% of the full-time equivalents financed directly). This category includes scientists responsible for environmental research, management plans or one-off conservation works as well as administrators responsible for project supervision. Twenty-two per cent of the employment is blue-collar level. These workmen are employed for biotope management work, construction and conservation-oriented engineering work. Fifteen per cent went to technical or administrative posts and 13% to miscellaneous jobs, from warden and shepherd to public relations officer.

The annual average cost of a post varied from 10,000 to 70,000 euros, depending on the Member State. This was due both to the kind of qualification required for the jobs created (wardens, researchers etc.), which varied appreciably from one country to another, and to the variability of costs for the same subject. Many jobs were prolonged beyond the duration of LIFE-Nature projects.



© Photo Marita Karling, NLI



© Photo Kerstin Sundseth - NLI

All Spanish Regions have therefore benefited from LIFE-Nature projects. The Environment Directorate for the Valencia Region⁶, in particular, had 7 LIFE-Nature projects amounting to a total of almost 8 million euros, which made it one of the leading regions of the European Union in terms of benefit from LIFE-Nature. These projects enabled it to establish an innovative and ambitious conservation policy. In particular, the region received funds in 1993 to set up a network of micro-reserves for flora in order to preserve plant species of Community interest in the Region's territory. It was able to establish 150 regional micro-reserves covering a total of 688 hectares and to propose them for Natura 2000. This first European network of botan-

ical micro-reserves hosts 49 of the directive's habitats and 8 species of Community interest. A designation and management procedure has been approved and competent staff has been recruited which is continuing the work beyond the project duration. A second LIFE-Nature project which started in 1999 is now concentrating on the directive's priority habitats. Municipalities and groups of municipalities have successfully completed 46 LIFE-Nature projects as beneficiaries. Italy holds the record for municipal projects but such projects occur in 11 of the 15 Member States. Much more frequently municipalities are project partners or co-financiers of local actions. Local elected repre-

sentatives can also play a key role as intermediaries between the various stakeholders, thus helping the conservation cause forward, as was the case in Hüttenberg in Austria (see interview next page). Even cities participate in LIFE-Nature - such as Helsinki in Finland, with the management of its Viikki-Vanhankaupunginlahti reserve, or Strasbourg in France, with the restoration of a floodplain forest.

⁵ Le Bloch, F. - 1997 - *Life-Nature 96 and Employment – European Commission, DG XI, unpublished report, p. 15*

⁶ *Generalitat Valenciana, consejería de Medio Ambiente*



Interview with Rudolf Schratzer (Austria)

Mayor of Hüttenberg



PROJECT TITLE: Hörfeld-Moor (Kärnten-Steiermark)

BENEFICIARY: Naturschutzverein Hörfeld Moor.

BUDGET: 0.526 M euro with an EU co-financing of 50%

DURATION: February 1997 to March 2000

Is LIFE-Nature a useful banner to unite local stakeholders behind a project? Why? Is there added value at municipal level when working with an EU backing like LIFE-Nature?

Without the LIFE project it would have been unthinkable to motivate the two municipalities concerned (Hüttenberg and Mühlen), which are located in two different federal Regions of Austria (Carinthia and Styria), nor in fact the two Regions



themselves, to join in the actions for the protected area. Especially as gaining control of land sections brings high costs which the municipalities in particular would not have been able to afford by themselves. Through the project it was also possible to win over the other stakeholders - associations like the Naturschutzverein and Naturschutzbund (both nature conservation NGOs), the Bergwacht (a special Austrian organisation responsible for rescue and surveillance in the Alps), the farmers, affected or interested private people, the local restaurants and taverns - to pursue and realise a common goal.

One must not forget the enormous promotion of the district through this project. On the one hand the district thus becomes known in a wider geographic context; its reputation is increased enormously, especially among those sectors of society interested in nature conservation. On the other hand this brings an economic effect - increased interest in the protected area brings more people into the district, who in turn bring more customers to accommodation enterprises, restaurants and taverns, shops, farms selling direct to consumers and other offers like museums. In this context the LIFE project is seen as a badge of honour for the district and so is very much valued.

Is Life-Nature an appropriate instrument for carrying out conservation projects at local level?

The LIFE project is a fitting instrument for implementing conservation goals, especially because it has a holistic approach and also takes account of the full range of land use aspects in the surroundings of the LIFE project. As mayor of Hüttenberg and, during many years, chairman of the Hörfeld Moor Naturschutzverein (a local conservation NGO), I can, without hesitation, recommend people interested in LIFE-Nature to use this excellent instrument.



The species shown in this box are present in the Hörfeld site: Bombina variegata, Myotis myotis, Ciconia nigra.



*Inauguration of a visitor infrastructure by local elected representatives in a German project.
(© Photo Kerstin Wernicke, Federsee-Projekt).*

Involving Socio-Economic Stakeholders in LIFE-Nature

Projects are often located in environments whose conservation depends on maintaining a human activity but which may simultaneously be threatened by it. Agriculture, therefore, is indispensable in maintaining many open habitats of Community interest, for example dry chalky grasslands which must be grazed or mown in order to maintain them.

Socio-economic stakeholders are therefore a key contributing factor to the success of LIFE-Nature projects and farmers and foresters are often important players in LIFE projects (see the Danish project in the inset). However, project sites may also be used by a range of user groups such as hunters, walkers, hikers and fishermen, and their activities may have an

impact on the habitats and species of Community interest. Consequently, they are targeted by information cam-

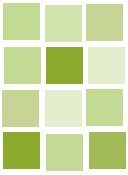
paigns and their participation and support is necessary if management plans are to succeed.

Danish farmers and the Varde river.

The Varde is probably the only river in Denmark which has not undergone major hydraulic engineering. Nevertheless, drainage and fertilisers enabled the area to be transformed to intensive grass production, to the detriment of the natural habitats. However, fortunately for the birds, when the market for cattle feedstuffs changed, the agriculture and environment ministries were able to join up with the farming unions to re-establish the habitats. Rehumidification is now closely monitored and the restrictions imposed on the use of fertilisers and pesticides have enabled farmers to benefit from agri-environment funding. One of the keys to success was the collaboration between farmers and landowners with a management acting at individual property level. The project symbol is the Corncrake (*Crex crex*), a good choice for a technical project in which communication plays a major role.



© Photo Søren Mariægård - River Varde



Industrial and economic stakeholders carry out activities which must be reconciled with the conservation objectives of the Natura 2000 sites. Operators of electricity grids may thus sometimes become key partners, participating in the burial of power lines which endanger birds, as was the case with LIFE-Nature projects in Italy and Spain. Authorities of the ports located in the major Euro-

pean estuaries are often responsible for the improvement and management of key natural habitats and major staging zones for migratory birds, and this is why they took part in LIFE projects in Great Britain. The efficacy and success of hydraulic works is frequently determined by users' rights to the water flows. These have been negotiated with industrial hydroelectricity producers

or catchment basin authorities in the context of LIFE-Nature projects (Romania, Austria, France...).

Socio-economic stakeholders may invest in LIFE-Nature projects in two ways:

- > As project partners they are responsible for some of the project actions. Thus in France the chambers of agriculture and



© Photo Gobierno de Canarias

Steering committee in Liminganlahti (Finland)

The LIFE-Nature project in the wetlands of Liminganlahti bay in Finland provided for the realisation of a site management plan. The area is much frequented by tourists, fishermen and hunters and the social stakes are high. A project steering committee and 5 working groups were formed, with a broad representative sample of local stakeholders. Members included local authorities, conservation specialists, landowners, hunters, farmers and fishermen. Their remit was to draft a management plan for the Natura 2000 site and a sustainable development plan combining the nature conservation objectives with the local population's livelihood and leisure activities.

For twenty years private landowners and hunters opposed the nature conservationists and the result was a stalemate. Right from the start of the project, the good representation of local interest groups on the committee and working groups was a major advantage. This re-established a dialogue and encouraged a change of attitude which allowed a positive discussion of nature conservation problems. By way of example, the project beneficiary succeeded in defining areas in which hunting was banned – a remarkable achievement in an area where hunting waterfowl is very popular.

forestry, and even the professional unions, are often responsible for preparatory studies or management actions. Their participation made for a better subsequent integration of management prescriptions into agri-environmental or other local or national measures.

- > As members of the project's steering group, they are involved in the debate and embrace the project's objectives. This is often a precursor to consultation procedures which are essential to the success of the Natura 2000 network. The LIFE-Nature project at the Liminganlahti bay in Finland is a good example of the involvement of socio-economic stakeholders in the steering committees (see inset).

Structuring and Developing NGOs

Non-governmental organisations (NGOs) have a major role in all areas of civil society. This is equally true for nature conservation and Natura 2000. Thus the European Habitats Forum, which includes major European NGOs such as BirdLife and the World Wildlife Fund, takes part in all debates concerning Natura 2000.

LIFE-Nature projects call on many national and regional NGOs, which have been direct beneficiaries of 26% of LIFE-Nature projects. Furthermore 7 NGOs were among the greatest beneficiaries of LIFE-Nature projects up to 2001⁷: WWF Italy, Réserves Naturelles et Ornithologiques de Belgique (RNOB/BNVR) in Belgium, the Royal Society for the Protection of Birds in Great Britain, Espaces Naturels de France and Ligue Française pour la Protection des Oiseaux, Vereniging Natuurmonumenten in the Netherlands and Arcturos in Greece.

The status of nature conservation NGOs differed considerably from one Member State to another when LIFE was launched in 1992. Great Britain and the Netherlands already had influential structures but this was not the case in Greece, for example. As a result of LIFE-Nature projects, several NGOs have now been able to organise themselves in order to play a major role in nature conservation in Greece. They include Arcturos, which targets mountain areas and large carnivores (see interview next page), MOM, for marine environments and the monk seal, and Archelon for coastal areas and turtles.

Another interesting example can be seen in France. LIFE-Nature provided an NGO federation with the means to structure its activity and to unite its membership. With 4 projects on peat bogs, dry grasslands and floodplains and nearly 9 million euros, it coordi-

nated some twenty regional associations managing natural habitats. In Belgium the RNOB/BNVR carried out ten projects on nature reserves throughout the country and found an interesting way to apply the concept of networking so dear to Natura 2000. Although this is not the primary objective, LIFE-Nature provides valuable experience in project management and allows beneficiaries to acquire skills and a legitimacy which ensures they will be acknowledged by the public authorities. LIFE has therefore contributed to setting up and/or strengthening the NGO network for nature conservation in the European Union.

⁷ Beneficiaries which have been granted 3 or more projects and have received over 3 million euros of Community aid





Interview with Spyros Psaroudas

Head of Conservation Projects Division, ARCTUROS (Greek NGO)

Has LIFE-Nature helped you become more professional?

Most of the conservation or awareness-raising experts who work for ARCTUROS now, were hired by our NGO during implementation of LIFE-Nature projects. They have improved their scientific and professional skills and gained valuable experience through these projects. Furthermore, the LIFE-Nature projects concern SPAs or SCIs and the species listed in the Bird and Habitats Directives, which gives a European and international dimension to the work of ARCTUROS. Exchange of knowledge and experience with other beneficiaries of LIFE-Nature projects, as well as compliance with international standards, further improved the professional skills of ARCTUROS staff. In so doing, our organisation, initially of amateur character, became one of the most competent and reliable en-

vironmental organisations in south-east Europe. ARCTUROS owes a great part of its success to LIFE-Nature.

What financial impact has LIFE-Nature had on your association?

LIFE-Nature projects that were co-ordinated by ARCTUROS have dramatically improved the operational capacity of our NGO, making possible the implementation of integrated projects with a global dimension and a long-term vision. In addition, a large part of the equipment and infrastructure which is still being used by ARCTUROS today was obtained through these projects. In particular, the LIFE-Nature projects for the conservation of brown bears and wolves in Greece allowed the creation of the "ARCTUROS Environment Centre", in Florina Prefecture, northern Greece. This Centre is now self-financing and

takes charge of ARCTUROS conservation and awareness raising work, as well as of its fund-raising efforts.

How has LIFE-Nature contributed to your institutional legitimacy?

When ARCTUROS started its work, 10 years ago, the competent authorities and many institutions were incommunicative or restrained towards us. We think that this was partially due to the general scepticism of Greek society towards NGOs at that time, and partially due to the nature of the work ARCTUROS undertakes (conservation of large carnivores). However, the LIFE-Nature projects that ARCTUROS implemented opened doors to many governmental organisations, universities and local communities. Gradually ARCTUROS gained the appreciation and the confidence which are indispensable for the implementation of our tasks and the success of our projects. Without doubt, this could not have been easily achieved without LIFE-Nature.

Has LIFE-Nature enabled you to make progress in the conservation of mountain areas and large carnivores in Greece?

LIFE-Nature was the only EU financial instrument well adapted to the conservation needs of species like the large carnivores and of certain habitat types in the Greek mountains. The ARCTUROS projects supported by LIFE-Nature (three projects for large carnivores and one for an important Greek Natura 2000 mountain site) gave us the opportunity to implement innovative and demonstrative actions and measures. Some of these measures were adopted by public services and will be continued with other financial means (e.g. agri-environmental programme, Cohesion Fund, etc.). However, it is clear that this adoption would not have taken place without the projects supported by the LIFE-Nature instrument.



© Photo Marc Thauront - "Dancing" bear confiscated from travelling show people in Greece.

LIFE-Nature and the citizen

Over and beyond the stakeholders in LIFE-Nature projects, the citizens of Europe have been directly or indirectly affected by awareness and information campaigns from the LIFE-Nature projects, which devoted close to 7% of their budget to these tasks. Young people were among the principal sections of the public to be targeted, via the development of nature education programmes for schools. In Lombardy (Italy) the Campi di Fiori Nature Park even invented, with LIFE-

LIFE-Nature projects and their messages. The regional and local press were mainly involved, as the projects are first and foremost actions on the ground, but the national press was not neglected. Exhibitions, brochures, folders, books, CD ROMs, posters and stickers were all aimed at the general public. All bore the LIFE and/or Nature 2000 logos, thus promoting the idea of the network. Nature walks, of which the British Dorset moors project organised,



© Photo Marc Thauront

Nature support, Pipistrelli, a new game destined for school pupils in the region which used the annual life-cycle of a bat as an educational support.

Project internet sites were extensively developed and even became compulsory from LIFE III onwards. They allow multiple communication and easy access to basic information. Life's general internet site (<http://europa.eu.int/comm/environment/life/home.htm>) is, of course, one of the main sources of information. Several thousand press cuttings have mentioned

made the general public aware both of the beauty of nature and of Natura 2000 and the Community legislation. It was for this reason that the European Commission organised the "Green Days" initiative in 2002⁸ to mark the tenth anniversary of LIFE and the "Habitats" directive. Over 430 events were organised in 15 countries and they attracted some 22,000 people from all walks of life. Most of these events, from guided tours in the field to conferences and exhibitions, were associated with LIFE-Nature projects. The operation was car-

ried out again in 2003 and the organisers received a "Green Days" pack, containing brochures on Natura 2000 and objects like posters, to assist in promoting the event.

⁸ With the assistance of the NGO Eurosita



The Strength of Partnership and Networking

When we question LIFE-Nature partners on the benefits of the projects the first response often refers to the benefits of the partnerships which have been established. LIFE is regarded as a banner around which conservationists and institutional and socio-economic stakeholders can learn to work together. One of the best examples has been provided by the Scottish LIFE-Nature project on the Caledonian forests, where the various stakeholders have established a common platform to launch new projects. The added value in having an element of the local heritage selected at Community level or the pride of being entrusted with a European responsibility and in direct contact with the

Commission, provides LIFE-Nature with a powerful attraction. This is also due to the fact that the European Commission has always upheld the importance of partnership and the consultation process, both for Natura 2000 and LIFE. The LIFE-Nature project has a real incentive effect which has enabled local stakeholders to claim the natural heritage as their own and preserve it through the Natura 2000 network. It has always been the Commission's ambition to extend this partnership beyond local projects so that the various European nature conservation stakeholders could use LIFE to exchange know-how, innovations and expertise. Technical brochures

presenting results for subjects as varied as large carnivores and peat bogs have been published (see website) with this object in mind, but the Commission wanted to go further and to promote European networks of stakeholders. Before launching this via LIFE III, the Commission already supported the emergence of European networks for three threatened species – the monk seal (*Monachus monachus*), the brown bear (*Ursus arctos*) and the bearded vulture (*Gypaetus barbatus*). For the bears, the European Commission was the initiator of annual meetings to encourage international cross-border technical co-operation. Workshops were organised between beneficiaries of LIFE-Nature projects in Austria, France, Spain, Greece and Italy and the various projects were able to exchange methodologies, particularly in relation to the techniques of



© Photo Jean-François Seguin PNRC - Bearded vulture.

the Geographical Information Systems (GIS) or on techniques to improve the availability of food resources for the brown bear.

For the bearded vulture, this networking collaboration was written directly into the project objectives. In 1996, four LIFE-Nature projects for the protection or reintroduction of the bearded vulture were selected in Aragon (Spain), in Corsica, in the French Alps and in Crete (Greece) and a fifth international project was still in progress in the French and Spanish Pyrenees. During the revision phase of the projects, the Commission suggested enhancing the networking actions as much as possible in each of the four project proposals. Two technical workshops were therefore organised every year, where real technical exchanges took place (determining age by plumage, a cost/benefit study for feeding actions) and a mutual sharing of communication tools.

These decisive experiences made it possible for the Commission to propose the COOP and STARTER projects, two major developments which the Council and the Parliament enshrined in the LIFE III Regulation. The LIFE-Nature COOP projects aim to strengthen co-operation between projects and to create European dynamics in nature conservation. The first call for tender took place in 2002 and four projects were chosen. One links LIFE-Nature projects in Germany, Scotland, Finland, Austria and France on the subject of correlations between grouse conservation and the management of tourism and leisure activities. This project foresees, among others, two international seminars and the constitution of regional workshops.

The object of the LIFE-Nature STARTER projects is specifically to take account of the difficulties in setting up international projects. The administrative differences, the need for specific exchanges and the stakes involved in international projects call for special preparations which project applicants were not always able to finance during the first LIFE-Nature round. Hence LIFE III launched this initiative: 12 projects took part in 2002.

The European Commission and LIFE-Nature



LIFE-Nature provided a great opportunity for the Commission's staff to get in direct touch with the action on the ground, its participants and its realities. This was particularly pertinent for sparsely populated or economically marginal areas and enabled the Commission to use these local contexts to reflect on the implementation of Natura 2000. Through the LIFE-Nature projects, the European Commission came across as a partner familiar with local problems. It developed a policy of 'being near' and a 'bottom-up' approach which was demonstrated by monitoring missions and studies carried out by Community staff including in the most out-of-the-way places.

LIFE-Nature also made it possible for the Commission to set up a network of contacts in the nature conservation world in order to make its work for Natura 2000 more effective. These exchanges and meetings also inspired the European Commission's Natura 2000 newsletter, of which 16 issues have been published since May 1996 and circulation is at 22,000 copies.

Installing a protective gate on a bats site. The international project on bats was awarded a prize during the 1999 LIFE Week. (© Photo François Schwaab).

On a vaster scale, the European Commission has organised events to bring LIFE-Nature's various stakeholders together. In this context it organised a LIFE-Week from 20 to 23 October 1999. The more than 2,000 people who took part in this event included all categories of LIFE beneficiaries and partners from all Member States. The mixture gave rise to exciting discussions in the various workshops and even more so at the dozens of project exhibition stands. This week, the first of its kind, was followed up by the 'Green Weeks', which took a broader view of environmental themes. Finally, under the aegis of the Commission, LIFE-Nature partners took part in e-conferences and discussions on conservation research.



Managing Natura 2000 sites through LIFE-Nature

Article 6 of the “Habitats” Directive requires Member States to take the necessary conservation measures, including, where appropriate, management plans. This chapter looks at LIFE-Nature’s contribution to the development of management plans for Natura 2000 sites.



© Photo Jost Einstein, Life Projekt Federsee.

Management plans (*sensu lato*) are recognised as essential for the conservation of protected areas. Several Member States have already drawn up rules on this matter. Nevertheless, the concept of Natura 2000, which now covers some 15% of the EU territory, does not necessarily follow traditional approaches to protecting natural areas. Generally speaking it does not concern national parks or integral nature reserves. The management of Natura 2000 sites should take account of scientific, economic, social and cultural requirements. In 1995, M^{rs} Bjerregaard, the European Commissioner for the Environment, wrote that “*The Natura 2000 network is not intended to create natural sanc-*

tuaries where all human activities are systematically prohibited.” Natura 2000 might therefore run counter to usual management planning practices in certain countries with a long tradition in nature conservation. According to article 6.1 of the “Habitats” Directive conservation measures for Natura 2000 sites can take at least two forms - “*Appropriate statutory, administrative or contractual measures*” and “*appropriate management plans*”. In 2000, the European Commission published an interpretation manual on Article 6 of the Directive entitled “*Managing Natura 2000 Sites*”, which provides some guidelines on the management of sites and which took into account

“Managing Natura 2000 sites: The provisions of Article 6 of the ‘Habitats’ Directive 92/43/EEC” published in 2000 by the European Commission. Active management of a Natura 2000 site: mowing Federsee wetland in Germany.

the experiences of LIFE projects. Management plans are not compulsory and in some cases they may not even be necessary. They could for instance, in the spirit of a greater environmental integration into other policies, form part of other land use planning schemes. Sometimes the Natura 2000 site is so small it does not require any particular intervention, in which case drawing up a management plan would not be cost-effective.

Nevertheless, in the majority of cases, management plans are an efficient means of fulfilling the obligations set out in the "Habitats" Directive. Two important European conferences have confirmed this - one in Galway in 1996⁽¹⁾ and the other in Bath in 1998. Exchanges between participants, many of them LIFE-Nature beneficiaries, enabled the Commission to make several recommendations in its publication on "managing Natura 2000 sites" as regards the methodology, objectives, consultation, start-up, follow-up and evaluation of management plans.

Whilst Member States have the sole responsibility for the management of Natura 2000 sites, LIFE-Nature projects have played a vital part in initiating management based on a sound knowledge of the site and a study of appropriate management measures. LIFE also made it possible to acquire specific competences based on concrete experiences which can then be used and extended to all Natura 2000 sites.

A management plan can take many forms. For this report, various types of management plan initiated in LIFE-Nature projects were studied and a more detailed analysis was done on the different types of management plans initiated in Italian, Greek and French projects and on the results of the Galway seminar. Without wishing to standardise the different forms, it would nevertheless seem pertinent to describe the broad categories of management plans to be found in LIFE-Nature projects. The European Commission has encouraged LIFE-Nature projects to finance not only the development of management plans but also their application, in order to maintain the practical character of this fund. Nevertheless, there have been some initial methodological projects which have allowed the management of Natura 2000 sites to be organised throughout a Member State or a region, such as in Italy or France.

LIFE-Nature and the diversity of Management Plans



© Photo Pohjois-pohjanmaan ympäristökeskus

The culture and traditions behind management plans differ widely from one Member State to another. An examination of practices within LIFE-Nature projects has shown that there were many objectives, methods and procedures. LIFE-Nature projects have frequently contributed to the elaboration of management plans for Natura 2000 sites. Over 60% of Natura 2000 sites targeted by LIFE-Nature projects⁽²⁾ have involved a planning procedure that can be called a management plan in the broad sense of the term. General action plans for species, covered in the previous section, have not been taken into consideration.

Based on a detailed analysis of the projects, it is possible to identify three major categories of management plan: the global management plan, the specific management plan, and the detailed management prescriptions. The differences between these three categories are notable, even though there are similarities between the concepts.

The size of the site in question has a lot to do with the choice of plan. According to the University of Leuven, which validates the numeric data from GIS (Geographic Information Systems) provided by Member

Kuusamo area in Finland, near the Russian border.

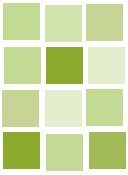
States during the selection of Natura 2000 sites, out of the 13,706 sites with a surface area of at least 1 hectare:

- > one third of Natura 2000 sites are less than 100 hectares in size;
- > one third are between 100 and 1000 hectares;
- > - one third are bigger than 1000 hectares, and several hundred are bigger than 10,000 hectares.

Generally speaking, sites in Austria, Spain, Greece and Portugal are, on average, 5 to 10 times larger than those in Belgium, Italy or Sweden.

¹ "SAC Site Management", Galway, Ireland, 9-12 October 1996 and "Natura 2000 and people", Bath, United Kingdom, 28-30 June 1998

² LIFE II projects started between 1996 and 1999.



The differences in size and between Member States show that there cannot be just one single approach to management planning, even if they have certain general principles in common. The manner in which these approaches were investigated within LIFE-Nature projects illustrates these differences. They also illustrate the benefit of adapting these different approaches to local circumstances.

Types of preliminary studies for management plans

LIFE-Nature finances many studies. Most of them provide the information needed to elaborate a management plan. In certain cases, they are a precursor for future conservation projects. The following categories are not exhaustive:

- > Knowledge of ecosystems
 - Inventories, mapping, and evaluation of conservation status;
 - Applied research on the ecology of a species or a habitat, in order to develop appropriate conservation techniques
 - Eco-ethological studies, population monitoring and genetic analyses;
 - Forestry or dendrological inventories.
- > General environmental studies: hydrology, hydrogeology, geology, geomorphology or pedology;
- > Impacts of human activities
 - Studies of damaging activities or disturbances;

- Study of the historic use of an area.
- > Studies of a site's economy and its frequentation:
 - Preliminary socio-economic studies, and pastoral or agricultural diagnostics;
 - Management or development of visitor use.
- > Evaluation of the success of actions.

The Global Management Plan

Definition: a global management plan specifies general conservation objectives, taking account of current economic or social/cultural uses. It can propose regulations and provide zoning, but this is not an absolute rule. It often draws up general orientations upon which specific management plans or management prescriptions can be developed. These documents form part of an approach to territorial planning in which the objectives of Natura 2000 will be crucial but not exclusive. In particular, the concept of sustainable development is often a central issue of discussion.

Sites targeted: the areas targeted are often vast, and can sometimes include several Natura 2000 sites. There is often no specific management structure, either because the site does not lend itself to such (very large area) or because it has not yet been defined and will only appear during the course of elaborating the management plan.

Consultation: consultation is on a broad scale and it goes beyond the scope of the competent administrative authorities. Local interest groups and users play a major part in the discussions and negotiations.

Operator: there can be various operators, but they are always under the auspices of the relevant authorities.

Type of description: habitats and species covered by the Directive are often presented together with information on other natural resources. The value of the site for nature conservation is specified and explained. The description generally also includes social, economic, administrative, cultural and historic aspects.

Examples of plans co-financed by LIFE-Nature:

- > “Specific Environmental Studies and Presidential decrees” in Greece;
- > “Documents Setting Natura 2000 Objectives” in France;
- > “Management Schemes for Marine SAC Sites” in the United Kingdom.

The Specific Management Plan

Definition: the specific management plan defines precise operational objectives for conservation management. It includes planning details and information on how to implement the plan. It is based on robust scientific and technical thinking which is a key-stone in the consultation process.

Sites targeted: they are often of smaller size than those discussed above. They are sometimes an integral part of a Natura 2000 site which has its own autonomous management system, for instance a forest or



© Photo South Savo Regional Environment Center

Taking samples for a microinvertebrate study in Lake Pihlajavesi (Finland). This action was part of a series of preparatory studies in order to draw up the management plan for this leading site within the Saimaa ringed seal project.



