

Financial instruments for the NATURA 2000 NETWORK and nature conservation

Authors: Carlos Sunyer y Lola Manteiga



TERRA, environmental policy center.



SECOND EDITION

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This study was funded by:

European Commission DG-XI
Ministry of Agriculture, Nature Management and Fisheries, the Netherlands

Translation: Steve Graham, Lesley Ashcroft & Fe Sanchis (TERRA)

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Cover illustration: Winter evening at an Ash dehesa in the Guadarrama range, drawn by Lola Manteiga.

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ISBN: 84-923776-1-5

- First edition, April 1998

- Second revised edition, June 1998

Bibliographic file:

Sunyer, Carlos & Manteiga, Lola. 1998. Financial instruments for the Natura 2000 network. TERRA, environmental policy center. Madrid

Subject headings: nature conservation, Nature 2000 network, rural development, funding.

N.B.: This book is also available in Spanish. ISBN 84-923776-0-7

The views expressed in this document do not necessarily reflect the position of the sponsors.

Acknowledgements

T. McCullach, E. Grennan

(National Parks and Wildlife Service, Ireland)

S. van der Meer, W. Fokkema

(Vereniging Natuurmonumenten, Netherlands)

S. Spyropoulou, S. Markoupoulou

(Ministry of Environment, Physical Planning and Public Works, Greece)

K. Sundseth

(Ecosystems, Begium)

E. Ruiz Richi, J. Laviña

(Atecma, Spain)

G. van Dijk

(Ministry of Agriculture, Nature Management and Fisheries, Netherlands)

We are very grateful to the sponsors of this study;
the European Commission (DG-XI) and the Dutch Ministry
of Agriculture, Nature Management and Fisheries.

TERRA, Environmental Policy Centre, is an independent Spanish organisation whose main objective is to contribute to the development of an environmental policy based on the rational and efficient use of natural resources and environmentally sustainable economic and social development.

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INTRODUCTION

One of the most controversial aspects of the Habitats Directive is that of the funding of the Natura 2000 network. Though mention is made in the Directive of a specific source of funding in the future, as yet this does not exist, and this fact has at times been used as an excuse for delaying the development of the Natura 2000 network. However, as will be shown on the pages of this book, there are numerous instruments which can be used to finance nature conservation, with a wide range of possibilities capable of satisfying any need.

In this sense it should be noted that in Europe, where there is a great diversity of habitats, most of the territory has been subjected to the intervention of man for many centuries, giving rise at times to new semi-natural habitats of great ecological interest. Though there are large highly degraded regions, where it is difficult to find areas of natural interest, there are also regions where the conservation of biodiversity depends on the maintenance of certain types of land use, and other regions which have been little altered by man. All of this gives rise to a great mosaic of situations.

Broadly speaking, there are two nature conservation strategies in Europe. The difference between them lies not only in their different ways of approaching the problem but also in the different possibilities existing for their development.

There are regions, predominantly in central and northern Europe, where the tendency is towards the designation of small and medium-sized Natura network sites (SPAs and SACs). On the whole, nature conservation in these regions competes strongly with other land uses and there is a deeply rooted conservationist tradition and great experience in the management of protected areas. In this strategy, which could be termed intensive, the protection of natural sites involves the purchasing of land or the rights to its use and subsequently direct intervention in the dynamics of the ecosystems. The origin of this type of interventions lies in the need to recover lost habitats, a greater environmental culture and greater budgetary provisions.

On the other hand, there are regions where extensive farming systems with a high environmental value continue to exist, generally in the southern regions, but also in some highlands and mountains in other European regions. Here the sites of Community interest tend to be larger in size and their conservation is closely related with the maintenance of extensive farming systems, still existing though in decline. In these regions conservation strategies are different and tend to seek the integration of nature conservation and rural development, in what could be termed an extensive nature conser-

vation strategy. The origin of this different approach lies in the better general state of conservation, the survival of farming systems closely linked with the conservation of the sites, less tradition and experience of direct intervention in ecosystems, and less budgetary provision for nature conservation.

The application of these two models obviously calls for well differentiated approaches. While the intensive nature conservation strategy basically requires financial instruments for direct application on the land (ex. LIFE & agri-environment measures), in the extensive strategy the financial instruments for rural development are also very important, as at times it can be difficult to distinguish nature conservation actions from rural development actions. It hardly needs to be said that the two conservation strategies cover a broad range of situations.

In view of this difference, it is clearly insufficient to establish one single financial instrument for nature conservation. However, for many years there has been a great diversity of financial instruments adaptable to the specific needs of each region and which, though not specifically assigned for nature conservation, can be used for this purpose. We are referring to the Structural Funds, to the Cohesion Fund and to the Community Initiatives, to which can be added the 1992 accompanying measures of the Common Agriculture Policy.

Despite the many opportunities currently existing, a detailed study of the use of these instruments reveals that on the whole they have not been taken advantage of. Though this can be ascribed to a variety of factors, this book is intended as a contribution to resolving two of them: lack of information and lack of integration.

By and large, there is a great unawareness of the opportunities offered by some of these financial instruments for the conservation of natural areas. To date, the financial instruments which have attracted greatest interest in terms of their potential use for the Natura 2000 network have been LIFE and the agri-environment Regulation, as these are the instruments most directly related with nature conservation, and little or no attention has been paid to the rest. This limited interest has been due to the lack of information about the opportunities which exist, the null or scant participation of environmental authorities in the planning and monitoring of the Structural Funds, and the lack of integration between nature conservation and rural development.

The important changes which will take place in the coming two-three years with regard to all these financial instruments coincides with a fundamental part of the process for the establishment of the Natura network. For this reason, a unique opportunity is presented for putting them to use in the right direction.

Thus, the **objectives** of this book are:

- To contribute to promoting nature conservation policy highlighting the different opportunities which exist for financing the Natura 2000 network.
- To contribute to the integration of nature conservation in other policies, and most particularly in rural development and agriculture policies.

To this end, our intention has not been to prepare a guide to the new instruments nor to evaluate the results of those existing until now, but to draw attention to the many opportunities which currently exist with the hope of awakening the interest of those responsible for nature conservation and for rural and regional development policies.

The book is organized in two parts. In the first, after an introduction to the Natura 2000 network, a review is made of the main financial instruments currently existing and of interest for nature conservation. Each instrument is presented in a separate chapter, at the end of which there is a short comment on its future, in the light of the Commission's proposals (march 1998), and a summary. When it has been of interest, some small examples have been included in these chapters.

Even with these small examples the first part is very theoretical. For this reason, the second part presents six practical cases of how these instruments have been applied on the ground in different regions of the European Union. These case studies show the difficulties and the potential which has been encountered. Finally, on the basis of these examples, a series of conclusions and recommendations for the future are given.

PART I.
Financial instruments for the
Natura 2000 network and
nature conservation



CHAPTER 1. THE NATURA 2000 NETWORK.

INTRODUCTION

In 1979 the future European Union laid the foundations of what would become its nature conservation policy with the adoption of the Directive on Wild Birds¹. The aim of this Directive was, and continues to be, the conservation of wild birds, for which it called upon governments to take the necessary steps to conserve bird habitats. For this purpose the Directive provided for the establishment of Special Protection Areas (SPAs), the maintenance and management of these habitats and the regeneration or construction of new biotopes.

The Directive rose out of the need to conserve bird life in the European Community as a whole, given that the great mobility of birds makes their protection in one single country useless. On the other hand, it was becoming increasingly clear that habitats were fast being lost in Europe as a consequence of environmental degradation.

Since the adoption of the Directive more than 1.700 SPAs have been designated throughout the 15 Member States, covering a total area of more than 10 million hectares (Table 1). Though the legal status of the SPA has not always been incorporated in the national legislation of the different States, and at times their integrity has not been respected, several supporting sentences of the European Court in Luxembourg have helped to consolidate it. An important consequence of the process of designating SPAs is that it has led to a network of protected areas throughout the Community which comprise the skeleton of the future Natura 2000 network.

As a further step on the road towards the conservation of biodiversity the Habitats Directive² was adopted in 1992, constituting the main instrument for nature conservation in the European Union. Its main aim is to conserve biodiversity through the conservation of natural habitats and wild fauna and

flora. To this end, the Directive provides for the creation of a network of Special Areas of Conservation (SACs) to be known as Natura 2000.

Table 1. Designated SPAs in January 1998. Sites of Community Importance are not included because they are in the process of being designated and the list varies each month.

State	SPA	Area SPA	Av. surface	Area SPA/ National Surface
	n	km ²	km ²	%
Austria (A)	48	8.809	183,5	10,4
Belgium (B)	36	4.313	119,8	1,4
Denmark (DK)	111	9.601	86,4	1,0
Finland (FIN)	15	967	64,4	0,2
France (F)	105	7.515	71,5	1,3
Germany (D)	548	12.512	22,8	3,5
Greece (EL)	52	4.965	66,5	3,7
Ireland (IRL)	109	2226	20,4	3,1
Italy (I)	108	4.530	44,8	1,5
Luxembourg (L)	6	14	2,3	0,5
Netherlands (NL)	28	3.448	123,1	8,3
Portugal (P)	36	3.323	92,3	3,5
Spain (E)	152	25.229	165,9	4,9
Sweden (S)	225	22.177	98,5	4,9
United Kingdom (UK)	161	6.341	39,3	2,5
Total UE-15	1.740	115.970	61,9	4,9

Source:^{7,9}

N.B.: SPAs in Denmark and the Netherlands include large marine areas.

THE NEW CONTRIBUTIONS OF THE NATURA 2000 NETWORK

The Habitats Directive establishes a common framework of action within which national strategies must be integrated, making nature conservation a political commitment at European level and the shared responsibility of the Member States.

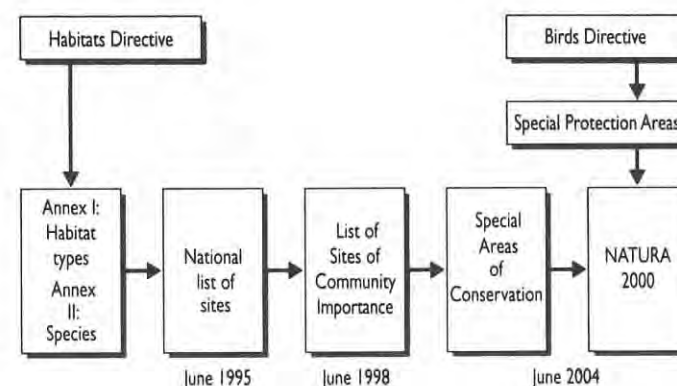
On the other hand it is more explicit than the Birds Directive in that it sets out a procedure and criteria for selecting sites for the Natura 2000, establishing a timetable and more precisely defining the rights and obligations of Member States with regard to sites in the Natura 2000.

WHAT SITES WILL COMPRISE THE NATURA 2000 NETWORK?

The final aim of the Natura 2000 is that it will protect a good representation of the habitats and species of Community interest. To this end, consideration is made of the European Union's main biogeographical regions (Map 1), each one of which has its representative habitats and species of Community interest.

Each Member State must propose to the Commission a national list of sites of Community importance before June 1995¹ Subsequently the Commission, by common agreement with the Member States, will propose a list of Sites of Community Importance, which must be approved by a committee with

Box 1. Natura 2000 designation process.



representatives from all the States (the Habitats Committee), which in turn will send it to the European Union's Council of Ministers for definitive approval, which will occur before June 1998 (Box 1).

Once the sites of Community interest are selected each Member State must designate them Special Areas for Conservation (SACs), as soon as possible and always within a maximum period of six years (1998-2004), with which the Natura 2000 network will become established.

Sites which are currently SPAs (Box 1) automatically become SACs and thus currently constitute the skeleton of the future Natura 2000 network².

IMPLICATIONS OF THE NATURA 2000 NETWORK.

1. OBLIGES STATES TO PROTECT NATURA 2000 SITES

In the areas which comprise the Natura 2000, i.e. those which have been

¹ This process has been much slower than was envisaged in the original timetable. In April 1986 eight Member States had yet to send any list to the Commission, and the remainder had done so only incom-

designated Special Areas for Conservation (SACs), Member States must adopt the appropriate measures to:

- prevent the deterioration of habitats and alterations which affect the species which have motivated the designation of the SAC
- evaluate the impact on the SAC of all plans or projects which though not directly related with the SAC may affect it in an appreciable way. In the light of the conclusions of this study, the competent environmental authorities will only accept the plan or project after ensuring that it will not affect the integrity of the SAC.
- if, despite the negative conclusions of the aforementioned report, the plan or project must be carried out due to overriding needs of public interest of the first order, and if there are no alternative solutions, the Member State must adopt all the necessary compensatory measures to guarantee the coherence of the Natura 2000 network.

From the above it can be seen that it is possible to maintain all economic activities which are not prejudicial to the conservation objectives of the SAC, which in general means traditional extensive livestock, arable or forestry farming practices. Furthermore, in many SACs it will be necessary to ensure the maintenance of such practices in order to conserve natural values.

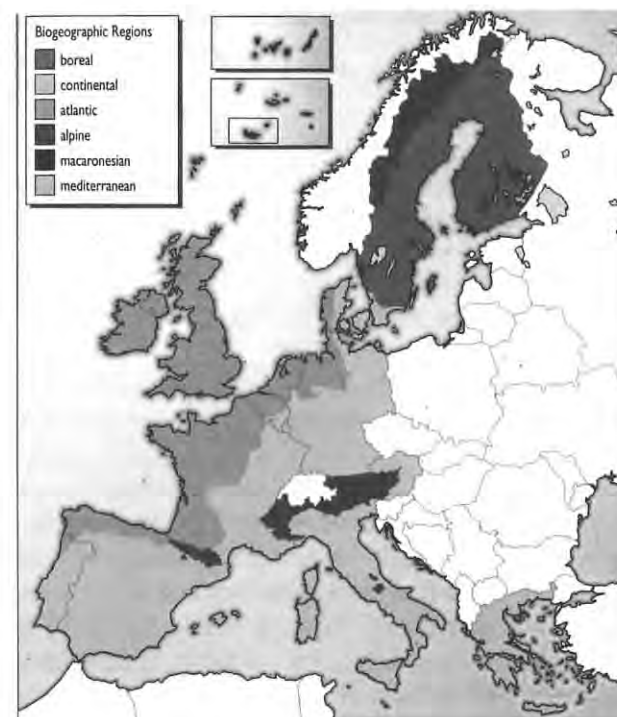
2. OBLIGES STATES TO CONSERVE NATURA 2000 SITES

Member States must establish the necessary conservation measures to ensure the adequate state of conservation of the species and habitats in the SAC. Such measures may involve the design and application of specific management systems, the integration of these management systems in other development plans (tourism, agriculture, rural development, fisheries, etc.), and the adoption of regulatory measures. Management plans, while not obligatory, are good tools for the conservation of SACs and contribute to creating a climate of comprehension between different interests.

3. CONTRIBUTES TO GREATER INTEGRATION

Though the Directive does not explicitly establish the obligation to integrate the Natura 2000 network in other sectorial policies, there is no doubt that the result of its application induces this. The most important policy areas with which such integration is most necessary are transport, tourism, agriculture, land management and fisheries. The next few years will be of key importance in this respect, with the reform of the Structural Funds and the commencement of a new programming period in the year 2000, the reform of the Common Agricultural Policy, and the entering into force of new legislation on environmental impact^{3,4}

Map 1. EU biogeographic regions



4. HELPS LINKING RURAL DEVELOPMENT AND CONSERVATION

Almost all the land in the EU has seen the intervention of man in some way, and at times this has given rise to new habitats known as semi-natural; whose environmental value is linked with the interaction between the habitat and the use of the natural resources. For this reason the conservation of many semi-natural habitats depends on the maintenance of extensive forestry or arable or livestock farming practices¹¹, establishing a very close link between conservation and rural development in what could be a type of sustainable development.

The conservation of SACs whose natural values are linked with such farming practices calls for integration between nature conservation and rural development, where appropriate. Most of these sites coincide with large areas of the Mediterranean countries and some highland and mountainous zones of the rest of Europe⁵, which are generally the most depressed rural zones in the European Union.

¹¹ In the text all of these activities are encompassed under the terms agriculture or farming.

Therefore, the obligations of the Habitats Directive must be considered within a very broad framework, with sites in the Natura 2000 network which must be strictly protected and many others where it is necessary to find formulas for integration between rural development and nature conservation. This formula may perhaps be the most complex, but it is also the most diverse in terms of the availability of financial instruments. For this reason, the Natura 2000 network should not be seen as an impediment to economic activities but as a driving force for the renovation of sustainable activities which do not harm conservation objectives, as has been clearly noted by the Commission⁶.