**PROPOSAL FOR
A NATURE TRAIL IN
A NATURA 2000 SITE**

FORMATIONS VEGETALES A CTUELLES :

- Bas marais et tourbires basses alcalines
- Bas marais d'grad
- Bas marais d'grad parsem d'arbres
- Boisement
- Vgétation herbace sur alluvions minrales
- Vgétation arbustive sur alluvions minrales
- Milieux herbacs anthropiss (terrain de sport)
- Boisement anthropis

PLANTATIONS A REALISER :

- Haie
- Four

AMENAGEMENTS A EFFE CTUER :

- Zone d'accueil (parking, bancs, panneaux d'information...)
- Piste de gestion ou chemin communal existants
- Chemin d'accs à stabiliser
- Sentier de dcoouverte du marais
- Sentier de dcoouverte de l'tang
- Platelage (adapt aux personnes à mobilité réduite)

TERRASSEMENT A EFFE CTUER :

- Zone de dblais
- Zone de remblais
- Dcavage superficiel
- Cratlon de dpressions

AMENAGEMENTS A EFFE CTUER :

- Panneau de lecture du paysage
- Panneau d'interprétation
- Observatoire
- Plate-forme d'observation

a nationally protected area such as a nature reserve. They generally have the same regulations or land ownership. Lands bought with LIFE-Nature funds often have these types of management plans.

Consultation: at a minimum, the relevant administrative services and land owners are consulted. Other local land users and parties may take part as well (hunters, sports clubs, etc.).

Operator: the operators are generally the management structures that own or control the land or that have been appointed to manage the area.

Type of descriptions and objectives: These management plans are more applied than the preceding ones. They are based on a descriptive analysis and stipulate precise management objectives for a site. They are generally composed of 5 parts:

- > an administrative part (surface area, geography, manager, owner, site status, etc.);

- > a descriptive part (natural heritage, human or natural disturbances, threats and needs) detailing as precisely as possible the conservation status of the habitats and species listed in the "Habitats" and "Birds" Directives;

- > a planning that specifies the scientific or conservation targets assigned to each plot in function of its characteristics. For that, a time-scale is often proposed and, sometimes, the objective is focused only on one habitat or one species at the site;

- > the technical means required for fulfilling the objectives, and their costs;

- > the evaluation indicators and the time intervals for revision of the plan.

An analysis of the problems linked to access to and frequentation of the site is often added, especially as public use is sometimes a prime aim.



Web site of the British LIFE-Nature project on marine Natura 2000 site management. The site is dedicated to professionals and can be used as a guideline for the establishment of marine site management plans.



Steering committees are key elements in the elaboration of management plans.

Examples of plans co-financed by LIFE-Nature:

- > management plans for nature reserves, notably in Belgium, France, Sweden, Ireland and Wales.
- > In the United Kingdom, the “Forest Design Plans” and the “Detailed Operational Plans” can be included here. Forestry management or development plans (Germany, Austria, Finland, France, etc) can also be included in this category, even if they are often financed through other sources linked to the economic function of the forest.

Management Prescriptions

Definition: the management prescriptions lay down operational procedures for achieving a given result. They can be formulated either for the implementation of an already existing management plan, or can act as simple management plans in cases involving little complexity. They are generally a work plan for the implementation of management actions, detailed technical plans before works, or precise ecological, sylvicultural or agricultural/pastoral technical guidelines.

Sites targeted: they are generally small in size, often corresponding to a management unit of a habitat of small surface area.

Consultation: generally consultation will already have taken place in a previous context (plan and programmes)

when the objectives for the site will have been set. So consultation is often restricted, or limited to just a few engineers and the relevant authorities.

Operator: working under the supervision of the management administration, the operators are generally those who carry out the works, be they managers, enterprises or other economic interest groups.

Type of description: They describe, in a simple manner, the various actions to be undertaken, and the technical measures needed for achieving them. Apart from introductory lead-ins, they often include the nature of operations and works, and the procedures for their execution at the site concerned. They frequently contain precise engineering drawings.

Examples of plans co-financed by LIFE-Nature:

- > “detailed preliminary studies”, “agricultural, pastoral or sylvicultural technical guidelines” in France;
- > “Technical notes” in Greece.

The contribution of LIFE-Nature

Thanks to LIFE-Nature, nature management could be initiated on around 60% of Natura 2000 sites covered by LIFE-Nature projects. Frequently, there was a lack of scientific, technical and social references for the managers. Once this had been gathered, a management plan could be drawn up to translate the general concepts

into practical day-to-day management tools. At the same time it is a means of bringing the local interest groups and communities on board, so that they can agree to these new management methods or even become involved promoting them. In short, the plans developed through LIFE-Nature act as a bridge between conceptual thinking and practical implementation, between the conservationists and the other local interest groups. They are generally site-specific but LIFE has also contributed to some efforts towards harmonising the management planning approach at least at national or regional level. Examples of these are presented in the next section. Some efforts have also been made by Eurosite to develop a model management plan, but for the moment they essentially concern protected sites of less than a few thousand hectares.

Finally, certain projects that do not involve management plans as such are, in fact, formulated as management plans. Tools to provide assistance with project preparation are available on the LIFE Web site (<http://europa.eu.int/comm/environment/life/home.htm>). Based on the so-called logical framework method, they enable proposing parties to clarify their ideas and plan their tasks. This way, the LIFE-Nature project becomes a form of management plan: it specifies an objective for the site (manage habitat x or species habitats y), the studies necessary, the local consultation, the works to be anticipated...

Examples of Pilot LIFE-Nature Projects on Management Plans

LIFE-Nature has provided the driving force for a more systematic approach to management planning for Natura 2000 sites in several Member States. Two examples are presented here for Italy and France, but there are other examples in the but following LIFE-Nature projects:

- > in Wales (UK), where a detailed scientific methodology for developing management plans was formulated between 1995 and 2000 on the basis of 19 Natura 2000 pilot sites;
- > in Greece, where LIFE-Nature contributed to establishing a management plan culture, with a pilot programme at 10 sites and additional initiatives in most other projects;
- > in Ireland, where the systematic elaboration of over 200 management plans stimulated the organisation of an official European seminar during the Irish presidency in 1996.

Italian Management Plans

Italy was the first Member State in the European Union to submit its proposals for Natura 2000 sites to the European Commission. These cover almost 14% of the country's surface area. The country also saw the number of its protected areas increase sharply, rising from 1.5% of its landmass in 1980, to 3% in 1990 and then to 9.3% in 2000 (Lombardi, 2001). The 1991 framework law on protected areas was at the origin of this increase, particularly as it devolved much of the responsibility for protected areas to the regions. The latter are now responsible for 100 new regional parks on top of the country's national parks and reserves. This law provided an organisational framework for nature protection in Italy, developed management structures, as well as dedicated budget lines. This provided the necessary momentum for regional parks to play a pilot role in the process. But the Natura 2000 network is much bigger than the protected areas network, and the management methods are not necessarily the same.

As a result, in the past, LIFE-Nature projects in Italy have run into problems with regard to management plans (content, value, methods for adoption and implementation, etc.). In order to provide the necessary framework for the Natura 2000 sites, the Italian authorities undertook, between 2000 and 2003, a LIFE-Nature project to draw up management plans for Natura 2000 sites. A decree from the Ministry of the Environment was published (on 03/09/02) as a result, and this will be followed up with a training programme and, among other things, the publication of manuals of a more educational nature. At the same time, 9 pilot sites are preparing management plans for almost 58,000 hectares of land, in order to test out the new method. The Italian decree puts particular emphasis on integrating the Natura 2000 management plan into other local land

Natura 2000 site in the Trento province in Italy.





Methodological guide for the elaboration of Natura 2000 management plans, produced during a LIFE-Nature project on 35 pilot sites in France.

use planning activities. This should take account of both the ecological and socio-economic characteristics of the site so that at the end of the day there is only one integrated plan which incorporates the conservation of the ecological function of the habitat or the species to which the site is dedicated. The originality of the Italian approach lies in its translation at site level of the concept of "favourable conservation status". The management plan lays down indicators and limits of acceptable change in favourable condition. This in turn will form part of the monitoring process laid down in the Directive. The indicators have to be specific to the site and the species or habitat. It will be modulated in accordance with national data provided in a management guideline manual, on the basis of 24 major types of habitats. A manual is currently under preparation and will be the major product of the LIFE project.

The Italian approach starts with a study of the physical, biological, socio-economic, cultural and landscape data of the site.

The second stage consists of evaluating the conservation state of the species and habitats at the site. For this, it is necessary to specify indicators that allow one to qualify the state at the site in relation to the optimal state. Lastly, the influence of ecological or socio-economic factors on these indicators has

to be evaluated. The latter two stages stipulate the general management objective, the management priorities and the management strategy, including cost and supervision.

The concept of a threshold value beyond which the conservation state will be considered acceptable will obviously be central to discussions. This is why the management guideline manual will be a key document. In contrast to the French programme discussed below, consultation of local parties is not the primary consideration. Instead, the Italian project is characterised by a strong emphasis on scientific and technical aspects.

The French Management Objective Documents

Before Natura 2000 was established, there were three parallel approaches to the conservation of habitats and species in France:

- > regulatory protection through, in particular, national parks and nature reserves;
- > protection by land purchase or equivalent action through the establishment of a dedicated authority for the coasts, through local public authorities (France's geographical "departments") and through NGOs, who also played a major role;



French guide to forest habitat types: it gives a description and management guidelines for habitat types of Community interest in France.



Pedological study (© Photo Frieder Mauch, Life Projekt Federsee).

- > territorial projects in which one of the main objectives could be nature conservation, particularly in Regional Nature Parks.

However, the first two projects involved only limited surface areas. The first inventories revealed that Natura 2000 would be on a much larger scale. This came as a considerable shock to rural interest groups who were worried about "a sterilisation of the environment solely for nature protection". In addition, the concept of management plans was only employed for parks and reserves, or for forestry management. So it seemed necessary to develop new concepts that could marry the ambitious objectives of conservation of biodiversity, with socio-economic and regional cultural needs, within the Natura 2000 network.

The French Ministry of the Environment therefore asked an NGO to take on a LIFE-Nature project to develop such a new concept for management plans. When the French government blocked the implementation of Natura 2000 in



Methodological guide for Natura 2000 sites in Wales. "Habitat monitoring for conservation management and reporting".

1995, under pressure from local interest groups, it was this LIFE-Nature project that enabled discussions to start again and a strategy to be set up for implementing Natura 2000 in France. The process was based on three points:

- > bringing together within a steering committee, those working to protect biodiversity, representatives from rural agencies and organisations and, particularly, farming and forestry associations and representatives from relevant public authorities;
- > drafting a national framework for the management plans on the basis of 37 pilot sites;
- > producing, in the longer term, an educational manual and legal texts which allow this approach to be extended to all Natura 2000 sites.

The manual was published at the end of the project (1998) but the legal texts and their implementing provisions took a little longer (2000 to 2002). Now, several hundred management plans are being compiled. They are based on the following principles:

- > a facilitator is used to draft the management plan in consultation with all local interest groups. These parties meet periodically within a steering committee

and/or working groups. Only once this group has reached its final decision, is the document passed on to the State for validation;

- > technical studies are drawn up to allow one to specify the ecological (map of habitats and species in the directive) and socio-economic characteristics of the Natura 2000 site;
- > the local interest groups work together to define the management objectives and their practical application through the development of specific contracts with private landowners, which the State signs and provides financial payments for, as necessary.

The process may appear cumbersome, but it has the advantage of bringing Natura 2000 into the centre of all discussions on rural development. The Natura 2000 network is not the exclusive domain of environmental civil servants alone; rather it requires the integration of policies. The weak aspects of this process come from the lack of field knowledge that

had to be overcome, and the absence of a definition for the favourable conservation status. Contrary to the Italian project, this latter was not a cornerstone of the process. The Ministry of the Environment therefore produced "habitat specifications" to lay down guidelines about knowledge and management of different habitats and species. At the present time, it still appears necessary to validate the technical and financial processes for contracts with private owners or their appointed representatives.

The two strong points about this French LIFE-Nature project are the emphasis on consultation of the public and the integration of socio-economic interest groups within the process. This project and the Italian project show how LIFE-Nature can help subsidiarity to be applied. Both projects, with their differences, are pursuing the same aim of preservation of European biodiversity.

Management plan realised during a LIFE-Nature project in Romania.





How LIFE-Nature works

The “Habitats” Directive requires that the listed natural habitats and species are maintained or, where appropriate, restored at a favourable conservation status (Article 3). Member States must take the “necessary conservation measures” to achieve this (Article 6). The aim of LIFE-Nature is to finance practical projects to maintain or re-establish these natural environments, sometimes testing out new and innovative techniques. This section illustrates some of these actions across Europe, based on commented photos. It is not meant to be comprehensive; in fact each of the actions, on their own, could have been the subject of a separate report.

Apart from management plans, mentioned in the previous chapter, every project undertakes a number of actions in order to achieve its objectives. These can be categorised into the following main types:

- > Practical on-site actions, which can be further divided into:
 - singular biotope management works: these are one-off operations designed to bring the area back to its original state (such as clearance of overgrowth), other restoration activities or investments (for instance, the construction of a breeding centre for a threatened species) or
 - day-to-day management works, including regular monitoring activities;
- > land purchase actions, sometimes this is the only way to ensure that the project can be realised;
- > awareness-raising and information dissemination aimed at local stakeholders, the scientific community and the public at large.



Re-opening dry grasslands through rotary crushing on the Ardèche plateau. Rotary crushing is a technique commonly used to treat open environments overrun by woody plants, as are often found in areas of agricultural decline (sub-steppic zones with annual grasses; calcareous grasslands, heaths...). This technique is also used in forested areas to recreate or restore open environments within the woods or along their edges. Such work allows the overgrowth and closure of habitats to be tackled, the biological diversity to be protected and the traditional landscape to be maintained. Rotary crushing can be done as a one-off action to re-open a habitat which will thereafter be maintained by returning it to grazing, or it can become a recurring maintenance operation by repeating the work every year. In the Ardèche district, rotary crushing was followed by the installation of a herd of cattle on the site. (© Photo Sigarn).

Managing habitats and species: Investments in restoration and day-to-day management

A wide variety of actions are undertaken within the scope of LIFE for the management of habitats and species. In the 535 LIFE-Nature projects that have been completed or that are in progress, a large number of conservation operations have been carried out, from the most conventional to the most experimental. LIFE-Nature is intended to be a pilot instrument, and this vocation is reflected in the actions undertaken during projects. The first 10 years of this programme have seen many original operations carried out, that would have been difficult to do other than under the auspices of a LIFE-Nature project.

■ *Maintenance and restoration of open environments*

Among conventional habitat and species management measures, open-environment re-establishment and maintenance actions are frequent: clearance of overgrowth and scrub, deforestation and mowing, using a variety of techniques – both mechanical and manual. LIFE-Nature projects are often an opportunity to test new techniques. The experience acquired is regularly consolidated through the publication of management guides. The agricultural world is very often involved in these LIFE projects, and its co-operation is an essential factor in the success of many projects. In order to gather a large number of eye-witness accounts, the European Commission organised a seminar in October 2002 on the subject “LIFE, Natura 2000 and agri-environment” (see page 88), during which many contributors to LIFE projects came to report on their own experience. When work is done in nature areas, compatibility between the machines and implements and the environment is essential. Wetlands, in particular, are particularly fragile zones, for which precautions must be taken so as not to damage the subsoil and the environment.



© Photo Francis Müller - ENF

Loading a flock of sheep for transport to a project site where rotation grazing has been introduced.



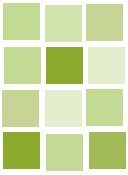
© Photo CEPA

Installation of a cattle stop. The French “Dry grasslands” project launched many forms of co-operation with farmers to establish management systems for open habitats. Like many other LIFE-Nature projects, it has helped young farmers to install themselves, employed herdsmen and equipped sites. The project has also contributed to the application of agri-environmental measures.



© Photo Michel Pajard

Site management by grazing.



■ *Equipping sites to restrict frequentation and for access by the public*

Over-frequentation is a problem affecting many sites, threatening habitats and species of Community interest. To address this threat, LIFE-Nature projects erect fences and barriers in order to block vehicle passage when this is causing damage and disturbance to sites. In other cases, this threat can be controlled simply by building paths or laying out itineraries which channel visitors. Some LIFE projects go further, and have re-routed hiking tracks which had proven to be major factors in the disturbance of wildlife, notably nesting birds. Such detours could only be implemented after phases of discussion and negotiation with the local parties concerned and the relevant authorities.



© Photo Verein zum Schutz wertvoller Landschaftsbestandteile in der Oberpfalz e.V

In Germany, after re-humidification of the Prackendorf and Kulz mires, the paths within this project site became impassable and had to be diverted. *Wooden boardwalks were built on the location of the former paths, enabling the site to be kept open to the public. The provision of visitor reception facilities also plays an educational role and allows a habitat to be discovered under optimal conditions.*



Laying a path to stabilise a slope in Italy.
(© Photo Azienda Regionale delle Foreste).



Unusual information facility (Finland. Yllas-Aakenus is a very large Natura 2000 site (370 km²) located in Finnish Lapland, near a major tourist zone which attracts about half a million visitors a year. Because 'nature' tourism is in full expansion, more and more people are hiking or ski-ing in Yllas-Aakenus, attracted by the great beauty of the site. A LIFE project is addressing the negative impacts these activities can have on the natural habitats. It will draw up and implement a master plan to channel tourism, collaborating closely with local communities and tourism operators. The project is producing innovative results, notably in terms of nature discovery trails. These not only allow the site to be protected, but also to better present Natura 2000 to visitors and inhabitants. Where before there was much reticence vis-à-vis Natura 2000, a constructive and positive dialogue has now taken its place.
(© Kerstin Sundseth - NLI).

■ *Management of forest habitats*

In the Austrian Alps, the Kalkalpen project has succeeded in restoring a mixed forest of beech, fir and spruce in a Natura 2000 site by selectively cutting spruce in areas where it was dominant as a result of former forestry practices. A total of 640 ha was treated. A new, cheap technique allowing cut spruce to be treated in order to increase dead wood without running the risk of bark beetle infestations, was used for the first time in Austria. Innovative methods of hunting and game management restricting the browsing impact of game and promoting natural regeneration, were also tested.

Foresters and biologists inspect the forests in the Kalkalpen national park (© Photo Frank Vassen).

In the capercaillie and hazel grouse project in the Black Forest (Germany), foresters and municipalities got together to establish a type of forestry management which favoured grouse breeding and foraging. Clearings were thus made to stimulate the growth of berry shrubs while the structure of the forest was diversified and enriched. This project not only introduced forest management benefiting the birds, but also population monitoring and an assessment of the conservation status of the habitats. The excellent partnership had an incentive effect: instead of the 150 ha targeted, 298 ha of forest habitat benefited from these new management methods, while municipalities which wanted to join later financed the forest works by themselves.



Capercaillie Tetrao urogallus (© Photo Quetzal)





■ Hydraulic engineering works

The restoration of wetlands is a recurring theme in LIFE-Nature projects. The restoration of hydrological characteristics often involves:

- > Re-establishing hydrological characteristics so as to have a suitable water supply. These operations are always performed in liaison with other users of the water resource, notably farmers, for whom restoration work can have major impacts. Thus these projects generally have to provide compensations to farmers who are negatively affected, or have to foresee land acquisition.
- > Cleaning up accumulated organic

matter which impedes the development of aquatic vegetation. This work has been undertaken, for example, by LIFE-Nature projects in France (Grand-Lieu lake) and the Netherlands (see next page).

However, these hydraulic works can take many other forms. Details of restoration work, particularly of ambitious river restoration operations, are given in a later chapter. Hydraulic operations can also be less ambitious in scope. Notably, as part of work to improve natural habitats or habitats of species, many projects involve small-scale work to make streams structurally more irregular, to excavate pools...



Construction of a dam. In Germany, more than 30 dams were built in order to restore the hydrology of the Kulz peat bog in north-eastern Bavaria, by closing off streams draining the bog. The water level was raised everywhere in the bog, and the new hydrological conditions should render the bog active again (© Photo Verein zum Schutz wertvoller Landschaftsbestandteile in der Oberpfalz e.V).

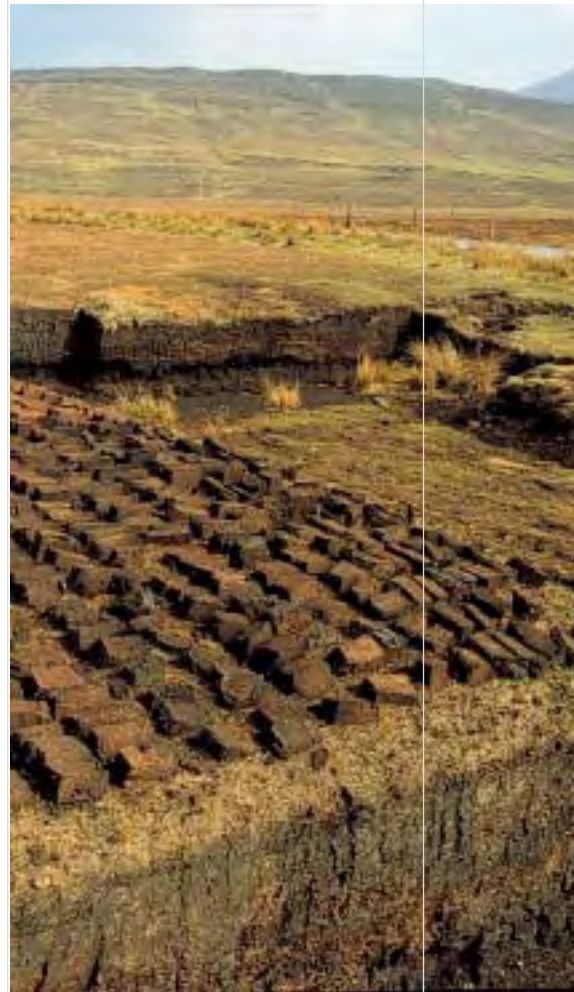


Kulz peat bog restored. The exact impacts of restoration operations cannot be assessed in their entirety immediately after completion, and changes to the natural environment have to be monitored for many years in order to fully gauge the success of the project.

Managing the Federsee fens in Germany through manual mowing.
In certain fen areas, the hay from mowing is too poor to be used as cattle fodder. This is why it is not possible to attract farmers to these areas. Yet they have to be mown annually, or else the fen habitat will become choked with overgrowth, quickly losing much of its biological diversity. In order to maintain such habitats in a favourable state, alternative outlets for the mown hay are sought, such as using them for the production of "green" fuels.
 (© Photo Kerstin Wernicke, Life Projekt Federsee).



A dredging boat sucking mud from the bottom of the Naardermeer lake in the Netherlands (© photo Natuurmonumenten).
LIFE-Nature support allowed the principal problems threatening the Naardermeer, an important Dutch SPA, to be tackled: a continuous lowering of water levels and the terrestrialisation of the lake. To address the falling water levels, a buffer zone was created in which the water level was raised 40 cm, forming a 200 ha wetland which was rapidly colonised by many species of duck and wader. This new wetland was specially designed to allow the birds to be observed and was linked to a network of cycling tracks, thereby reducing pressure on the core zones of the nature reserve. In addition, some 300,000 m³ of nutrient-rich sludge was removed from the lake. To do this, the beneficiary constructed a special dredge, equipped with cameras and sounding material and able to vacuum-clean the silt from the bottom of the lake. This boat is now used on other Natura 2000 sites of the same type managed by the beneficiary



Traditional peat exploitation in Scotland (© Photo Marc Thauront).
The north of Scotland hosts the biggest single bog in Europe and maybe the world: the Caithness bog, with 400,000 ha. Besides acquiring 7,265 ha, the LIFE-Nature project has undertaken large-scale restoration projects to bring back sixteen degraded bogs to a favourable conservation status. In total, 1250 small dams were installed along 19.9 km of drainage channels; 202 ha forest was cut down and 2,087 supplementary dams were installed along the forestry drains. These experiences were collated into a guide specifying cost and efficacy of the different restoration techniques tested.



■ *Management of rivers and the WFD (Water Framework Directive)*

In central Europe, several LIFE-Nature projects target rivers on a large scale and so are excellent laboratories for the implementation of the Water Framework Directive: Emsauen (90 km along the river Ems in Germany), Obere Drau (60 km along the river Drau in Austria), Huchen (45 km along the Danube in Austria), Donauauen and Donau-ufer (50 km of the Danube between Vienna and Bratislava) and Tiroler Lech (15 km of the Lech river in the Alps). Although

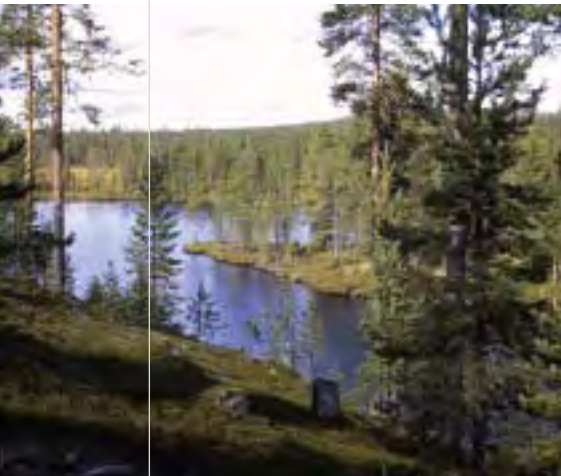
these rivers differ considerably in terms of habitats and species, the measures undertaken are similar. Engineering works are carried out to eliminate embankments, groynes and other structures, to remove or circumvent barriers to natural fish migration (9 fish passes were built along the Ems river alone, 13 for the Huchen project) and finally, to reconnect former meanders and river arms. In parallel, works can be carried out to restore the microtopography



Eisbach stream in the Salzburg region of Austria, one year after the end of restoration work. The stream had been completely straightened before the works undertaken by the LIFE-Nature project (© Photo Markus Kumpfmüller).

■ *Land acquisition*

Since its beginning, LIFE-Nature has accepted projects which include land acquisition. Between 1992 and 2001, the LIFE projects' overall target for acquisition was around 171,000 hectares, i.e. less than 0.5% of the surface area proposed for Natura 2000. During the latest survey in spring 2002, 136,960 hectares had already been acquired. To this should be added the lease of land or rights during a set time period. By the same date, 61,000 hectares had been leased out of the 67,000 envisaged. The eligibility criteria for land acqui-

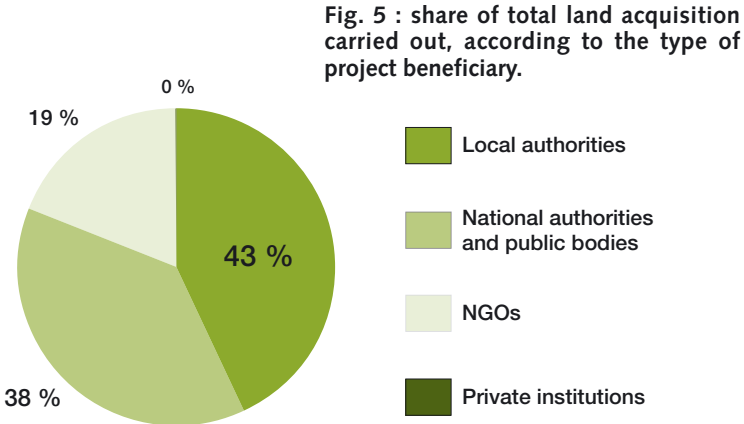


typical of floodplains (depressions, pools..). The objective is to restore the natural dynamic of the rivers – erosion and sedimentation, flooding of alluvial forests, regular inundation of the depressions along the river etc. All this simultaneously benefits habitats and species of Community interest and helps to reduce flooding.

Example of conifer forest linked to fluvioglacial eskers, a habitat type found only in Finland and Sweden among the EU member states (© Photo Jan Hjorth ja).

sition had been tightened after LIFE II, in particular to ensure that acquisitions are not employed to remedy poor application of laws and regulations. To acquire land with LIFE-Nature, there has to be a plan for active management. As shown in Figure 4-1, it is mainly national and local authorities which acquire land.

Elenydd site in Wales
(© Countryside Council for Wales).





■ *Eradication or control of exotic or non-indigenous species*

LIFE-Nature has financed many projects involving work to eradicate invasive species on islands in Spain, Portugal, France and the United Kingdom, for example. Invasive animal or plant species are often a major danger to endemic ecosystems.



*Elimination of *Carpobrotus edulis* on the island of Minorca, in the Balearics. This invasive species originating from South Africa is very popular as an ornamental plant in gardens, and is the main threat to plant species of Community interest (four of which are priority) on Minorca. A LIFE-Nature project tackled the problem, starting with an experimental phase whose purpose was to find the most effective technique for eradicating *Caprobrotus edulis*. This small-scale test phase will be followed by much broader eradication actions. (© Jesús Laviña).*



Installation of traps to capture American mink on the islands of South and North Uist in Scotland, United Kingdom. The aim of this operation is to protect threatened species of ground-nesting birds which are preyed upon by this species. A total of more than 1500 traps were positioned on 2 islands (South and North Uist). The traps are checked every day to capture the targeted species (minks, rats and weasels). Non-targeted species are released. At the end of the project, the knowledge acquired will be shared and made available to other European countries encountering the same problems. (© Photo John Houston, NLI).



Eradication of 8 hectares of conifer plantation from the Ashness Woods site (England): elimination of remnants. During this project to restore the natural Atlantic oakwoods in the United Kingdom, a major operation to eliminate rhododendron, an invasive species, was carried out on 370 hectares. A fence was then built to protect the site and allow natural regeneration.

■ **Conservation of plant species ex-situ**

Projects to protect plant species of Community interest frequently involve *in situ* conservation measures (in the field) and *ex situ* conservation measures (in the laboratory). A typical *in situ* measure is harvesting seeds on-site and sowing them on small plots to test the best germination procedures and reinforce the population in its natural environment. Some plants which only produce low numbers of seeds need *ex situ* assistance, and so some species may be cultivated *in vitro* before being re-introduced to the natural environment. This process has enabled, for example, the outstanding recovery of *Cistus heterophyllus*, subspecies *carthaginensis*, in the region of Valencia in Spain.



Microbiology laboratory: preparation of plants under sterile conditions for multiplication in vitro. These actions were carried out in the framework of a project for the protection of 4 priority plant species on the Aeolian Islands in Italy. (© Photo Angelo Troia).



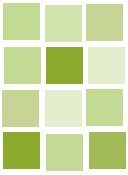
Cytisus aeolicus plants being cultivated in preparation of their re-introduction to the field after multiplication in vitro (© Photo Paola Quatrini).



Cytisus aeolicus, flower - one of the species targeted by the Italian project. (© Photo Angelo Troia).



The Strombolicchio islet, off Stromboli island, is one of the sites of the project (© Photo Angelo Troia).



■ *Characterisation of animal populations: the example of fish*

Knowledge about fish populations is very incomplete in Europe. This is why most LIFE-Nature projects targeting fish species started with population characterisation programmes. During sampling of the European sturgeon,

each individual captured is weighed, identified or ringed, and undergoes a stomach rinse in order to identify its eating habits. Fish population characterisation campaigns are usually accompanied by concrete species conservation measures. This may involve breeding and raising in captivity in order to reintroduce or to reinforce a population. In the case of the

European sturgeon, 23,000 fry were bred from two mature individuals captured in the Gironde estuary, and 9,000 individuals were released. Measures may also be taken to improve habitats, such as the construction of fish passes to overcome obstacles, improvement of the water quality and banks...



© Photo Andreas Ernest Zitek

The Danube salmon - Hucho hucho. Although originally widespread in Austria and southern Germany, it is now only to be found in 4 tributaries of the Danube in Austria, and these populations are all in danger of extinction. One of the last strongholds is the Pielach-Melk catchment in Lower Austria. The spawning grounds are intact, but access to them is impeded by at least 13 dams distributed over 45 km of river. In 1999, operations designed to make it possible for Danube salmon to cross these obstacles, were undertaken as part of a LIFE-Nature project.



Retrieving individual marbled trout - Salmo marmoratus - from a fish farm. The fish are bred to reinforce wild populations in the river Ticino in Italy. (© Photo G.R.A.I.A Srl.)



Sampling of the European sturgeon population in the Gironde estuary in France (© Photo Marc Maury).

■ *Re-introduction or reinforcement of populations of animal species*

Sometimes during LIFE-Nature projects, programmes are carried out to reintroduce or reinforce animal and



© Photo Pietro Papa

Chamois deer of the Abruzzo region - Rupicapra pyrenaica ornata. Through the LIFE-Nature project, this subspecies was reintroduced into the national parks of Gran Sasso and Monti della Laga.



Breeding Testudo hermanni eggs in an incubator. The young will be released into the Iron Gates Nature Park in Rumania to strengthen the natural population and ensure its viability. The LIFE-Nature project enabled the construction of a breeding centre, and it plans to release 250 individuals in 2002 and 2003. Habitat restoration operations are planned in parallel.

(© Photo University of Bucarest, Centre for environmental research and impact studies).

plant species. The preparatory phases for reintroduction are complex and long, but guarantee the success of the operation. For animal species, it is necessary either to capture the animals to be released in another region, or to find breeding specimens which

can be used to breed in captivity so that their descendants can be released into the natural habitat.



Release of a Slovenian bear in the Adamello-Brenta Park in Italy. Cette région du nord de l'Italie abrite la dernière population d'ours brun Alpin (Ursus arctos). This district of northern Italy is home to the last population of Alpine brown bear (Ursus arctos). By 1997 only 3 or 4 individuals were left and no breeding had been observed since 1990. Two successive LIFE programmes worked on remedying this situation. To do this, they captured 5 Slovenian bears and released them into the park. These bears were fitted with a radio transmitter collar and an Argos beacon, so that they could be tracked by radio after release. Top picture: Radio tracking of released bears. (© photos Parco Naturale Adamello Brenta).



■ *Original facilities for wildlife*

Many facilities have been produced for wildlife and we have only chosen the construction of feeding and captive-breeding stations in the framework of accompanying measures for the protection of large mammals, and the establishment of special artificial nests and rescue centres.

Establishment of feeding stations for vultures in the Grands Causses, France. Feeding facilities have been constructed by many LIFE-Nature projects concerning species of vulture (black vulture, bearded vulture and Egyptian vulture). This work has two aims:

- *help colonise new sites; the purpose is to fix a new population by attracting individuals through the provision of additional food.*
- *sustain an existing population by increasing the chances of survival of immature individuals and juveniles through the provision of additional food.*

The provision of healthy additional food can be an effective way to counteract the threats of food poisoning to which these species are exposed. In the Grands Causses, the project led to an exempting decree authorising stock farmers to deposit carcasses of their livestock at feeding stations for necrophagic birds of prey rather than having them disposed of by a knacker, as the law previously required. Many such feeding stations have been provided, and are now used by local farmers. They have to comply with very strict hygiene rules, notably to prevent any contamination of the water table.

(© Photo C. Coton)





Lesser kestrel *Falco naumanni*; male and female.
(© Photos G. Schmitt).

Installation of artificial nests for the lesser kestrel at Crau, France. The Crau is a vast, flat expanse where there are no natural nesting sites (cliffs), so the lesser kestrel uses piles of stones scattered throughout the plain and, potentially, the few buildings (stock sheds) in the area. The purpose of the project was to bring about a return of part of the population to stock sheds in order to reduce the impact of excessive predation of nests located in stone piles. 135 artificial nests were installed at 11 different sites (10 stock sheds and 1 former military shelter), and various types of nesting facility and methods for attracting the birds to the sheds were tested. This practical knowledge will undoubtedly be extremely useful for restoring the species to former nesting sites along the Mediterranean coastline (© Photo O. Patrimonio).

Dog, flock and fence. The predatory nature of large carnivores and the damage they cause to domestic animals has always given rise to conflicts with human populations, so that their illegal elimination is always a threat. In order to reduce conflicts between large predators and stockbreeders, LIFE-Nature projects addressing these species have introduced many measures. To effectively protect flocks and herds from attacks by wolves, the following measures have been taken in Spain, Portugal, Italy, France and Greece: equipping the breeders with herd dogs "specialised" in wolves; installing movable fences to keep the livestock together in a group during the night; hiring assistants for shepherds. These actions have frequently been accompanied by compensatory measures which permit payment of compensation to livestock farmers whose flock or herd is victim of a wolf attack. The same kind of compensation exists for bears.
(© Photo Florent Favier).



Treatment of a loggerhead turtle at a rescue centre in Italy. Loggerhead turtles (*Caretta caretta*) regularly suffer accidents at the hands of fishermen. They can be seriously injured, and may need treatment. The veterinary rescue centre on the island of Linosa in Italy, which was set-up within the scope of a LIFE-Nature project, works in co-operation with fishermen, who report injured individuals.
(© Photo A. Zannetti).



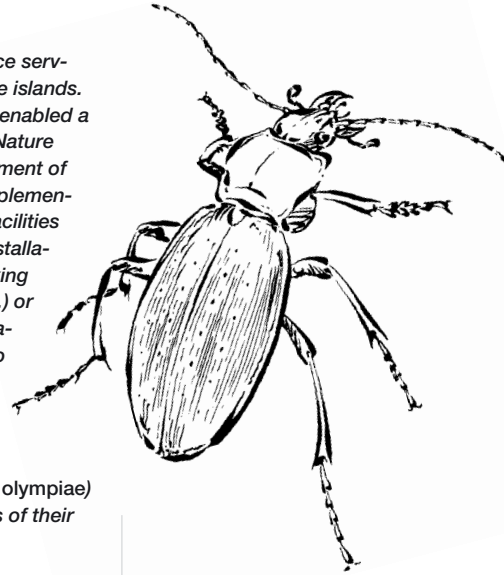
■ Surveillance



© Photo Ignacio Torres

Surveillance on the island of Benidorm, Spain: Human activities represent a genuine threat on the islands off the coast of Valencia (Benidorm and Columbretes), heavily visited as they are. The project addressing these SPAs has enabled

the deployment of surveillance services, at work every day on the islands. The LIFE-Nature project has enabled a boat to be purchased. LIFE-Nature has often financed the equipment of teams responsible for the implementation of programmes. The facilities provided can be technical installations (incubators, radio-tracking systems, boats, vehicles, etc.) or material of a more administrative nature allowing people to work under satisfactory conditions.



All species (shown: Carabus olympiae) need the conservation status of their population to be monitored.

Education, information and awareness-raising

LIFE-Nature projects always make provision for communications, information and awareness-raising operations. On average, nearly 7% of the project budget is dedicated to the purpose. As a minimum measure, information panels are always erected on project sites, but this aspect of projects can be very ambitious. These actions generally address three categories of recipients:

- > Groups of users with a direct interest in the project (farmers; fishermen; hunters; hikers; elected local officials; etc.), whom it is very important to inform and train. Communicating about project objectives can grade into negotiating, or even lobbying, in view of gaining the support of these groups for the project.
- > The general public – particularly local people. There are two aims: communications actions can serve the purpose of educating adults and young people about nature protection, but having the public learn about a species or a site is also a means of revealing the importance of this natural heritage to them, thereby inciting them to feel responsible for it.

- > Nature conservation professionals, amongst whom the experience acquired during the project can be disseminated. The dissemination of the results achieved is an important aspect of LIFE-Nature projects, at local, regional and when the subject lends itself to it, often at international scale. Providing information about and raising awareness of the project site.

■ Information and awareness-raising on the project site

The example of Greek projects regarding the loggerhead turtle (*Caretta caretta*) has been chosen to illustrate this issue. Greece is home to the largest populations of *Caretta caretta* turtles in the European Union, and several ambitious projects have been undertaken targeting it, notably on Crete. The strategy of the projects is based on two main lines: reducing the death rate among the turtles and raising public awareness of them. This second aspect is essential for the protection of a species whose nesting sites are beaches invaded by holiday-makers looking for sunshine. The main groups targeted by the awareness-

raising campaign are visitors and owners of tourist facilities.

Information about the turtle programme is given to tourists throughout the egg-laying and hatching season (end of May to October). People taking part in the projects are present at the sites to raise tourists' awareness, while panels and kiosks providing information about the actions in progress are set up.



Information panel explaining the transfer of nests (© Photo Dimitrios Dimopoulos / ARCHELON).



© Photo Dimitrios Dimopoulos / ARCHELON

Information kiosk near nesting beaches.

■ *Going forth to meet the public for educational and awareness-raising purposes*

Consultation with elected officials and user groups is often a crucial aspect of a project, which may depend on achieving good results from these meetings. Young people are frequently targeted by projects, through actions to raise awareness and educate about nature and the environment. The actions targeting them can take various forms: visits to project sites; exhibitions; but equally organisation of events at schools. Local communities, adolescents and children, and users of the site (walkers, hunters, climbers, anglers, etc.) are all potential targets for education and awareness-raising programmes. Often, projects also organise events intended to educate and raise the awareness of adults. Such events may be field outings with clubs and associations, whether oriented towards nature education and protection or to the public in general, or other kinds of events.



© Photo E.P.I. Timisoara-Romania

Information centre in Rumania. The LIFE-Nature project has allowed the restoration and equipment of an old building to become an information centre for the public. A room has been provided with information panels and audio-visual material (TV + VCR) and is able to accommodate around 40 people seated. These premises are used for meetings with local stakeholders whose activities interact with the project. Consultation and information meetings can be organised. The permanent exhibition is intended to inform the general public and local population about the project site and the actions undertaken within the scope of the project.



© Photo Emmanuel Patte, C.S.L.

Debate with elected officials at Pont-À-Mousson; dry grasslands project.



© Photo Telis Koutissas / Natral history museum of Crète

Event for young people: visit to an exhibition about vultures in Crete.



■ Information for nature conservation professionals

LIFE-Nature projects often organise, either in mid-project or at the end, actions to network with other nature conservation professionals, thereby allowing dissemination or exchange of experience acquired. These actions may consist of field trips, meetings or conferences. Generally, documents are produced specifically targeting this audience. These may be management guides, brochures presenting the project and the results obtained, scientific articles, etc.



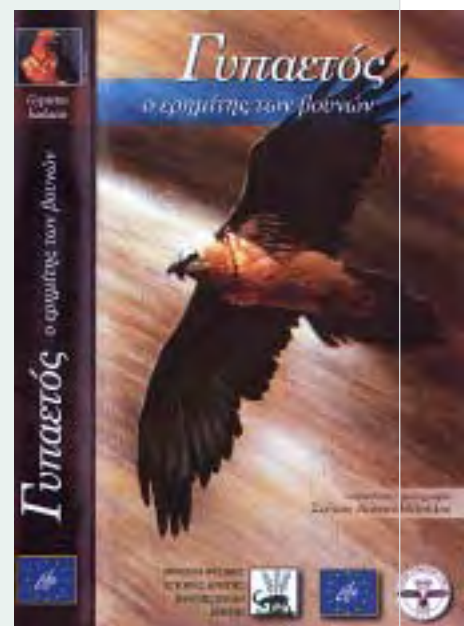
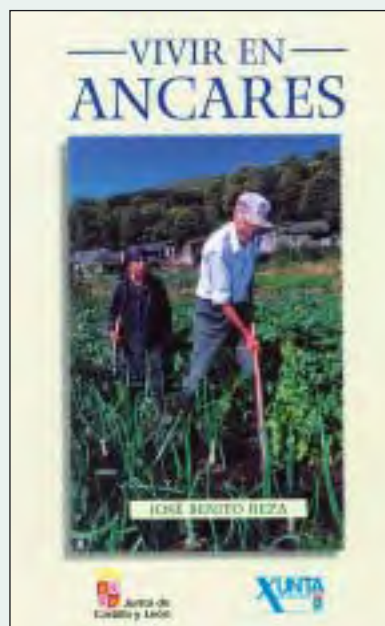
Visit by a technical group from a silvicultural association to an Italian project site. (© Photo Azienda Regionale delle Foreste).

Peat bog management guide. This product of a French LIFE project was widely disseminated among peat bog managers.

■ Project Material

LIFE project communications media can take a large variety of shapes.

Some examples of LIFE project material: video, information brochure, educational brochure; but there are also books targeting the general public, gadgets, T-shirts and, of course, web-sites.





Web site for an Austrian project.

■ **Role of the regional press**

LIFE projects often contact local newspapers to present the project or its noteworthy actions (inauguration, public meetings, visit by the Commission, etc.). Certain projects carry out specific actions targeting the press. For example the Bande Rhénane project in France reserved part

of its budget for the publication of three editions of a two-page fold-out about the project in the two biggest regional papers: one at the outset of the project, one in mid-project, and one at the end to review the achievements. Such coverage allows a large number of people to be reached who

■ **Logo design**

Many projects start their communications operations by designing a logo specially for the project, which will then be used in all publications. Such logos are a recognisable emblem, improving the visibility of the project and making it recognisable. Apart from the projects' own logos, the LIFE logo is compulsory on all material.

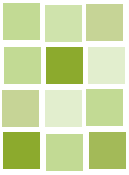


Logo designed specially for a bat project in Italy.

are not specifically interested in the natural environment and who would be difficult to reach through any other communications medium.

Newspaper article about a LIFE project targeting the wolf in Italy.





Monitoring, Connection and Restoration: Is LIFE-Nature a Pilot Instrument?

The "Habitats" directive insists above all on the maintenance or re-establishment of a favourable conservation status for species and habitats within the Natura 2000 network. Monitoring must be continuous both at site level and at the level of the whole Natura 2000 network if this is to be accomplished. Article 11 of the Directive is devoted to this subject and monitoring the conservation status may reveal the need to intervene in a particular way, either to link up sites or to establish or re-establish habitats using restoration techniques. Article 10 also emphasises that the Natura 2000 network must be coherent and targets the management of linear structures or stepping stones which can be located outside the network. These different nature conservation themes will come up when the network is finally established. It is relevant to examine how LIFE-Nature has anticipated this issue.



Panel indicating the bird of prey refuge in the Montejo de la Vega nature reserve in Spain.

© Photo WWF - Adena/Jorge Sierra

LIFE-Nature, monitoring and surveillance

It is always vital to follow up the impact of programmes and to verify that the actions were effective, whether they be LIFE-Nature projects, the application of the "Habitats" directive or any other conservation activity. Article 11 of the "Habitats" directive therefore specifies that surveillance, or monitoring, is an important aspect of the directive. Article 17 goes even further, requiring Member States to sub-

mit a report once every six years on the implementation of the measures specified in the directive and an assessment of their impact on the conservation status of the targeted habitats and species. Member States have submitted their first reports and the European Commission is summarising them.

In order to comply with this obligation Member States must institute moni-

toring programmes on a national scale or they must be able to collect the results of all local monitoring programmes.

Monitoring or surveillance can be defined simply as "a recurring collection of data about a specific and relevant indicator". Field practice does not always meet this definition. There is an abundance of literature on this subject and it reveals that the results

of monitoring programmes are not always satisfactory. This can often be explained by poor work planning: drawing up an easily reproducible monitoring protocol is a vital stage of the process. The method must be precisely defined and described before the data is collected so that people who have not taken part in the initial programme can reproduce the follow-up.

The contribution of national and international projects

An international LIFE-Nature project on the Wadden Sea involving the Netherlands, Germany and Denmark made it possible to launch a monitoring programme on the scale of a large natural ecological region between 1995 and 1998. The object of this joint project⁽¹⁾ was to develop and test the monitoring approach on the basis of scientific reports and the conclusions of interministerial conferences. The LIFE project resulted in the drafting of a comprehensive monitoring programme and a manual which is available on the internet⁽²⁾. It has had a very important demonstration role by defining a methodology which can be transposed to many transboundary ecological regions. The Member States involved in this project will therefore be able to fulfil their monitoring obligations for the habitats and species of Community interest present in the Wadden Sea sites.

A German project on natural habitats in the continental biogeographic region is yet another example of a monitoring programme for a huge area. This project, carried out



The Wadden Sea (@ Harald Marencic)

between 1995 and 1998, related specifically to Article 11 of the "Habitats" directive and Member States' obligation to monitor the conservation status of habitats of Community interest in Natura 2000 sites on a regular basis. The project chose 17 habitats in the continental biogeographic region in order to define a monitoring method for each of them which could be transposed to other Member States in the continental biogeographic region. The project also provided for the development of an early warning system to ensure speedy identification of any deterioration on the sites. It resulted in the publication of a monitoring guide for the targeted habitats⁽³⁾.

There have been other projects on a regional scale, including one in Sardinia, where the local authorities elaborated a monitoring scheme for 59 Natura 2000 sites. This was a three-phase project: establishing the necessary methods and computer data bases, validating these methods via analysis by field naturalists and setting up a cartographic data base for all the sites (GIS) to ensure long-term follow-up.

The contribution of local projects

On a smaller scale many projects monitored the effect of their actions on the conservation status of targeted species and habitats. The few examples listed below demonstrate that LIFE-Nature has made a significant contribution to the development and application of monitoring techniques.

Monitoring habitats of Community interest by local projects

LIFE-Nature projects have often tackled habitat monitoring by using classic vegetation analyses, generally based on phytosociology, or by monitoring abiotic environmental parameters.

In the Italian project on Lake Alserio permanent plots were demarcated in the reedbeds to monitor vegetation development continuously. At the same time the lake's hydrological characteristics, the variations in the



© Photo Fabio Pugnaghi

Monitoring wolves in Italy by using prints left in the snow.

water level and its effects on the peat bogs were measured once a fortnight in order to check the results of the operations carried out by the LIFE-Nature project. Another Italian project in the Ticino Park used permanent plots in order to verify the presence and trends of invasive forest species, in particular *Prunus serotina* and *Robinia pseudoacacia*. Their abundance may be taken as a criterion in evaluating the conservation state of the habitats.

¹ It was initially called Demowad, but it is now better known as the Trilateral Monitoring and Assessment Programme (TMAP)

² <http://cwss.www.de/TMAP/Monitoring.html>

³ Bundesamt für Naturschutz (1998): Das europäische Schutzgebietssystem NATURA 2000. BfN - Handbuch zur Umsetzung der Fauna-Flora-Habitat-Richtlinie und der Vogelschutz-Richtlinie. - Ssymank., A. Hauke, U. Rückriem, Ch. & Schröder, E.



These techniques can be reproduced if need be, but they have to be adapted to local characteristics on the basis of scientific advice.

Local projects' contribution to the monitoring of animal and plant species

LIFE-Nature projects frequently monitor animal species of Community interest. The criteria and techniques vary according to the species and the objective.

Large mammals such as the bear, the wolf and the Abruzzi chamois have been the subject of several projects, all of which included a monitoring of the populations. In the programme for the reintroduction of the Abruzzi chamois (*Rupicapra ornata*) into the Gran Sasso, the individual animals released were monitored by radio-tracking techniques. At the same time, dozens of observers carried out seasonal census campaigns along predetermined routes. This made it possible to collect a great volume of standardised data.

The diversity of monitoring methods can be illustrated by projects relating to the bear (*Ursus arctos*). Thus the 5 countries with projects on the species (Patrimonio 1999) used complementary techniques. For very small populations, such as the one in Béarn in France, the monitoring of traces along specified tracks provided a lot of information. Automatic photography using hidden cameras provided useful additional data (Cantabrian Ranges in Spain, Pindos in Greece and the Pyrenees in France). Radio tracking proved necessary in reintroduction projects, for example in Adamello in Italy. However, the monitoring data collected on this large carnivore is varied and could have been gained equally well using genetic analyses of fur, by inspecting any damages caused or noting the food available. Thus an Italian project in the Apennines developed a reliable method of visually identifying the available food used by the bear. Monitoring methods for bird populations are well-established and have

been used worldwide for many years. However, LIFE-Nature has contributed to the development of innovative and ambitious programmes. For example the Finnish project for conserving the lesser white-fronted goose (*Anser erythropus*) used brand new techniques based on video monitoring and the recognition of ventral markings on individuals. This project also used the more traditional telemetric monitoring techniques to gather a great deal of information on migration routes and moulting areas. The significance of northern Kazakhstan as a migratory staging point for the lesser white-fronted goose was confirmed in this way. Rare birds of prey, like other bird species, were monitored for breeding success using well-tried methods. The Spanish project on the imperial eagle (*Aquila adalberti*) mounted an effective monitoring operation and demonstrated that the population had expanded from 135 pairs in 1995 to 152 in 2001. It was thus able to show that installing feeding stations



© Photo Olivier Patrimonio, Ecosphère.

Ringling a lesser kestrel chick in order to monitor the population.



© Photo Móm - S-Adamantopoulou

Fish inventory of the Fournii Islands in Greece: Preparatory action for the elaboration of the islands' management plan with objective the protection of the monk seal.

was a very effective way to reduce mortality among juveniles in years when food was in short supply. This project is a typical case in which monitoring results provided immediate management options.

LIFE-Nature projects have also monitored other vertebrate populations, including the loggerhead turtle (*Caretta caretta*) and the monk seal (*Monachus monachus*) in Greece, the bottlenose dolphin (*Tursiops truncatus*) in the Canaries and bats in mainland Europe through an international project in which Belgium, France, Germany and Luxembourg participated. These LIFE-Nature projects have produced significant results in terms of defining methodologies or adapting them to particular species. The dissemination of results to other regions

or other local situations was mainly done through scientific publications, interventions during seminars and conferences and in the course of transnational co-operation between LIFE projects.

The extent and variety of monitoring operations for plant species, however, is less well-developed. This is hardly surprising, as LIFE-Nature targeted fewer plant species, but LIFE did contribute to this domain as well. Two projects were of particular interest, namely the Portuguese project for the conservation of rare and priority plants in Madeira and the project to conserve the lady's slipper (*Cypripedium calceolus*) and the yellow marsh saxifrage (*Saxifraga hirculus*) in northern Finland. The latter checked the effects of the habitat management measures applied to the populations of these two species.

These examples show that LIFE-Nature has made a significant contribution to the development and application of monitoring programmes at local, regional and national level. The added value of these measures lies in their demonstration value. As far as innovation is concerned, many projects have resulted in the development of new methods and the



© Photo ETANAMI

Installation of an automatic monitoring station in a greek lagoon recording various water quality parameters over time including temperature, salinity, pH, oxygen.



© Photo Alcatraz

Shelter built in order to inventory and monitor birds in the El Hondo de Elche nature park in Spain.

improvement of already established monitoring protocols. Advances have been made and they can now be disseminated to other conservation projects, but such dissemination is difficult to measure at present. Conservation operators will be able to make better use of the results if they are centralised and easier to interpret. The European Commission is therefore improving its website in order to boost the circulation of results.

Finally, it is important to emphasise the practical approach taken by monitoring actions in LIFE-Nature projects, as they have given rise to immediate decision in some situations. This approach enables monitoring programmes to achieve their primary objective, that of checking the effect of conservation actions and providing management guidelines. It could yield worthwhile ideas to help Member States fulfil their obligation to monitor and report on the conservation status of the Natura 2000 network.

Ecological corridors

A variety of factors may underlie the movements of species - dispersion, migration, the search for food or a partner for reproduction. Dispersion is a survival strategy which permits the species, by moving, to occupy different habitats wherever it finds appropriate living conditions - the broader its range the better its chances of surviving local threats or changes in the environment. Some species migrate over very long distances each year in order to find the best living conditions throughout their annual cycle. Many birds have adopted this strategy and we can identify several migration routes between Europe and Africa.

One of the primary causes of the decline in biological diversity in Europe is the fragmentation of habitats. This is particularly true in the most developed regions of the continent. The fragmentation of habitats can have the following consequences for biodiversity:

- > Individuals of a species no longer have access to a large enough range for survival;

- > Migrating animals are no longer able to reach sites where they normally spend part of the year;
- > Natural communities can no longer move in response to changing environmental conditions;
- > Genetic exchanges between the various local populations become impossible.

It is for this reason that Natura 2000 does not confine itself solely to designating sites but also links these protected areas into a network. In areas where the fragmentation of habitats has had a negative impact on biodiversity, the restoration of a connection between these various habitats can help to minimise the problem. Generally speaking the smaller and more isolated the location, the greater the need for a reconnection to allow species to disperse and migrate. The protected areas must be relatively close to each other and physically interconnected in order to allow species to disperse and to migrate and to enable genetic exchange between the different local

populations, if European biodiversity is to be preserved.