FUNDING OF THE NATURA 2000 NETWORK.

The conservation of the Natura 2000 network obviously implies a series of costs, whose amount will depend on the characteristics of each SAC. The Directive provides for the co-funding of some of the measures indispensable for the maintenance or restoration of priority species and habitats, and requests the Member States to estimate these costs. However, it does not establish a specific financial instrument, a fact which has caused concern in the administrations responsible for nature conservation in some States and regions.

Funding problems can be accentuated when the national territory included within the Natura 2000 network is large. For example, it is estimated that more than 14% of the national territory of Denmark, Greece, Italy and Spain will be included in the Natura 2000 network, more than 7% in Austria, Finland, Ireland, Portugal and Sweden^{7,8}.

On the other hand, each State has its own conservation strategy adapted to its own needs. For instance, in Denmark and the Netherlands the restoration of degraded habitats is a priority and in both land acquisition is one of the cornerstones of conservation strategy. For example, the Netherlands dedicated 78 MECU to this end in 1996. However, in Greece, Portugal and Spain conservation strategies are closer to achieving compatibility between rural development and conservation. Such disparate strategies obviously imply different needs. For this reason the Natura 2000 network signifies a broad range of needs for each SAC and for each Member State (Table 2).

As will be seen on these pages, there is a wide range of possibilities for financing nature conservation. These possibilities are currently very underexploited, but the menu is sufficiently diverse to satisfy any need. We are referring to the cohesion fund, the national initiative structural funds, the Community initiatives, the 1992 CAP accompanying measures and LIFE. The first four can be considered horizontal instruments, and imply the inte-

Table 2. Some examples of the estimated average management cost in different habitats.

	ECU/ha
Denmark	
Restoration of wetland areas	8,000
Netherlands	
Management of bogs	5,550
Average cost of management of natural sites	1,780
Management of special habitats by means of agreements with farmers	1,100
Management of general habitats by means of agreements with farmers	666
Spain	
Management of Doñana National Park. (Marshes, brushland, dunes).	198
France	
Average cost of management of rocky habitats, caves, etc.	1,500
Average cost of management of coastal habitats, salt marshes and dunes	530
Average cost of management of fresh water habitats, fresh water marshes and bogs	502
Average cost of management of herbaceous habitats and Landes	286
Average cost of management of forestry habitats	
Source ¹⁰	50

gration of the Natura 2000 network in other policies. For its part, LIFE is the only financial instrument specifically for nature conservation.

CONCLUSIONS

The Natura 2000 network is a Community network of protected sites, known as Special Areas for Conservation (SACs), whose objective is to contribute to the conservation of biodiversity in the European Union.

Member States are obliged to adopt the measures necessary to guarantee the good state of conservation of sites in the Natura 2000 network.

The designation of a site as a SAC does not imply the exclusion of all economic activity, only that which is harmful to the objectives of the SAC.

The future of the Natura 2000 network lies in its integration in other policies, particularly agriculture policy and more specifically rural development.

The conservation needs of the Natura 2000 network vary greatly from one SAC to another and from one country to another, and therefore conservation costs also vary greatly.

Though the Directive introduces the existence of specific co-funding for the Natura 2000 network, this has yet to be articulated. Nevertheless, there is a broad range of opportunities for financing the Natura 2000 network with Community funds: the Cohesion Fund, the Structural Funds, the CAP accompanying measures and LIFE.

The next few years will be of key importance to integrate the Natura 2000 on to other policies, with the reform of the Structural Funds and the commencement of a new programming period in the year 2000, the reform of the Common Agricultural Policy, and the entering into force of new legislation on environmental impact.



CHAPTER 2. THE LIFE FUND.

THE ORIGIN OF THE LIFE FINANCIAL INSTRUMENT

Prior to the existence of the LIFE financial instrument, other specific funds for the environment existed, MEDSPA¹¹, NORSPA¹² and ACE^{13,14}, all of which included biotope protection among their aims. However, it was the ACE that represented the true precursor to LIFE amongst other reasons for having been a support for the Birds Directive as it included among its aims the conservation and recovery of threatened habitats for bird species of Community importance in accordance with the Birds Directive. The ACE was in force between 1984-1991 and in all co-financed in all 92 projects for a total of 30,2 MECU¹⁵.

The end of the second stage of the ACE in 1991 coincided with the draft of the Habitats Directive being very advanced¹⁶ and, therefore, the Community was on the point of widening its powers regarding nature. For this reason, the ACE was replaced by the ACNAT¹⁶ Programme, which ceased to focus exclusively on birds and broadened its aims to other areas of biodiversity.

The ACNAT was a programme that exclusively financed nature conservation actions with the aim of supporting the application of the Birds Directive and of maintaining or re-establishing natural habitats and habitats of animal and plant species of Community interest.

LIFE

In 1992 the financial instrument LIFE (1992-1995)¹⁷ was adopted. Its general aim is to contribute to the development and, where necessary, to the application of a policy and of Community environmental legislation as stipulated in the Fifth Community Environment Programme¹⁸. One of the five financial aims of the first stage of the LIFE was the protection of habitats and nature (LIFE-nature) for which at the first stage 45% of the total pro-

¹¹ The Habitats Directive was approved by the Council of Ministers of Agriculture on December 12th, 1991. This detail is worthy of note as it was a positive sign of the beginning of the establishment of

gramme budget 400 MECU was reserved although, in practice, the final investment for this aim was 326,3 MECU (42% of the budget¹⁹).

In January 1996, the second stage of the application of LIFE²⁰ began. For the period it is in force (1996-1999) it is endowed with 450 MECU, of which 207 MECU are given over to nature conservation, involving 46% of the total budget. At the second stage of the LIFE, there are three broad areas of application: nature protection actions within the Community; other actions involving application of Community environmental policy and legislation within the Community, and actions in other countries of the Mediterranean and the Baltic.

The LIFE-nature conservation projects must contribute to the application of the Habitats Directive and the Birds Directive and, in particular, to the maintenance or recovery of the habitats and species referred to in both directives (Box 2). The projects must be carried out as a priority in the areas that are part of the Natura 2000 network, i.e. in other words, the areas designated as SPAs or put forward as SAC (See Chapter 1).

Box 2. Projects that can be co-financed by LIFE-nature

- projects aimed at priority habitats and species
- projects aimed at non-priority habitats and species that are strategically important at Community level. Conservation projects in SPAs or SACs

Any legally established person or body in the European Union may request a LIFE subsidy, with maximum financing of 50% of the cost, which in exceptional circumstances may reach 75%, with projects costing a total of over 200.000 ECU given preference. LIFE does not permit co-financing of actions that have received aid from other Community financial instruments.

Although the annual budget for nature conservation in these programmes increased by over 1.000% between the period 1984-91 and the period 1996-99, the budget is still too small for the ambitious Natura 2000 network (Table 3).

Until now LIFE has, among other projects, financed basic ecological inventories to develop the Natura 2000 network, the application of new management models, the protection and recovery of areas, etc. Almost all these actions can be financed through LIFE except for basic research studies (Box 3).

CONCLUSIONS

As the only Community financial instrument for the environment, LIFE has a very small budget to meet the requirements of the Natura 2000 network.

LIFE offers a wide range of possibilities when it comes to financing projects.

Box 3. Actions eligible for joint financing

- Preparation of inventories for the application of the Natura 2000 network
- Preparation of management plans
- Purchase of land and rights
- Personnel (surveillance, management, work, etc.)
- Material
- Recovery of habitats and species
- Infrastructures for public access

Table 3. Investments in nature conservation through ACE, ACNAT and LIFE (1984-1997)

State	1984-1991	1992	1993	1994	1995	1996	1997
Belgium	886.164	0	0	682.000	747.000	1.817.399	1.400.122
Denmark	922.535	400.000	0	245.000	1.215.400	502.288	855.159
Germany	5.016.467	4.500.000	1.500.000	7.573.500	4.639.600	2.696.716	3.473.041
Greece	2.651.000	5.400.000	1.625.000	1.778.400	1.936.300	4.636.388	3.384.422
Spain	4.709.000	9.235.000	5.620.000	9.972.000	8.710.600	6.037.721	5.182.520
France	5.738.725	4.250.000	2.600.000	6.480.000	5.327.300	3.599.535	1.939.768
Ireland	1.040.686	2.500.000	1.000.000	3.400.000	2.279.800	1.513.475	0
Italy	2.466.159	2.000.000	2.000.000	5.870.000	4.468.800	4.928.956	5.189.746
Luxembourg	200.000	0	0	0	0	129.821	0
Netherlands	729.500	0	500.000	1.620.000	2.015.000	933.729	371.938
Austria	-	-	-	0	2.017.200	434.209	4.704.558
Portugal	1.027.602	2.455.000	500.000	2.992.000	2.413.500	1.686.239	471.992
Finland	-	-	-	0	2.742.300	5.207.126	6.148.163
Sweden	-	-	-	0	3.827.400	4.933.866	3.610.588
United Kingdom	964.074	1.260.000	1.800.000	2.182.500	1.529.400	4.335.078	5.668.976
International projects	2.797.585	4.985.000	3.500.000	380.000	4.630.400	0	0
New projects	92	30	18	34	49	63	60
Total	30.197.500	36.985.000	20.645.000	42.975.900	48.500.000	43.395.546	42.430.693

Sources: 15, 21

EXAMPLE: PROTECTING THE VIRGIN FORESTS OF KUUSAMO (FINLAND)

The LIFE project for the Kuusamo forests, approved in 1996, is being carried out in the region of Kuusamo near the border with Russia, where there are still large tracts of mature forest. The area includes 13.780 hectares of taiga with exceptionally well conserved forests with a predominance of Scots pine *Pinus sylvestris* as much as six hundred years old. It is considered to be the most interesting virgin forest in Finland. In the forest there is a complete community of vertebrates, including wolf *Canis lupus*, wolverine *Gulo gulo*, bear *Ursus arctos*, flying squirrel *Pteromys volans* and lynx *Lynx lynx*. There are also many species of birds typical of these forest habitats.

The main threat to this habitat of Community interest is forest exploitation, which began in the fifties in the region, and was mainly aimed at mature forests. Since 1994 pressure on the forests has intensified, giving rise to great controversy in the region as there are strong economic and employment-related pressures to exploit them given the feeling that the forested areas are too protected. It should not be forgotten that these regions have one of the highest unemployment rates in the Community.

The aim of this LIFE project is to conserve the virgin forests intact, and avoid habitat fragmentation. To do so, there are plans to purchase some 2.000 ha of forest and acquire the felling rights. Around these protection zones, transition areas in which the woodland will be exploited sustainably are going to be created. To do this, management plans will be designed in agreement with the owners. This type of forest management where the interests of nature conservation are integrated with economic interests is still a novelty in Finland.

Given that there is still important local opposition to conserving the forests and support for exploitation, a large part of the project will be devoted to awareness-raising and information. It also includes a forest inventory in the Russian region of Karelia into which the forest mass extends, and where the Finnish timber companies are encroaching.

The total project budget is 4,3 MECU with a Community contribution of 50%.

EXAMPLE: WETLAND RESTORATION, THE NAARDERMEER (NETHERLANDS)

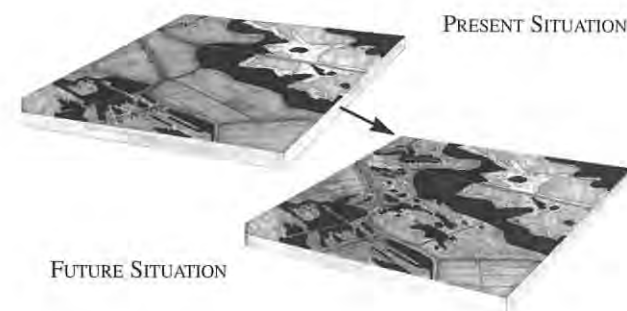
The Naardermeer wetland was the first natural reserve in the Netherlands. It was set up in 1905 when an NGO acquired 750 ha of land to avoid it being used as a dump for Amsterdam's rubbish. Besides having habitats of Community interest, the area is very important for water birds, including the

spoonbill *Platalea leucorodia*, bittern *Botaurus stellaris* and grey heron *Ardea cinerea*.

Despite being a protected area, the wetland is threatened by several factors. These factors include changes in water management that mean that the water drains towards the adjacent fields. As a result, the natural water supply has dropped and indirectly contributed to eutrophication. These changes have degraded large areas of natural vegetation.

Although clean water has been pumped into the wetland since 1984, the measure has not been enough, and it was necessary to look for an integrated focus to solve the problem. In 1994, an agreement between 13 parties

Naardermeer restoration project



involved in the activities concerning the reserve was signed. Part of this new strategy was the application of an integral recovery plan for Naardermeer²² in which the necessary measures are laid down. A LIFE project to apply this plan has been approved and will involve 1.060 ha at a total cost of 1,8 MECU, with a Community contribution of 50%.

The planned LIFE actions include recovery of the degraded habitats, which means recovering the water level, cleaning the organic matter on the lake bottom and restoring some wetland grasslands.

Special attention will be paid to increasing public interest in the area as thousands already visit the site. To do so, one of the planned actions is to facilitate visitor access to the area, including the possibility of taking boat trips, which will help to involve the public in Naardermeer's restoration.

OTHER EXAMPLES.

Other examples can be read in the case studies. with the exception of Doñana

CHAPTER 3. THE STRUCTURAL FUNDS.

INTRODUCTION

One of the Community's aims is the economic and social cohesion of the regions, with the aim of attaining the necessary stability in the European Union. The Structural Funds represent the Community's main financial instrument to achieve this objective of stability in the European Union.

The Structural Funds may be divided into two large blocks: national initiatives and Community initiatives. To simplify matters, the first can be called "Structural Funds" and the second "Community Initiatives". This chapter deals with the "Structural Funds".

There are four Structural Funds and during the present programming period, 1994-1999 they have 6 objectives. Recently, in March 1998, the Commission presented its proposals for the reform of the Structural Funds, and the number of objectives has been reduced to 3. These new developments are presented at the end of this chapter.

THE FOUR STRUCTURAL FUNDS (1994-1999).

- The European Regional Development Fund (ERDF)²³. It aims to correct the main imbalances between the regions in the Community by taking part in the development and structural readjustment of backward regions, and in the reconversion of declining industrial regions. To do so, it finances productive investments: infrastructures, development of endogenous potential, health and education, research and development, and the environment.
- The European Social Fund (ESF)²⁴. This is aimed at improving the employment possibilities of workers and helping to raise the standard of living. The investments are mainly directed at job training, employment aid, innovative actions, training systems, educational systems and research and development.
- The European Agricultural Guidance and Guarantee Fund^{IV}, (EAGGF-guidance section)²⁵. It aims to adapt the agricultural structures within the framework of the Common Agricultural Policy (CAP) and promote rural development and the structural adjustment of less developed regions. To do so, it finances the modernisation of agricultural operations, agricultural conversion and marketing, agricultural development, promotion of local products, prevention of natural catastrophes, renewal of towns, protection of the rural Patrimony network.

^{IV} In the new Structural Funds regulation, proposed by the Commission in March 1998, the general objectives of the ERDF, ESF and FIFG are very similar to those described here. However, there are

The Financial Instrument for Fisheries Guidance (FIFG)²⁶. It aims to help attain a sustainable equilibrium between fishing resources and their exploitation, increase competitiveness of the operational structures and the development of company development, change the value of fishing and aquaculture products.

STRUCTURAL FUND AIMS (1994-1999).

In the current programming period (1994-1999) the Structural Funds are pursuing six objectives^{27,28} as follows (Table 4):

- Objective 1. To foster the development and structural adjustment of the less developed regions^v (Map 2). All the regions with a per capita GDP of less than 75% of the Community average are within this framework. It is the aim that concentrates the greatest credits of the structural funds and covers 45,5% of the territory of the Community covering 26,6% of the population. In these regions all the structural funds intervene and involve the greatest financial concentration, which is 4,7 times higher than in the 5b²⁹ regions.

- Objective 2. Reconversion of the regions affected by industrial decline. It includes the regions^{vi} characterised by having an average rate of unemployment above the Community average, a percentage of industrial employment equal or above average and a verified reduction in industrial employment. ERDF and ESF are involved in this.

- Objective 3. To combat long term unemployment and facilitate the incorporation into the workforce of young people and people excluded from the labour market. This is carried out exclusively through the ESF and is applied horizontally in all the Member States, with the exception of Greece, Ireland and Portugal, the whole area covered being Objective 1.