If the Natura 2000 network is to be operational and able to guarantee the conservation of the targeted habitats and species, it must contain not only core sites but also buffer zones and ecological corridors which allow the movement of species and the elements, like seeds, they need for their reproduction. Ecological corridors are therefore cited in Article 10 of the "Habitats" directive. This article requires "*Member States shall endeavour, where they consider it necessary, in their land-use planning and development policies and, in particular, with a view to improving the ecological coherence of the Natura 2000 network, to encourage the management of features of the landscape which are of major importance for wild fauna and flora*". These elements, which are vitally important for connecting habitats and for wild flora and fauna, may be linear and continuous in structure, such as rivers and their banks or the traditional hedges enclosing fields. They may also act as stepping stones, like ponds and small woods.

Ecological corridors should be adapted to the species they serve. Several types of land use may be compatible with the corridor function

if we are dealing with landscape elements, linear structures or other 'stepping stones' (ponds, pools etc.). This is true of extensively-used areas, which can also provide the right level of interconnection. There is room for considerable flexibility in deciding on the route of the corridor or its dimensions. However, we do not yet know enough to precisely define the needs of a species and the exact configuration of the corridors. Scientists are investigating the subject and it is regarded as crucial for nature conservation in the coming decades.

The conservation of "stepping stones" for birds has traditionally been financed by LIFE-Nature and many examples linked to the preservation of migration routes can be cited in various countries. This point was recently taken up for other taxonomic groups and several LIFE-Nature projects have been devoted to establishing and managing corridors for various species in recent years.

It is well-known that river ecosystems can provide adequate migration and dispersion conditions for many species. In Central Europe, the middle valley of the Elbe is a unique fluvial ecosystem and certain parts of it have retained their natural characteristics. Several LIFE-Nature projects in



© Photo Juan Carlos Blanco

Bear print.

Germany, funded from 1991 to the present day, have actively restored floodplain habitats along the Elbe and its tributaries, the Havel and the Schaale, with the objective of establishing long biological corridors. These measures, designed to regenerate habitats along the banks, have already had a positive effect on otter and beaver populations.

Two complementary projects in Austria have worked to secure a corridor along the Czech and Slovak frontiers, strengthening co-operation between the countries involved. The floodplains along the March and Thaya rivers mark the boundary with these countries and are among the most important wetlands in Austria. The mosaic of rivers, humid grasslands and floodplain forests is the habitat of several rare species like the beaver, the pond tortoise, a few 'living fossil' crustaceans and a wide variety of birds. These projects, which started in 1995, developed a concept of river restoration and began work on reconnecting the river's former meanders to improve the hydraulic regime of the alluvial plain and restore the humid grasslands and floodplain forests. A project funded by the Global Environment Facility (GEF) is also in progress in the Slovak section of the March valley. GEF and LIFE projects reinforce each other, allowing conservation of the full suite of natural habitats and creating an important biological corridor for several species.

Two other Austrian projects, which target the Danube salmon (*Hucho*



© Photo Regione Toscana

Pond: example of landscape element acting as a stepping stone.



© Photo Provincia autonoma di Trento

In the Trento Province in Italy, two LIFE-Nature projects restored several wetlands and rivers in three valleys located along a major bird migration route across the Alps.

hucho) and other fish species, have taken action to reopen the migration routes of these species in a series of watercourses which flow into the Danube. The objective is to increase the migration opportunities over 78 km by reconnecting certain rivers with the section of the Danube in the Wachau region. Dams and other obstacles have been removed or modified to enable the fish to migrate. All these actions have been undertaken in close co-operation with the water management authorities, with users and landowners and with the support of anglers who have been fighting for the preservation of salmon in the Danube for many years.

The brown bear is another species which has received particular attention with regard to establishing and

improving biological corridors. Several projects seek to combat the fragmentation of its habitats in the last remaining areas in the European Union occupied by the species.

In northern Spain LIFE-Nature projects, co-ordinated between two regions, are currently co-operating on a restoration plan for forest habitats to allow the bear to re-colonise these sites. A detailed analysis of the area identified the most appropriate trails, in these sparsely wooded districts, for the species. Forestry measures are already in progress to create a wide forest corridor. In the Pindos and Rodopi ranges in Greece a LIFE-Nature project is also embarking on conservation and management actions to allow the bear to move about and re-colonise the areas. The project is also trying

to promote similar measures in Albania. Finally, a LIFE-Nature project a few kilometres from the frontier between Austria, Italy and Slovenia is working on the creation of a corridor across a motorway, a major physical barrier, in order to encourage Slovenian and Croatian brown bears to migrate to the Austrian Alps. The project foresees the construction of a 150m bridge spanning the motorway to allow wildlife to cross, as well as measures to restore and improve the natural forest habitats.

A LIFE-Nature project in Finland is working on forest management outside Natura 2000 sites in order to improve linkage between areas hosting endangered species such as the white-backed woodpecker (*Dendrocopos leucotos*) and the flying squirrel



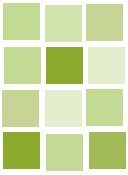
Flying squirrel (Pteromys volans).

rel (*Pteromys volans*). The project consists of producing a management guide for private landowners in northern Karelia, in order to improve possibilities for woodpeckers and squirrels to move between breeding and foraging sites, including potential sites which are not included in Natura 2000. This is a small-scale pilot project but it has a considerable exemplary value, in particular for Finland, where 70% of the forests are privately owned.

These first experiments target the connection of sites proposed for Natura 2000 and biological corridors for species. They are in effect vanguards, because, once the network is ready, linking up Natura 2000 sites will be a crucial issue to ensure the network's coherence and efficacy.

Panoramic view of the corridor for large mammals connecting the Abruzzo national park and the Sirente Velino regional park.

(© Photo Giorgio Marini).



LIFE-Nature and restoration

The preservation of Europe's existing natural environments is not necessarily enough to ensure good conservation status, particularly in highly urbanised and modified areas where habitats have been destroyed. This is why the "Habitats" directive not only seeks to maintain habitats, but also to "restore at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest" (Article 2). However, ecological restoration is no substitute for the conservation of existing natural habitats.

The corridors are a first response to this problem, but LIFE-Nature also occasionally finances the restoration of natural habitats or habitats for species of Community interest.

"Creation" is defined as the conversion of one type of ecosystem into another which did not previously exist at this location, at least not in the historically recent past. Although not excluded from LIFE-Nature's sphere of action, nature creation can not be considered a priority. The concept of creation implies a product of the human imagination, whilst nature restoration reproduces an existing frame of reference.

The aim of restoration, indeed, is to restore a degraded ecosystem as closely as possible to its original condition prior to the disturbance. This means repairing or recreating both the functional and structural characteristics of the degraded ecosystem and ensuring that the natural dynamics will be effective again.

Restoration may comprise simple rehabilitation or it may mean recreation, depending on the level of degradation and the frame of reference. Obviously the cost of a restoration project will be higher if the habitat is seriously damaged and therefore far removed from its reference values. Investments of this kind must therefore be justified in terms of priorities and what is at stake.

The definition of the prior state of reference is one of the essential parameters for restoration projects. In the context of the "Habitats" directive, the frame of reference is the favourable conservation status for the habi-

tat of a species or a habitat of Community interest.

LIFE-Nature has supported a range of natural habitat restoration projects:

- > By expanding the surface area of remnant habitats,
- > By changing existing ecosystems to increase their attraction for flora and fauna,
- > By removing installations (dyke, canal etc.) which prevented a return to the previous natural habitat.

Rehabilitation actions may consist of relatively light operations, for example the removal of invasive plant or animal species. Clearing open habitats which are becoming overgrown is another operation which LIFE-Nature projects carry out fairly often.

*Danube River restoration works.
(© Photo Nationalpark
Donau-Auen GmbH).*



Booklet presenting a German restoration project.

LIFE-Nature has also funded very ambitious restoration projects, like the rehumidification of an entire valley. Converting agricultural land to natural habitats is the most advanced stage tackled by LIFE-Nature. Its social acceptance often rests on a combination of objectives such as water quality, flood prevention and urban demand for leisure facilities in nature.





Restoration work on the Danube riverbanks, Austria (© Photo Nationalpark Donau-Auen GmbH).

The Danish national strategy for the restoration of an ecological corridor for nesting birds, where LIFE-Nature financially supported work in some of the sites, is a good example of these projects.

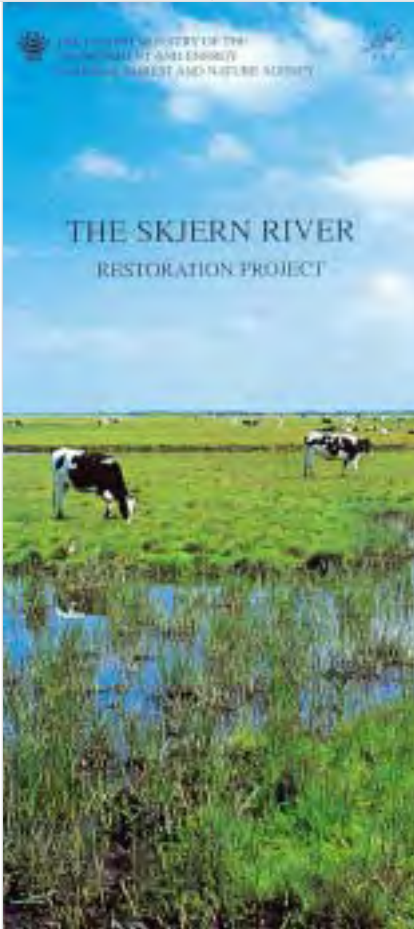
Before the post-war infrastructural investment and land improvement, the east coast of Denmark was a vast mosaic of wetlands. This region was a vital ecological corridor for migrating waterfowl along one of Europe's main migration routes. These wetlands were gradually drained for agriculture. By the mid-1970s over 2000 km² had been converted into arable land, with an inevitable drop in the number of migrating birds. In 1987 the Danish government adopted a national strategy to restore 20,000 hectares of wetland over a 20-year period in order to reverse the effects of certain infrastructural installations. Some degraded Natura 2000

sites designated under the Birds Directive (SPA) benefited, in this context, from LIFE-Nature support. Thus the Vest Stadil Fjord project is the second largest restoration initiative undertaken in recent years. The project has raised the water level on 680 ha within a 2,215 ha site, substantially increasing habitats suitable for hosting migrating birds. Two hundred hectares of dry grassland, 110 ha of reeds and water meadows and 115 ha additional open water has been added to the 225 ha existing wetlands.

A restoration project of this magnitude called for heavy civil engineering works. Electric cables were moved, a pumping station and a sediment basin were built and 2 km of new canals and ditches were dug. These works were preceded by a detailed assessment of the site's capacity to respond positively to

such interventions. This study phase was essential. Restoration on this scale is still experimental and its high cost may cause a backlash if it fails. Another important factor in the success of such a project is the co-operation and support of the local community. Local stakeholders were involved long before the LIFE project started, through a series of local meetings. Landowners were consulted to find out if they were prepared to sell their land and the Ministry of Agriculture took part in land swap and consolidation procedures. An action plan was drafted to ensure that the conservation objectives were transparent to all concerned.

The effects of restoration were not immediate. Although the Vest Stadil was flooded as planned, it will still take 30 to 40 years before the present farmland is gradually replaced by



Booklet presenting the ambitious restoration project for the Skjern river in Denmark.

more natural successions of humid grasslands and reedbeds. Nevertheless the number of staging and foraging waders has already increased appreciably. In an earlier project in France at Orx near the Pyrenees, nature responded much faster. Here the farmland had formerly been a lagoon which had fairly recently been pumped dry and converted to vegetable growing. The site recovered part of its functions immediately with the return of thousands of ducks. The river Varde, at the northern end of the Wadden Sea, is another Danish site which LIFE-Nature restored, in 1999. This is the only coastal river in Denmark not modified by dams or installations, but even there, however, the drains and ditches laid for





intensive farming have had a negative effect on the ecological value of the site by desiccating the peripheral wetlands. LIFE-Nature, in partnership with agri-environmental measures, restored the adjacent grasslands which had been converted to intensive farming. The river Skjern is another Danish site on which restoration projects are in progress. Restoration is certainly not an easy task and its relevance is sometimes debated, but in Denmark the strategic efforts are beginning to bear fruit with the development of sites capable of hosting thousands of birds using the western Palaearctic migration route. The example of the Vest Stadil fjord shows that if local stakeholders are involved in the project from the outset, this type of experiment need not be excessively costly and difficult to undertake, in view of the results which can be obtained. Other countries have benefited from

LIFE-Nature funding for restoration projects and many projects have more modest 'restoration' components than those exhibited by the Danish projects. Nevertheless, even modest action can be revolutionary. A project was undertaken in the Friesland Buitendijks polders in the Netherlands which ran counter to centuries of Dutch tradition: it was no longer a case of winning land from the sea but of removing dykes and drainage networks over several thousand hectares to restore wetlands. We could refer the reader once more to the restoration of large wetlands along the Elbe and its tributaries in Germany, or to a project in eastern France where the local stakeholders have succeeded in correcting the errors of the past by re-establishing the former course of a mountain river, the Drugeon. This watercourse flows 36 km from the Jura ranges to the river Doubs. In the 1950s a vast and expensive programme to regulate the river and drain the wetlands in its valley was launched. The objective was to control flooding and improve the value of 2,000 ha agricultural land. At the beginning of the 1970s the river, now a rectilinear canal, had been shortened by 30% for a gain of only 200 ha agricultural land.

The LIFE project has restored the river to its original bed over several sections in order to let it rehumidify the valley floor, regain the abundance of fish for which it was once renowned and safeguard the peripheral wetlands, particularly the peat bogs. As was the case in Denmark, the French LIFE-Nature project was part of a larger programme which mobilised all the stakeholders in the district. Other sources of funding supplemented the various actions and a massive publicity campaign was mounted in order to reach all the inhabitants of this rural area.

Dune restoration work.
© Photo Marc Thauront



LIFE-Nature Helping Biodiversity

Articles 2 of the “Habitats” directive and the “Birds” directive stipulate the need to maintain or restore natural habitats and species of wild flora and fauna to a favourable conservation status. Article 6.1 of the “Habitats” directive requires Member States to draw up measures to meet the ecological requirements of the natural habitats in Annex I and the species listed in Annex II which are present on site. This chapter evaluates LIFE-Nature’s contribution to implementing conservation measures, based on a sample (309 projects) for the habitats and on all projects for the species.



© Photo Fundación CBD-Habitat - Spanish dehesa.

The Convention on Biological Diversity defines the recent concept of biodiversity as *“the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems”*. It therefore covers the multitude of local species or breeds, natural habitats or ecosys-

tems, genetic material and even, by extension, any complex of organisms living in relation to each other. Climatic variety, associated with geological diversity, is a natural factor determining Europe’s biodiversity. The second factor in biodiversity is the human factor – people, their culture and their traditions, which have shaped the landscapes of Europe. Mankind has considerably reduced the forest cover during the Middle

Ages and in recent centuries has drained the marshes and bogs or created open areas for food crops and pasture. For centuries, these changes and developments proceeded slowly, allowing Europe’s biological diversity to adapt and display its characteristics. Because of this, some habitats depend on man to manage them: the dehesas, without people and their pasture land, would become a classic Mediterranean oak wood.

The extent and the speed of change in environmental conditions has accelerated in recent decades, and this has not been without consequences for the natural habitats, which is why they now need a conservation policy. The establishment of the Natura 2000 network is a response to this need for conservation. However, it is not enough to designate sites. We also need to develop programmes and specific actions for management in order to develop appropriate conservation plans and methods. The object of this chapter is to study the solutions advanced by LIFE-Nature, as well as the contradictions, the gaps and the difficulties nature conservation operators face, to accomplish the difficult task set out in the directives – maintaining a favourable conservation status for the target habitats and species.

The notion of a habitat sometimes seems ambiguous, as the word has only recently come into use in nature conservation. In Community texts it is used in two complementary ways:

- > **Types of natural habitat**, meaning “*terrestrial or aquatic areas distinguished by geographic, abiotic and biotic features, whether entirely natural or semi-natural*”. They are listed in Annex I of the “Habitats” directive and described in the European Union’s Interpretation Manual. Member States can adjust to local ecological circumstances and make the necessary precisions nationally or regionally. There are now many national guides to the directive’s habitats (United Kingdom, France, Germany etc.).
- > **The habitat of a species** which is “*an environment defined by specific abiotic and biotic factors, in which the species lives at any stage of its biological cycle*”. Whereas the species are clearly defined in the directive’s annexes, their habitats are often unspecified.



© Photo LPO-FIR

Panel explaining the erection of a fence to limit overgrazing and protect the habitat of the lesser kestrel (*Falco naumanni*) in the Crau plain, France.



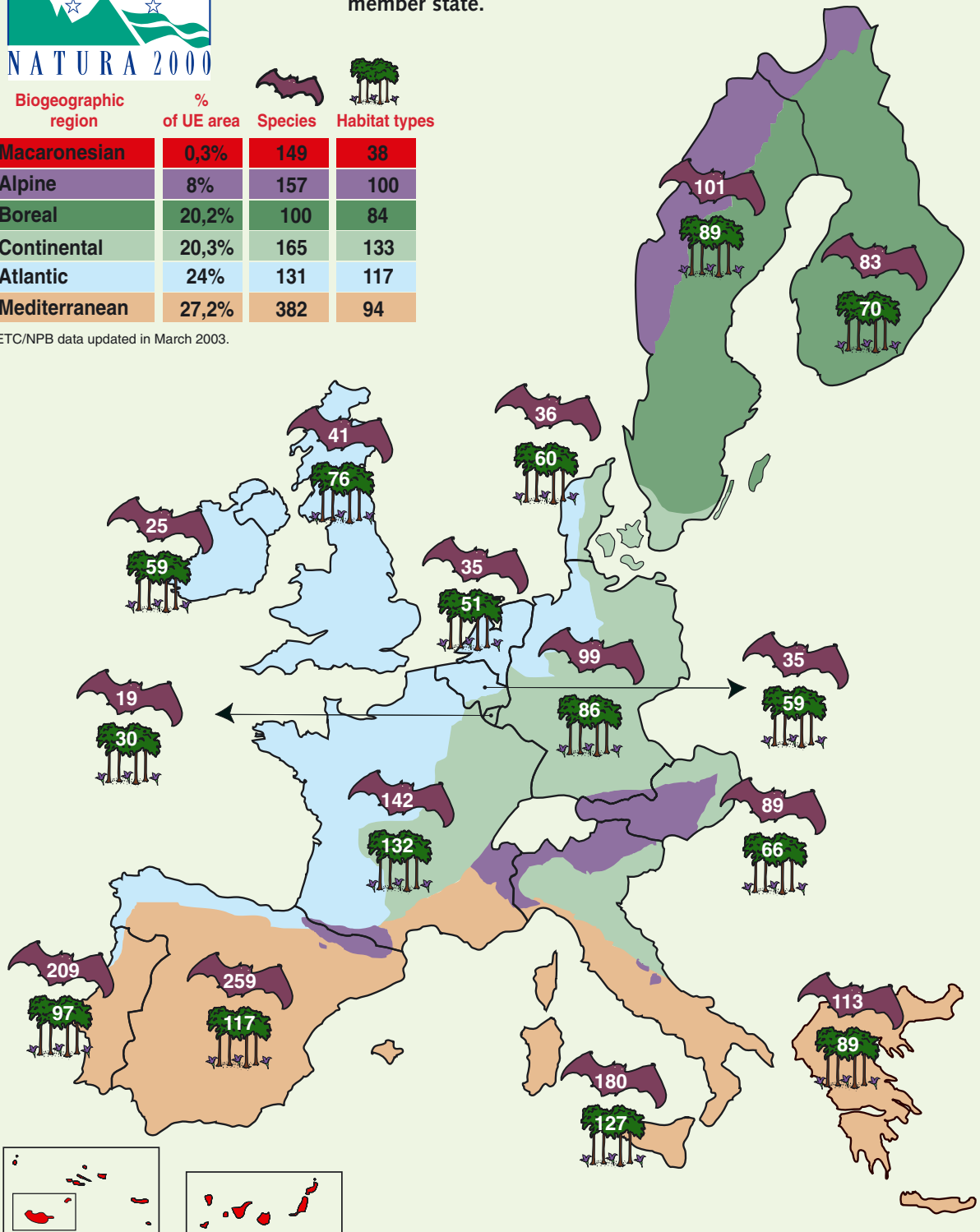
Wetland in Kemer national park, Latvia (© photo Kerstin Sundseth - NLI).



Fig. 6 : Distribution of species and habitat types on the "Habitats" directive by biogeographic region and by member state.

Biogeographic region	% of UE area	Species	Habitat types
Macaronesian	0,3%	149	38
Alpine	8%	157	100
Boreal	20,2%	100	84
Continental	20,3%	165	133
Atlantic	24%	131	117
Mediterranean	27,2%	382	94

ETC/NPB data updated in March 2003.



LIFE-Nature and the Conservation of Natural Habitat Types and Wetlands

Limestone pavement, a priority rocky habitat type, Gaitbarrows, UK.



© Photo John Houston

At the end of 2002, Annex I of the "Habitats" directive specified 198 types of natural habitat in 9 major categories (forests, freshwater habitats, etc.). These natural habitats are specified, but Article 10 of the Directive also requires that attention be paid to encouraging the management of landscape elements favourable to wild flora and fauna. Indeed, landscapes and natural habitats are interconnected. LIFE-Nature's contribution was examined using a sample of 309 projects co-financed during the second phase of the instrument (1996-1999)⁽¹⁾. The quality of the sample depends on the way beneficiaries have completed the information sheets but, on the whole, the data is relatively reliable. Some 250 LIFE-Nature projects (80%) cover natural habitats, while the rest exclusively concern species or other specific objectives.

Has LIFE-Nature covered all types of habitat?

Only 27 types of natural habitat listed in the "Habitats" directive have never been targeted during the period in consideration, of which 9 are priority habitats. This means that over a period of 4 years LIFE-Nature targeted 87% of the habitat types of Community interest, once or several times each. Sev-

¹ 7 of which are in Romania

eral of the habitats which were not targeted are found in boreal zones or high mountains, and are relatively unthreatened. Others, however, occur in areas under stronger human pressure - for example in coastal cliffs and moors, or in the Pannonian areas of Burgenland in Austria. These latter habitats, often very localised, may have been involved in projects prior to 1996 or after 2000. Aside from these rare exceptions, LIFE-Nature has thus been active on a wide front throughout the Union, as Figure 8 shows. Two-thirds of the habitat types have been targeted by 3 or more projects, and 10% by 20 or more.

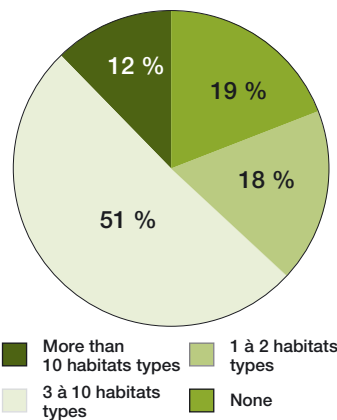


Fig. 7 : Number of habitat types targeted by LIFE-Nature projects.

As shown in Figure 7, some projects are highly specific, and only target one or two habitats (18%). However, many projects work on a broad range of habitats present on-site (51%), or even a very broad range (12%).

The LIFE-Nature projects have increased our knowledge of the Natura 2000 sites, as in 17% of the cases the target habitats were not mentioned in the database of the European Topic Centre on Nature Protection and Biodiversity. LIFE-Nature thus does not work exclusively on habitats for which Member States have given formal commitments for conservation.

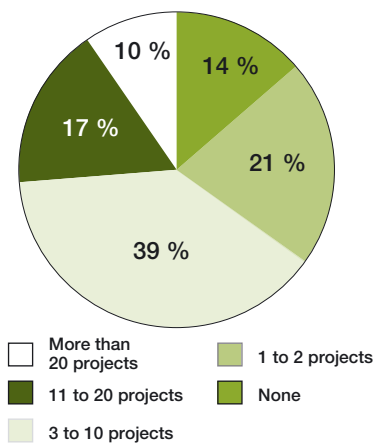
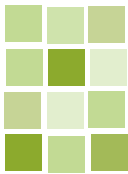


Fig. 8 : Number of LIFE-Nature projects (1996-1999) per habitat type.



LIFE-Nature Projects and Wetlands

Over a third of the types of habitat listed in the directive occur in wetlands. Analysis shows that over 80% of projects at least partially target wetlands on one or more of their sites. To this should be added projects that do not work on the basis of habitat types, but target species intimately linked to wetlands (projects relating to fish, for example). Thus LIFE-Nature projects make a significant contribution to the objectives of the 1971 international convention on wetlands, otherwise known as the Ramsar Convention on Wetlands. Drafting management plans within LIFE-Nature projects is one of the first stages in the wise use of wetlands that this Convention promotes. By June 2002, 21 of the 39 Spanish sites in the Ramsar List had been involved in a LIFE-Nature project. Several major information and research centres on wetland conservation had also received assistance from LIFE-Nature in the early 1990s (in Greece with EKBY, or in France with Le Scamandre in the Camargue). International co-operation projects were undertaken in several catchment basins:

- > Wetland improvement in the Schelde estuary (1995-2000, Belgium and the Netherlands);
- > The preservation of the Guadiana valley (1993-1996, Portugal and Spain);
- > Monitoring the Wadden Sea ecosystem (1995-1998, the



Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior*, the habitat type most frequently targeted by LIFE-Nature projects.

© Photo Marc Thauront

Netherlands, Denmark, Germany).

LIFE-Nature was directly involved in backing the Ramsar Convention's objectives with the 1994 project "Promotion of French Sites Listed in the Ramsar Convention". The Ramsar Convention Bureau was even beneficiary of part of the MEDWET project on regional co-operation in favour of Mediterranean wetlands. Sixteen of the 19 habitats that LIFE-Nature has targeted most frequently were wetlands, and they can be



Active management of reedbeds by mowing, in order to conserve habitats for priority birds habitats around the Mikri Prespa Lake, Northern Greece.

- divided into three groups: floodplains, including streams, lakes and ponds, mires and coastal lagoons. Floodplain habitats clearly stand out as among the 250 "habitat" projects: 73 projects target *Alno-Padion* floodplain forests (91E0⁽²⁾);
- > 56 projects address tall herb vegetations (6430) associated with the above;
 - > 25 projects concern streams with *Ranunculus fluitantis* (3260);
 - > 21 projects target gallery woods (92A0)

Alno-Padion floodplain forests have long been identified as of major importance for biodiversity conservation (Yon & Tendron 1981), and the Council of Europe adopted a recommendation on the subject in 1982 (Imboden 1987). Projects on these environments are mainly located in the Continental biogeographic region (Germany, Austria, Belgium, Italy and France). Since its beginning, LIFE-Nature has supported projects in all the major catchment areas holding alluvial forests,



Leaflet presenting the Ebro delta, main wetland of Catalonia and of European interest. Test of the effect of alternative rice cultivation methods on biodiversity.

© Photo SPP / Christos Theodorou

especially in the Rhine, Danube and Ticino valleys. The gallery woods, meanwhile, are concentrated in the Mediterranean area.

There are river projects throughout the Union, but two countries stand out for their original approach. In Great Britain, a project funded in 1997 sought to establish a conservation strategy for rivers and the species associated with them. The project was based on 7 rivers, and it dovetailed well with the concepts expounded in the Water Framework Directive⁽³⁾. During LIFE's initial phase (1992-1995), several projects in France preserved the natural environments of rivers (the Loire, the Moselle and the Oise) or restored them (the Drugeon). The bodies of open water targeted by LIFE-Nature (over 50 projects) are often associated with floodplains.

² These figures are the habitat codes within the directive

³ n° 2000/60/CE

LIFE-Nature's work in mires has been analysed in a European Commission publication (Raeymaekers, 1999). Sixty-six projects concentrated on mires up to 1998⁴) and 31 of them were regarded as key strategic projects. They target several kinds of mire, mainly bog woodlands (91D0), acid or alkaline mires (7140, 7230, 7110, 7210), or degraded forms with *Molinia* grasslands (6410).

Coastal lagoons (1150) are the third type of wetland frequently targeted by LIFE-Nature projects. Thirty or more sites were involved, with projects notably in the largest European complexes – the lagoons extending over 200 km in the Languedoc region of the south of France, the Po and Ebro deltas and the coastal lagoons of Brittany.

⁴ Around 80 at present

The impact of LIFE-Nature Projects

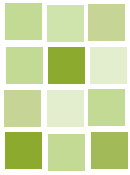
Apart from wetlands only three other frequently targeted habitats stand out in the sample. These are calcareous grasslands (6210), with 35 projects, in France and Italy for example, lowland hay meadows (6510), with 27 projects, and dry heaths (4030), with 28 projects. The abandonment of traditional farming practices threatens these habitats, whose recurring management relies on human activities. The forest habitats, which cover large areas of the EU, are not far behind, with 19 projects for the western taiga (9010) or the evergreen oakwoods in the Mediterranean (9340).

In conclusion, although wetlands were the primary beneficiaries of LIFE-Nature funding, the full range of habitats seems to have been targeted. This field is therefore well covered. Some habitats have been more widely targeted than others in quantitative terms, but the priority habi-

tats do not seem to have gained any particular advantage from their higher co-financing rate.

A recent European Commission study (Gazenbeek & Sundseth, 2002) analysed the long-term effects of nine LIFE projects. All projects were still the scene of conservation work when visited. This means that LIFE projects give an impulse and are followed up with longer-term action, as the problems cannot all be solved definitively at the outset. Conservation often calls for continuity, and must therefore find other ways to operate or other sources of funding when the LIFE projects end. The role of the projects is therefore to prime long-term demand and draw out long-term needs. When LIFE-Nature set out to acquire primary environments, where human activity had been negligible, the exceptional objective was to intervene once and for all by withdrawing the habitat from any risk of human impact. This kind of land acquisition was carried out in particular in the western taiga in Sweden.





LIFE-Nature and Species Conservation

Europe has an abundance of flora and fauna, even though not as extensive as that to be found in tropical environments. Its evaluation is fairly easy for the higher plants and animals, but is much more delicate for invertebrates, like insects, or for fungi and algae.

According to the "Dobris Assessment" published by the European Environment Agency (1995), biodiversity in the whole of Europe includes:

- > 250 species of mammal;
- > 520 bird species;
- > 270 reptile and amphibian species;
- > 227 species of freshwater fish;
- > some 12,500 higher plant species;
- > some 200,000 invertebrate species.

To this must be added lower plant species and fungi, but their numbers are not known precisely.

the regression of extensive sheep grazing, the landscape modifications of the twentieth century, human demography and the introduction of species are just some of the large-scale phenomena which have upset the range of the species and the sizes of their populations.

Even though the number of species that has vanished from Europe over the last few centuries may be lower than in other parts of the world, the phenomenon of extinction is nevertheless still present and disturbing. For instance, four of the taxa in the "Habitats" directive would seem to have completely disappeared fairly recently, going by the latest IUCN data⁽⁵⁾:

- > 1 mammal in the Pyrenees (*Capra pyrenaica pyrenaica*), which became extinct in 2000;
- > 2 plants, one from the Azores (*Vicia dennesiana*), and one from the Isle of Alboran off Almeria (*Diplotaxis siettiana*) which still survives in seed banks;

ing case, as it demonstrates that the conservation of habitats is not always enough to guarantee the conservation of a species. The Ordesa National Park in Spain was established especially for this taxon in 1918 - it had vanished from the French side of the Pyrenees during the nineteenth century. The last birth was observed in 1987 and by the time a Franco-Spanish LIFE-Nature project was undertaken between 1993 and 1999, it was too late to find a solution adequate to the problem. In particular, scientific knowledge of the species and its etho-ecology was incomplete. As the Natura 2000⁽⁶⁾ Newsletter points out, this is a lesson in humility vis-à-vis the rest of the world, and the European Union must implement a dynamic protection policy for its native species.

The case of the plant *Diplotaxis siettiana* is more promising. It was still to be found in 1974 on the Isle of Alboran (located between Almeria and the Moroccan coast) on the edge of a helicopter platform. The fact that the platform was kept clean by spraying with seawater probably accounts for its subsequent disappearance. Fortunately seeds were collected in 1974, and a LIFE-Nature project is now trying to re-introduce it.

The principal trend in Europe since the beginning of the twentieth century was not extinction but the radical decline in populations of many species. Studies in Great Britain show declines of over 50% between 1970 and 1990 for common bird species such as skylarks and partridges (BirdLife International 2000). Obviously, rare species like the corn-crake (*Crex crex*) show similar rates of decline in many countries (Germany, France, Hungary etc.) It is hardly surprising, therefore, that 11 LIFE-Nature projects have been devoted to it since 1992.



Pyrenean ibex, *Capra pyrenaica pyrenaica*.

This heritage is the product of the Earth's history (continental drift, ice ages and periods of warming) and the evolution of species, but also of mankind's impact on his environment. Thus forest clearance during the Middle Ages, the expansion then

- > 1 snail in Madeira (*Leiostylax lamellosa*), which may still exist but which has not been seen for over a century.

Capra pyrenaica pyrenaica, a subspecies of ibex goat, is an interest-

⁵ International Union for Conservation of Nature

⁶ February 1999



© Photo RSPB

Eleven LIFE-Nature projects have focused on corncrakes since 1992.

The first international text on the protection of species was produced in 1901, at the “Paris Convention on Birds Useful to Agriculture”. Although the protection of species was long the dominant theme of such texts, in the last quarter of the twentieth century it was complemented by the protection of the habitats of these species. Today the directives, regulations and Community actions include measures fitting both approaches, i.e.:

- > protection of species, with action plans and with regulations governing trade, capture, transport, hunting and disturbance.
- > protection of the habitats of species through the Natura 2000 network, agri-environmental measures and other options from the Rural Development Programme, and, of course, actions carried out by LIFE projects.

⁷ Nevertheless some of these projects have also carried out actions on identified Natura 2000 sites which were therefore taken into account in the previous chapter.

⁸ They correspond to two other sub-articles of the LIFE Regulation (.5.a).i) & ii)

Has LIFE-Nature been effective in conserving species listed in the directives?

Most of the 640 LIFE projects relate to sites and their natural habitats, but animal and plant species benefit from these actions. Sometimes, however, it is necessary to carry out projects more directly focused on threatened species.

These species often live in complexes of habitats or in dispersed areas separated by unfavourable environments. Furthermore they sometimes move: animal migration,

dispersal of seeds by wind or birds... Scientists consider that the best management level is what they call a metapopulation, i.e. a grouping of local populations which mutually interact.

Many projects have therefore targeted species directly and specifically, without intervening in a particular site⁷. In the LIFE nomenclature, these projects are assigned the code NA3, and they correspond to Article 3.5.a).iii of the LIFE Regulation. There are 61 of them, one-third in Spain and almost three-quarters in southern European countries, where species biodiversity is greater (see figure 6 pg 70). Such projects often deal with wide-ranging species like seals and birds of prey. The other projects in the NA1 et NA2⁸ nomenclatures target specific Natura 2000 sites. For the purpose of this report, they are considered to also target a given species when:

75% of the fishes on the directive have not been targeted by at least one LIFE-Nature project. The picture shows collection of eggs from a female Rutilus pigus, in order to carry out artificial breeding and to reinforce natural Italian populations.



© Photo G.R.A.I.A. Srl



© Photo Lars Hedendås

Dicranum viride, a moss of the “Habitats” directive, which has never been targeted by any LIFE project.

- > The general objective, or at least one of the expected results, targets the species clearly and directly,
- > At least one of the actions targets the species clearly and directly.

This is quite a strict view, and it is certain that other projects which have not been retained under this criterion also promote the conservation of one or other species listed in the directive. Thus, when a project undertakes action for a type of habitat listed in Annex I, e.g. the acquisition of land, it is only counted if the action also explicitly and specifically targets a species which is capable of occurring in this habitat.

207 NA1 or NA2 projects thus relate to a species in one way or another to which the 61 NA3 projects have to be added. Consequently, it can be concluded that 42% of LIFE-Nature projects⁽⁹⁾ directly affect one or more of the species in the “Habitats” and “Birds” directives.

Almost 28% of the species in the “Habitats” and “Birds” directives have been directly targeted by one or more LIFE-Nature projects (Figure 9). This figure seems low. Even if it is correct, it conceals the differences between the groups of species. For some groups, intervention in the natural habitats as a whole simultaneously conserves the species living in them. This is true of forest birds (woodpeckers, flycatchers etc.), wetland birds (ducks, waders) or steppic birds. Even if half the bird species were not

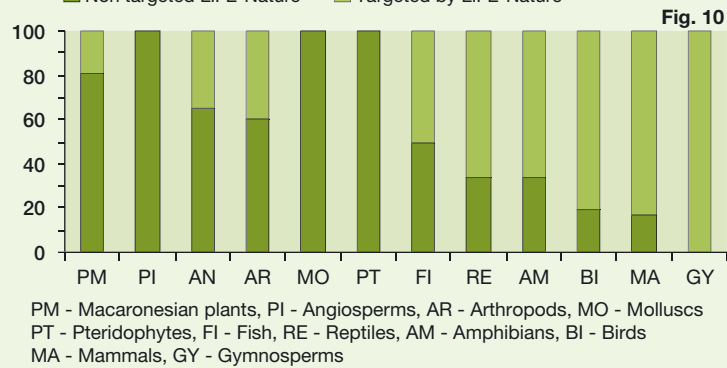
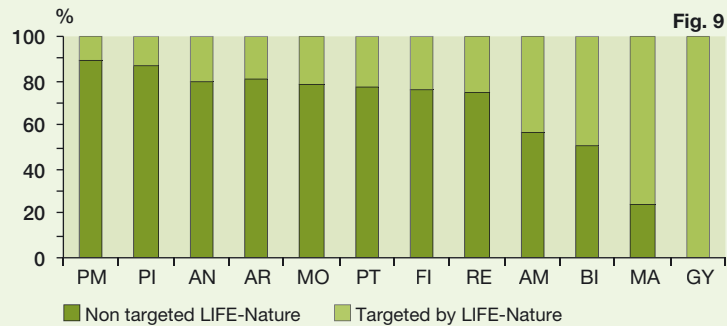


Fig. 9 and 10 : LIFE-Nature and inequalities between groups of species (fig. 9) and between groups of priority species.

targeted specifically, this figure probably has little meaning compared to the real effect of LIFE projects.

LIFE-Nature has targeted only 20% of the higher plant species. Over 40% of the angiosperms⁽¹⁰⁾ in Annex II of the directive are present only on one or two Natura 2000 sites in the Union; LIFE-Nature has targeted only a quarter of them. This should be considered in the light of the number of Natura 2000 sites affected by LIFE-Nature projects (approx. 10%), but certainly also in the light of the scientific knowledge of the project beneficiaries. It is easier to find experts in ornithology or on large carnivores than botanists or entomologists able to undertake land management. Furthermore, some species have more ‘pulling power’ than others.

Unlike habitats, Figure 10 demonstrates that priority species, which bring a higher co-financing rate, are more likely to be the subject of LIFE-Nature projects. 44% of them are targeted, as against only 22% of non-priority species. Priority character is directly conferred by the “Habitats” directive on certain species in its

annexes, while for birds it may be conferred by a specific decision of the Habitats Committee, as was the case from 1993 onward.

In some cases, LIFE-Nature has been able to cover a significant part of the distribution range of a species in the European Union or one of its Member States. For instance, the inset on page 79 presents the case of the Arctic fox (*Alopex lagopus*) and the Saimaa ringed seal (*Phoca hispida saimensis*) in the boreal region, as well as the fire-bellied toad (*Bombina bombina*) in Denmark or the hermit beetle (*Osmoderma eremita*) in Sweden. In other cases, it would be helpful if beneficiaries took a holistic view of the Natura 2000 sites affected by their projects. The case of *Dicranum viride* is instructive here. This is a little-known species of moss which only exists in

⁹ And its predecessors ACE and ACNAT

¹⁰ Higher plants, figure excluding Macaronesia

old forests in some thirty-odd Natura 2000 sites of the continental, boreal and alpine biogeographic regions. Six of these sites were targeted by 8 LIFE-Nature projects in all, but not one of them foresaw actions or studies for the benefit of this species of moss. Among the four Austrian sites hosting the species, two were targeted by LIFE-Nature projects, including the whole of the 298 hectares of the Wallersee-Wengermoor site. Nevertheless this moss is not specified in the project objectives. Similarly, of the 2 French sites where the species is to be found, one was targeted by two ambitious projects with a total funding of 6.8 million euros. The species is not mentioned in the project's objectives, though one might hope that the foreseen site management plans take account of it. Finally, 2 of the 5 Italian sites for the species were targeted by LIFE-Nature projects, which mainly addressed large carnivores, including the reintroduction of the bear in Trento Region with \pm 1.5 million euros of funding.

Only 4 of the 29 lower plant species in the directive have been specifically studied in Spanish or French projects. These figures are not necessarily surprising, any more than those for invertebrates. On the other hand, it is more surprising to note, concerning vertebrates, that 15 of the 20 reptiles in the directive have not yet been targeted, nor have 75% of the fish.

Thirty-one of the species in the "Habitats" and "Birds" directives have been covered by at least 5 projects: 15 mammals, 13 birds, 1 amphibian (*Bombina variegata*, the yellow-bellied toad), 1 reptile and 1 higher plant (*Cypripedium calceolus*, the lady's slipper).

The number of species covered by at least 10 projects over the period under consideration is lower:

The loggerhead turtle, Caretta caretta, is one of the mascot species of LIFE with ten projects. The pictures show excavation of the nests in order to assess hatching success (Crete) and hatchlings on the beach.





- > 4 birds
 - *Botaurus stellaris*, the bittern, 13 projects,
 - *Aegypius monachus* the black vulture, 12 projects
 - *Hieraaetus fasciatus* Bonelli's eagle, 11 projects
 - *Crex crex*, the corncrake, 11 projects.
- > 5 mammals
 - *Ursus arctos*, the brown bear, 23 projects
 - *Canis lupus*, the wolf, 14 projects
 - *Monachus monachus*, the monk seal, 11 projects
 - *Rhinolophus hipposideros* and *Rhinolophus ferrum-equinum* 10 projects for each of these bats.
- > 1 reptile
 - *Caretta caretta*, the loggerhead turtle, 10 projects.

The bats excepted, all these species qualify for 75% Community co-financing. Many of them range over vast territories, which makes conservation more difficult. Conversely, they are also flagship species, which actually makes it easier to work on large territories.

This is particularly true of the brown bear, record holder in all categories for LIFE-Nature funding, which occupies territories that may extend over several hundred km². An initial analysis was published recently concerning LIFE-Nature projects for this species which began between 1992 and 1996 (Patrimonio, 1999). These projects accounted for nearly 10% of the LIFE-Nature budget for the period 1992-1995. More than ten new projects have subsequently supplemented these actions with e.g. the reintroduction of the species into the Trento Region. It is probable that the symbolic power of the species and its role as an indicator in mountain ecosystems justify this investment. Nevertheless, it is clear that for this kind of project networking is fundamentally important. This was indeed attempted for the bear, with a transboundary Franco-Spanish project and several project seminars.

© Photo Juan Carlos Blanco - Female brown bear with her cubs.



Species on Annex II of the “Habitats” directive present in the northern European Union, whose populations have been well-covered by LIFE-Nature

Arctic fox



In the European Union, the Arctic fox (*Alopex lagopus*) is only found in the north of Finland and Sweden. These two Member States have implemented a transboundary LIFE-Nature project to protect this species, under the aegis of Stockholm University. It covered some fifty individuals, which is three-quarters of the Union’s population. The aim was to stop the decline in numbers of the species by protecting its best sites, improving the survival rate by artificial feeding (when necessary) and limiting problems of competition with the common fox.

Saimaa ringed seal

At the end of the Ice Age, around 9,000 years ago, the Baltic Sea withdrew, leaving large lakes in Finland. Seals were trapped in them and evolved into distinct sub-species. This happened to the Saimaa ringed seal (*Phoca hispida saimensis*) which has a remnant population in Lake Pihlajavesi accounting for almost a quarter of the world population. Following various technical studies, LIFE-Nature funded a management plan for the lake, where a few hundred hectares were purchased as part of the project. An information campaign complemented the operation.

Fire-bellied toad



In Denmark the fire-bellied toad (*Bombina orientalis*) was only left in 8 Natura 2000 sites, so a LIFE-Nature project which operated on 7 of them therefore targeted 95% of this Member State’s population. The key actions in this project were site protection, creation or restoration of several dozen pools, and the introduction of the species at 6 new sites. To complement the work, an awareness-raising campaign and guided visits were carried out.

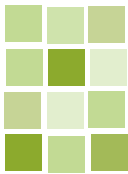
Hermit beetle



The hermit beetle (*Osmoderma eremita*) is one of the most endangered invertebrates in the European Union. This species is highly sedentary and does not move more than a few hundred metres from the hollow old tree in which it was born. Almost half the European population is in Sweden, so the LIFE-Nature project, which covers 45 sites and 75% of the Swedish population, is of considerable importance. By purchasing land at the sites and protecting them, as well as through farm forestry work to preserve the old hollow deciduous trees and their environment, this project has had a positive impact on the biodiversity of all the Natura 2000 sites concerned.



Saimaa ringed seal



Species Regarded as Endangered by the International Scientific Community.

For many years, the IUCN has brought together administrative authorities, scientists and conservationists. Its Species Conservation Committee (SCC) has evaluated the conservation status of a wide range of species, sub-species and sometimes even populations for more than 30 years at world level. The goal is to identify the most threatened taxa and so to promote their conservation. These evaluations have a solid scientific basis and many organisations acknowledge and use them today, notably to establish red lists.

The IUCN evaluations help to define priorities for action for the species listed in Community directives and seldom or never targeted by LIFE-Nature. They reveal the European Union's level of responsibility in a world context. Bearing in mind that the Union is itself one of the parties to the Convention on Biological Diversity, subsidiarity is not the only possible answer, and the LIFE-Nature instrument could, in future, set certain priorities, even though new methods of undertaking action may have to be found.

The IUCN evaluations are assigned to taxa according to precise quantitative criteria based on the rate of decline, the size of the total population, the areas of occurrence and occupation, the density of population and the fragmentation of distribution. The 2001 edition of these criteria (<http://www.redlist.org/>) has

been used as source of information for this report; for some plant species, a 1997 edition was used, on-line at <http://www.wcmc.org.uk/species/plants/>. Nevertheless, for some of the taxa there is no information¹⁰. To make analysis easier, the Union's levels of responsibility can be divided into three groups:

- > **Very high:** categories which are extinct (Ex), extinct in the wild (Ew), critically endangered (CR) and endangered (En, E)
- > **High:** categories vulnerable (Vu, V), near-threatened (NT) and rare (R)
- > **Undefined:** the categories data deficient (DD, I), least concern (LC), non-threatened (NT)

The IUCN studies taxa at a world, not a European, level. Because of this, some species in the directives' annexes may have a "Non-threatened" or "Least concern" status. The European Union's level of responsibility for these species is lower, even though the legitimacy of their presence in the directives is not challenged. Table 4 presents a summary of LIFE-Nature actions with regard to species at risk.

It is interesting to discover that LIFE-Nature intervened noticeably more on species where there is a high level of responsibility. A project on *Romanichtis valsanicola*, a Rumanian fish considered to be critically endangered, should also be added to the table.



© Photo Fundación CBD-Habitat

The Iberian lynx is listed as "Critically Endangered" by the IUCN.

Concerning critically endangered species, it is probable that the 11 projects devoted to the monk seal, *Monachus monachus*, have contributed to the stabilisation if not the growth of its populations. Given the stakes, the European Commission actually launched an audit of the efficacy of the projects in progress in order to guide their action as best as possible.

On the other hand the 5⁽¹¹⁾ projects devoted to the Iberian lynx, *Lynx*

Table 4: Species internationally at risk in Annex II of the "Habitats" directive and Annex I of the "Birds" directive.

Has LIFE intervened?	Yes	No
Extinct (Ex, Ew)	2	2
Critically endangered (Cr)	13	9
Endangered (En, E)	43	106
Total species listed in directive with very high level of responsibility	58	117
Other species listed in directives with high level of responsibility	94	223

¹⁰ 21% of the animal species and sub-species in the Directives and 31% of the plant species and sub-species

¹¹ Plus 2 that could only be started in 2002

pardinus, did not prevent it moving from the “Endangered” to the “Critically endangered” category in 2001, when its population fell to around 200 individuals compared to the 1,200 recorded in the early 1990s. According to the IUCN, it could soon become the first feline species to become extinct for at least 2,000 years. The main reason for its decline is the disappearance of its prey, the rabbit, decimated by myxomatosis and a viral haemorrhagic disease. However, such an explanation alone is not sufficient, and the fragmentation of its habitat by agricultural and industrial expansion and rural development are also important factors.

Eleven of the 13 critically endangered species that were addressed by a LIFE-Nature project were priority species, which made it possible to obtain 75% Community co-financing. On the other hand, 6 of the 9 for which no LIFE-Nature project was undertaken did not qualify as priority species for funding.

Among the species at risk not targeted by LIFE-Nature, a group of snails of the *Leiostryla* genus are worth remarking on. Five species of the genus appear in Annex II. One is extinct, 3 are critically endangered and 1 is vulnerable. The main step to be taken at present is research: nothing is known about the snails' population status, let alone their biology. At present, LIFE-Nature only funds projects with concrete conservation actions; pure research is not eligible. The lessons learned from analysis and the projects in progress challenges the exclusion of some measures from LIFE projects, at least for certain species which can only be protected if we have more knowledge about them in the first place.

Finally, a few threatened plant species can be protected via the type of natural habitat to which they are endemic. This is true of the palm *Phoenix theophrasti*, a near-threatened species occurring in the habitat *9370 palm groves with Phoenix. A LIFE-Nature project in the Vai palm grove in Crete preserved the population.

LIFE-Nature and Action Plans

Action plans have been a major trend in the evolution of nature conservation in Europe over the last 15 years. Following the example of the Nordic countries, the general tendency has been (Goldberg in CoE 1997) “to abandon a traditional system in which the law protects species and the localities hosting 'significant' species and ecosystems, in favour of an approach which now emphasises the general protection of categories of natural spaces or habitats, the integration of nature protection into other sectors and the elaboration of action plans for threatened species”.

The minutes of the Bértiz conference (CoE – 1997) help to better define these action plans. They are an important method of communication which stimulates partnerships and influences conservation stakeholders locally, nationally, regionally and worldwide. They offer a common reference framework to very diverse operators and the recommendations they contain rest on well-developed and convincing scientific arguments. There are several different levels of precision and several different terminologies for these plans (action plan, restoration plan etc.) and in this publication we use the word in its broadest sense. All these documents:

- > justify the need to act,
- > specify the objectives,
- > describe the actions to be taken at various geographic levels and by different operators,
- > propose a time planning,
- > and, where appropriate, specify a budget and a period of validity; they can be validated at different levels.

Up to now, the drafting of action plans has been the work of the IUCN's Species Survival Committee (SSC), of Birdlife International or the Secretariat of the CMS or the Bonn Convention for migratory species.

The European Commission's Directorate General for the Environment has made special efforts for action plans for endangered birds. Thus the

LIFE-Nature project “Preparation of action plans for the recovery of globally threatened bird species in Europe”, written by the Royal Society for the Protection of Birds and its partners between 1993 and 1996, enabled the process to be started with 23 action plans published by the Council of Europe (Heredia, Rose & Painter 1996). The General Directorate for the Environment then continued the process with other funding, and 8 further action plans for priority birds have been published (Schäffer & Gallo-Orsi 2001).

LIFE-Nature also enabled participation in several action plans published under the auspices of the Council of Europe. The many projects funded by LIFE on large carnivores participated in the theoretical reflections of the “Large carnivores initiative”, which led to the adoption of action plans for the brown bear (*Ursus arctos*), the wolf (*Canis lupus*) and the lynx (*Lynx lynx*). Some LIFE-Nature projects have developed national action plans for species, such as the project undertaken by Greek NGOs concerning the pygmy cormorant (*Phalacrocorax pygmaeus*). At present, there are:

- > action plans at Community or European level in the broad sense, financed by LIFE-Nature



European action plans published thanks to LIFE-Nature projects.



for birds and by the Council of Europe for other groups:

- 28 for birds;
- 5 for mammals;
- 2 for arthropods;
- 2 for molluscs;
- 1 higher plant species;

- > national action plans for endemic species, thus equivalent to Community action plans. LIFE-Nature has funded the plan for *Zingel asper* in France;
- > various national action plans, including those funded by LIFE-Nature, such as the *Anser albifrons flavirostris* and *Phalacrocorax pygmeus* projects in Greece;
- > local action plans, such as those funded by LIFE-Nature in several Spanish SPAs.

There is a certain correlation between the frequency of LIFE-Nature projects targeting a species and the existence of European action plans. However, no one can say whether the existence of action plans facilitates projects or whether the many projects provide the knowledge that is necessary for drafting action plans. Even if we disregard birds, the best-known group, and large carnivores, which are flag-



Management guide for *Zingel asper*, a French endemic species.

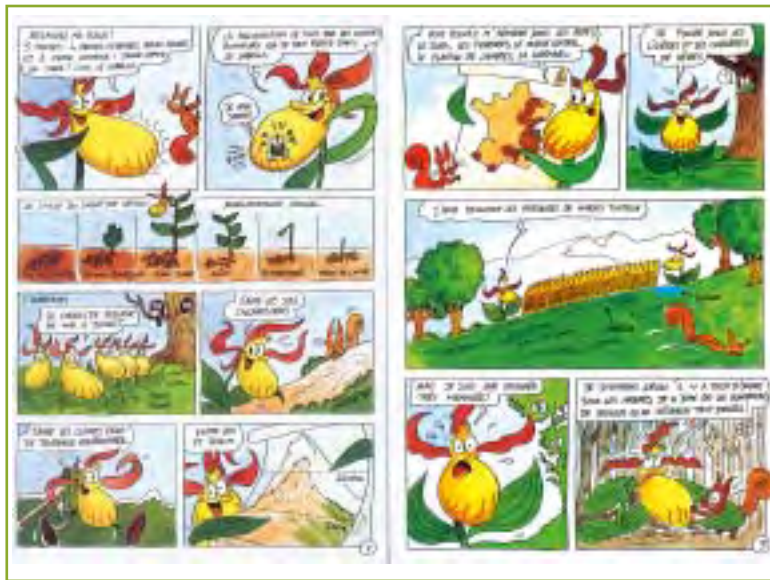
ship species, there is a European action plan for LIFE-Nature's most targeted plant species – *Cypripedium calceolus* (5 projects) – and its most targeted bat species – *Rhinolophus ferrumequinum* (10 projects). Among the invertebrates, generally little-addressed by LIFE-Nature, it is noteworthy that the species *Margaritifera*

margaritifera, for which there is a European management plan, has been targeted by two LIFE-Nature projects.

Where an action plan does exist, the European Community has to take care to ensure that any new LIFE project does indeed fit the framework defined by the plan. This strengthens the project's legitimacy, allows advantage to be taken of any already-existing networking, and avoids funding projects for which there would be little support. For instance, a LIFE project to reintroduce the duck *Oxyura leucocephala* into Corsica between 1997 and 2001 was a partial failure. The project, which was conceptually peripheral to the published action plan, did not gain backing from the international scientific community and the networks of expertise. Even though there were additional reasons for the problems with the project, they were worsened by the lack of international recognition.

To conclude, LIFE has been the forerunner to European action plans, but these as yet only cover part of the species and do not cover habitats. To strengthen the unity and efficacy of Community action, it would seem worthwhile to provide effective guidance and planning tools, which would boost networking and act as catalysts for field projects. Such is the purpose of the STARTER⁽¹²⁾ and COOP⁽¹³⁾ measures which were organised within LIFE III.