- Objective 4. To facilitate the adaptation of workers to changes in industry and to the development of production systems. As in the case of Objective 2, it is carried out exclusively via the ESF, being applied horizontally in all Member States except for Greece, Ireland and Portugal, that being Objective 1 territory.

- Objective 5. To foster rural development. To do so, two secondary aims are distinguished as follows:

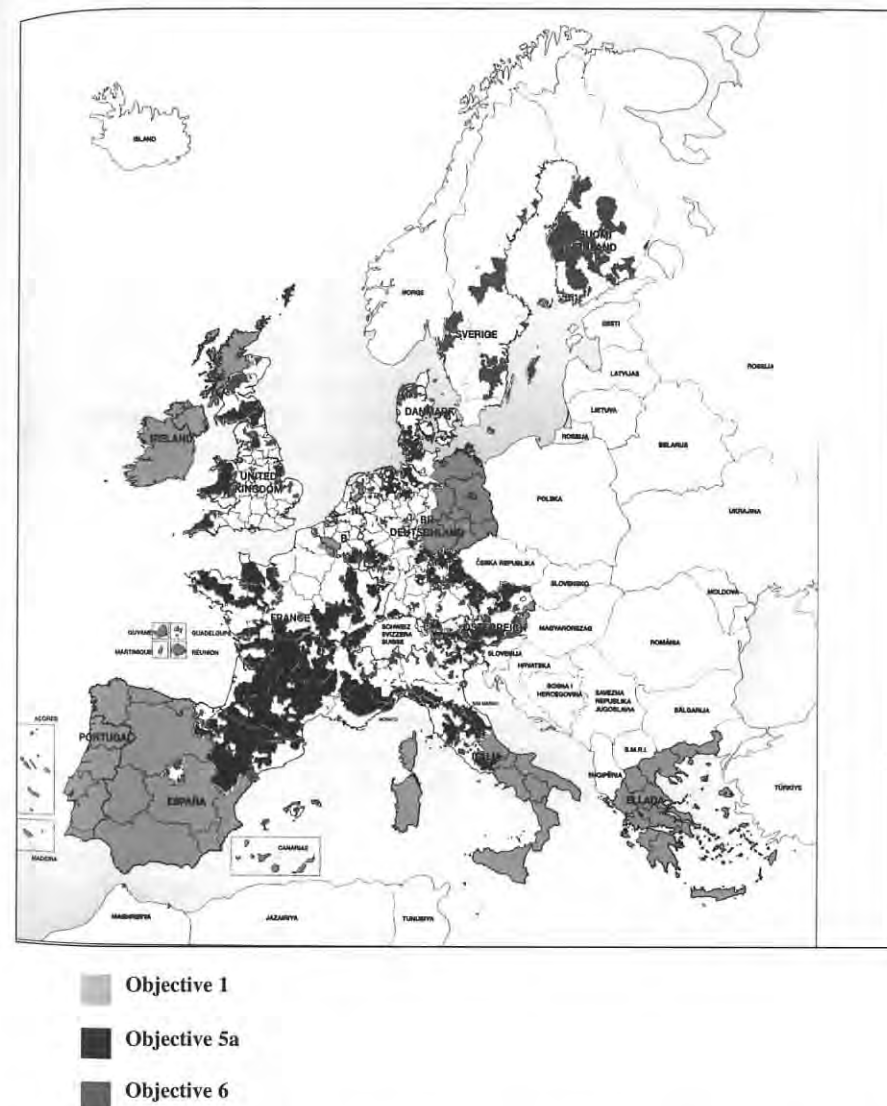
- Objective 5-a. To accelerate the adaptation of agricultural structures within the framework of the CAP reform. It is applied throughout the territory of the Member States.

- Objective 5-b. To facilitate the development and structural adjustment of rural areas. It includes the rural areas not included in Objective 1 charac-

^v In NUTS II level regions (see Appendix 2).

^{vi} In NUTS III level regions (see Appendix 2).

Map 2. Objective regions



terised by a low level of socio-economic development, high rate of agricultural jobs, low level of income, low population density and marked tendency towards depopulation.

- Objective 6. It applies the same provisions as Objective 1 to the regions with very low population density, i.e. those whose population density does

not exceed 8 inhab/km². Thus only regions in Sweden and Finland are eligible for this objective.

- Objectives 1, 2, 5b and 6 are regional in character and so their application is restricted to well defined areas, and Objectives 3, 4 and 5-a are of a horizontal nature, being applied in all the regions of the Community.

In Objective 1 the percentage of co-financing varies between 50-75% of total investment and in the others Objectives it is between 25 and 50%.

THE ENVIRONMENT IN THE STRUCTURAL FUNDS

The preamble to the Treaty of the European Union includes both the principle of economic and social cohesion and the environment. This translates into the demand for the environment to be integrated into the definition and application of the remaining Community policies, affecting in particular the Structural Funds through the inter-relationships between structural policy and the environment³⁰.

These considerations were included in the regulations in force governing the Structural Funds which have permitted greater integration of the environment in the preparation and application of Community structural interventions. As a matter of fact, it is estimated that in Objective 1 regions, environmental investments will absorb 8.327 MECU during the period 1994-99, which is 8,9% of Community aid, and in Objective 5b 721 MECU, 11,72% of Community aid³⁰. The environmental investments vary a lot from region to region. In the Objective 1 regions, 83% of environmental investments are given over to water management (sewage water treatment, distribution, supply), in Objective 2 regions 53% of these investments involve waste management, this being a priority matter in industrial regions, and in Objective 5-b regions, 60% of the environmental investments are broadly connected with the management of natural areas and protection of the landscape and biodiversity.

For the Natura 2000 network the funds are not only interesting from the point of view of possible direct investments in nature conservation, if not also for the great opportunity they offer to develop positive indirect measures for nature conservation, like, for example, development of quality production, agricultural diversification in favour of methods that are more respectful of the environment, and eco-tourism. The field of environmental research linked to technological applications and training merits a chapter apart. In this field 1% of aid assigned to Objective 1 is set aside for research and training, a percentage that increases to 6% in Objective 2 regions.

3. Distribution of structural funds for the period 1994-1999 by Member State and by Objective.

OBJECTIVE 1	OBJ. 2			OBJ. 3			OBJ. 4			OBJECTIVE 5-A			OBJECTIVE 5-B			OBJECTIVE 6		
	ERDF	ESF	EAGGF	FIFG	ERDF-ESF	ESF	ESF	ESF	5-a	AGRICUL	5 ^a -FISHING	EAGGF	ERDF	ESF	EAGGF	ESF	FIFG	TOTAL
515,9	166,7	47,0	0,4	160,0	396,2	25,4	170,4	24,5	1,069,90	74,6	0	23,5	41,1	13	522,9	231,0	1,584,1	18,057,4
6,820,0	4,092,0	2,644,0	83,5	733,0	1,682,0	104,5	0	0	0	0	0	522,9	0	0	0	0	13,980,0	30,382,6
9,489,5	2,560,5	1,800,0	130,0	0	0	0	0	0	326,0	119,6	414,6	1,007,1	160,8	88,6	1,007,1	292,6	10,989,1	5,620,0
15,944,2	6,047,0	3,313,8	995,0	1,130,0	1,474,4	368,6	1,745,5	189,9	0	0	0	0	0	0	0	0	18,977,2	1,843,6
1,194,0	525,5	431,4	38,2	1,763,2	2,562,4	299,6	680,0	134,4	305,2	370,3	122,6	0	0	0	0	0	7,602,8	652,8
2,562,0	1,953,0	1,058,0	47,0	0	0	0	118,0	46,6	50,6	81,8	17,6	0	0	0	0	0	74,8	1,460,3
9,660,0	2,739,0	2,228,0	233,0	684,0	1,316,3	398,8	0	0	0	0	0	151,2	535,0	134,3	21,6	21,6	4,141,0	4,121,2
80,0	40,0	21,5	8,5	300,0	922,8	156,2	361,0	88,8	88,8	139,8	10,8	21,6	21,6	10,8	2,2	3,1	61,4	239
8,723,9	3,148,7	1,894,2	213,2	0	0	0	0	0	0	0	0	0	0	0	0	0	1,046,4	8,1
1,331,8	747,2	245,9	34,9	2,142,0	1,501	329,7	329,7	329,7	329,7	329,7	329,7	329,7	329,7	329,7	329,7	329,7	127,837,9	127,837,9
0	0	0	0	56,0	263	13	361,0	88,8	88,8	139,8	10,8	21,6	21,6	10,8	2,2	3,1	61,4	239
0	0	0	0	7,0	20,7	0,9	390,0	1,1	1,1	1,1	0,8	2,2	3,1	0,8	2,2	3,1	61,4	239
107,6	33,1	24,8	0	101,0	334,0	61,0	385,8	2,0	385,8	2,0	71,8	164,2	175,0	71,8	177,6	105,8	1,460,3	1,460,3
0	0	0	0	160,0	347,0	173,0	90,1	40,0	90,1	40,0	30,2	40,2	70,6	30,2	177,6	105,8	1,460,3	1,460,3
0	0	0	0	69,2	258,4	84,6	331,0	23,0	331,0	23,0	32,8	66,7	94,5	32,8	61,4	63,9	1,212,2	1,212,2
56,428,9	22,052,7	13,708,6	1,783,7	7,305,4	11,078,2	2,015,3	5,443,7	884,3	5,443,7	884,3	1,046,4	2,352,7	3,016,1	1,046,4	239	169,7	8,1	127,837,9

STRUCTURAL FUNDS AND THE NATURA 2000 NETWORK.

In this section, some of the many opportunities that the structural funds offer for the financing of actions that may contribute towards conserving the Natura 2000 are suggested.

ERDF

According to the regulations governing ERDF this fund may participate in productive investments and in infrastructures destined to protect the environment in accordance with the principles of sustainable development, when these are associated with regional development. In this sense and as regards the Natura 2000 network, it can finance:

PRODUCTIVE INVESTMENTS THAT ALLOW THE CREATION OF NON-AGRICULTURAL EMPLOYMENT.

For example, rural tourism and industrial or craft production which in some way contribute to maintaining the Natura 2000 network.

INVESTMENT IN INFRASTRUCTURES

As waste-water treatment plants, fitting out or alterations to transport infrastructures to avoid habitat fragmentation, hydraulic infrastructures that help conserve wetlands.

Although these are the main lines of action that could be used in favour of the Natura network, isolated examples exist of how the ERDF can co-finance conservation actions in areas of the Natura 2000 network (see example on Greece at the end of the chapter).

ESF

To integrate rural development and the Natura 2000 Network well, qualified staff are needed and the local population need to be made aware of new opportunities. The ESF may co-finance the following actions that are of interest for the Natura network:

JOB TRAINING FOR THE LOCAL POPULATION.

The declaration of a protected area may mean a new opportunity for local populations who see their productions backed up and the value of their surroundings increased by the differential fact of coming from or belonging to an area of recognised quality.

However, when this happens the local population does not always feel in a position to take advantage of the new situation, and in general a large part

of the initiatives come from outside. In this case, it would be necessary to give the population professional training in the new business and job opportunities consonant with natural resource conservation. (hostelry, nature tourism, surveillance work, habitat management, new opportunities for local production, etc.).

EDUCATION AND AWARENESS-RAISING

A large part of the opposition from the local population to the declaration of protected areas is due to a lack of information and awareness. The ESF could be used to combat this lack.

RESEARCH

Much still remains to be done in the field of research in new techniques that help to make economic activities compatible with nature conservation, or to minimise its impacts.

THE EAGGF IN OBJECTIVES 1, 5-B AND 6.

The Guidance sector of EAGGF in these regions may finance actions aimed at sustainable development of the rural environment as well as conservation, improvement and rehabilitation of the natural environment. Suggested actions eligible for financing relevant to this study:

PROMOTION, CREATION OF BRANDED GOODS AND INVESTMENTS IN FAVOUR OF QUALITY LOCAL AND REGIONAL AGRICULTURAL AND FORESTRY PRODUCE.

This point is very interesting from the point of view of promoting quality produce and marketing it within the SACs. It has been demonstrated that products from recognised natural areas have commercial advantages over equivalent products from other areas.

The identification of these products with a specific brand name would increase the value of the agricultural, livestock and forestry produce of the SACs and, in so doing, to the Natura 2000 network as a whole.

DEVELOPMENT AND IMPROVEMENT OF THE RURAL INFRASTRUCTURES ASSOCIATED WITH AGRICULTURAL AND FORESTRY DEVELOPMENT.

This measure can be used to provide the necessary infrastructures for processing local products.

DIVERSIFICATION, TO ALLOW FARMERS TO CARRY OUT SEVERAL ACTIVITIES OR GIVE THEM ACCESS TO ALTERNATIVE INCOMES.

Nature tourism can be included in this section.

RENOVATION AND DEVELOPMENT OF TOWNS AND PROTECTION AND CONSERVATION OF RURAL HERITAGE.

The urban sites affected by a SAC might feel in some way compensated in the basic infrastructures by this action (lighting, supply of drinking water, waste-water treatment, etc.). This possibility can also be used to conserve and recover traditional rural infrastructures that make up an important part of the landscape (stonewalls, channels, dovecotes, livestock folds, etc.).

IMPROVEMENT OF AGROFORESTRY AND GRAZING STATES.

FOSTERING INVESTMENT IN TOURISM AND CRAFTS, INCLUDING HOUSING IMPROVEMENTS IN AGRICULTURAL OPERATIONS.

The promotion of tourism and crafts related to the SAC is a very important advantage for the indirect financing of the Natura network by making use of some of its resources.

DEVELOPMENT AND EXPLOITATION OF FORESTS AND THE PROTECTION OF THE ENVIRONMENT, CONSERVATION OF RURAL AREAS AND LANDSCAPE RECONSTRUCTION.

A large part of the actions needed to conserve the Natura 2000 network can fit into this chapter, namely, inventories, applied studies, access for the public, habitat regeneration, reforestation, anti-erosion work, management

Map 3. Share of less Favoured Areas in relation to the utilized agricultural area^{XIX} (%).



Source:46

plans, etc. (see example of Castille and Leon at the end of the chapter). Despite the broad range of possibilities that this field of action offers, little advantage has been taken of it in most of the Objective 1 regions.

MEASURES IN THE FIELD OF RESEARCH AND TECHNOLOGICAL AGRICULTURAL AND FORESTRY DEVELOPMENT.

In many cases sustainable development is connected with ancestral ways of life that have disappeared or are about to do so because they are not very competitive. However, in many cases, sustainable use of those same resources could be taken up again using new technologies yet to be developed. The same occurs with certain products of natural origin that have fallen into disuse with the resulting abandonment of environmentally interesting practices or crops.

DEMONSTRATION PROJECTS.

Includes those focusing on the development and exploitation of forests, as well as those concerned with the processing and marketing of agricultural products, which are supposed to demonstrate the real possibilities of the systems, methods and techniques of production and management adapted to CAP objectives.

EAGGF IN OBJECTIVE 5-A

The EAGGF is applied in Objective 5-a through different regulations, offering opportunities that are of interest to the Natura Network. However, it would have to be modified to make it more compatible with environmental objectives³¹. Some of the measures of interest to the Natura Network are:

MEASURES TO MAINTAIN AGRICULTURAL INCOMES AND MAINTAIN A VIABLE AGRICULTURAL COMMUNITY IN MOUNTAIN OR LESS FAVOURED AREAS THROUGH AGRICULTURAL AID.

The definition of a less favoured area only takes into account environmental factors (slope, altitude) and the risk of depopulation and small areas affected by specific handicaps³² (Map 3). However, given that it is precisely in these areas where there tends to be a larger number of better conserved natural areas in the European Union under traditional extensive farming systems, it is foreseen that a large number of SAC come under less favoured areas and that they can, therefore, benefit from the aid.

Given that the SAC may also be considered as disadvantaged zones since, by definition, the uses will always have some kind of restriction, it would be advisable to extend the definition of disadvantaged zone to protected areas^{VII}.

^{VII} In Castilla y León (Spain), the regulation that regulates this aid considers the districts affected by protected areas as disadvantaged areas and they benefit from this aid. The Commission's proposal for the

This aid consists in a compensation payment for the natural limits on production in order to help maintain farmers' incomes in those areas and prevent depopulation. To a certain extent this payment helps to maintain farming in these areas, which is generally of the extensive type and therefore is to the benefit of conservation of semi-natural habitats. However, given that those who make use of it do not have any environmental guarantees, this aid sometimes creates distortions with damaging effects on the environment, such as overgrazing (see case study on Snowdonia).