So the emergence of European or national action plans ought to be encouraged. This is all the easier to achieve now that LIFE-Nature has, through the work done, permitted experience with most habitats to be acquired.



Awareness-raising leaflet for children on the conservation of the lady's slipper orchid, *Cypripedium calceolus*, made by a LIFE-project in Burgundy, France.

¹² Preparation of projects involving partners in several Member States (Article 3 of the LIFE Regulation)

¹³ Exchange of experience between projects (Article 3 of the LIFE regulation)

Interview with Nuno SARMENTO (Portugal)

Head of Communication for the Portuguese League for Nature (LPN)

PROJECT TITLE: Conservation of the Steppic Birds of Castro Verde

BENEFICIARY: Liga para a Protecção da Natureza (LPN)

BUDGET: 2.153 million euros, with 75% funding by the Community

DATES: January 1993 to February 1999 (2 phases)

What effect did the project Conservation of the Steppic Birds of Castro Verde have on the great bustard population?

The project 'Conservation of the Steppic Birds of Castro Verde' was a very significant step in protecting the great bustard in Portugal. Castro Verde has the largest population of this species in Portugal, with more than half the national population. It is estimated at 500-700 individuals, out of a total of around 1,000 birds in Portugal.

The LIFE-Nature projects have enabled us to set up an agricultural land management system which is better suited to the needs of the great bustard population. On the LPN's property (1,700 hectares were purchased during the projects), we determine the farming practices, thus allowing us to improve nesting and feeding conditions for bird species. It's mainly a question of maintaining the traditional extensive system of growing cereals without irrigation.

LIFE-Nature has also helped in the development of the Castro Verde Area Programme in the context of the agri-environmental Regulation 2078/92/EEC. This area programme helps to implement these measures throughout the whole SPA, allowing the actions in favour of the great bustard to be supplemented and expanded. The species is dependent on a traditional form of agriculture which is not viable and heavily dependent on compensatory aid. All farmers in the SPA can join the programme.

The conservation of the great bustard is now guaranteed in Castro Verde by:



Great bustard courtship display (© Photo Adenex).

- the LPN's ownership of land, which is managed with a view to protecting this and other steppic species;
- the Castro Verde Area Programme, which allows the traditional system of cereal cultivation to be maintained.

Do you think that these results are sufficient to ensure the long-term protection of the species in Portugal?

As far as Portugal is concerned, the situation is very different, as very little action has been undertaken to protect the species. Area programmes of this type exist nowhere else, and farming practices – particularly irrigation –

often have a negative impact on the species. In addition, there is a lack of measures to promote the conservation of this bird in the country's other SPAs. Consequently the great bustard population has decreased everywhere. Even though it increased significantly in Castro Verde since the LIFE-Nature projects started, the total population throughout Portugal is still only more or less stable.

To ensure the protection of the great bustard in Portugal in the long run, LIFE projects and the Area Programme must be followed up by other action in the rest of the country.



Funding Natura 2000 Sites with LIFE-Nature

Article 8.1 of the “Habitats” directive stipulates that Member States inform the European Commission about the finances they consider necessary to implement the conservation measures specified in Article 6. This chapter studies LIFE-Nature’s contribution to the assessment of the overall costs of the Natura 2000 network.



© Photo Pohjois-pohjanmaan ympäristökeskus

Ever since its launch, it has been LIFE-Nature’s main objective to maintain or restore the natural habitats and the species of wild flora and fauna of Community interest to a favourable conservation status. It was the preferred financial instrument for funding the start-up of the Natura 2000 network. LIFE-Nature projects provide tangible and interesting feedback to the question of what the financial requirements of the Natura 2000 network are. In fact, costs have been systematically recorded in a homogeneous manner since 1994. Thus, amongst all the ACE, ACNAT⁽¹⁾ and LIFE-Nature projects, general information exists for 640 and relevant and detailed data for 491. By the end of 2001, LIFE-Nature and its predeces-

sors had intervened on 1,776 sites proposed for Natura 2000. The field experience acquired over several years by its operators enable useful trends to be discerned for the assessment of the overall establishment and operating costs of Natura 2000. Member States should estimate the costs required to establish Natura 2000 and forward them to the European Commission with site proposals (article 8.1). The European Commission set up a working group under Article 8 at the end of 2001. It comprised representatives of Member States, several of the European Commission’s directorates general and stakeholders (NGOs, local authorities and user groups). Its objective was to develop a common approach to the various

parameters to be considered, to propose assessments of medium- and long-term needs and to advance recommendations for funding the conservation measures in Natura 2000 sites. The final report of this working group appeared at the end of the year 2002 and its conclusions are given at the end of this chapter. Some of the data presented in this chapter were taken into account by the working group. The data collected by the LIFE projects render it possible to extrapolate the financial requirements of Natura

¹ Council regulation n° 2242/87/EEC of July 25th 1987 and Council regulation n° 3907/91/EEC of December 19th 1991

2000 through two different approaches - either starting from the per hectare management costs for each habitat and species, or from the average cost of projects per site.

The fact that in many sites habitats are arrayed in a mosaic or overlap each other, the wide range of managers and the integration with human activities on the sites, does not make it easy to make assessments based on the first approach. Nevertheless, a few LIFE projects have used it to assess the cost of managing natural habitats. This was the case for a LIFE-Environment project conducted by Espaces Naturels de France over several years on 233 properties managed by NGOs. The objective was to determine the management costs per hectare for 5 types of natural habitat (dry grasslands, Mediterranean sheep routes, Atlantic wet heaths, wet meadows subject to flooding and bogs and fens), taking various parameters (slopes etc.) and different management methods into account. Another LIFE-Nature project has published a case study for the heaths in Dorset (UK). A 100-page final document describes the methods and the cost per hectare for several categories of works needed to restore the heaths to a healthy conservation status (RSPB, quoted in Gazenbeek & Sundseth 2002).

Cross-referencing the numerous operations conducted at local level during LIFE-Nature projects would probably enable us to obtain useful financial information regarding the management costs per habitat and per species. The acquisition of detailed data on costs from all the projects would nevertheless be a complex task in methodological terms and would require a major time investment. When assessing costs by the second approach, the differences in ecological, cultural and historical, even economic, factors from one Member State to another with regard to nature conservation must be borne in mind. Three examples illustrate this phenomenon and its impact:

> Member States do not all deal with the notion of buffer zones in the same way in their site proposals. Furthermore, the ecological characteristics of the Natura 2000

sites determine the extent of the sites' surface area. In some Member States the average surface area of sites is from 1,000 to 2,000 hectares (Italy, Ireland, and Sweden), while in others it is near to, or in excess of, 10,000 hectares (Spain, Greece, and Portugal). The varying size of Natura 2000 sites has direct consequences for the modes of operation in LIFE projects and the management costs per site. Nevertheless it should be pointed out that over half of the sites have a surface area of 500 ha or less so that this unit of dimension could provide a baseline for assessment.

> Nature conservation is more or less decentralised from one Member State to another. The management of terrains can therefore largely be organised by the state, or it may

depend on private initiatives (NGOs or others). The participation of civil servants in LIFE projects is not always taken into consideration in the same way.

> The price of land varies considerably in Europe, even within a single Member State, depending on the local real estate market.

These examples show that data must be interpreted prudently. Nevertheless, based on the experience acquired in the LIFE projects, it has been possible to make an assessment of the overall cost of the Natura 2000 network starting from:

> The total cost of projects and their average cost per Member State.

> The average breakdown between the various categories of expenditure in LIFE projects

The average cost of LIFE-Nature projects by country

The average annual management costs are relatively homogeneous and in the neighbourhood of 400,000 euros for around ten Member States. The appreciable differences in other Member States compared to this average can be explained. In Austria and Sweden

projects made large purchases of land and Portugal and Italy differ from the norm because of the considerable number of small projects carried out by local authorities. Finally, in Ireland, very large projects tackled the whole of the Natura 2000 network in one go.

Table 5 : average cost in euros of LIFE-Nature projects by country.

Country	Number of projects	Average cost projects in euros	Average duration in years	Average cost of projects in euros/year
Ireland	6	3 199 685	3,4	941 084
Austria	20	2 920 227	3,9	748 776
The Netherlands	8	2 845 597	5,2	547 230
Sweden	18	2 679 525	4	669 881
Luxembourg	2	2 166 762	4,2	515 896
United Kingdom	30	2 120 140	3,8	557 932
Denmark	8	2 051 281	4	512 820
Germany	48	1 788 573	3,9	458 608
France	55	1 616 962	3,9	414 606
Finland	30	1 554 733	3,7	420 198
Belgium	20	1 430 715	4	357 679
Spain	89	1 373 569	3,8	361 466
Greece	29	1 346 771	3,2	420 866
Portugal	36	876 715	3,3	265 671
Italy	114	803 168	3,3	243 384



An ideal assessment of Natura 2000's overall financial requirements starting from the average cost of LIFE projects should be based on real costs and on comparable basic data (surface area of projects, type of cost taken into consideration, etc.). As these data have not been compiled, the assessment was made using a restricted sample of projects. Only the 212 projects which presented the least methodological problems were chosen for analysis. They only related to a single Natura 2000 site, were oriented towards site management⁽²⁾ and were neither dominated by land acquisition nor were projects focusing on methodology development. **The average duration of these projects is 3.83 years and their average annual budget is 358,002 euros.** Costs vary appreciably from one Member State to another by the same order of magnitude as in Table 5. Applying the logic underpinning the so-called 'descending' method⁽³⁾ for assessing the cost of the Natura 2000 network, it proved possible to give the working group an estimate for the funding of Natura 2000 based on the average annual cost of a project. The annual management cost was estimated to be 6,400 million euros for the whole network based on an assumption of 18,000 proposed sites in the European Union.

The major categories of expenditure under LIFE-Nature

From 1994 onwards the European Commission applied a standardised classification of the major categories of activities conducted under LIFE-Nature. This analytic approach complemented the more classic accountancy approach, needed to monitor the proper management of funds. The categories of activities were continued under LIFE II and can easily be identified under LIFE III. Seven categories were defined:

- > A: Elaboration of management plans and preparatory actions
- > B: Acquisition of land and use rights
- > C: Non-recurring management
- > D: Recurring biotope management
- > E: Public awareness and dissemination of results
- > F: Project coordination
- > G: Miscellaneous (in 1995 and 1996 only).

*Restoration works in the Federsee site in Germany.
(photo Jost Einstein, LIFE Projekt Federsee)*

The financial monitoring of LIFE projects allowed the average breakdown of costs per category of measures to be determined in the sample of 212 projects. In figure 11 and table 6, which illustrate the breakdown of costs by category, the considerable weight of land acquisition and of one-off restoration or biotope investment works, each representing around one third of the total cost, is noteworthy. On the other hand, the percentages for recurring habitat management and for information and awareness work are quite low.

The estimate of the overall cost of Natura 2000 has been broken down into its various components, using their average breakdown in the sample of LIFE projects. The total cost of the Natura 2000 network by category of activity is estimated by multiplying the average costs per site by the number of sites in the Natura 2000 network (around 18,000). These elements were transmitted to the working group on the funding of Natura 2000.

This analysis is useful, as it justifies the fact that the overall annual management costs for the Natura 2000 network assessed using LIFE projects is slightly higher than that found by the Article 8 working group.

Aside from the overall figure, the main conclusion is the dissociation of investment costs, the highest, from the operating costs. The pure investment costs (restoration, land acquisition) represent 4,200 million euros out of the total 6,400. Conversely, annual maintenance costs only account for 500 million euros and part of the 1,700 million euros mixed costs.

² NA1 and NA2 project categories

³ Method for cost evaluation based on tools developed in 1996 by the commission (E. Lierdeman 1996).



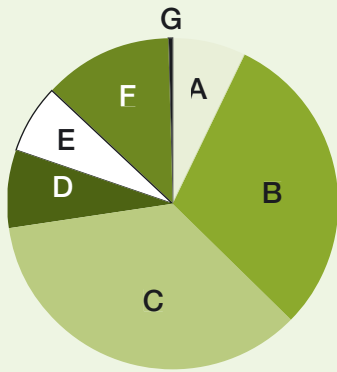


Fig. 11 : Total cost estimated for the Natura 2000 network.

Table 6 : Total cost, by category of activity, of the Natura 2000 network.

Catégorie	%	Total for 1 site	Total for the network	Nature of cost
A. Elaboration of management plans and preparatory actions	7,16	25 633	461 392 978	Annual/ Investment
B. Acquisition of land and use rights	30,18	108 045	1 944 810 065	Investment
C. Non-recurring management	35,3	126 375	2 274 744 708	Investment
D. Recurring biotope management	7,61	27 244	490 391 140	Annual
E. Public awareness and dissemination of results	6,73	24 094	433 683 623	Annual/ Investment
F. Project coordination	12,59	45 072	811 304 132	Annual/ Investment
G. Miscellaneous	0,43	1 539	27 709 355	Annual/ Investment
Total	100	358 002	6 444 036 001	
Pure investment costs			4 219 554 773	
Annual costs			490 391 140	
Mixed costs			1 734 090 088	

For many sites, the start-up of the network will necessarily involve an initial mobilisation of all the means required to kick off the Natura 2000 site management dynamic. Experience from the LIFE projects shows that only a limited number of operators are available to initiate and successfully complete whole projects on all sites at the same time⁽⁴⁾, even if these projects create and preserve jobs in nature conservation year after year.

This means that a considerable financial effort must be made during the network's start-up period. One of the advantages of LIFE, and of LEADER, for that matter, is its capability of mobilising local stakeholders around a project. This notion of a project defined and shared by local stakeholders is to be found in most LIFE projects, even if the scope of the work did not always cover the whole of the Natura 2000 site in question. During Natura 2000's run-in period, which will be followed by the final adoption of the network (designation

⁴ 18,000 in the assessment!



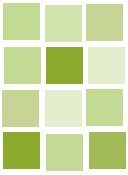
© Photo Olivier Patrimoine

Making sites accessible for the public also ought to be taken account when calculating the financing needs for Natura 2000.

as SAC), LIFE-Nature projects can continue to play an important catalysing role on account of their advantages:

- > Integration of diverse components into the same project (studies, management plans, management, information).

- > Pump-priming funding to implement appropriate long-term measures.
- > Network effect.
- > Dissemination of experience and demonstration effect.
- > Maintenance and development of a quality network of associations.



LIFE-Nature as an instrument for experimentation and integration – the agri-environment case

Compared with other Community financial instruments, LIFE is very modest in size. The projects have had an undeniable practical effect in terms of contribution to conservation, as they have initiated conservation actions over 10% of the Natura 2000 surface area. In addition they have been able to pump-prime other national and Community funds and, finally, they have sometimes influenced policy implementation. LIFE fulfilled this role in agri-environment in particular.

This effect was brought to the fore during a workshop on LIFE and agri-environment in October 2002. Analysis of a sample of twenty-odd LIFE projects highlights some of their effects:

LIFE has joined forces with agri-environmental measures on many sites in the Natura 2000 network, on a task-sharing basis. The LIFE projects have made it possible to restore degraded sites, and agri-environmental mea-

asures have taken up the follow-up issue of recurring long-term management.

LIFE has made it possible to expand agri-environmental measures beyond existing projects.

LIFE has developed and tested conservation-oriented management methods, which national and regional authorities have subsequently included in rural development programmes.

LIFE enabled the adjustment of existing agri-environmental programmes by studying their limits and identifying desirable modifications to the measures.

LIFE has made it possible to really test the interaction between the various Community and national instruments and to suggest desirable changes in the interest of nature conservation. During the previous revision of the Community Structural Funds the Directorate General for the Environment relied on its experience



Coenagrion mercuriale
(© Photo Franz-Josef Schiel).



of conditions in the field to propose adjustments and modifications to the structural funds and the rural development policy.

LIFE has enabled users of rural areas and conservation specialists to establish close and trusting working relations and from there, to find sustainable operating methods which reconcile their reciprocal interests.

LIFE enabled farmers to be entrusted with the management of land dedicated to conservation belonging to public bodies and NGOs.

By promoting and adapting agri-environmental measures, LIFE has ensured coherence and synergy with another Community financial instrument.

Management of a Natura 2000 site.
(© Photo Michel Pajard)



© Photo Kerstin Sundseth - NLI, Yläs, Northern Finland.

Some economic activities, in particular tourism and public access, educational activities and products with quality labels, could contribute to the financing of the network, but even if all the benefits of conservation are brought to bear, the totality of nature conservation activities cannot always be exploited economically. On the other hand some economic activities, if they are managed well, can be favourable, even vital, for the conservation of habitats and species. These are principally farming, forestry and some hydraulic installations. The integration of policies and the funds which support them (see box previous page), requires that these particular aspects be taken into account.



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Final report on financing Natura 2000

Working group on Article 8 of the “Habitats” directive

Synthesis

NB: THE REPORT CAN BE CONSULTED AT THE FOLLOWING URL ADDRESS:
http://europa.eu.int/comm/environment/nature/natura_articles.htm

1. Article 8 of the Habitats Directive was drafted in recognition of the ‘exceptional financial burden’ that Natura 2000 might place on the Member States, particularly those rich in biodiversity. However, it is now clear that Article 8 is insufficient since it is restricted to priority habitats and species under the Habitats Directive, requires that funding needs are assessed on a site by site basis, and relies on existing EU co-financing sources. Instead, as recognised by the Sixth Community Environment Action Programme, a broader approach to co-financing is needed, going beyond that explicitly provided for under Article 8, to secure the full implementation of Natura 2000 as a whole.

2. A great variety of activities are necessary for the effective management of Natura 2000 sites in the Member States, and co-financing needs potentially arise in relation to

all of these. The amount of funding will depend on a number of factors, such as the activity in question, the type of habitat being managed, the objectives pursued, and the socio-economic features of the site and its surroundings.

3. The Article 8 Working Group sought to arrive at a broad-based estimate of the total future funding that is likely to be required by Member States to support these different activities. The estimate was based on existing research studies and direct expenditure estimates supplied by the Member States. The result is a broad-brush range of average figures for the cost of managing Natura 2000 in the EU, of between 3.4 billion and 5.7 billion per year between now and 2013. There are many reasons to believe that these estimates are conservative.

4. Based upon current experience, it

is evident that the existing range of EU co-financing arrangements is unsuited to the challenge of implementing Natura 2000. Arrangements are complex, potentially involving a large number of funds, each with separate criteria and application processes and designed to deliver against its own objectives, rather than those of Natura 2000. None of the funds is available on a long-term basis for the full range of activities associated with Natura 2000 management.

5. The Working Group agreed that three main options should be examined for securing future co-financing for Natura 2000, as follows:

- > **Option 1.** Using existing EU funds, notably Rural Development Regulation of the Common Agricultural Policy (CAP), Structural and Cohesion Funds and the LIFE-Nature instrument, but modifying these in order to ensure better delivery against Natura 2000 needs;
- > **Option 2.** Enlarging and modifying the LIFE-Nature instrument to serve as the primary delivery mechanism; or
- > **Option 3.** Creating a new funding instrument dedicated to Natura 2000.

6. The Working Group examined the various strengths and weaknesses of these funding options, based on an agreed set of criteria identified as necessary for the effective co-financing of Natura 2000. As a result, the Article 8 Working Group recommends the following strategy.

7. Short-term recommendation

- > A clear reference to nature and environment should be inserted into the Rural Development Regulation (RDR), European Regional Development Fund (ERDF), Financial Instrument for Fisheries Guidance (FIFG) and European Social Fund (ESF) at the point of the mid-term review/evaluations of



programmes in 2003-4. A new obligation to co-finance management of the Natura 2000 network in the RDR could be agreed as part of the Mid Term Review (MTR) of the CAP in 2003.

- > Member States should support the Commission's proposal for the MTR of the CAP concerning the use of 'compulsory dynamic modulation' to shift funds from the CAP pillar 1 budget to the CAP pillar 2 budget.
- > A significant increase should be made in the funding available to LIFE-Nature and the operation of this instrument should be simplified and made more readily applicable to supporting the capital investment needs of a wide variety of Natura 2000 sites.

8. Long-term recommendation (2006 onwards)

- > A specific requirement should be inserted in all major EU funding instruments including the European Agriculture Guidance and Guarantee Fund (EAGGF), ERDF and ESF, for them to support the proper management of Natura 2000. In addition, the RDR should be simplified, enlarged, and specifically promoted as a mechanism to secure the ongoing management of Natura 2000 sites in rural areas. A similar effort is required in relation to FIGG, to support the management of marine Natura 2000 sites.
- > An enhanced 'LIFE+' fund should be adopted, offering substantial EU co-financing to 'fill the gaps' left by the coverage of the modified mainstream funds as well as promoting best practice and innovation in the appropriate management of the network. This LIFE+ Fund should offer a simplified funding mechanism with a multi-annual programme approach, via which all Member States should prepare Natura 2000 programmes to be implemented with the support of co-financing from the LIFE+ fund as well as mainstream

EAGGF, ERDF, FIGG and ESF funds wherever appropriate.

- > Environment and nature protection concerns should be further integrated into the CAP. A significant expansion of pillar 2 of the CAP should be secured, over the next decade, to pay for the provision of public goods, in this case the ongoing management of Natura 2000 sites.



Farmers may be able to benefit from Natura 2000 funding for site management. Management of the Ebro delta by rice cultivation (© Photo Atecma).

and promote the development of multi-annual management programmes to enable the proper planning and delivery of funding. This work needs to be supported by further research to improve knowledge about site condition and management requirements.

10. The Working Group finally would like to stress, that the scale of funding needs in Natura 2000 is significant,

- > Incentives and/or subsidies from the CAP pillar 1 market regimes that lead to environmentally unsustainable production and a decrease in biodiversity, should be reduced. It should be a specific condition of all remaining aid under pillar 1, that it upholds the requirements of the Habitats Directive and the proper implementation of the Natura 2000 network ('cross-compliance').
 - > Consideration should be given to allowing Member States to further tailor CAP market regime funds and mechanisms in ways that promote nature management. For example, set-aside could be targeted to priority nature protection areas.
9. In addition to these recommendations, the working group notes that nature planners and land managers from existing and new Member States should prepare guidelines to improve the Natura 2000 network,

but modest when compared to the 75 billion co-financing available in 2002 under the current EU Agriculture Budget, Structural and Cohesion Funds and the LIFE-Nature instrument.



Conclusion

Though its resources are modest when compared to the Community budget as a whole (less than 1 per thousand at present), LIFE-Nature's objectives are not devoid of ambition: to contribute to the implementation and development of policy and legislation pertaining to nature protection in the European Union and in particular the establishment of the Natura 2000 network. The accumulation of data relating to various projects over the past decade allows the results to be compiled and to measure their impact in comparison to the objectives of the LIFE Regulation. This study focused on LIFE's contribution to the network of Community protected areas, as this was LIFE-Nature's principal remit under the Regulation.



© Photo Ignacio Torres - Monitoring of bearded vulture in Northeastern Spain.

Natura 2000 was delayed in several Member States both for material and psychological reasons. Mistaken interpretations had arisen which saw the network in terms of 'preserving nature like a museum'. The practical projects carried out by LIFE-Nature revealed what was really the case and persuaded sceptics of the true intentions of the Community legislator. The participation and communication developed at local level, the information and awareness campaigns are a concrete illustration of governance. The projects allowed feedback from the local level to reach political deci-

sion-makers. The Commission's visibility was increased by the participation of Community case managers in many missions to projects, which in turn gave them a better understanding of the consequences of Natura 2000. The LIFE projects' contributions to the interpretation manual for Article 6 of the "Habitats" directive and to discussions within the Habitats Committee are a good illustration of this. The Commission website is publishing project results step-by-step and methods of statistical analysis will in the near future permit communica-



© Photo Marc Thauront - Paeonia parrassika

This publication shows that the results go well beyond what might be expected of LIFE's modest budget. Thus:

- LIFE-Nature has been able to propose a large number of sites for the Natura 2000 network, through its work on inventories and the momentum it gave at local level to acceptance of this policy.
- LIFE-Nature carried out concrete actions in the field in over 10% of the sites in the Natura 2000 network.
- Many local bodies have, through LIFE-Nature projects, been able to support their conservation policy in synergy with the development of the Natura 2000 network. This financial instrument has also helped NGOs to develop and become more professional, whilst imparting, vis-à-vis administrations and socio-economic stakeholders, a legitimacy to their work.
- National authorities have often used LIFE to develop policies to structure Natura 2000 and their own networks of protected areas. Through its often innovative planning of Natura 2000 site management, LIFE-Nature has come to the aid of Member States' efforts to fulfill their obligations under the "Habitats" and "Birds" directives. In particular, LIFE's contribution to the development of the management options outlined in Article 6 of the "Habitats" directive has been very significant.
- LIFE-Nature provided an opportunity to integrate socio-economic stakeholders into partnership and participation initiatives in favour of biodiversity conservation;
- LIFE-Nature has been the most important Community financial instrument in the practical realisation of conservation actions for the benefit of all the habitats of Community interest and most of the threatened species of which the scientific community has sufficient knowledge.

- LIFE-Nature has been a catalyst and a banner under which local stakeholders have been able to act proactively to launch dynamic processes in favour of biodiversity protection.
- Studies conducted under LIFE-Nature have improved knowledge of Europe's natural heritage, and new investigative methods or innovative and pioneering techniques have been developed.
- LIFE-Nature has hitherto been the main instrument for raising awareness of Natura 2000, with almost 7% of its funds invested in this domain.

- LIFE-Nature has acquired the reputation of being a serious financial instrument which can mobilise co-financers; they see it as the guarantee of a good project.
- LIFE-Nature provides lessons on funding the Natura 2000 network. In particular it allows estimates to be made distinguishing between investment and operational needs. It also enables the human resources to be evaluated which the European Union has available to respond to the Natura 2000 challenge in the field.

© Photo Jean-François Dejonghe - Monk seal.





tion to be developed a bit more and the analysis of the strengths and weaknesses of LIFE-Nature vis-à-vis Natura 2000 to be completed. This website is now an element of information between projects, which, progressively, are establishing links and developing the networking notion so dear to Natura 2000. This “family” is also forging links by means of various events at national level (Green Days) or Community level (Green Week and LIFE Week). The gradual bonding of some 600 projects in the various regions of the European Union acts as a catalyst in the creation of the Natura 2000 network. The Natura 2000 network’s rate of coverage by LIFE projects has been

relatively high and sufficiently significant to contribute to stemming the decline in biodiversity. Certainly, not everything has been done and the inventory makes it possible to detect the gaps and to start the debate about possible improvements to the instrument, but the cumulation of all the measures carried out by the projects, whether they concern knowledge of the Natura 2000 network, its management, the participation of institutional and socio-economic stakeholders or information to citizens, is beginning to have a not inconsiderable effect, the more so as LIFE-Nature projects nearly always find the means to continue their work afterwards at either national or local level.

*Taking logs out of the forest in the east of France.
(© Photo Parc Naturel Régional Ballons des Vosges).*

The many examples of synergy between LIFE projects and agri-environmental measures or with the management of catchment basins advanced by the Water Framework Directive, as well as the interaction between naturalists and land users, also bear witness to LIFE’s vocation to put policy integration into practice at the local level.

Interview of July 2002 with Aldo Cosentino

Director General of Nature Conservation at the Ministry of the Environment in Italy.

1. To what extent has LIFE-Nature contributed to the identification and designation of Natura 2000 network sites?

In Italy the LIFE-Nature instrument has played a pivotal role, both during the phase of identifying and proposing sites of Community interest as during the ensuing phases of "Habitats" directive implementation.

The Ministry of the Environment has had two LIFE projects, "Habitat Italia" first and second phases (B4-3200(92)14686 et B4-3200/94/758). Their main objective was to make an inventory of sites hosting species or habitats of Community interest. The work was carried out by the regional authorities under the supervision of the Ministry of the Environment and with the support of scientists. It allowed, in a short timeframe and in conformity with the requirements of the Directive, an Italian list of pSCIs to be produced which was complete, as has been confirmed during biogeographic seminars.

2.2. How has LIFE contributed to the implementation of the "Habitats" directive and in particular to the management of sites in the network? Has LIFE-Nature permitted the elaboration of management plans, the assessment of management costs or the definition and implementation of a monitoring programme to evaluate the conservation status of Natura 2000 sites?

The Italian Ministry of the Environment's Nature Conservation Directorate is the beneficiary of a project, which commenced in 2000, and whose objective is to define management models for the sites in the Italian Natura 2000 network. To this end, management guides will be elaborated per type of site and at the same time, the project intends to draft management plans on 8 sites which reflect the diversity of situations in Italy, in order to obtain tangible contributions to site management (which is the responsibility of regional administrations in Italy).

If we consider all the projects which included management plan preparation, LIFE's contribution in this domain is significant. I am convinced that this is a very important exercise. It allows the authorities responsible to identify and implement management options adapted to local conditions, with considerable freedom of choice and creativity to guarantee a satisfactory conservation status.

On the other hand, we are behind schedule when it comes to our obligation to create a monitoring system for site conservation status, as the Directive stipulates. We are working on it; attaining this objective requires all administrative levels and the scientific community to participate, as well as a good dose of capacity to innovate in order to meet expectations.

3. 10 years after the adoption of the "Habitats" directive can you give an appreciation of the changes, if any, in terms of investments by local and regional administrations and in acceptance by local communities? Has LIFE led to positive changes?

As in other European countries, understanding all the implications of implementing the "Habitats" directive and defining the relative responsibilities of the various administrations has taken some time. As we have already said, the regional authorities have been directly and actively involved in the process of creating the Natura 2000 network, right from the start of the first LIFE projects of which we were beneficiaries. Thus the local authorities were able to involve themselves and improve their knowledge of the Natura 2000 network. In the ensuing phases, the majority of regional administrations assimilated the national and Community rules, and in certain cases even took additional steps for conservation and management.

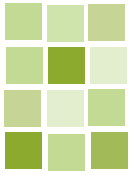
At a more local level, the many LIFE projects carried out in Italy have truly contributed to making the direc-

tive and the Natura 2000 network known, particularly in the ecologically richest zones. In conclusion, I believe that LIFE has made a not inconsiderable contribution, not only to site conservation but also to making the public aware of the need to conserve nature of Community interest, with which Italy is well-endowed.

4. The third phase of Life will end in 2004. Do you think that LIFE has attained its objectives in terms of management and conservation of Natura 2000 sites and species and habitats of Community interest?

LIFE Nature is the only financial instrument specifically dedicated to nature conservation. In this sense its capacity to mobilise local communities, at different territorial levels, around nature conservation has been crucial. In Italy the large number of projects submitted and financed underlines the importance of LIFE-Nature.

I believe that, even if a large share of the structural funds' resources were used for nature conservation, LIFE-Nature would remain a particularly effective tool in view of its particular characteristics. The structural funds can be used, and in some cases already have been used, to provide follow-up funding for actions initially carried out by LIFE projects. Furthermore, considering that 10 years after the adoption of the "Habitats" directive the Natura 2000 network is not yet completely established, I believe that LIFE-Nature could allow projects facilitating the implementation of the directive to be carried to completion for a few more years. A LIFE IV programme is therefore desirable, at least as long as a new financial instrument explicitly dedicated to the funding of Natura 2000 does not take its place. This is a point to which Member States and the Commission have not yet, in my opinion, paid enough attention.



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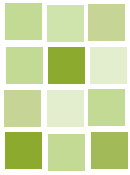
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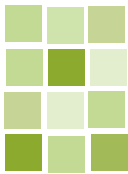
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<p>Restauración ambiental de sectores de Plaiaundi y Jaizubia (Txingudi)</p> <p>1998 - LIFE98 NAT/E/005348 - restauración y gestión de los estanys de Sils</p> <p>1998 - LIFE98 NAT/E/005323 - Albuferas de Adra (<i>Amería</i>), plan de recuperación y conservación</p> <p>1998 - LIFE98 NAT/E/005296 - Plan de recuperación del Quebrantahuesos en los sistemas montañosos del Noreste de España</p> <p>1998 - LIFE98 NAT/E/005326 - Conservación de los núcleos reproductores del Oso pardo cantábrico</p> <p>1998 - LIFE98 NAT/E/005343 - Conservación de lynx pardina en LICs de Extremadura</p> <p>1998 - LIFE98 NAT/E/005361 - estación del refugio de rapaces de Montejo de la Vega (Segovia)</p> <p>1998 - LIFE98 NAT/E/005300 - Programa de Conservación y recuperación de las ZEPAS insulares de la C. Valenciana</p> <p>1998 - LIFE98 NAT/E/005362 - Restauración y protección ambiental de la laguna costera de Valdovíño</p> <p>1998 - LIFE98 NAT/E/005358 - Recuperación de áreas con flora amenazada en Sierra Nevada</p> <p>1998 - LIFE98 NAT/E/005351 - Conservación del Buitre negro en la ZEPAs de Madrid</p> <p>1998 - LIFE98 NAT/E/005354 - Conservación del pinzón azul de Gran Canaria</p> <p>1999 - LIFE99 NAT/E/006343 - Restauración de una reserva integral en la Zepa Riberas de Castronuño</p> <p>1999 - LIFE99 NAT/E/006350 - Gestión del hábitat de <i>Otis tarda</i> en la Zepa de Villafáfila</p> <p>1999 - LIFE99 NAT/E/006352 - Ancares de León : gestión coordinada de dos enclaves LIC contiguos</p> <p>1999 - LIFE99 NAT/E/006333 - Recuperación y conservación de la biodiversidad de la Cuenca del Asón</p> <p>1999 - LIFE99 NAT/E/006325 - Desprivatización de áreas estratégicas en la Comarca de Doñana</p> <p>1999 - LIFE99 NAT/E/006323 - Restauración del hábitats entorno P.N. Tablas de Daimiel</p> <p>1999 - LIFE99 NAT/E/006371 - Ancares de Galicia : gestión coordinada de dos enclaves LIC contiguos</p>	<p>1999 - LIFE99 NAT/E/006419 - Recuperación del Águila perdicera en La Rioja</p> <p>1999 - LIFE99 NAT/E/006402 - Restauración de hábitats e Alto Tajo, Ayllón y Quejigares de Brihuega</p> <p>1999 - LIFE99 NAT/E/006336 - Conservación del Águila imperial, Cigüeña negra, Buitre negro y Lince ibérico</p> <p>1999 - LIFE99 NAT/E/006405 - Restauración, conservación y gestión de la Laguna de Gallocanta-ReCoGeSal</p> <p>1999 - LIFE99 NAT/E/006386 - Restauración y ordenación de las lagunas y sistemas costeros del Baix Ter</p> <p>1999 - LIFE99 NAT/E/006393 - Reintroducción de Focha comuda en dos ZEPAS de la Comunidad Valenciana</p> <p>1999 - LIFE99 NAT/E/006392 - Restauración de los islotes y del risco de Famara (isla de Lanzarote)</p> <p>1999 - LIFE99 NAT/E/006417 - Conservación de hábitats prioritarios en la Comunidad Valenciana</p> <p>1999 - LIFE99 NAT/E/006339 - Humedales de Villacañas</p> <p>1999 - LIFE99 NAT/E/006327 - Conservación de flora y fauna amenazada en el Parque Nacional de Cabañeros</p> <p>1999 - LIFE99 NAT/E/006341 - Conservación hábitat del Falco naumanni en la Zepa de Villafáfila</p> <p>2001 - LIFE00 NAT/E/007327 - Modelo de gestión del hábitat en la Zepa La Serena - Sierra de Tiros (Extremadura, ES)</p> <p>2001 - LIFE00 NAT/E/007331 - Conservación del visón europeo (<i>Mustela lutreola</i>) en La Rioja</p> <p>2001 - LIFE00 NAT/E/007297 - Conservación del hábitat de nidificación de <i>Falco naumanni</i> en Aragón</p> <p>2001 - LIFE00 NAT/E/007299 - Conservación del visón europeo (<i>Mustela lutreola</i>) en Castilla y León</p> <p>2001 - LIFE00 NAT/E/007303 - Protección de praderas de Posidonia en LICs de Baleares</p> <p>2001 - LIFE00 NAT/E/007304 - Mejora de la gestión del LIC y la Zepa de Cabo de Gata-Níjar</p> <p>2001 - LIFE00 NAT/E/007311 - Plan de conservación de la Malvasia cabeciblanca en la Comunidad</p>	<p>Valenciana</p> <p>2001 - LIFE00 NAT/E/007335 - Conservación del visón europeo (<i>Mustela lutreola</i>) en Álava</p> <p>2001 - LIFE00 NAT/E/007337 - Plan de conservación de los quirópteros de la Comunidad Valenciana</p> <p>2001 - LIFE00 NAT/E/007348 - Gestión de la Zepa-LIC "La Serena y Sierras periféricas"</p> <p>2001 - LIFE00 NAT/E/007328 - Conservación de la náide amenazada Margaritifera auricularia en lo río Ebro (Catalunya)</p> <p>2001 - LIFE00 NAT/E/007330 - LIC Parga-Ladra-Támoga : mejora de bosque inundable y lago distófico</p> <p>2001 - LIFE00 NAT/E/007355 - Conservación de áreas con flora amenazada en la isla de Menorca</p> <p>2001 - LIFE00 NAT/E/007336 - Recuperación del Águila de Bonelli en Álava (C.A. País Vasco, ES)</p> <p>2001 - LIFE00 NAT/E/007352 - Conservación del oso cantábrico y lucha contra el furtivismo</p> <p>2001 - LIFE00 NAT/E/007339 - Modelo de restauración de hábitats dunares en la Albufera de Valencia</p> <p>2001 - LIFE00 NAT/E/007340 - Conservación del Buitre Negro en Mallorca y en otras ZEPAS de ES</p> <p>ESTONIA</p> <p>2001 - LIFE00 NAT/EE/007082 - Restoration and management of the Häädemeeste wetland complex</p> <p>2001 - LIFE00 NAT/EE/007081 - Recovery of <i>Mustela lutreola</i> in Estonia : captive and island populations</p> <p>2001 - LIFE00 NAT/EE/007083 - Boreal Baltic Coastal Meadow Preservation in Estonia</p> <p>FRANCE</p> <p>1992 - LIFE92 NAT/F/012600 - Sauvegarde de la richesse biologique du bassin du Drugeon.</p> <p>1992 - LIFE92 NAT/F/012700 - Protection des tétraonidés dans les forêts du Jura</p> <p>1992 - LIFE92 NAT/F/012500 - Sauvegarde des prés-salés continentaux de Lorraine</p> <p>1992 - LIFE92 NAT/F/012900 - Première phase de protection et de gestion de la vallée de la Loire et de ses affluents</p> <p>1992 - LIFE92 NAT/F/012800 - Première phase de protection et de gestion des vallées alluviales du Nord et de</p>
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l'Est de la France

- 1993 - Multi bénéficiaires - Protection et gestion de la Crau sèche
- 1993 - LIFE93 NAT/F/010300 - Actions démonstratives et incitatives pour la gestion équilibrée des écosystèmes des Grands Causses et des Causses du Quercy
- 1994 - LIFE94 NAT/F/000834 - Programme de sauvegarde des zones humides de la Petite Woëvre
- 1994 - LIFE94 NAT/F/000836 - Promotion des sites français inscrits à la Convention de RAMSAR
- 1994 - LIFE94 NAT/F/000841 - Sauvetage du lac de Grand Lieu
- 1994 - LIFE94 NAT/F/000860 - Programme pour la sauvegarde des étangs littoraux du Languedoc - Roussillon
- 1994 - LIFE94 NAT/F/000862 - Restauration de l'Esturgeon européen (*Acipenser sturio*)
- 1994 - LIFE94 NAT/F/000854 - Mise au point d'un modèle de gestion des habitats aquatiques en Dombes
- 1994 - LIFE94 NAT/F/000839 - Tourbières en Midi-Pyrénées
- 1994 - LIFE94 NAT/F/000845 - Conservation des habitats naturels et des espèces végétales d'intérêt communautaire prioritaire de la Corse
- 1994 - LIFE94 NAT/F/000857 - Programme de sauvegarde du patrimoine naturel de la Brenne
- 1995 - LIFE95 NAT/F/000493 - Sources salées d'Auvergne
- 1995 - LIFE95 NAT/F/000533 - Elaboration expérimentale de plans de gestion sur des sites français du futur réseau Natura 2000
- 1995 - LIFE95 NAT/F/000494 - Programme de protection des tourbières de France
- 1995 - LIFE95 NAT/F/000511 - Mise en Place d'un Modèle de Gestion Intégrée des Zones Humides du Cotentin
- 1996 - LIFE96 NAT/F/003200 - La chênaie verte méditerranéenne : démonstration de gestion intégrée.
- 1996 - LIFE96 NAT/F/003202 - Conservation des grands carnivores en Europe : loup en France
- 1996 - LIFE96 NAT/F/004794 - Conservation des grands carnivores en Europe : ours en Pyrénées centrales
- 1996 - LIFE96 NAT/F/003207 - Programme expérimental de

conservation de l'Outarde

- canepetière *Tetrax tetrax* et de la faune associée en France
- 1996 - LIFE96 NAT/F/003215 - Gestion des prairies inondables de la moyenne vallée de l'Oise
- 1997 - LIFE97 NAT/F/004119 - Le Faucon crécerellette en région méditerranéenne française
- 1997 - LIFE97 NAT/F/004226 - Réintroduction d'*Oxyura leucocephala* sur l'Etang de Biguglia
- 1997 - LIFE97 NAT/F/004229 - Oiseaux d'eau de la façade atlantique
- 1997 - LIFE97 NAT/F/004120 - Vautour moine et rapaces nécrophages des Gorges de la Jonte
- 1998 - LIFE98 NAT/F/005208 - Stratégie de conservation de l'Apron
- 1998 - LIFE98 NAT/F/005250 - Archipels et îlots marins de Bretagne
- 1998 - LIFE98 NAT/F/005243 - Restauration et Conservation des Habitats de la Forêt de Haguenau
- 1998 - LIFE98 NAT/F/005237 - Programme de protection des pelouses sèches relictuelles de France
- 1998 - LIFE98 NAT/F/005225 - Sauvetage du Grand Saumon de Loire
- 1998 - LIFE98 NAT/F/005212 - Sauvegarde et restauration de l'Esturgeon européen
- 1998 - LIFE98 NAT/F/005200 - Gestion conservatoire de landes et pelouses en région méditerranéenne
- 1998 - LIFE98 NAT/F/005197 - Conservation du Gypaète barbu en Corse
- 1998 - LIFE98 NAT/F/005194 - Conservation du Gypaète barbu dans les Alpes françaises
- 1998 - LIFE98 NAT/F/005192 - Zones humides du Pays de Gavot
- 1998 - LIFE98 NAT/F/005216 - Préserver le patrimoine naturel de la Haute-Vézère
- 1999 - LIFE99 NAT/F/006315 - Conservation et restauration des habitats du Ried de l'III à Sélestat
- 1999 - LIFE99 NAT/F/006332 - Espèces prioritaires, pelouses et éboulis du bassin aval de la Seine
- 1999 - LIFE99 NAT/F/006321 - Lac du Bourget
- 1999 - LIFE99 NAT/F/006309 - Restauration des pelouses sèches des Causses aveyronnais
- 1999 - LIFE99 NAT/F/006299 - Le retour du loup dans les Alpes françaises
- 1999 - LIFE99 NAT/F/006313 -

Préservation des Basses Vallées de l'Essonne et de la Juine

- 1999 - LIFE99 NAT/F/006304 - Conservation des mares temporaires méditerranéennes
- 1999 - LIFE99 NAT/F/006301 - Habitats et espèces des Gorges de l'Ardèche et leurs plateaux
- 1999 - LIFE99 NAT/F/006314 - Forêts et habitats associés de la Bourgogne calcaire
- 1999 - LIFE99 NAT/F/006318 - Gestion des habitats xérothermiques de la Hardt Nord
- 1999 - LIFE99 NAT/F/006312 - Pelouses sèches et habitats complémentaires du Quercy
- 2001 - LIFE00 NAT/F/007277 - Conservation et restauration des habitats de la bande rhénane
- 2001 - LIFE00 NAT/F/007273 - Pour une gestion conservatoire des habitats à pin laricio
- 2001 - LIFE00 NAT/F/007269 - Programme de restauration et de gestion des habitats du Butor étoilé en FR
- 2001 - LIFE00 NAT/F/007252 - Sauvegarde du grand saumon de Loire

HUNGARY

- 2001 - LIFE00 NAT/H/007162 - Funding the base of long term large carnivore conservation in Hungary

INTERNATIONAL

- 1993 - Multi bénéficiaires - Conservation programme for three threatened vertebrate species in the Pyrenees

IRELAND

- 1992 - LIFE92 NAT/IRL/013500 - Protection of habitats of Community importance under Council Directives 79/409/EEC and 92/43/EEC (phase I)
- 1993 - LIFE93 NAT/IRL/012200 - Protection of habitats of Community importance under Council Directives 79/409/EEC and 92/43/EEC (phase II)
- 1995 - LIFE95 NAT/IRL/000822 - Development of management plans and emergency actions aimed at candidate SAC's.
- 1996 - LIFE96 NAT/IRL/003240 - Management planning, monitoring, auditing of management and land acquisition for SPAs in Ireland
- 2001 - LIFE00 NAT/IRL/007128 -

<p>Restoration Management for Annex I Birds at Termoncarragh Lake SPA</p> <p>2001 - LIFE00 NAT/IRL/007145 - The re-introduction of Golden eagle into the Republic of Ireland</p> <p>ITALIA</p> <p>1992 - Multi bénéficiaires - Azione coordinata a favore dei mammiferi delle Alpi ed Appennini</p> <p>1992 - LIFE92 NAT/IT/013100 - Programma Habitat Italia</p> <p>1993 - Multi bénéficiaires - Programma d'azione urgente per le aree protette in Italia (first phase)</p> <p>1993 - Multi bénéficiaires - Programma di conservazione per l'area geografica del Parco del Delta Po (prima fase)</p> <p>1994 - LIFE94 NAT/IT/001140 - Habitat gole rupestri</p> <p>1994 - LIFE94 NAT/IT/000602 - Ripristino e salvaguardia della Duna litoranea del Parco Nazionale del Circeo quale habitat naturale di interesse comunitario ai sensi della Direttiva 92/43 CEE del Consiglio del 21 maggio 1992</p> <p>1994 - LIFE94 NAT/IT/001048 - Biotaly</p> <p>1994 - LIFE94 NAT/IT/000538 - Programma di conservazione per l'area geografica del Parco Delta del Po (Seconda fase)</p> <p>1995 - LIFE95 NAT/IT/000742 - NIBBIO : miglioramento della recettività nei confronti dell'avifauna dei biotopi lungo le principali rotte migratorie del Trentino (Italia)</p> <p>1995 - LIFE95 NAT/IT/000693 - Programma d'azione urgente per le aree protette in Italia (second phase)</p> <p>1995 - LIFE95 NAT/IT/000617 - Misure urgenti di protezione, conservazione e gestione dell'oasi di Alviano - Zona di Protezione Speciale (ZPS)</p> <p>1995 - LIFE95 NAT/IT/000610 - Misure di salvaguardia delle popolazioni relitte di <i>Abies alba</i> Miller, <i>Picea excelsa</i> Lam, <i>Taxus baccata</i> L. e dei loro habitat naturali sull'Appennino Emiliano</p> <p>1995 - LIFE95 NAT/IT/000757 - Progetto di salvaguardia e riqualificazione di habitat di interesse comunitario in località Rauccio-Sorgenti dell'Idume - Masseria la Loggia</p> <p>1995 - LIFE95 NAT/IT/000616 - Programma di conservazione per l'area geografica del Parco del Delta del Po (Provincia di Ravenna)</p> <p>1995 - LIFE95 NAT/IT/000657 -</p>	<p>Conservazione dei principali habitat acquatici della Provincia di Siena</p> <p>1995 - LIFE95 NAT/IT/000764 - Valgrande Wilderness</p> <p>1995 - LIFE95 NAT/IT/000762 - Proposta per la messa a punto di un modello per il monitoraggio integrato delle risorse ambientali in aree sensibili (Natura 2000)</p> <p>1995 - LIFE95 NAT/IT/000753 - Riqualificazione e ripristino ambientale delle paludi di Mare e Pauli e Pauli e Sali (Stagno di Cabras) e loro infrastrutturazione per la loro protezione e gestione ecologica</p> <p>1995 - LIFE95 NAT/IT/000807 - Misura di conservazione della zona umida delle Cesine e riduzione dell'impatto antropico</p> <p>1995 - LIFE95 NAT/IT/000739 - Completamento del ripristino e salvaguardia della duna litoranea del Parco Nazionale del Circeo</p> <p>1995 - LIFE95 NAT/IT/000703 - Misure urgenti per la conservazione della biodiversità animale nel Parco Nazionale del Pollino</p> <p>1995 - LIFE95 NAT/IT/000804 - Progetto di riqualificazione ambientale e dell'habitat della fascia costiera tra Trapani e Marsala - Riserva dello Stagnone e delle Saline di Trapani - Paceco</p> <p>1995 - LIFE95 NAT/IT/000698 - Habitat di <i>Numenius tenuirostris</i> e di altre specie ornitiche minacciate : progettazione ed esecuzione di interventi di ampliamento e gestione degli ambienti di palude salmastra della Laguna di Orbetello</p> <p>1996 - LIFE96 NAT/IT/003169 - Conservazione di habitat prioritari con Abete bianco nei Siti Natura 2000 nel centro-sud Italia.</p> <p>1996 - LIFE96 NAT/IT/003073 - Active preservation of the natural reserve Valli del Mincio.</p> <p>1996 - LIFE96 NAT/IT/003171 - Tutela del sito Natura 2000 M.te Lattias in Sardegna.</p> <p>1996 - LIFE96 NAT/IT/003052 - Siti Natura 2000 nel Parco del Mont Avic : tutela e fruizione.</p> <p>1996 - LIFE96 NAT/IT/003060 - Programma risorgive Fontane Bianche di Lancenigo.</p> <p>1996 - LIFE96 NAT/IT/003075 - Tutela di grotte e chiroteri nella gestione di boschi e prati magri.</p> <p>1996 - LIFE96 NAT/IT/003106 - GILIA</p>	<p>(agiotoponimo alto medievale presente in più punti della Stagno).</p> <p>1996 - LIFE96 NAT/IT/003170 - Interventi di conservazione e gestione della Palude Brabbia.</p> <p>1996 - LIFE96 NAT/IT/003115 - Azioni di conservazione del lupo in sei siti S.I.C. del Parco Regionale dell'Alto Appennino Reggiano.</p> <p>1996 - LIFE96 NAT/IT/003165 - Interventi urgenti per salvaguardare habitat steppici in Sardegna.</p> <p>1996 - LIFE96 NAT/IT/003152 - Progetto URSUS : tutela della popolazione di orso bruno del Brenta.</p> <p>1996 - LIFE96 NAT/IT/003074 - Parco Nazionale Stelvio : Misure urgenti per conservare la natura.</p> <p>1996 - LIFE96 NAT/IT/003068 - Recupero ambientale dei siti di interesse comunitario (Bioitaly) inclusi nel Parco Regionale delle Groane.</p> <p>1996 - LIFE96 NAT/IT/003066 - Interventi nella riserva naturale orientata di Castellaro Lagusello.</p> <p>1997 - LIFE97 NAT/IT/004108 - Riqualificazione della biocenosi in Valvestino-Corno della Marogna</p> <p>1997 - LIFE97 NAT/IT/004132 - Recupero e salvaguardia di habitat minacciati nella Riserva Naturale Tevere-Farfa</p> <p>1997 - LIFE97 NAT/IT/004127 - Risanamento del Massaciuccoli, sito elettivo del tarabuso</p> <p>1997 - LIFE97 NAT/IT/004125 - Ventotene/S. Stefano : esempio di conservazione e sviluppo</p> <p>1997 - LIFE97 NAT/IT/004115 - Azioni di conservazione della faggeta appenninica di <i>Taxus</i> e <i>Ilex</i> e di miglioramento dell'habitat per l'<i>Ursus arctos marsicanus</i></p> <p>1997 - LIFE97 NAT/IT/004134 - Conservazione e recupero di Foreste alluvionali e di boschi periferiali nel Parco Regionale Lombardo della Valle del Ticino</p> <p>1997 - LIFE97 NAT/IT/004153 - Capraia e Isole Minori della Toscana : tutela della biodiversità</p> <p>1997 - LIFE97 NAT/IT/004097 - Azioni urgenti di conservazione di grandi carnivori nell'Arco Alpino</p> <p>1997 - LIFE97 NAT/IT/004159 - Azioni su Siti NATURA 2000 della Regione Mediterranea</p> <p>1997 - LIFE97 NAT/IT/004140 - Dune di Piscinas-Monte Arcuentu</p> <p>1997 - LIFE97 NAT/IT/004141 - Conservazione di lupo e orso nei nuovi parchi Centro-Appenninici</p>
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1997 - LIFE97 NAT/IT/004089 - N.EC.TO.N (Nuovi ECosistemi sul TOrrente Noce) : Interventi urgenti di rinaturalizzazione nel biotopo La Rocchetta (Trentino, Italia)

1997 - LIFE97 NAT/IT/004145 - Area strategica di Pian delle Faggete : azioni urgenti di tutela

1997 - LIFE97 NAT/IT/004177 - Progetto di conservazione e gestione integrata della Laguna di S'Ena Arrubia (Oristano, Sardegna)

1997 - LIFE97 NAT/IT/004171 - Monitoraggio e gestione delle zone umide inserite in NATURA 2000

1997 - LIFE97 NAT/IT/004163 - Azioni per la conservazione ed il ripristino delle abetaie appenniniche con *Abies alba* e *Picea excelsa* e faggete con *Abies alba*

1997 - LIFE97 NAT/IT/004143 - Conservazione e sviluppo di *Rupicapra ornata* in "Siti NATURA 2000" del Gran Sasso

1998 - LIFE98 NAT/IT/005032 - Lago di Caldaro - un'oasi per gli uccelli migratori nel cuore delle Alpi

1998 - LIFE98 NAT/IT/005075 - Riqualificazione ambientale area delle sorgenti dell'Arno

1998 - LIFE98 NAT/IT/005112 - Azioni integrate a salvaguardia di due Siti NATURA 2000 del Tarvisiano

1998 - LIFE98 NAT/IT/005138 - Riqualificazione di habitat fluviali del Taro vitali per l'avifauna

1998 - LIFE98 NAT/IT/005136 - Beigua : interventi urgenti per habitat prativi prioritari

1998 - LIFE98 NAT/IT/005133 - Pellegrino

1998 - LIFE98 NAT/IT/005130 - Salvaguardia di habitat e siti di nidificazione nel Delta del Po

1998 - LIFE98 NAT/IT/005125 - Tutela della biodiversità nella Valtiberina Toscana

1998 - LIFE98 NAT/IT/005121 - Azioni urgenti di protezione habitat prioritaria nel P. N. del Gargano

1998 - LIFE98 NAT/IT/005117 - Parco della Maremma : gestione degli habitat palustri e dunali

1998 - LIFE98 NAT/IT/005066 - Progetto risorgive dello Stella

1998 - LIFE98 NAT/IT/005114 - Azioni urgenti pro Orso nei SIC del Parco Regionale Sirente-Velino

1998 - LIFE98 NAT/IT/005037 - V. Curone - V. S. Croce : tutela habitat prioritari

1998 - LIFE98 NAT/IT/005095 - Azioni urgenti per la conservazione di

Pelobates fuscus insubricus

1998 - LIFE98 NAT/IT/005094 - Tutela degli habitat e delle specie prioritari nei SIC dell'Italia Meridionale

1998 - LIFE98 NAT/IT/005093 - Azioni urgenti di salvaguardia di SIC nel futuro P. N. Gennargentu