MEASURES TO IMPROVE THE EFFICACY OF THE OPERATIONAL STRUCTURES, ESPECIALLY INVESTMENTS AIMED AT FOSTERING THE QUALITY AS WELL AS PROMOTING DIVERSIFICATION OF ITS PRODUCTION AND ACTIVITY, INCLUDING THE CONSERVATION AND IMPROVEMENT OF THE ENVIRONMENT

Within this package of actions there are several opportunities for the Natura Network, like the diversification of farming activities by means of tourist, craft activities or the manufacture and sale of products on the farm itself, and investments associated with protection and improvement of the Environment.

MEASURES TO IMPROVE THE MARKETING AND PROCESSING OF FARM AND FORESTRY PRODUCTS

This action can be used to promote trade in local products in support of the previous measure.

FIFG

FIFG is a little known fund used in relation to the Natura network, but, as with the previous ones, it also offers interesting opportunities. As regards the aim of FIFG to help reach a sustainable balance between resources and their exploitation, one of the fields in which investments can be made is in the improvement of the fishing zone, and on that basis marine reserves can be created, some of which may be designed in conjunction with the objectives of the Habitats Directive.

Therefore, it may be useful to protect some marine species and habitats of the Habitats Directive, such as Posidonia beds, some cetaceans and marine turtles, and, by extension, the food resources of sea birds.

THE FUTURE OF THE STRUCTURAL FUNDS

In 1999 the current Structural Fund programming period will come to an end, giving way to new programming in the period 2000-2006 which will be based on new criteria and new Regulation. The new criteria were esta-

lished in Agenda 2000³³ and in March 1998 the Commission presented its proposal for new Regulations, which must now be discussed with the Council.

1999 will be a crucial year, as it will be when the Member States prepare their regional development plans for the new programming. Thus a new opportunity is presented for funding nature conservation and the Natura 2000 network.

THE NEW OBJECTIVES

According to the Commission's proposals, the Structural Funds will have three objectives.

- Objective 1. To promote the development and structural adjustment of regions whose development is lagging behind.

This is the same as at present and the priority of these regions will be maintained. Objective 1 will take up two thirds of the Structural Funds and will apply to the regions that do not reach 75% of the Community average per capita GDP.

The most remote regions (the French overseas departments, the Azores, the Canary Islands and Madeira) and the areas under the present Objective 6 will also be covered by this objective. The ERDF, ESF, FIFG, and EAGGF will be involved, with a contribution of the 50-75% of the total investment. In the other Objectives this contribution will remain the 25-50%.

- Objective 2. To support economic and social conversion

This is a new Objective. It will focus on the economic and social conversion of areas facing structural difficulties, which will be defined by common agreement between the Commission and the Member States. These will be very similar to those under the current Objectives 2 and 5-b. The ERDF, ESF and FIFG will be involved.

- Objective 3. To develop human resources.

This is also a new Objective, focused on the modernisation of policies and systems relating to education, training and employment. Only the ESF will be involved. The areas covered by this Objective will be excluded from Objectives 1 and 2.

A transitory period will be established for the current Objective 1, 2 and 5-b regions that cease to be so.

THE NEW REGULATIONS

The general objectives of the ERDF, ESF and FIFG remain very similar to the present ones, though greater importance is attached to job creation.

THE RURAL DEVELOPMENT REGULATION

The greatest changes take place in relation with the EAGGF, which will now be based on a new rural development regulation which brings together all the existing rural development measures, i.e. the EAGGF in the context of the Structural Funds (EAGGF-Guidance Section), the four Objective 5a regulations, the three 1992 CAP accompanying measures regulations and the regulation on structural forestry support.

The rural development measures considered are:

- Investments in agricultural holdings.
- Setting-up of young farmers.
- Training.
- Early retirement
- Less-favoured areas (LFA)
- Agri-environment.
- Improving processing and marketing of agricultural products
- Forestry

These measures can be defined into two groups:

- Measures concerning modernization and diversification (investments in agricultural holdings, establishment of young farmers, training, additional support for forestry, etc.). In Objective 1 and Objective 2 regions, they will be included in the regional development programmes to contribute to the specific targets set under the Economic and Social Cohesion Policy. For these purposes, the Rural Development Regulation is equally part of the overall legal framework for Structural Funds.

In Objective 1 regions, this group of measures will be financed under the EAGGF Guidance Section and in the rest by the Guarantee Section. Outside Objective 1 and 2 areas they will be applied horizontally under the same provisions as for the 1992 accompanying measures and the less-favoured areas scheme.

- The 1992 accompanying measures (agri-environment, early retirement and afforestation of farmland) and the less favoured areas scheme (LFA). They will be applied horizontally in all the regions of the Community. The EU will co-finance these measures through the EAGGF Guarantee Section and for its implementation Member States will have to prepare a Rural Development Programme, for the period 2000-2006.

STRUCTURAL FUND INTERVENTION 2000-2006.

The Community structural intervention will be similar to how it is now. The most complex form is carried out by Objective 1 regions. In these cases

intervention goes through three stages, while in Objectives 2 and 3 intervention can be carried out in a simpler way through single programming documents.

Programming for Objective 1. The first stage is the drawing up of a development plan, in which regional priorities in the Community, national and regional context are identified. For the next programming period the Commission is to draw up guidelines.

Subsequently, on the basis of the development plan, the Commission, in mutual agreement with the Member State, fixes a Community support framework which, among other aspects, defines the priority actions, the coordination of all Community structural assistance, a financing plan and an intervention.

Finally, as a general rule, assistance covered by a Community support framework for Objective 1 will be provided in the form of an integrated operational programme for each region. These pursue specific objectives and define a group of measures which include the measures to be financed, the schedule to be followed, the cost and its financing. In the case of Objective 1 where the Community allocation does not substantially exceed 1 BnECU, the Member State submits a plan as a single document.

Programming for Objectives 2 and 3. In these regions, assistance will take the form of a single programming documents that include both the development plan and the operational programmes. They provide coordination of all Community structural assistance in the areas covered.

For the correct integration of the Natura 2000 network in the planning process it would be desirable for this to be identified as an objective in the same development plans. However, it is in the operational programmes or in the single programming documents that measures for nature conservation can be incorporated. In general, in the present programming period these measures have usually been included as a secondary objective of the programmes^{viii}. However, a special operational programme for Natura 2000^{ix} could also be designed for a whole Member State, especially as the programme establishes a close link between conservation and rural development, which could be done both for Objective 1 and Objective 2 regions.

CONCLUSIONS

The Structural Funds offer a wide range of opportunities to finance the Natura 2000 network in all its aspects. This opportunity will be significantly increased when the Natura network is integrated with sustainable rural development.

^{viii} See Snowdonia and Villafila case studies.

^{ix} See Doñana case study.

The Structural Funds offer a unique opportunity to foster sustainable development in rural areas of the Natura 2000 network.

At present, the regions that may benefit most from Structural Funds are those of Objective 1, 5-b and 6, and in the future programming period Objectives 1 and 2.

EAGGF is the structural fund that offers greater opportunities to finance the Natura 2000 Network, although interesting opportunities related to ERDF and FIFG also exist. The importance of the EAGGF will be reinforced with the new Rural Development Regulation.

ESF also offer opportunities, although they are indirect via research, education, awareness-raising, fostering of human resources. However, it seems to be the least used fund for the benefit of the Natura network.

1999 will be a crucial year, as it will be when the Member States prepare their regional development plans for the new programming. Thus a new opportunity is presented for funding nature conservation and the Natura 2000 network.

The simplification of the new regulations, particularly in the case of the EAGGF, will facilitate the coordination of different interventions on sites in the Natura network (structural interventions and rural development programme).

EXAMPLE: ERDF AND THE NATURA NETWORK IN GREECE.

In Greece, the nature conservation measures financed by the Structural Funds are integrated within a specific operational programme for the environment, mostly co-financed by ERDF with a contribution of 75%. This operational programme includes 7 subprogrammes, one of which is entitled "Management and conservation of the natural habitat" with a total budget 53 MECU that includes three actions (Box 4):

Establishment of infrastructure for the protection and management of species, ecosystems and biodiversity (3 MECU).

It comprises two projects:

a) The establishment of a recovery centre for wild animals

b) Management and protection of the snake *Vipera lebetina* on the island of Milos, a priority species in the Habitats Directive. The project includes the drawing up of a management plan, mapping of the species' habitat, proposal of management measures, establishment of an environmental information centre, awareness-raising among the public and surveillance.

Establishment of infrastructure for the management and protection of important biotopes (20 MECU)

Box 4. Operational programme "Environment" (502,3 MECU)

Subprogrammes

- I- Establishment of monitoring measures and environmental infrastructures
- II- Urban environment. Monitoring air quality in Athens
- III- Nature conservation
- IV- Regional development
- V- Official land register
- VI- CSF Projects
- VII- Programme application

Subprogramme III. Nature conservation. (53 MECU)

- Measure I- Establishment of infrastructure for the protection and management of species, ecosystems and biodiversity (3 MECU)
- Measure II- Establishment of infrastructures for the management and protection of important biotopes (20 MECU)
- Measure III- Establishment of infrastructure for habitat management and protection of natural formations and soils. Application of sustainable development (30 MECU)

It includes carrying out 15 projects in areas proposed to be part of the Natura 2000 network, most of which are partially SPA. The project includes the necessary actions needed to protect these areas under national legislation. In almost all of them information centres, awareness-raising projects and public information projects, actions to prevent pollution, etc.

Establishment of infrastructure for the management and protection of habitats and of natural formations and soils (30 MECU)

It comprises 25 projects, most of which include: the necessary actions to protect the areas under national legislation; habitat restoration; establishment of information centres; public awareness and information projects, etc. Mapping is also included, protection measures for outstanding landscape scenery and soil protection on three islands. 17 of these projects would be carried out in areas proposed in SAC. Within this subprogramme there is also the project "Mapping the habitat types in areas of national and Community interest" for which reason a database and geographical information system of existing habitats in the areas proposed for the Natura 2000 network.

This programme is managed for the most part by the Ministry of the Environment, Land Planning and Public Use, but several Action 3 projects

are being carried out via agreements between the Ministry of the Environment, the regions and the local authorities.

EXAMPLE. EAGGF AND THE NATURA 2000 NETWORK IN CASTILLA Y LEÓN (SPAIN).

For each one of the Objective 1 Spanish regions there is a operational programme called "Agriculture and Rural Development", 50% co-financed by EAGGF, with three subprogrammes, which in turn have been developed in different ways for each region. Some have included an important section on nature conservation.

One of these regions is Castilla y León, where Subprogramme II has been developed in four measures, one of which focuses on "conserving biodiversity, protected natural areas and wildlife" (Box 5). The objective of this measure is to protect the region's biodiversity, among other actions by fostering the network of protected areas^x. Most of the protected natural areas of the region coincide with the most depressed areas from a socio-economic point of view, thus the operational programme links the protection of natural areas with an improvement in the quality of life, maintaining the population and applying models of sustainable development (see pag. 148)³⁴.

Between 1994 and 1996, a total of 5,8 MECU was invested in this measure, of which 1,9 MECU were destined for direct conservation measures in protected areas and biodiversity. The remaining investment was for improving the quality of life in districts affected by protected areas, with actions such as electrification and lighting, street paving, improving the supply of

BOX 5. Operational programme "Agriculture and Rural Development in Castilla y León" (741,4 MECU).

Subprogrammes

I- Improvement in the conditions of agricultural production and improvement in rural habitat

II- Protection and conservation of natural resources

III- Reconversion, improvement in quality

Subprogramme II. Protection and conservation of natural resources (126,5 MECU)

Measure I- Fight against desertification and erosion (38,9 MECU)

Measure II- Conservation of biodiversity, protected natural spaces and wildlife (16,7 MECU)

Measure III- Protection and improvement of plant cover (55,6 MECU)

Measure IV- Aid to promote forest planning actions in rural areas (15,1 MECU)

^x The regional plan for protected areas stipulates that 35 sites will be declared, with a total of 1.000.000 ha, of which 11 are already protected, adding 275.000 ha. There are, besides, 12 ZEPAS covering 295.000 ha.

The investments made under this measure in nature conservation actions indicate the great diversity of opportunities offered by the structural funds.

- Drawing up of management plans for protected areas and species recovery
- Habitat recovery and improvement in protected areas (wetlands, riverbanks, grasslands, forests, abandoned land).
- Species recovery and habitat improvement (Imperial Eagle, waterfowl, Brown Bear)
- Fitting out protected areas to receive visitors (reception centres, roads, birdwatching hides).
- Applied research (limnological study, effects of motorways on the Wolf population, radiotracking Great Bustards, Holly Tree recovery).
- Inventories and censuses (vegetation of special relevance, Black Vulture, Imperial Eagle, Great Bustard, game species, Wolf, waterfowl, birds in protected areas)
- Other management measures in protected areas (closure of tracks, signposting, control of disease and pests)
- Publicity (informative material, seminars)
- Means provision

EXAMPLE. FIFG AND THE NATURA 2000 NETWORK IN SPAIN.

The expression of the FIFG in Objective 1 regions in Spain is carried out through a specific operational programme³⁵, that has 8 subprogrammes for intervention with a total budget of 1.354 MECU of which the FIFG contributes 73%.

One of these subprogrammes is called "Coastal Marine Zones". With a total budget 29,8 MECU it aims to protect and develop fishing resources in certain areas. One of the measures in this subprogramme consists in developing fishing resources by building artificial reefs and setting up marine reserves. These reserves are created in zones that are important for the reproduction of species of interest fishing and involve restrictions as regards resource exploitation.

At present there are 15 marine reserves, 5 of which were created from FIFG, with a total area of 134.563 ha. Bearing in mind that 4 of these reserves coincide with SPAS, and a further 3 with other types of protection status and which very probably will be declared SAC, it is possible to conclude that co-ordination between the FIFG and the Natura network is possible and of great interest.

CHAPTER 4. THE COHESION FUND.

ORIGIN AND OBJECTIVES OF THE COHESION FUND

The Cohesion Fund³⁶ was created and incorporated in the Maastricht Treaty in 1992 as a means of reinforcing the policy of solidarity, which is applied fundamentally through the Structural Funds. Unlike the Structural Funds, the Cohesion Fund is destined exclusively to provide financial assistance for projects related with the environment and the Trans-European Transport Networks in Member States with a 'per capita' GDP of less than 90% the Community average; the beneficiaries thus being Portugal, Greece, Ireland and Spain.

Environmental investments must be centred on the priorities of the 5th Community Environment Programme, one of whose objectives is the creation of the Natura 2000 network¹⁸.

Table 5. Share of credits for the duration of the Cohesion Fund

Year	1993	1994	1995	1996	1997	1998	1999	TOTAL
Share of credits	1.500	1.750	2.000	2.250	2.500	2.550	2.600	15.150

	Indicative share of the Cohesion Fund	Approximate contribution to the environment.
Spain	52-58%	4.166,2
Greece	16-20%	1.362,5
Portugal	16-20%	1.362,5
Ireland	7-10%	681,7

Source:37

The Cohesion Fund envisages an approximately 50-50 balance between investments in the environment and investments in transport, and is provided with 15.150 MECU for the period 1993-99, to be distributed between the beneficiary States on the basis of their area, per capita income and population (Table 5). The contribution of the Cohesion Fund represents 80-85% of the total public expenditure in each project.

An important aspect of the Cohesion Fund is that it tends to concentrate funding in a small number of large projects or in coherent groups of projects within the framework of an integrated strategy, and its regulations establish that the minimum cost of each project must be 10 MECU.

MODUS OPERANDI

Member States present project proposals to the Commission in accordance with their national priorities. In the approval of projects the Commission takes into account Community priorities, which in the environmental field are established by environmental directives in general and most especially those relating to the supply of drinking water, waste water treatment and urban solid waste management. Though these are the priority issues it is also possible to receive funding for nature conservation projects, and therefore projects related with the Natura 2000 network.

During the period 1993-94, for example, 3,9% of approved environment projects had nature conservation objectives (natural sites, reforestation), representing a total of 29,87 MECU³⁷.

THE FUTURE OF THE COHESION FUND.

In March 1998 the Commission presented a proposal to modify the current regulation of the Cohesion Fund. According to this proposal the Cohesion Fund will continue to be applicable in the four Member States, because though progress has been made none of them reaches 90% of the Community GDP. However, an intermediate review is foreseen in 2003 and if any of these States should surpass this threshold it will cease to receive these funds.