1998 - LIFE98 NAT/IT/005089 - Conservazione di foreste nel Parco Naturale Regionale del Conero

1998 - LIFE98 NAT/IT/005053 - Progetto Aspromonte : Tutela e recupero di habitat prioritari minacciati

1998 - LIFE98 NAT/IT/005047 - RI.S.MA. Riqualificazione Ambientale Riserva Naturale Sasso Malascarpa

1998 - LIFE98 NAT/IT/005044 - Gestione naturalistica della Valle del Bitto di Gerola

1999 - LIFE99 NAT/IT/006254 - SWATCH-Sile's Wet Areas Together Conserve How

1999 - LIFE99 NAT/IT/006253 - Palata Menasciutto : gestione e conservazione del bosco igrofilo

1999 - LIFE99 NAT/IT/006260 - Tutela dell'abete bianco nell'Appennino Centro Meridionale (Ila fase)

1999 - LIFE99 NAT/IT/006229 - Monte Labbro e Alta Valle dell'Albegna, Tutela e Gestione

1999 - LIFE99 NAT/IT/006252 - Ripristino foreste alluvionali - Riserva Naturale Naviglio di Melotta

1999 - LIFE99 NAT/IT/006248 - Azioni urgenti di conservazione di alcuni SIC in comune di Foligno

1999 - LIFE99 NAT/IT/006246 - Barene-protezione e recupero con tecniche di ingegneria naturalistica

1999 - LIFE99 NAT/IT/006245 - Bosco Fontana :azioni urgenti di conservazione habitat relitto

1999 - LIFE99 NAT/IT/006237 - Restauro di habitat di prateria nei SIC Monte Gemelli, Monte Guffone

1999 - LIFE99 NAT/IT/006235 - Conservazione e risanamento ambientale del Lago di Alserio

1999 - LIFE99 NAT/IT/006217 - Tutela delle specie vegetali prioritarie delle isole Eolie

1999 - LIFE99 NAT/IT/006279 - Verifica della Rete NATURA 2000 in Italia e modelli di gestione

1999 - LIFE99 NAT/IT/006275 - Protezione di habitat marini e costieri nei SIC del Tirreno Meridionale

1999 - LIFE99 NAT/IT/006271 - Azioni urgenti di conservazione di *Caretta caretta* nelle isole Pelagie

1999 - LIFE99 NAT/IT/006270 - Ripristino e riqualificazione ambientale del biotopo Capo Feto

1999 - LIFE99 NAT/IT/006212 - Biodiversità nella Torbiere d'Iseo, conservazione e gestione

1999 - LIFE99 NAT/IT/006209 - Progetto per la salvaguardia del lupo nel Parco Nazionale del Pollino

1999 - LIFE99 NAT/IT/006189 - Juniper dunes : Ripristino e conservazione SIC Monte Russo

1999 - LIFE99 NAT/IT/006244 - Conservazione dell'Orso Bruno (*Ursus arctos*) nell'Appennino Centrale

2001 - LIFE00 NAT/IT/007147 - Conservazione degli habitat e delle specie del SIC Bosco della Mesola

2001 - LIFE00 NAT/IT/007166 - Progetto integrato 'Trebbia'

2001 - LIFE00 NAT/IT/007131 - Progetto URSUS - seconda fase di tutela per l'orso bruno del Brenta

2001 - LIFE00 NAT/IT/007281 - Progetto NEMOS - riqualificazione ambienti umidi alpini

2001 - LIFE00 NAT/IT/007142 - Miglioramento degli habitat di Uccelli e bonifica di impianti elettrici

2001 - LIFE00 NAT/IT/007159 - Conservazione di *Austropotamobius pallipes* in due SIC della Lombardia

2001 - LIFE00 NAT/IT/007161 - Paludi di Ostiglia : interventi di salvaguardia dell'avifauna prioritaria

2001 - LIFE00 NAT/IT/007214 - Azioni di conservazione del lupo (*Canis lupus*) in 10 siti SIC di tre Parchi della Regione Emilia-Romagna

2001 - LIFE00 NAT/IT/007266 - Sorgenti petrificanti e prati magri in V.S. Croce e V. Curone

2001 - LIFE00 NAT/IT/007268 - Conservazione di *Salmo marmoratus* e *Rutilus pigus* nel Fiume Ticino

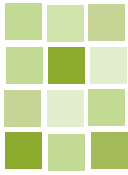
2001 - LIFE00 NAT/IT/007233 - Progetto *Pelobates* nel Parco Naturale della Valle del Ticino Piemonte

2001 - LIFE00 NAT/IT/007170 - HABIO : Tutela della biodiversità nell'area Calvana-Monteferrato

2001 - LIFE00 NAT/IT/007228 - Conservazione in situ ed ex situ di *Abies nebrodensis* (Lojac) Mattei

2001 - LIFE00 NAT/IT/007215 - Ripristino ecologico e conservazione degli habitat nella Salina del SIC Valli di Comacchio

<p>2001 - LIFE00 NAT/IT/007216 - Conservazione dei chiroteri e loro ambienti di foraggiamento nella R.N.O. di Onferno nel sito SIC omonimo</p> <p>2001 - LIFE00 NAT/IT/007139 - Chiroteri, habitat calcarei e sorgenti petrificanti nel Parco Campo dei Fiori</p> <p>2001 - LIFE00 NAT/IT/007239 - Conservazione delle praterie montane nell'Appennino Toscano</p> <p>2001 - LIFE00 NAT/IT/007246 - Ripristino della Lanca di Solitario</p> <p>2001 - LIFE00 NAT/IT/007209 - Conservazione e gestione del Biotopo Palude di S. Genuario</p> <p>2001 - LIFE00 NAT/IT/007208 - Azioni urgenti per la tutela del SIC "Laguna di Orbetello"</p> <p>2001 - LIFE00 NAT/IT/007258 - Gestione integrata di ambiente prealpino-insubrici</p> <p>LATVIA</p> <p>2001 - LIFE00 NAT/LV/007124 - Protection and management of two Important Bird Areas of Latvia</p> <p>2001 - LIFE00 NAT/LV/007127 - Measures to ensure the nature conservation management of Teici Area</p> <p>2001 - LIFE00 NAT/LV/007134 - Implementation of management plan for Lake Engure Nature Park</p> <p>LUXEMBOURG</p> <p>1996 - LIFE96 NAT/L/003195 - Conservation de 4 espèces de batraciens au Luxembourg</p> <p>1999 - LIFE99 NAT/L/006284 - Revalorisation écologique de la Vallée supérieure de l'Alzette</p> <p>NEDERLAND</p> <p>1993 - LIFE93 NAT/NL/010700 - Kwelderplan Friesland Buitendijks</p> <p>1996 - LIFE96 NAT/NL/003010 - Integraal herstelplan Naardermeer</p> <p>1997 - LIFE97 NAT/NL/004210 - Black Vulture Conservation in a European Network</p> <p>1998 - LIFE98 NAT/NL/005159 - Restoration plan for the important bird area "Nieuwkoopse Plassen"</p> <p>1999 - LIFE99 NAT/NL/006282 - Restoration and demonstration project pSCI "De Wieden en De Weerribben"</p> <p>1999 - LIFE99 NAT/NL/006280 - Restoration programma of the Fochterloërveen raised bog</p> <p>2001 - LIFE00 NAT/NL/007050 - Biotope</p>	<p>improvement for <i>Crex crex</i> in the brook valley of SPA Drents-Friese Wold</p> <p>2001 - LIFE00 NAT/NL/007049 - Peat bog restoration programme of the Korenburgerveen</p> <p>ÖSTERREICH</p> <p>1995 - LIFE95 NAT/A/000445 - Sicherung von Feuchtgebieten und bedrohten Arten im Mittleren Ennstal</p> <p>1995 - LIFE95 NAT/A/000399 - Bärenschutzprogramm Österreich</p> <p>1995 - LIFE95 NAT/A/000768 - Ramsar Management March-Thaya Auen</p> <p>1996 - LIFE96 NAT/A/003226 - Feuchtgebietsmanagement im Oberen Waldviertel.</p> <p>1997 - LIFE97 NAT/A/004117 - Wildnisgebiet Dürrenstein/Niederösterreich</p> <p>1997 - LIFE97 NAT/A/004207 - Hörfeld-Moor (Kärnten-Steiermark)</p> <p>1998 - LIFE98 NAT/A/005417 - Nationalpark Thayatal / Niederösterreich</p> <p>1998 - LIFE98 NAT/A/005422 - Gewässervernetzung und Lebensraummanagement Donauauen</p> <p>1998 - LIFE98 NAT/A/005420 - Wildflußgebiet Lafnitztal</p> <p>1998 - LIFE98 NAT/A/005423 - Wasserhaushalt Naturschutzgebiet Rheindelta</p> <p>1998 - LIFE98 NAT/A/005418 - Pannonische Sanddünen</p> <p>1998 - LIFE98 NAT/A/005413 - Wasserwelt March-Thaya-Auen</p> <p>1999 - LIFE99 NAT/A/006055 - Auenverbund Obere Drau (Kärnten)</p> <p>1999 - LIFE99 NAT/A/006054 - Lebensraum Huchen</p> <p>1999 - LIFE99 NAT/A/005916 - Das Wengermoor-Projekt</p> <p>1999 - LIFE99 NAT/A/005915 - Management von Naturwäldern im Nationalpark Kalkalpen</p> <p>2001 - LIFE00 NAT/A/007051 - Auenmanagement Theiss</p> <p>2001 - LIFE00 NAT/A/007053 - Wildflusslandschaft Tiroler Lech</p> <p>2001 - LIFE00 NAT/A/007055 - Schütt-Dobratch</p> <p>2001 - LIFE00 NAT/A/007069 - Lebensraumsicherung fuer Myosotis rehsteineri in Bregenz</p> <p>PORTUGAL</p> <p>1992 - LIFE92 NAT/P/014200 - Montado do Urzal - Parque Natural da</p>	<p>Madeira</p> <p>1992 - LIFE92 NAT/P/013900 - Primeira fase do conservação da avifauna das zonas estepicas de Castro Verde</p> <p>1992 - LIFE92 NAT/P/014100 - Restabelecimento e Manutenção dos Pauis do Baixo Mondego</p> <p>1992 - LIFE92 NAT/P/014000 - Preservação e valorização do patrimonio natural do troço médio do vale do Guadiana</p> <p>1993 - LIFE93 NAT/P/011600 - Conhecimento e gestão do Patrimonio Natural de Portugal</p> <p>1994 - LIFE94 NAT/P/001049 - Inventário e cartografia da vegetação natural dos Açores de interesse comunitário</p> <p>1994 - LIFE94 NAT/P/001032 - Conservação do Priolo</p> <p>1994 - LIFE94 NAT/P/001052 - Medidas urgentes para a conservação e recuperação de espécies e habitats de grande interesse comunitário no arquipélago da Madeira</p> <p>1994 - LIFE94 NAT/P/001055 - Conservação do lobo em Portugal</p> <p>1994 - LIFE94 NAT/P/001058 - Conservação do Lince Ibérico</p> <p>1994 - LIFE94 NAT/P/001043 - Habitats naturais e de espécies da flora de Portugal (Continente)</p> <p>1995 - LIFE95 NAT/P/000178 - Primeira fase do conservação da avifauna das zonas estepicas de Castro Verde (II)</p> <p>1995 - LIFE94 NAT/P/001034 - Conservação das comunidades e habitats de aves marinhas dos Açores</p> <p>1995 - LIFE95 NAT/P/000125 - Medidas para a Recuperação do Habitat Terrestre da Deserta Grande</p> <p>1995 - LIFE95 NAT/P/000137 - Novas Tecnologias Aplicadas à Conservação da Natureza do Vale do Guadiana (Região de Mértola)</p> <p>1996 - LIFE96 NAT/P/003019 - Projecto de apoio à conservação da tartaruga marinha <i>Caretta caretta</i> no Atlântico Norte</p> <p>1996 - LIFE96 NAT/P/003022 - Estudo e Conservação do Património Natural dos Açores</p> <p>1997 - LIFE97 NAT/P/004082 - Medidas de gestão e de conservação da floresta laurissilva da Madeira (código 45.62)</p> <p>1997 - LIFE97 NAT/P/004075 - Uma estratégia de conservação para o</p>
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Saramugo (*Anaeypris hispanica*)
 1998 - LIFE98 NAT/P/005236 - Recuperação de espécies e habitats prioritários da Madeira
 1998 - LIFE98 NAT/P/005235 - Rede NATURA 2000 na Península de Setúbal/Sado
 1998 - LIFE98 NAT/P/005234 - Conservação de quatro espécies raras no pSIC (Valongo)
 1998 - LIFE98 NAT/P/005239 - Moluscos Terrestres do Porto Santo e Ilhéus Adjacentes
 1998 - LIFE98 NAT/P/005229 - *Asphodelus bento* - rainhae - medidas de conservação e gestão
 1998 - LIFE98 NAT/P/005267 - Projecto Porphyrio - Reintrodução do Caimão no Baixo Mondego
 1998 - LIFE98 NAT/P/005275 - Gestão integrada de zonas costeiras e marinhas nos Açores
 1999 - LIFE99 NAT/P/006431 - Conservação de espécies vegetais prioritárias e raras da Madeira
 1999 - LIFE99 NAT/P/006432 - Projecto para a conservação dos Cetáceos no Arquipélago da Madeira
 1999 - LIFE99 NAT/P/006436 - Recuperação da Floresta Laurisilva nas Funduras
 1999 - LIFE99 NAT/P/006439 - Recuperação dos habitats naturais do vale do Rio Gerês
 1999 - LIFE99 NAT/P/006441 - Montados do Sítio de Cabeção : gestão de Habitats e Espécies
 1999 - LIFE99 NAT/P/006423 - Recuperação do habitat e das presas de *Lynx pardinus* na Serra da Malcata
 2001 - LIFE00 NAT/P/007097 - Conservação da Freira da Madeira através da recuperação do seu habitat
 2001 - LIFE00 NAT/P/007100 - ZPE do Estuário do Tejo - Recuperação de Santuários da Avifauna
 2001 - LIFE00 NAT/P/007085 - Palustris - Gestão da Zona Especial de Conservação do Paul de Arzila
 2001 - LIFE00 NAT/P/007088 - Conservação das populações de aves das salinas do Estuário do Sado

ROMANIA

1999 - LIFE99 NAT/RO/006391 - Conservation of an Euro-siberian-wood with oak (*Quercus robur*)
 1999 - LIFE99 NAT/RO/006404 - "In situ"

conservation of the Romanian Meadow Viper (*Vipera ursinii*)
 1999 - LIFE99 NAT/RO/006394 - Conservation of the Natural Wet Habitat "The Bogs of Satchinez"
 1999 - LIFE99 NAT/RO/006411 - Habitat conservation in the Bucegi National Park/Romania
 1999 - LIFE99 NAT/RO/006400 - Integrated Management plan for the "Small Island of Braila"
 1999 - LIFE99 NAT/RO/006429 - Survival of *Romanychthys valsanicola*
 1999 - LIFE99 NAT/RO/006435 - Enhancement of Piatra Craiului National Park
 2001 - LIFE00 NAT/RO/007194 - Conservation of the dolphins from the Romanian Black Sea waters
 2001 - LIFE00 NAT/RO/007174 - Functional Ecological Network in central Transylvania Plain
 2001 - LIFE00 NAT/RO/007171 - Iron Gates National Park - habitat conservation and management
 2001 - LIFE00 NAT/RO/007187 - Conservation program for Bat's Underground Habitats in SW Carpathians

SLOVENIA

2001 - LIFE00 NAT/SLO/007223 - Management plan and urgent actions for Veternik and Oslica high dry meadows
 2001 - LIFE00 NAT/SLO/007231 - Peatbogs in Triglav National Park
 2001 - LIFE00 NAT/SLO/007226 - Restoring and conserving habitats and birds in Skocjanski Zatok N.R.

SUOMI FINLAND

1995 - LIFE95 NAT/FIN/000102 - Protection of bilberry and fern western taiga habitats and their associated species (White-backed Woodpecker)
 1995 - LIFE95 NAT/FIN/000097 - Protecting flying squirrel habitats in the Nuukio area
 1995 - LIFE95 NAT/FIN/000156 - Conservation of Liminganlahti wetland
 1995 - LIFE95 NAT/FIN/000147 - Saimaa ringed seal management plan in Lake Pihlajavesi
 1995 - LIFE95 NAT/FIN/000099 - Merikotkan (*Haliaetus albicilla*) nykyisten ja potentiaalisten pesimäympäristöjen säilyttäminen
 1996 - LIFE96 NAT/FIN/003025 -

Restoration of active raised bogs, aapamires and bog woodland in Natura 2000 sites
 1996 - LIFE96 NAT/FIN/003026 - Protection of old-growth forests in Kuusamo area
 1996 - LIFE96 NAT/FIN/003028 - Biodiversity management in Natura 2000-areas of the Yyteri Peninsula
 1996 - LIFE96 NAT/FIN/003027 - Restoration of grasslands and pastures in Archipelago National Park and Biosphere Reserve
 1996 - LIFE96 NAT/FIN/003023 - Rahja archipelago
 1997 - LIFE97 NAT/FIN/004098 - Suomen kiljuhanhipopulaatioiden (*Anser erythropus*) suojelu
 1997 - LIFE97 NAT/FIN/004095 - Protection of aapa-mires in Lapland and Ostrobothnia
 1997 - LIFE97 NAT/FIN/004110 - Quark Archipelago
 1997 - LIFE97 NAT/FIN/004102 - Conservation and Management of the Porvoonjoki Estuary - Stenböle Natura 2000 Area
 1997 - LIFE97 NAT/FIN/004105 - Viikki-Vanhankaupunginlahti ; Lintuparatiisi keskellä Helsingissä
 1997 - LIFE97 NAT/FIN/004086 - Restoration of fluvial ecosystems containing pearl mussels
 1997 - LIFE97 NAT/FIN/004090 - Biologisk mångfald : " Återskapande och vård av lövängar, Åland"
 1998 - LIFE98 NAT/FIN/005325 - Metsäpeuran (*Rangifer tarandus fennicus*) rotupuhtauden turvaaminen
 1999 - LIFE99 NAT/FIN/006276 - Integration of protection and usages of bird areas in Lapland
 1999 - LIFE99 NAT/FIN/006267 - Conservation of Yllas-Aakenus Western Taiga Forest Area in Lapland
 1999 - LIFE99 NAT/FIN/006268 - Combining protection with other forms of land use in the boreal forests of the Syöte
 1999 - LIFE99 NAT/FIN/006251 - Protection of Taiga and Freshwater Ecosystems in Central Finland
 1999 - LIFE99 NAT/FIN/006278 - Management of the most precious wetlands in SW Finland
 1999 - LIFE99 NAT/FIN/006272 - Conservation and management of boreal groves
 1999 - LIFE99 NAT/FIN/006247 -

<p>Deciduous Western Taiga and Herb-rich Forests in Pohjois-Savo</p> <p>2001 - LIFE00 NAT/FIN/007059 - Conservation of <i>Cyripedium calceolus</i> and <i>Saxifraga hirculus</i> in Northern Finland</p> <p>2001 - LIFE00 NAT/FIN/007067 - Restoration and management of meadows in Finland, Sweden and Estonia</p> <p>2001 - LIFE00 NAT/FIN/007062 - Pohjois-Karjalan lehdot, tikkametsät ja luonnonmetsät</p> <p>2001 - LIFE00 NAT/FIN/007060 - Protection and usage of aapa mires with a rich avifauna</p> <p>2001 - LIFE00 NAT/FIN/007061 - Siikalahden arvokkaan lintujärven suojelu ja hoito</p> <p>SVERIGE</p> <p>1995 - LIFE95 NAT/S/000507 - Mire Protection Plan for Sweden : land purchase for 17 of the sites that will be protected as nature reserves</p> <p>1995 - LIFE95 NAT/S/000517 - White-backed woodpecker landscapes and new nature reserves</p> <p>1996 - LIFE96 NAT/S/003185 - Protection and restoration of parts of Stora Alvaret</p> <p>1996 - LIFE96 NAT/S/003189 - Nya naturreservat i Gagnefs kommun</p> <p>1996 - LIFE96 NAT/S/003182 - Protection of Western Taiga in Sweden</p> <p>1997 - LIFE97 NAT/S/004200 - Protection of Western Taiga, Grossjöberget in Bollnäs</p> <p>1997 - LIFE97 NAT/S/004201 - Protection of forests and mires in Sweden</p> <p>1997 - LIFE97 NAT/S/004204 - Preservation of the beetle, <i>Osmoderma eremita</i> in Sweden</p> <p>1998 - LIFE98 NAT/S/005369 - Protection of western taiga in Svealand and Götaland</p> <p>1998 - LIFE98 NAT/S/005371 - Preservation of the Arctic Fox, <i>Alopex lagopus</i>, in Sweden and Finland</p> <p>1998 - LIFE98 NAT/S/005370 - Protection of deciduous forests in northern Götaland</p> <p>1998 - LIFE98 NAT/S/005367 - Protection of western taiga in Norrland</p> <p>1998 - LIFE98 NAT/S/005366 - Protection of western taiga in Bergslagen</p> <p>1999 - LIFE99 NAT/S/006359 - Protection of Aapa mires in the county of Norrbotten</p> <p>1999 - LIFE99 NAT/S/006355 -</p>	<p>Restoration of lake Östen a wetland of international importance for migrating birds</p> <p>1999 - LIFE99 NAT/S/006348 - Forest and flora influenced by Jämtland's limestone bedrock</p> <p>2001 - LIFE00 NAT/S/007118 - Restaurering av alvarmiljöer på Stora Karlsö</p> <p>2001 - LIFE00 NAT/S/007117 - Strandängar och Våtmarker i det Öländska odlingslandskapet</p> <p>UNITED KINGDOM</p> <p>1992 - LIFE92 NAT/UK/013400 - Conservation of Scottish lowland raised bogs</p> <p>1992 - LIFE92 NAT/UK/013300 - Protection and management of lowland heathland in Dorset</p> <p>1992 - LIFE92 NAT/UK/013200 - The management and protection of the Breckland</p> <p>1993 - LIFE93 NAT/UK/010100 - Restoration of Redgrave and South Lopham Fen</p> <p>1993 - LIFE93 NAT/UK/011700 - Preparation of actions plans for the recovery of globally threatened bird species in Europe and implementation of protection measures for the Corncrake</p> <p>1994 - LIFE94 NAT/UK/000850 - The conservation of Orford Ness – a 16 km long vegetated shingle spit with saltmarsh, lagoons and grassland</p> <p>1994 - LIFE94 NAT/UK/000802 - Conservation of active blanket bog in Scotland and northern Ireland</p> <p>1994 - LIFE94 NAT/UK/000580 - Scotland's Caledonian forest</p> <p>1995 - LIFE95 NAT/UK/000826 - Conservation management of priority upland habitats through grazing : guidance on management of upland Natura 2000 sites</p> <p>1995 - LIFE95 NAT/UK/000824 - South Pennine Moors - An Integrated Management Strategy and Conservation Action Programme</p> <p>1995 - LIFE95 NAT/UK/000821 - Integrating monitoring with management planning : a demonstration of good practice on Natura 2000 sites in Wales</p> <p>1995 - LIFE95 NAT/UK/000832 - Conservation and re-establishment of Southern Atlantic wet heaths with <i>Erica ciliaris</i> and <i>Erica tetralix</i> and dry coastal heaths with <i>Erica</i></p>	<p>1995 - LIFE95 NAT/UK/000818 - A Conservation Strategy for the Sand Dunes of the Sefton Coast, North West England</p> <p>1996 - LIFE96 NAT/UK/003055 - To develop and promote the necessary conservation measures for UK marine SACs</p> <p>1996 - LIFE96 NAT/UK/003057 - Urgent action for the Bittern (<i>Botaurus stellaris</i>) in the UK</p> <p>1997 - LIFE97 NAT/UK/004245 - Wild Ness : the conservation of Orford Ness,</p> <p>1997 - LIFE97 NAT/UK/004244 - Restoration of Atlantic Oakwoods</p> <p>1997 - LIFE97 NAT/UK/004242 - Securing Natura 2000 objectives in the New Forest</p> <p>1998 - LIFE98 NAT/UK/005432 - The Border Mires - Active Blanket Bog Rehabilitation Project</p> <p>1998 - LIFE98 NAT/UK/005431 - Wet Woods Restoration Project</p> <p>1999 - LIFE99 NAT/UK/006086 - Conserving saline lagoons and their birds on ten Natura 2000 sites in England</p> <p>1999 - LIFE99 NAT/UK/006088 - Safeguarding Natura 2000 Rivers in the UK</p> <p>1999 - LIFE99 NAT/UK/006094 - The lowland limestone pavement rehabilitation project</p> <p>1999 - LIFE99 NAT/UK/006081 - Living with the sea : managing Natura 2000 sites on dynamic coastlines</p> <p>2001 - LIFE00 NAT/UK/007079 - Combatting urban pressures degrading European heathlands in Dorset</p> <p>2001 - LIFE00 NAT/UK/007078 - Restoration of Scottish raised bogs</p> <p>2001 - LIFE00 NAT/UK/007075 - Restoring active blanket bog of European importance in North Scotland</p> <p>2001 - LIFE00 NAT/UK/007074 - Woodland Habitat Restoration : Core sites for a forest habitat network</p> <p>2001 - LIFE00 NAT/UK/007071 - Improving the management of Salisbury Plain Natura 2000 sites</p> <p>2001 - LIFE00 NAT/UK/007073 - Mink control to protect important birds in SPAs in the Western Isles</p>
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Name LIFE ("L'Instrument Financier pour l'Environnement" / The financing instrument for the environment)

Type of intervention co-financing of actions in favour of the environment in the Community, in the countries of central and eastern Europe that are applicants for accession to the European Union and in certain third countries.

LIFE is made up of three subject headings: "**LIFE-Nature**", "**LIFE-Environment**" and "**LIFE – Third countries**".

Objectives

- > with a view to sustainable development in the European Union, contribute to the drawing up, implementation and up-dating of Community policy and legislation in the area of the environment;
- > explore new solutions to environmental problems on a Community scale.

Beneficiaries any natural or legal person, provided that the projects financed meet the following general criteria:

- > they match the priorities laid down at Community level and contribute to the objectives listed;
- > they are submitted by reliable participants from financial and technical points of view;
- > they can be carried out from the technical point of view, in terms of timetable and budget, and offer a good cost-benefit ratio.

Types of project

- > Eligible for LIFE-Nature are **nature conservation projects** which contribute to maintaining or restoring natural habitats and/or populations of species in a favourable state of conservation within the meaning of Directive 92/43/EEC.
- > Eligible for LIFE-Environment are **demonstration projects** which bring environment-related and sustainable development considerations together in land management, which promote sustainable water and waste management or which minimise the environmental impact of economic activities.
Five areas of intervention are preferred: the management and enhancement of the territory, water management, the effect of economic activities, waste management, integrated product policy.
- > Eligible for LIFE – Third countries are **technical assistance projects** which
 - Constitute a benefit for the Community, particularly on account of their contribution to the implementation of regional and international policies and agreements;
 - Promote sustainable development at international, national or regional level;
 - Bring solutions to serious environmental problems in the region and the area concerned.

Implementation the Member States or third countries send the Commission the proposals of projects to be co-financed. The Commission sets the date for sending the proposals annually and reaches a decision on these. It monitors the financing and follow-up of the implementation of the LIFE actions. Accompanying measures enable the projects to be monitored on the ground and, in the case of LIFE-Nature, to encourage certain forms of cooperation between similar projects ("Co-op" measure).

Period of involvement 5 years (2000-2004).

Funds from the Community approximately 638 million EUR distributed as follows: 300 million EUR to LIFE-Nature, 300 million EUR to LIFE-Environment and 38 million EUR to LIFE – Third countries.

Contact

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Internet: <http://europa.eu.int/comm/environment/life/home.htm>