This proposal foresees that the Cohesion Fund resources available for the period 2000-2006 will be 3 BnECU at 1999 prices.

CONCLUSIONS

The Cohesion Fund offers a good opportunity for funding a homogenous group of actions (for instance, conditioning for public use) throughout the Natura network in the Cohesion States. However, given that this fund is administered by the State and not by the regions, there is a need for coordination and the interest of both institutions in order to undertake a project such as that which is proposed.

Though the Cohesion States do not always find it easy to propose sufficient projects to cover the quota corresponding to the environment, this fund is surprisingly little used for actions related with nature conservation, and more specifically for the Natura 2000.

EXAMPLE: ADAPTATION AND CONSERVATION OF THE NATIONAL PARK NETWORK (SPAIN).

In 1993 the Cohesion Fund approved two projects submitted by the national nature conservation administration³⁸ for the National Park network³⁹.



The first of these projects, entitled "Adaptation of systems of public use of National Parks", was carried out between 1993-95 and had a total budget of 16,5 MECU. Its objective was to create suitable infrastructures or to reinforce those already existing, to provide the capacity to receive the growing number of visitors to National Parks, which on occasions leads to the degradation of habitats and an impact on species. To this end, in each of the National Parks visitor reception centres were created and park accesses were improved.

The second project, "Restoration of natural resources in National Parks", was carried out during the same period and had a total budget of 5,4 MECU. This funding was used to restore degraded areas, carry out fire prevention work and several actions included in programmes for the recovery of threatened species (see Doñana case study).

EXAMPLE: RAISED BOG RESTORATION PROJECT (IRELAND).

The object of the raised bog restoration project is to conserve, and when necessary restore, a representative sample of the remaining raised bogs in Ireland. These are a priority habitat, according to the Habitats Directive, and Ireland is the country with the greatest number of raised bogs in Western Europe. However, these habitats have been severely affected by peat extraction and drainage projects, and only 8% of the original area occupied by this habitat remains in a relatively well conserved form.

Consequently, 22 bogs with a total area of 3.176 ha have been protected and a high percentage of Ireland's raised bogs have been proposed as SPAs. In addition to protecting these sites, the Irish raised bog conservation project involves the recovery of degraded areas.

³⁷ ICONA (Instituto para la Conservación de la Naturaleza) was the central administration's responsible body for nature conservation. Today this responsibility is held by the Ministry of Environment's Directorate General of Nature Conservation.

³⁹ At that time the national park network was comprised by nine parks, eight of which were SPAs under

The project, managed by the central administration^{xiii}, is being carried out in 14 bogs, including those which are candidate SPAs. It has a total cost of 2,5 MECU and is 85% co-funded by the Cohesion Fund. The project was begun in 1994 and has a duration of four years. It includes the following actions:

- Acquisition of land. To carry out restoration work or to prevent adverse developments, such as commercial peat extraction. To date 750 ha have been acquired.

- Conservation and restoration work. Include actions aimed at preventing excessive water loss from bogs, such as the shutting off of drainage networks and the construction of dikes.

- Planning and research. Several studies have been carried out to identify appropriate restoration measures and the necessary work involved. Ecological and hydrological monitoring of the restored areas is also being carried out.



CHAPTER 5. THE 1992 CAP ACCOMPANYING MEASURES.

INTRODUCTION

The Common Agricultural Policy (CAP) reform of 1992^{xiv} not only reformed the organisation of the most important productions, it also introduced three accompanying measures, two of which are of great environmental interest and have contributed to greater integration between agriculture and the environment: agri-environmental measures³⁸ and afforestation of farm land³⁹.

Although the measures were not completely new^{xv}, through the CAP reform they came to be financed by the Guarantee Sector of the EAGGF^{xvi}, in other words, through the general budget of the CAP^{xvii}, which was a step towards greater integration between environment and agriculture. However, it must not be forgotten that the basic aim of both measures is not strictly environmental, but agricultural. It involves contributing to the reduction of agricultural production while maintaining farmers' incomes.

Both regulations are to be compulsorily applied in all the Member States, and they establish a framework that the Member States subsequently adapt to their specific needs via national, regional or zonal programmes. In this way, for each zone or region the actions, amounts and duration of the aid, evaluation and control systems, land planning criteria, etc. can be determined, allowing the regulations to be adapted well to local and regional needs.

^{xiv} The most important market organisations of the CAP (Cereals, oilseeds and protein crops, beef and sheepmeat, milk and dairy products, and tobacco).

^{xv} Both measures have their most important precedent in Regulation EEC 797/85 concerning the improvement to farming structures (O.J. L 93 of 30.03.85), more specifically in articles 19 "National aid in the sensitive zones from an environmental point of view" and 20 "Forestry measures in farming operations". They were financed by the orientation section of the EAGGF.

^{xvi}

^{xvii} The Guidance Section is of a structural

For application nationwide, the Member States prepare the programmes they believe are pertinent and present them to the Commission, where they are examined to see if they fulfil the regulations and are coherent with other Community policies. Once the programmes have been passed by the Commission they are applied in the Member States with 75% financing of the aid in the Objective 1 regions and 50% in the remaining regions. The Member State contributes the remainder. Farmer participation in the programmes is always voluntary.

AFFORESTATION OF FARM LAND.

Community aid for forestry measures in agriculture, until 1999 under regulation 2080/92 promote forestry as an alternative use of agricultural land as well as the development of forestry activities on farms³⁹.

The aid is destined for:

- Afforestation of farmland. They may be awarded to any person or body that carries out reforestation. The maximum aid in the form of reforestation expenses oscillates between 2.000 ECU/ha for eucalyptus plantations to 4.000 ECU/ha for plantations of broadleaf and mixed woodland.

- Maintenance costs of forested areas. They last five years and may be awarded to the same people as in the above mentioned aid. This aid is greater during the first two years of afforestation and is greater for plantations of broadleaf trees than for conifers.

- Compensation payments for loss of income due to afforestation. They are for the farm owners and any legally recognized person or body.

- Investment for improving forested areas. It includes the construction of windbreaks, firebreaks, water sources and roads as well as the improvement of forested areas and the renovation and improvement of cork oak woods.

The Member States must put this regulation into practice via national or regional programmes, but there is also the possibility of applying the aid by means of zonal afforestation programmes, which are better adapted to local conditions and needs and, therefore, more appropriate from an environmental point of view. For example, in some national programmes afforestation has benefited protected areas with threatened or native species, etc.

Although this aid scheme is of interest as regards the Natura network, it has attracted far less interest in this regard than the agri-environmental scheme.

Although the measures permit a great deal of flexibility, on occasions the regulations prevent the application of specific practices. For example, in some Mediterranean zones it was not allowed to introduce livestock into afforested areas to control scrub growth and thus reduce the risk of fire⁴⁰.

AGRI-ENVIRONMENTAL MEASURES.

The agri-environmental measures, currently under Regulation 2078/92^{38,41}, establishes programmes to encourage farmers to employ farming methods that are beneficial to the environment, offering a good opportunity for conservation and management of areas in the Natura network. This aid is for a wide range of aims that the States may select and develop, and which may be applied horizontally, to the whole territory, but also by means of zonal agri-environmental programmes, which are better adapted to local conditions (Table 6).

The aid is awarded via annual payments to farmers who, for a five-year period, voluntarily commit themselves to fulfil the programme measures that affect them. The maximum amount of the payments is established by the Commission, but it is the Member States that determine the conditions

Table 6. Actions for which aid from the agri-environmental programme is used.

Actions	Maximum payment maximum ^{xviii}
To promote farming practices that reduce the polluting effects of agriculture, for example, less use of fertilisers and pesticides, introducing or maintaining biological farming methods, etc.	422,6 ECU/ha
Making crop and livestock production more extensive. Conversion of herbaceous crops into extensive grazing land is included.	422,6 ECU/ha
Reducing the number of livestock per unit of foraging land.	253,6 ECU/LU
Using other practices that are compatible with the requirements of environmental protection and of natural resources and with conservation of natural areas and the landscape	422,6 ECU/ha
Rearing of threatened local breeds of animals	120,8 ECU/UGM
Cultivation of plant varieties threatened by genetic erosion	301,9 ECU/ha
Maintenance of abandoned farmland or forested land	301,9 ECU/ha
Set aside of farmed land for at least 20 years to use it for environmental purposes, especially as reserves, biotopes or protected areas, and water protection.	724,5 ECU/ha
Managing land for public access and leisure.	
Measures to improve the training of farmers in farming methods that are compatible with the environment.	3,019 ECU/personnel/course

Source: 38, 41

for the award of aid and the amount of aid for the zonal programmes, with the approval of the European Commission.

^{xviii} Maximum amounts since 1996, according to Regulation 1962/96, that Member States can lower.

AGRI-ENVIRONMENTAL PROGRAMMES AND NATURE CONSERVATION.

The agri-environmental programmes offer a wide range of opportunities for managing and conserving the Natura 2000 network, both in those areas where it is necessary to reduce the pernicious effects of intensive agriculture and where traditional extensive farming methods need to be maintained.

The main groups of measures of use to the Natura network are:

- Non-ecological farming with positive repercussions for the environment. Aim to reduce the negative impact of intensive agriculture by reducing the use of fertilisers, water and pesticides, maintaining borders between arable fields, conservation of genetic resources, reduction in livestock, etc. The aim is thus to recover lost biodiversity. Farmers who make use of these measures must do so for a minimum of five years.

- Maintenance of extensive systems.

It consists in maintaining traditional extensive farming systems, fostering low livestock densities, maintaining low fertiliser levels, water and pesticide consumption, maintenance of grazing land, etc. In such cases, the aid helps conserve biodiversity and avoid the abandonment of farming methods in marginal zones. Farmers who make use these measures must do so for a minimum of five years.

- Managing set aside land.

Are aimed at recovering and restoring habitats, with actions like planting plant species of interest, permanent flooding of land, etc. These contracts have a minimum duration of 20 years.

- Training and demonstration projects

This group of actions is useful for training farmers in the most appropriate techniques and practices, raising their awareness and carrying out demonstration and experimental projects.

PROGRAMME APPLICATION.

Up to June 1997, the Commission had approved 127 programmes of very varying characteristics according to the needs of each state or region⁴². This diversity of interests is reflected in the way each Member State has distributed the investment to finance the measures (Table 7.1). The overall analysis of the data indicates that the most used measures are those relating to environmental improvements and the maintenance of extensive systems, which altogether involve 75% of all agri-environmental investment. (Table 7.2).

During the period 1992-1997 the agri-environmental programmes have been rapidly applied in the Member States that had previous experience in managing this type of project, such as France, Germany, Austria and Finland, while in those lacking experience the tendency has been to make less use of the opportunities and be slower in applying them, such as Italy, Spain and Greece⁴². Although the measure has been in force since 1992, it was not until 1996 and 1997 that most States broadly applied the programmes.

In mid-1997, 17% of all farming operations and people employed in farming in the EU had made use of agri-environmental programmes, covering 17% of utilized agricultural area (UAA)^{xix}, i.e. 22,3 millions hectares. In 1996, 3,6% of all EAGGF Guarantee expenditure was on agri-environmental programmes (Table 7.3).

THE FUTURE OF THE 1992 CAP ACCOMPANYING MEASURES.

According to the Commission's proposals for the future of agriculture⁴⁷ and of the Structural Funds, presented in March 1998, the CAP accompanying measures are to be integrated in a new specific regulation on Rural Development. As at present, these measures will be for horizontal application in all the Member States and will be co-financed by the Guarantee section of the EAGGF.

CONCLUSIONS

The afforestation and agri-environmental schemes permit a high degree of adaptability to national, regional and local conditions.

Although both programmes are of interest for the Natura network, the agri-environmental one has raised greater expectations, being very useful for managing the SACs, from those affected by farming systems to those that need to maintain extensive farming systems.

EXAMPLES

For the afforestation scheme see Snowdonia and Doñana case Studies. For the agri-environmental scheme see all the case studies

^{xix} Utilized Agricultural Area (UAA) covers arable land, including: fallow land, market garden produce and flowers, grazing land, nurseries, plantations and perennial crops. It does not include uncultured

Table 7.1. Agri-environmental measures and percentage of financing in relation to the total invested in each State.

Type of measure	B	DK	D	EL	E	F	IRL	I	NL	L	A	P	FIN	S	UK	UE-15
Ecological farming	20	24	1	14	4	3	2	23	2	1	17	4	6	15	2	8
Ecological farming with environmental improvements	58	46	56	35	35	15	49	43	32	39	59	18	42	6	53	41
Maintenance of low intensity systems	5	16	21	0	15	79	21	22	0	56	21	68	42	71	30	35
Management of land not under production	14	14	21	50	42	3	24	10	0	3	3	6	7	1	14	14
Demonstration and training projects	3	0	1	0	4	1	4	2	66	0	0	4	5	7	0	3

Table 7.2. Budget for the programmes (MECU) and stage of completion in each Member State

A. Expected contribution of the EAGGF	B	DK	D	EL	E	F	IRL	I	NL	L	A	P	FIN	S	UK	UE-15
B. Projected outlay by the member States (EAGGF)	25	56	1050	120	400	690	210	650	71	7	525	151	405	495	192	5047
C. Budget for the approved programmes (1996) (EAGGF)	18	30	986	22	399	626	144	511	55	6	716	150	403	223	111	4397
D. Contribution of member States to the programme	3	19	918	11	125	509	163	432	25	4	806	148	399	126	98	3787
E. Total programme cost (E=C+D)	6	38	1294	15	167	1018	217	714	49	9	1553	197	798	252	192	6244

Table 7.3. Percentage of utilized agricultural area (UAA) for each Member State participating in agri-environmental programmes.

% of UAA of each State included in the agri-environmental programmes	B	DK	D	EL	E	F	IRL	I	NL	L	A	P	FIN	S	UK	UE-15
	1	3	37	0	2	19	18	6	2	76	72	15	77	45	8	17

B Belgium; DK Denmark; D Germany; EL Greece; E Spain; F France; IRL Ireland; I Italy; NL Netherlands; L Luxembourg; ÖS Austria; P Portugal; FIN Finland; S Sweden; UK United Kingdom.
Source: 42

CHAPTER 6. COMMUNITY INITIATIVES.

INTRODUCTION.

This is a part of the Structural Funds which is used at the initiative of the Commission to promote actions which contribute to solving certain Community problems. For their application, the Commission identifies a series of priority issues which it proposes to the Council of Ministers.

During the present programming period, 1994-99, there are 13 Community Initiatives⁴³, for seven priority issues:

- Cross-border cooperation
- Rural development
- Remote regions
- Employment and human resources
- Industrial change
- Depressed urban neighbourhoods
- Restructuring of the fisheries sector

The funds allocated for Community Initiatives amount to 14.378 MECU⁴³, i.e. 9% of the total Structural Funds budget (Table 8). 61% of this budget is earmarked for Objective 1 regions.

The Community Initiatives of interest for the purposes of this book are INTERREG II, LEADER and REGIS II.

Table 8. Community initiatives credits for the 1994-1999 period (MECU).

	INTERREG-II	LEADER-II	REGIS-II	TOTAL
Belgium	99,7	10,2		109,9
Denmark	22,1	9,9		32
Germany	455,0	208,9		663,9
Greece	632,3	163,9		796,2
Spain	693,3	405,5	218,3	1.317,1
France	269,8	229,1	267,3	766,2
Ireland	165,7	84,0		249,7
Italy	388,0	328,7		716,7
Luxembourg	3,6	1,2		4,8
Netherlands	189,4	11,6		201
Austria	49,8	27,0		76,8
Portugal	354,95	130,2	126,5	611,6
Finland	48,9	28,7		77,6
Sweden	47,5	16,4		63,9
United Kingdom	123,6	78,4		202
Total	3.544,1	1.768,2	612,2	5.889,4

Source: 44

INTERREG II

The INTERREG initiative covers two different headings, cross-border cooperation and the completion of energy networks⁴³, with a total budget of 3.544 MECU (Table 8). In this study we will concentrate on the first of these.

With regard to cross-border cooperation, INTERREG II has two objectives:

- To help internal and external border areas of the European Union to overcome the development problems deriving from their relative isolation, for the benefit of the local population and in a way which is compatible with the environment.

- To stimulate the creation and development of cooperation networks between internal border areas and to link up these networks with other larger networks for the development of the internal market.

This relative isolation of most of the cross-border regions has resulted in the conservation of important natural sites in these zones and it is to be expected that many SACs will be located in these regions.

The measures of special interest for the Natura network, eligible for co-funding by INTERREG, include the following⁴³ (see Castro Verde, Maurienne and Villafáfila case studies):

- investments, services and installations which serve as a support to the development of SME's and crafts, always with a view to cross-border cooperation.
- promotion of tourism (including rural tourism), management and development of the tourist potential of natural parks situated in borders areas.

- promotion of rural development programmes which permit the diversification of farmers' incomes.

- improvement of agricultural processes and products, stimulating the diversification of products, developing quality labels and brands, improving marketing structures and providing assistance in joint marketing strategies, mainly of cross-border character.

To gain access to these grants, Member States which have eligible zones under the INTERREG initiative must present an operational programme. Community resources are concentrated mostly on Objective 1 regions and the percentages of co-funding are established in accordance with the Structural Fund regulations.

LEADER-II

In response to the crisis currently affecting rural areas (job losses, rural abandonment, increasing isolation, etc.) it is necessary to seek out new directions, new forms of development and new activities. Within this fra-

mework, the LEADER initiative is aimed at promoting endogenous and frequently innovative rural development approaches which enable local actors to revalorize their own potential⁴³. What is new about this is that it is the local actors themselves who propose and manage the actions, respecting a series of guidelines laid down by the Commission.



The eligible areas are rural areas in Objective 1 and 5b regions. There is also a possibility of subsidizing projects in rural zones bordering with Objective 1 and 5b regions. The initiative has been assigned a budget of 1.768 MECU, of which 900 MECU are earmarked for Objective 1 regions.

The final beneficiaries are groups of public or private local partners, known as local action groups, which define a common strategy for local rural development. Other collective bodies, public or private, can also be beneficiaries (chambers of commerce, local bodies, associations, cooperatives, etc.), provided that their actions are related with local development.

LEADER offers highly creative opportunities for rural development associated with the Natura 2000 network, due to its decentralized character (see Villafáfila and Maurienne case studies). The Commission negotiates with each member State the content of the regional or national programmes and subsequently has no further intervention in the selection. After this a national or regional "planning and decision-making partnership", with ample representation of the national co-funders (State, regional and other local bodies), is established to design the regional LEADER programme.

It is subsequently the local action groups who are responsible for selecting the projects or their beneficiaries.

ELIGIBLE MEASURES.

All the measures eligible to receive grants under LEADER are of great interest for the Natura 2000 network, and include the following:

a)- Acquiring skills.

The objective is to provide technical assistance for the initiation of integrated development processes.

b)- Rural innovation programmes, demonstrative and transferable:

This is the measure of greatest interest for the Natura network. Its objective is to give priority to local action or investment programmes which, besides having links with a more general rural development strategy and providing continuity with earlier measures carried out in the area in question, are

innovative in the local context, capable of serving as models and transferable. These projects should illustrate the new directions that local development may take. Though the Commission has proposed some issues for innovation, these will probably not be new to Natura network managers at this stage of the book (Table 9). The proposed issues of interest for the Natura network include the following:

- Measures to mitigate the effects of the CAP reform
- Development and marketing of new products and services
- Creation of employment in rural areas
- Raising the awareness of the local population about development challenges and their capacity for action etc.

c)- Transnational cooperation

This measure is aimed at developing and implementing common projects between local actors in at least two Member States.

Table 9. For the measure "rural innovation programmes" the Commission has proposed an illustrative series of eligible activities, which includes the following:

- in rural tourism, individual or collective innovative investments (including tourist investments related with farming activities) with a restricted unitary dimension.
- inventory, restructuring and revalorization of historic buildings and rural sites of tourist interest.
- conception and development of new rural tourism products.
- assistance for innovative investments in crafts and small businesses, particularly those which valorize local natural resources.
- assistance in the creation of companies.
- promotion and labelling of local and regional quality products and identification of products with the region where they are produced.
- marketing.
- diversification of agricultural production and of farmers' activities.
- support to the production and promotion of cultural activities related with rural development.
- protection, rehabilitation and valorization of natural resources and landscape.

REGIS-II

The objective of this initiative is to promote the integration in the Community of the Canary Islands, Madeira, the Azores and the French overseas departments⁴³. It has a budget of 612 MECU (Table 6).

Member States can present proposals for operational programmes and global grants.

Eligible measures include the following:

- Agriculture and regional development: Diversification of agricultural production with a view to the development of products for export.
- Tourism: Promotion of alternative tourism, more integrated in the local context and which does not endanger environmentally sensitive zones.
- Environment: Development of areas of tourist interest, conserving their natural beauty.
- Vocational training: Training actions in relation with environmental management.

THE FUTURE OF THE COMMUNITY INITIATIVES.

As with the rest of the Structural Funds, the future of the Community Initiatives is being discussed. In principle the Commission proposes limiting their scope of action to three areas:

- Cross-border, transnational and interregional cooperation, destined to promote harmonious and balanced territorial management.
- Rural development.
- Human resources in the context of equal opportunities.

On the other hand, the Structural Fund resources earmarked for Community Initiatives have been proposed to be reduced from 9% to 5%.

CONCLUSIONS

The Community Initiative of greatest interest for the Natura network is LEADER, which offers a good opportunity for the integration of rural development and the Natura network. However, due to its decentralized character, its correct use calls for greater efforts in coordination on the basis of an appropriate project and a sensitized population.

In view of its innovative character, there are likely to be good examples, dispersed throughout the Community, of how LEADER can be used in favour of the Natura network.

There are also other initiatives of interest, such as INTERREG and REGIS, which unlike LEADER are articulated in a similar way to the classic Structural Fund operational programmes, in other words with a top-down approach.

EXAMPLES.

For LEADER see Hainich, Snowdonia and Villafafila case studies. For INTERREG see Villafafila case study.

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PART II.

CASE STUDIES

CONCLUSIONS AND RECOMMENDATIONS FROM THE CASE STUDIES

Through the inclusion of the following examples we have attempted to show real cases of how the different financial instruments have been articulated on the ground for nature conservation purposes.

In the selection of the case studies an attempt has been made to find examples centred on SPAs or areas proposed for the Natura 2000 network where different Community financial instruments were being used.

Though the selection of these places has not always been simple, we have finally found some good examples which show the great diversity of situations existing (Table 10), and from which some interesting conclusions can be drawn:

1. THERE IS A GREAT DIVERSITY OF FINANCIAL INSTRUMENTS FOR THE NATURA 2000 NETWORK.

From a reading of the case studies it can be seen that there is currently a great diversity of financial instruments which can be used for nature conservation. The menu is sufficiently broad to cover any need.

However, it is also seen that these opportunities are not always put to use in the right direction. This is due fundamentally to two factors:

i)- There is still a great *lack of awareness* of the range of opportunities offered by the different financial instruments.

ii)- There is great a *lack of coordination* at local and regional level when it comes to managing the application of the different financial instruments.

Both factors prevent a more satisfactory use of the Structural Funds in relation with nature conservation objectives.

2. IT IS NECESSARY TO ACHIEVE THE INTEGRATION OF CONSERVATION AND RURAL DEVELOPMENT.

The best results are obtained from the different financial instruments when there is integration between nature conservation and rural development, such as is the case in Villafafila and in Snowdonia.

In Hainich it is clear that the region is expecting and seeking to obtain benefits through nature protection, and this is the only way to interest broader sectors of society. For this reason ways of achieving such integration are being sought.

The necessity of this link is also shown in the other examples, though with different degrees of emphasis. In Castro Verde and Doñana nature conservation is closely linked with rural development. In the latter case, the need

for this link was underlined by the opinion of an International Panel of Experts, one of whose conclusions was that the solution to the serious conflicts between conservation and development affecting the area lies in the sustainable rural development of the area around Doñana.

On the other hand we have the example of Maurienne, where despite the fact that a great variety of financial instruments are used, the non-existence of integration between development and conservation means that most of them are destined to socio-economic objectives, reserving only LIFE for conservation actions.

3. GREATER COORDINATION IS NECESSARY AT LOCAL AND REGIONAL LEVEL.

The best examples of how the different financial instruments can be taken advantage of are found in Villafáfila and Snowdonia. In both cases, the regional environment authorities participate actively in structural programming and have a good knowledge of the different opportunities available. This allows them to make good use of all the funds.

In Castro Verde, Hainich, Doñana and Maurienne it is seen that greater regional coordination is necessary if the usage of existing opportunities is to improve. The creation of specific agencies for local development is proposed.

4. IT IS NECESSARY TO PROMOTE BOTTOM-UP INTERVENTIONS.

In all the examples, the programmes which work best are those which directly imply local actors and a large part of the failures are motivated by a lack of participation of or communication with local actors.

In Castro Verde greater approximation and dialogue at local level is necessary in the designing of the different programmes and the need is underlined for local communities to take an active part in planning and management. For the design of Hainich National Park, dialogue with local actors has been vital, and this has also been the case in the application of the different programmes in Snowdonia.

Another interesting example can be found in Doñana, where two different operational programmes are applicable, with different (provisional) results. On the one hand, the operational programme for Doñana, which with a top-down approach is not achieving the necessary participation of local actors, is encountering problems in its application. However, the application of the PRODER operational programme in the same area, with a bottom-up design, has in much less time managed to unite all the local actors to make use of the programme.

Table 10. Comparison between different regional indicators and the application of the different instruments in the study areas.

	Hainich	Snowdonia	Castro Verde	Maurienne	Doñana	Villafáfila
Regional GDP EUR15=100	61	71	28	115	49	62
Gross added value of agriculture (region)	2,8	0,9	21,6	1,6	6,9	6,5
Inhab/km ² (region)	156,9	65,8	19,9	126	80,5	26,7
Regional population 65 years of age (%)	14,0	18,7	19,7	13,3	11,7	17,6
Growth of regional population per 1000 inhabs.	-10,3	2,7	-5,7	7,0	4,5	-1,6
Use of LIFE	YES	YES	YES	YES	NO	YES
Use of Structural Funds	YES	YES	NO	YES	YES	YES
Use of Cohesion Fund	NO	NO	NO	NO	YES	NO
Agri-environmental scheme	YES	YES	YES	YES	YES	YES
Afforestation scheme	NO	YES	NO	NO	YES	NO
LEADER	YES	NO	YES	YES	NO	YES
INTERREG	NO	NO	NO	YES	NO	YES



Castro Verde (Alentejo-Portugal)

Miguel Vieira¹ and Peter Eden¹

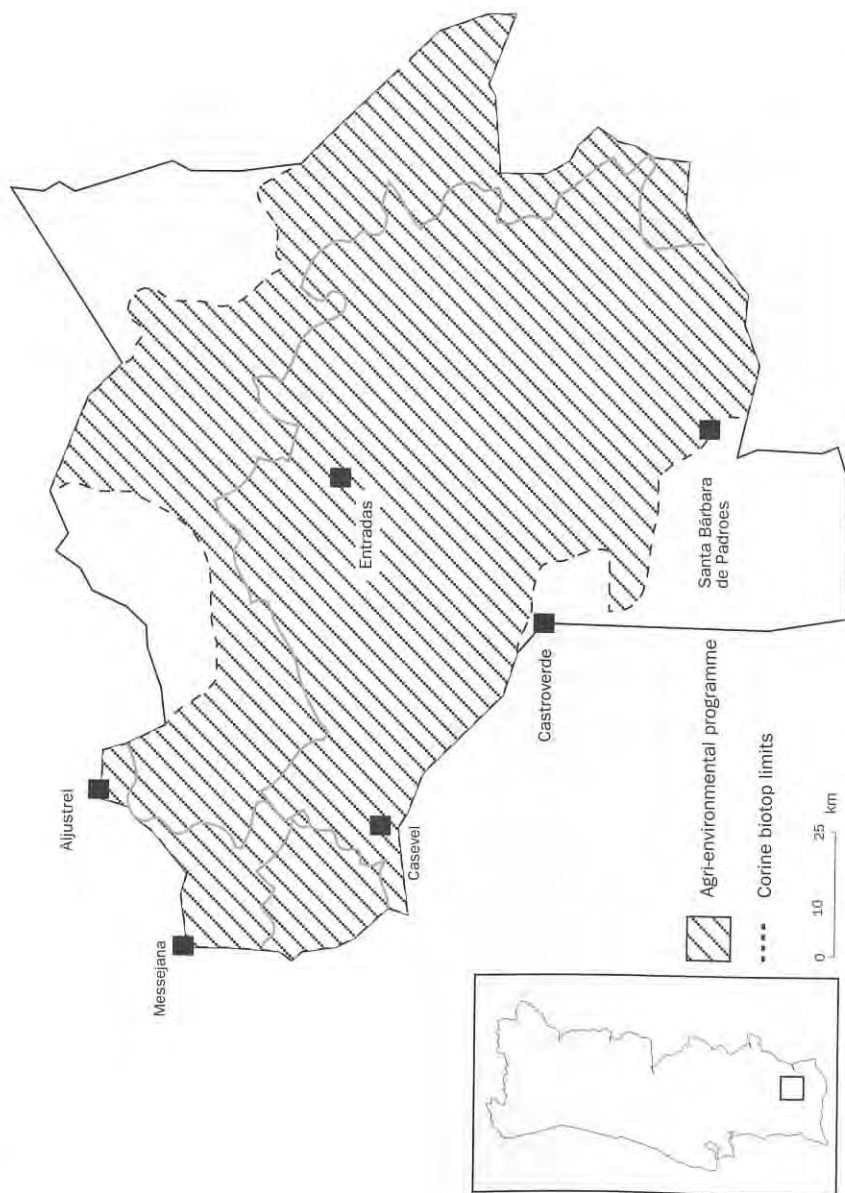
The study is centred on an area whose ecological interest is dependent on the conservation of existing farming systems. Given the similarity of this situation with other areas proposed for the Natura 2000 network in Portugal, the author concludes that there is a need for more dialogue between the actors involved and greater integration between human activities and the conservation of semi-natural habitats.

1. Area description.
2. Socio-economic profile of the area.
3. Relations between nature and local population.
4. Threats to sustainable development.
5. European funds invested in the area.
6. Conclusions and recommendations.

1. AREA DESCRIPTION

The extensive cereal and grassland steppe area of Castro Verde is a landscape of gently undulating treeless plain (some open Holm Oak woodlands *Quercus ilex* in peripheral areas) with large fields whose boundaries are only defined by the different cereal crops, areas of low rocky outcrops, isolated farm buildings, sometimes derelict, and a few scattered villages.

¹ IDRGA Instituto para o Desenvolvimento Rural e Gestao Ambiental. Lisbon.



The town of Castro Verde, with a population of 4.600, has all facilities and is the main focal point of the area. Much of the wealth of this town is generated by the local mining industry. The population density is 13 people per km².

In this region 88.000 ha were identified as a Corine Biotope and also recognized as an Important Bird Area¹. Presently this Important Bird Area is proposed to be designated as Special Protection Area (SPA) under the Birds Directive. In 1994, under Regulation 2078/92, 64.000 ha of the Castro Verde IBA were chosen for the first zonal agri-environmental programme to be implemented in Portugal. The area has recently been proposed for designation as a SPA and will probably become a SAC.

The traditional farming system is based on extensive cereal farming, usually wheat or oats, in rotation with spontaneous pasture fallow, grazed by large flocks of Merino and Campaniço sheep. Farms are large, with an average of 150 ha, and are totally mechanized. Cereal production is low (1000 - 1800 kg/ha) due to the shallow soils of low fertility and dry climatic conditions (rainfall 400 - 500 mm/year mostly in the winter).

The hardy sheep are extensively grazed at stocking rates of 1 to 2 ewes/ha. Lambing takes place in the autumn, making use of the winter grass to rear the lambs which are sold at 3 to 4 months of age. The ewes are then milked by hand or by portable milking machines until the pastures dry up in May. The milk is sold for local Serpa cheese production. Grazing consists of natural pasture, fallow and cereal stubble in the summer.

The Castro Verde steppe habitat has been created as a result of this extensive farming system and its maintenance relies on the survival of this traditional agriculture.

This is the most important area in Portugal for steppe bird populations such as the Great Bustard *Otis tarda*, Little Bustard *Tetrax tetrax*, Montague's Harrier *Circus pygargus*, Stone Curlew *Burhinus oedipnemus*, Calandra Lark *Melanocorypha calandra*, etc. These bird species are dependant on cereal rotation, with most of them nesting in the cereal crops and feeding on the great diversity and abundance of insects due to the low usage of agrochemicals.

In total this area supports about 160 bird species of which 84 are breeding. Of these, two are globally threatened species², the Great Bustard and the Lesser Kestrel (Table 1).

The Castro Verde habitat also supports appreciable numbers of game species such as the Red Legged Partridge (*Alectoris rufa*), Quail (*Coturnix coturnix*) and Hare (*Lepus capensis*). The area also supports one species listed in annex I of the Habitats Directive, the Striped-neckd Terrapin (*Mauremys leprosa*).

2. SOCIO-ECONOMIC PROFILE OF THE AREA.

The evolution of the local population is strongly influenced by the presence of important mining activities since the 80's. The figures for agricultural employment, like all the interior of the Alentejo region, have shown a 33% reduction between 1981 and 1991. In the 1960's three in every four jobs

Table 1. Important Bird List.

<i>Ciconia ciconia</i>	White Stork	N
<i>Milvus migrans</i>	Black Kite	N
<i>Circus cyaneus</i>	Hen Harrier	W
<i>Circus pygargus</i>	Montague's Harrier	N
<i>Falco naumanni</i> (*)	Lesser Kestrel	N
<i>Grus grus</i>	European Crane	W
<i>Tetrax tetrax</i>	Little Bustard	N
<i>Otis tarda</i> (*)	Great Bustard	N
<i>Burhinus oedipnemos</i>	Stone Curlew	N
<i>Pluvialis apricaria</i>	Golden Plover	W
<i>Pterocles orientalis</i>	Black Bellied Sandgrouse	N

N - Nesting W - Wintering

* Globally threatened species².

were in agriculture, while today only 1 person in 3 is employed in agriculture. This trend is likely to continue as agriculture becomes more mechanised, more intensive and livestock is increasingly enclosed.

Castro Verde region does not offer much seasonal farm work, unlike some other parts of the Alentejo which have vineyards, olive groves, cork forests or irrigated crops.

Mining is a major employer in the area, accounting for 26% of jobs, and has been more stable than agriculture in helping to maintain the rural population, particularly in the Neves Corvo mine near Castro Verde.

Light industry and agro-industrial business are not strong and provide little local employment. There has been some employment in the building industry, with the construction of new housing and infrastructures such as water supplies, electricity, sewage systems and new roads over the past years, but today this is of less significance.

The main growth in employment has been in the tertiary sector (public services, commerce, restaurants, etc.). In 1981 this sector accounted for 26% of jobs, and by 1991 this figure had risen to 40%.

The region is well situated on the main roads linking the main towns of Evora and Beja with the Algarve and the Lisbon-Algarve highway is close by. These roads bring passing visitors who use the town's facilities, thus helping the local economy. Otherwise the area has little to offer to tourists, with the exception of its great attraction for ornithologists due to the presence of steppe birds. Almost nothing has been done to secure this tourism.

3. RELATIONS BETWEEN NATURE AND LOCAL POPULATION

The natural values of the Castro Verde IBA are dominated by the rich diversity and numbers of steppe birds. This steppe only exists due to the traditional extensive cereal and grassland farming system of the region, developed within the restrictions of poor soils and dry climatic conditions. Without these farming activities, the region would soon revert to scrub and woodland and the steppe birds would disappear.

Locally there is a very limited knowledge or interest in the bird life and its habitat. Nevertheless, the Castro Verde zonal agri-environmental programme, under Regulation 2078, has brought about increased awareness among farmers, though their primary interest is in the financial incentives offered by the Programme. It will take time for information about the importance of conserving this IBA and how the local economy can benefit to be well understood, through the work of the local administration, the farmers association, NGO's, schools and the media. A positive step has been due to the recognition of the importance of Castro Verde by the county Council, with a ban on planting trees within the council area, though there is evidence that tree planting continues to take place.

The main initiative to promote the environmental management of the area has been taken by two NGO's and the farmers association. One NGO runs a LIFE project to buy land which was under threat of afforestation and to manage the farms in an exemplary way for bird life and habitat management.

The other NGO runs a demonstration area aimed at showing farmers suitable tillage systems, cereal varieties and forage crops compatible with environmental considerations and economic goals, and in general helps to encourage debate and disseminate information. This project is being carried out under Regulation 2078.

The farmers association is coordinating the implementation and running

of the zonal agri-environmental programme and undertaking some training sessions for farmers and technicians.

4. THREATS TO SUSTAINABLE DEVELOPMENT.

- Stubble burning is common in the region. This is negative to insect and spontaneous plant populations.

- In most cases shooting is not well managed in the area, causing disturbance to bird populations. Illegal shooting of protected species is known to occur. More than 50% of the area has free shooting and this makes any management impossible.

- Cutting of hay and early combining of cereals are a threat to nesting birds.

These threats result from negative aspects of the traditional use of the land by local communities, but their impact is probably much less important than the following:

- Abandonment of farmland due to the decrease in farm income. This abandonment is being provoked by the fall in cereal prices due to the CAP Reform. Ultimately livestock grazing can substitute cereal farming but the level of income may be insufficient to continue farming. In both cases a fundamental change in habitat management will occur (total absence of soil mobilization), allowing the growth of maquis type shrubs.

- Afforestation of farmland. There is no protection of the traditional land use in Castro Verde. This means that under the afforestation regulation (Regulation 2080/92) or other support mechanisms farmers can apply for afforestation of their farms. The income support provided under the agri-environmental regulation is considerably less than the annual afforestation premiums.

These threats are the result of CAP evolution. If major measures are not taken in the very near future to protect the farming community and dependent environmental values, the region will lose both its steppe bird life (in particular Great and Little Bustard) and its farming population.

5. EUROPEAN FUNDS INVESTED IN THE AREA

There is lack of detailed information about how European funding has been invested in the area. Some major projects funded through the ERDF, EAGGF and ESF have benefited the area, but it is difficult to calculate the part of the investment allocated in the study area. The local County Council of Castro Verde has used ERDF funds to create a small sewage treatment

plant and plans to apply this source of funding to finance a tourist project in the area.

LIFE

As has been mentioned above, there is a LIFE project being carried out by an NGO whose objective is to act as an incentive to preserve the whole steppe area. This LIFE project has two parts. In the first (1994-1997), with a total budget of 833.000 ECU, three key areas totalling 1.400 ha were purchased and are being managed in a way which assures the conservation of the local steppe bird community and serves as a stimulus to the application of environmentally compatible farming methods.

The second phase of the LIFE project (1995-1998), with a total budget of 819.867 ECU, aims to continue the preservation efforts of these biotopes through the purchase of new land, preparation of management plans, etc.

LEADER

A LEADER project for the Castro Verde region was approved only recently. This means that no significant investment has yet taken place. The actions programmed for Castro Verde include 3 projects for the setting up of small agri-industrial enterprises, an environmental education project and a project aiming to support a number of cultural initiatives.

The LEADER programme covers a total area of 5.656 km² and a population of 89.673 inhabitants. The total budget (1995-1999) is 2.034.000 ECU with a planned EU participation of 1.322.000 ECU.

INTERREG

No direct funding for Castro Verde has been provided through INTERREG. Indirect funding for Castro Verde is being provided through a project for the whole Alentejo region for the exchanging of experiences and people between this Portuguese region and the neighbouring Spanish regions of Andalusia and Extremadura.

This programme is intended to finance exchange visits of farmers and Ministry of Agriculture personnel to Spanish areas where similar Zonal Programmes under Regulation 2078 are being implemented.

THE AGRI-ENVIRONMENT REGULATION 2078/92.

This Regulation is the first agri-environmental instrument to have been implemented in Portugal. Of the seven agri-environmental zonal programmes planned for Portugal only the Castro Verde Programme has been put in to action. This programme covers a total area of 64.000 ha with a total

approved funding of 716.989 ECU. The latest take-up figures are shown in Table 2.

Table 2. Take-up in the Castro Verde agri-environmental zonal programme.

Year	Total Number of Candidates	Number of Candidates Approved	% of Total Area
1995	113	67	25
1996	30	18	4
1997	17	17	6
Total	160	102	35

In its conception, this Programme could be very positive for promoting an environmentally sustainable local economy, but in fact its funding is clearly insufficient to maintain the minimum income needed to keep the farming system working. The premiums paid under the Programme do not compensate the increasing loss of income per hectare as a result of increasing cost and falling income in particular due to the reduction in grain prices and subsidies for cereals and livestock.

This situation has arisen due to the low political importance attached by the Portuguese Government to the implementation of Regulation 2078/92. In fact the Accompanying Measures are less attractive for southern Member States than other EAGGF measures which are fully financed by the EU budget.

Taking into consideration the comments of Castro Verde farmers, proper implementation of Regulation 2078/92 could have a very positive impact in the area if enough financial and human resources are provided. However, even if Regulation 2078/92 is fully implemented in the region, some changes to the farming systems must occur coming from the changes in the Agricultural Policy and world markets.

This means an opportunity to update the traditional agricultural systems while safeguarding the environmental benefits provided by the present systems.

THE FORESTRY REGULATION.

Special attention must be given to the use of the forestry regulation (R 2080/92) in the Castro Verde region. Farmers in the Zonal Programme area are forbidden to plant trees on their farms under any of the EU support mechanisms such as Regulation 2080/92, through which they would receive higher premiums.

This limitation to farmers' options is particularly difficult for them to understand since it also applies to afforestation with Holm Oak (*Quercus ilex*) and Cork Oak (*Quercus suber*), generally considered to be environmentally

friendly when compared with other species such as the Eucalyptus. Any sort of tree planting in a steppe area is obviously undesirable for the conservation of both wild birds and landscape, but from an environmental economic point of view there is no good reason to value Holm Oaks more than Great Bustards, in a region where most farmers are likely to potentially benefit from the loss of income offered over 20 years for planting *Quercus* species.

The farmers within the agri-environmental zonal programme feel discriminated against when another farmer just outside the scheme can benefit from these higher payments while they are told that they are helping to conserve one of the rarest bird species in Europe that is almost facing extinction. Farmers in such conditions will not feel so sympathetic towards the species that they are supposed to be protecting.

This is to say that the premiums offered for the agri-environmental zonal programme (only for a period of 5 years) should be comparable both in economic and length of contract terms with the afforestation schemes for Holm and Cork Oaks.

6. CONCLUSIONS AND RECOMMENDATIONS

- The setting up of the Natura 2000 network in Portugal should mean creating local conditions for better integration between human activities and the conservation of wildlife habitats. As in Castro Verde, most southern habitats are the result of specific traditional farming systems. The conservation of such habitats depends on the conservation of these farming systems.
- The use of financial instruments designed exclusively for a "narrow environmental intervention" will fail under Portuguese conditions. Management of the environment will only be achieved through policy tools orientated for promoting the integration of local social and economic dynamics with the environment.
- This means that more priority should be given to funding lines such as Regulation 2078/92, but these should incorporate provision for adequate local support and management structures, making use of reasonable sized budgets, able to effectively support the achievement of clearly defined environmental objectives.
- The survival of rural communities and farming systems is the only effective way of conserving habitats. Support should be given to the development of intervention methodologies which respect local social and economic conditions, bearing in mind the specific characteristics of the management of information flows in rural areas.

- Extreme caution should be taken when developing an environmental management plan. In most cases in Portugal, the measures which have been proposed show very little understanding of traditional farming management techniques. This results in placing restrictions on farmers' activities which are believed to be harmful to the environment due to the very low level of contact and understanding between policy makers and the farming community.
- Dialogue is the key word and time is needed to set up proper communication between the administration and farmers.
- In preference to an "environmental management plan, a "global development strategic plan" should be developed for each target region. These strategic plans should comprise a global assessment of each area, including socio-economic and environmental characterization, and a diagnostic of all the interventions needed to achieve the identified socio-economic and environmental objectives.
- These strategic plans should be understood as local planning instruments, able to provide a framework for integrating any of the already existing EU funding lines in the same region, in order to promote the wise use of natural resources and maximum economic and social benefits.
- This type of intervention methodology would also provide enough social support in local communities, which is vital for the effective conservation of habitats. In this context local communities should also be an active and integral part of planning and management bodies.
- As in any proper planning structure, provision must be made to assure feedback and monitoring procedures, enabling the improvement of the actions undertaken when needed.

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Doñana (Andalusia-Spain)

Carlos Sunyer¹

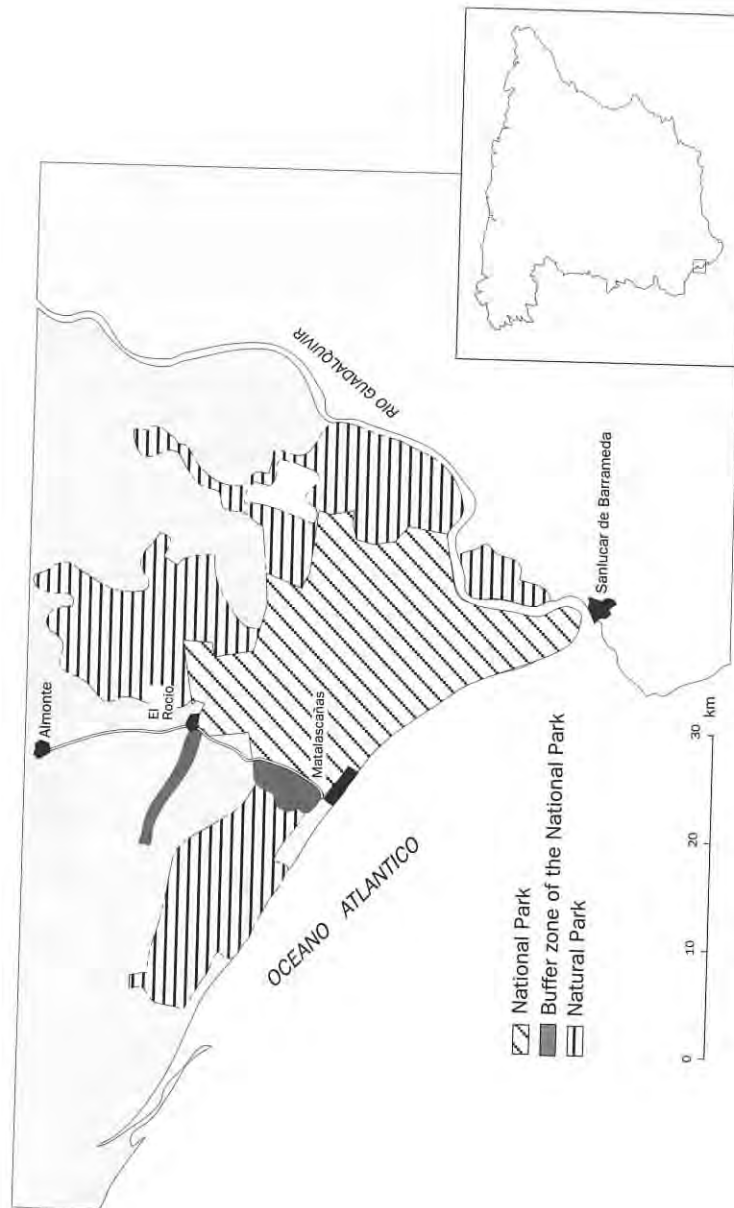
In the opinion of an International Panel of Experts, called in to resolve the grave conflicts of interests which threatened this unique natural site, the way to its conservation is through sustainable rural development. The European Commission approved a specific operational programme for the implementation of this model of development, constituting a unique example of the application of Structural Funds.

1. Natural profile
2. Socio-economic profile.
3. A hope for sustainable development.
4. National initiative structural funds. (Objective 1)
5. The cohesion fund.
6. The CAP accompanying measures.
7. Conclusions

1. NATURAL PROFILE

The Guadalquivir marshes, more commonly known as Doñana, constitute a natural region of marshland and coastal plains of stabilized sands which

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occupy some 300.000 ha. Within this extensive territory there are 131.510 ha with different categories of protection, of which the most important is Doñana National Park (50.720 ha) whose aim is to preserve a large territory with semi-natural habitats without human population. The National Park was created in 1969 and subsequently extended to its current area in 1978. It has been declared a Biosphere Reserve (1980), Ramsar Site (1982) and a SPA under the Birds Directive (1986), thus making it a SAC. There are also several peripheral protection areas, including a protected buffer zone belonging to the National Park (26.540 ha) and the Doñana Natural Park (54.250 ha), where it is aimed to achieve the integration of conservation and rural development.

Both protected areas, the National Park and the Natural Park, have been submitted to the European Commission as candidate SAC¹.

CLIMATE

The climate is semi-arid Mediterranean with oceanic influence, with a mean annual temperature of 16°C and a mean precipitation of 590 mm. Winters are mild, with temperatures which rarely drop below 0°C, and summers hot, with daily maximums of more than 40°C.

LANDSCAPE

Doñana is located at the mouth of the river Guadalquivir, which in Roman times formed an estuary. Due to the action of coastal currents the estuary became enclosed by a coastal sand bar and little by little was converted into marshland crossed by the river Guadalquivir. This is the reason for the predominance of flat landscapes, marked by the horizontality of the marshes, with heights above sea level between 0 and 80 m. The most important areas in terms of size are the marshes (50.000 ha), the coastal sands stabilized by brushwood, pine woods and cork oaks, and the coastline, with a band of more than 30 km of shifting dunes.

The history of Doñana is a catalogue of confrontations between conservation and development which have moulded the landscape. During the 1940's large areas were planted with eucalyptus and in the 1960's the mass transformation of the marshes into ricefields began (35.973 ha), implying the construction of an extensive network of roadways and canals. This threat to the natural environment led to the creation of the National Park, after much international pressure.

The 1970's saw the appearance of mass tourism with the coastal development of Matalascañas, and more recent developments include the proliferation of aquaculture schemes (800 ha) and crops under plastic.

Box 1. Habitats and species of Community interest in the proposed SACs.

Habitats listed in annex I of the Habitats Directive:

There are 30 habitats of annex I, 10 of them are priority habitats.

Vertebrates listed in annex II of the Directive (* priority species)

Outer *Lutra lutra*, Pardal Lynx *Lynx pardina* (*), Spur-thighed Tortoise *Testudo graeca*, European Pond Terrapin *Emys orbicularis*, Stripe-necked Terrapin *Mauremys caspica*, Painted Frog *Discoglossus galganoi*, Lamprey *Petromyzon marinus* and Iberian Toad *Ambystoma italicum*

Globally threatened birds²

Marble Duck (*Marmaronetta angustirostris*)

White-headed Duck (*Oxyura leucocephala*)

Spanish Imperial Eagle (*Aquila adalberti*)

Great Bustard (*Otis tarda*)

Slender-billed Curlew (*Numenius tenuirostris*)

Audouin's Gull (*Larus audouinii*)

40-150 pairs

10 pairs

9-14 pairs

15-20 individuals

In passage

In passage

It is of international importance for birds according to Ramsar criteria, as it complies with the demands for 20 nesting species and 16 wintering species. The number of wintering water fowl averages 392.918 individuals³, and of particular note are Greylag Geese *Anser anser* (54.000), Wigeon *Anas penelope* (33.920), Teal *Anas crecca* (41.400), Shoveler *Anas clypeata* (40.750), Pintail *Anas acuta* (11.960), Marble Duck (256) and Common Crane *Grus grus* (2.000). Of particular note among the nesting birds are: Grey Heron *Ardea cinerea* (404 n.p.), Purple Heron *Ardea purpurea* (967 n.p.), Cattle Egret *Bubulcus ibis* (1.000 n.p.), Spoonbill *Platalea leucorodia* (374 n.p.), Squacco Heron *Ardeola ralloides* (80 n.p.), Avocett *Recurvirostra avosetta* (1.380 n.p.), Collared Pratincole *Glareola pratincola* (1.300 n.p.), Slender-billed Gull *Larus genei* (100 n.p.), Gull-billed Tern *Gelochelidon nilotica* (200-500 n.p.), Wiskered Tern *Chlidonias hybridus* (1.180-4.800), Purple Gallinule *Porphyrio porphyrio* (1.000 n.p.), Crested Coot *Fulica cristata*, Little Bustard *Tetrax tetrax*, Red Kite *Milvus milvus*, Booted Eagle *Hieraeetus pennatus*, etc. Annex I of the Habitats Directive (Box 1).

All of this, in addition to transforming the habitat and creating pollution, has caused alterations to the complex hydrological cycle in Doñana. In Doñana there are continental marshes, flooded during 4-6 months of the year by river and rain waters, and salt marshes flooded by the tides. There are also zones where the aquifer comes to the surface, giving rise to the formation of a band of coastal lagoons, some of them of great importance. All of this system has been altered by the channelling and diversion of the main rivers, the drainage networks and the crop fields, and the extraction of ground waters for agriculture and tourism.

ECOLOGICAL IMPORTANCE

The ecological importance of Doñana lies not only in its intrinsic values but also in the fact that it serves as a stop-off for migrating birds between Europe and Africa, due to its proximity to the Strait of Gibraltar.

The area possesses great biodiversity, with a notable wealth of vertebrates: 12 species of fish; 12 amphibians; 22 reptiles; 29 mammals; 361 species of birds, of which 126 are habitual breeders and 15 occasional; as well as more than 820 species and subspecies of vascular plants, two of which are endemic. The area maintains different plant formations listed in annex I of the Habitats Directive (Table 1).

The main conservation problems in Doñana are: lowering of the ground-water level due to irrigated farming in the periphery; toxic products derived from ricefields; silting up of the marshes due to an accelerated erosive process; excessive pressure of tourism; use of the Park as an instrument in conflicts of interests; river pollution; poachers and ecological isolation due to roads and intensive agriculture.

2. SOCIO-ECONOMIC PROFILE.

The region has no traditional human settlements, as these were conditioned by the hostility of the marshes, the infertility of the soils and the winter floods, constituting an area of 250.000 ha which remained unpopulated until the 1950's. It was then that the village of El Rocío began to develop, accompanied in the 1970's by the coastal development of Matalascañas. Both are tourist centres, as is reflected in the seasonality of the number of inhabitants, which can reach 20.000-35.000 persons in El Rocío and 65.000-150.000 persons in Matalascañas. In the rest of the territory there are only 7 small communities with a total of 155 inhabitants⁴.

The area is comprised by a total of 9 municipalities, with a total of 63.713 inhabitants (1991), giving an average population density of 24,7 persons per

km². After a period of depopulation between 1960 and 1981 (-0,9 per thousand per year) the area is currently experiencing vegetative growth (1,8 per thousand per year in 1991), though with an important degree of ageing (11% of the population is more than 65 years of age). The unemployment rate is high (24%) and the employment rate is 53,9%. In 1991 the per capita income was 3.893 ECU/year⁵, 7% less than the average for Andalusia which itself was equivalent to only 58% of the Community average in 1993.

The area is characterized by great economic dynamism which is centred on the production of agricultural products for export, a highly profitable sector but which also produces a high environmental impact. More than 60% of employment is in agriculture, 25% corresponds to the services sector, especially tourism, 10% to construction and 5% to industry. 60% of employment is temporary and markedly seasonal, which creates instability and fragility in the local economy. The main agricultural products of the region are strawberries, rice and cotton.

Tourist activity is relatively recent and is centred in Matalascañas, which concentrates more than 80% of hotel accommodation, and this is the sector which provides work for the local construction industry. The main tourist resource of international renown, however, is Doñana National Park, which received 386.516 visitors in 1996. There is very little industrial activity in the area, and what there is has little capitalization, a low technological level and is linked to the local market.

The protected area creates a large number of direct jobs. The National Park is obliged by law to create employment and in fact is one of the leading job creators in the zone, with 170 permanent staff, 100 occasional staff (fire-fighting brigades) and 40 maintenance personnel (workshops, cleaning, etc.). Also in relation with the National Park there is a cooperative which is licensed to operate visits to the interior of the Park and which employs 40-50 staff. For its part, the Natural Park employs 28 staff and a similar number is employed in the Doñana Biological Station.

Doñana has excellent prospects for economic development on the basis of sustainable tourism and strategies aimed at taking advantage of endogenous products through high added value product lines. At present there is no correspondence between the high quality of the environment and the type of exploitation of resources and the area has insufficient infrastructures and public services.

3. A HOPE FOR SUSTAINABLE DEVELOPMENT.

During the 1980's the pressures on the conservation of the natural environ-

ment in Doñana became unsustainable, generating a serious conflict of interests between nature conservation and economic development.

In an attempt to resolve this conflict, an International Panel of Experts was created in 1991 at the request of the regional government of Andalusia. The Panel's mission was to issue an opinion with a view to establishing a pact between the conservation of Doñana and the socio-economic development of the region⁶.

In April 1992 the Panel's opinion was made public. One of its conclusions is that the conservation of Doñana calls for sustainable rural development based on increasing the added value of local production by raising product quality, both in terms of tourism and agriculture, and by the commercialization and industrial transformation of the region's agricultural, forestry, livestock and fishery products.

To this end the Panel considered it a priority to increase the qualification and vocational training of the area's population, to equip the zone to receive 'green' tourism and to develop productive infrastructures.

4. NATIONAL INITIATIVE STRUCTURAL FUNDS. (OBJECTIVE 1)

National initiative structural funds intervene in Doñana through the Operational Programme for Doñana, which is a multi-fund programme, and the PRODER operational programme (Programme for the Development and Economic Diversification of Rural Zones) funded by the EAGGF-O.

OPERATIONAL PROGRAMME FOR DOÑANA.

On the basis of the opinion issued by the Panel of Experts, the regional government of Andalusia prepared a sustainable development programme for the Doñana area⁷, for which it requested Community funding. This funding is articulated in the specific multi-fund (ERDF, EAGGF, ESF) operational programme⁸ which includes the participation of the regional and central administrations. Its scope covers all of the Doñana catchment area, which implies 1.300 km² and a population of 36.482 inhabitants. At present this programme is in its second phase, 1994-1999 (Table 2).

The Operational Programme's main lines of action are:

- Territorial articulation and integration, based on the improvement of the network of roads and pathways in order to receive 'green' tourism and to improve the accessibility of the district.

- Development of the local economy, diversifying the productive system through the industrialization and commercialization of local production, the

promotion of products outside the region, and the creation of a quality label "Doñana Products". It is also intended to carry out a programme which promotes the improved usage and valorization of forestry products, in a way which contributes to maintaining ecological values. Other projects provide urban services which favour tourism, such as car parks and improved cleaning.

- Tourism. The programme envisages the revitalization and consolidation of the quality of coastal tourism as well as promoting inland tourism, creating an offer of environmentally-sound rural tourism.

- Water. Integral water management for the different agricultural and urban uses, taking into account sanitation, distribution and the use of groundwater, the latter being of strategic importance for the ecosystem.

- Environment. The actions under this heading are oriented towards the regeneration, restoration, protection and management of ecosystems. The envisaged actions include a forest fire prevention plan, the regeneration and restoration of forest masses, demarcation of land, environmental awareness,

Table 2. Operational Programme for Doñana⁷

Main lines of action	ECU
Territorial articulation and integration	93.036.000
Development of the local economy	3.648.000
Tourism	10.678.000
Infrastructure to support economic activities	31.586.000
Valorization of human resources	9.356.000
Technical assistance, monitoring and information	2.154.000
Total	213.918.000

EC funding 73%

treatment of urban solid wastes and waste waters.

- Training. Improvement of the professional qualification of workers in the Doñana area.

Though these investments, well oriented in accordance with the opinion of the Panel of Experts, may have favourable repercussions on the conservation of Doñana through the promotion of environmentally-sound development, there are several specific actions whose effects on the SAC will be more direct:

- Restoration of Ecosystems (5,16 MECU). The objectives of this measure are the elimination of allocthonous species, recovery of endorheic lake

systems, creation of tree nurseries, and improvement of accessibility and habitability for recreational and research uses.

- Hydrological Restoration (2,12 MECU). It is intended to recover the Brazo de la Torre in order to restore the circulation of water along its course and to permit the recovery of the common water domain. This will improve the hydrological conditions of the marshes by prolonging the period of flooding. This package of measures includes the hydrological correction of a water course to prevent the silting up of the marshes with sediments.

- Awareness (0,80 MECU), construction of a centre for nature conservation research and technical assistance (7,74 MECU).

The application of the operational programme is running behind its envisaged schedule and it is still early to evaluate its effects on the conservation of Doñana. A large part of the problems which this programme is encountering in its application on the ground lie in the lack of participation of the local population, as the design of this programme incorporates a top-down approach. In an attempt to overcome this serious pitfall, in 1997 the Doñana 21 Foundation was created, one of whose objectives is to promote the programme among local actors.

PRODER

Unlike other operational programmes in Objective 1 regions, PRODER operates in a similar way to the LEADER initiative, i.e. the programmes arise through local initiatives and each one is administered by a promoter (local action group, public administrations, district agricultural offices) who finally selects the projects.

The aim of PRODER is to promote endogenous development by supporting economic diversification in the rural environment in districts of a markedly rural character, with unfavourable conditions, or with a tendency towards depopulation (Table 3).

Two district initiatives integrated within PRODER are applicable in the

Table 3. Actions which can be funded by PRODER

- Valorization of the rural heritage
- Promotion of tourist investments in the rural environment
- Promotion of small businesses and craft activities
- Services to businesses in the rural environment
- Valorization of agricultural and forestry productive potential
- Improvement of agricultural and forestry extension

Doñana region since 1997. The Aljarafe-Doñana PRODER programme is applicable in the five municipalities of Doñana which belong to the province of Seville, and there is another initiative which applies to the municipalities belonging to the province of Huelva. Both are similar as their aim is to act as an impulse to endogenous development, promote and diversify agricultural activity, increase the added value of local productions and conserve the natural environment.

The Aljarafe-Doñana PRODER programme is administered by the Association for the Development of Aljarafe district, which groups together 16 local councils and more than 56 associations, small businesses, trades unions, etc.⁹. Among the measures envisaged there are some with potentially positive effects for the conservation of Doñana (Table 4).

Table 4. Main measures of the Aljarafe-Doñana PRODER programme with potentially positive effects on Doñana. The most interesting envisaged actions are:

Measure 1. Valorization of the rural heritage (0,79 MECU)

- Conservation and environmental management. (education, tree nurseries, game park, etc.)
- Environmental research and sensitization
- Control of water quality
- Environmental support for small and medium-sized enterprises
- Promotion of alternative energies
- Embellishment of villages

Measure 2. Promotion of tourist investments in the rural environment (0,55 MECU)

- District tourist information offices
- Promotion of local products
- Promotion of rural tourism
- Valorization of water as a scarce resource
- Quality plan and standardization for tourist companies

Measure 7. Valorization of agricultural and forestry productive potential (2,28 MECU)

- Implementation of eco-labelling
- Development of endogenous natural potential, promoting transformation, diffusion and commercialization

5. THE COHESION FUND.

Part of two projects co-funded by the Cohesion Fund were carried out in the National Park between 1993 and 1995. The first of these, entitled

“Adaptation of systems for the public use of National Parks”, was destined to provide specialized visitor reception infrastructures in the National Park, as access to the Park is one of the greatest tourist deficits of Doñana. The project consisted of the construction of an interpretation centre in the north of the Park, in an area which previously lacked any type of infrastructure for visitors. In addition to this a small car park was built and bird-watching facilities were installed in the proximity of a lagoon.

The second project, entitled “Project for the restoration of natural resources in National Parks”, was destined to restore degraded areas, provide habitat management for the prevention of forest fires, several actions included in the Pardel Lynx recovery plan and a study of alternate sites for Doñana's heronry¹¹.

6. THE CAP ACCOMPANYING MEASURES.

Four different measures of the agri-environment Regulation (R 2078/92) are applicable in Doñana¹¹. However, their application has been a complete failure in Doñana and no farmer in the area has taken up the programme (Natural and National Park pers. com.). The reason for this disinterest seems to be the low level of subsidies offered in comparison with other CAP incentives.

With regard to the reforestation programme (R 2080/92), only one farm of 150 ha has taken up the programme, reforesting with endogenous species.

7. CONCLUSIONS

- The complexity of the conflicts between conservation and development in Doñana, complicated by the lack of integration between local development and nature conservation within Doñana National Park, gave rise to a difficult situation which called for the intervention of an International Panel of Experts. The opinion of this Panel concluded that the way to conserve Doñana was through the environmentally-sound development of the region. This once again demonstrates that conservation and development are intimately linked in Spain, where most of the territory is modulated by the primary sector.

- Doñana constitutes an example of how Structural Funds can be articulated through a specific operational programme with the aim of resolving conflicts between conservation and development in large territories.

- However, it is also clear that it is not enough just to design a programme and be provided with funding, but that the programme administrators must have a true vocation for integrating a wide range of factors.

¹¹ Doñana's heronry is a group of cork oaks which accommodates a large colony of herons, storks and spoonbills. Little by little the weight of the bird's nests and faeces is killing the cork oaks, making it necessary to study alternate sites for the colony.

- On the other hand, to make greater use of the opportunities available there needs to be better coordination at local level. To this end, the existence of a coordinating group with representatives of all the actors involved would be desirable.

- Though it is early to make an assessment of results, the tendency seems to be that the PRODER Operational Programme, with a top-down approach, is achieving greater acceptance than the Operational Programme for Doñana. This greater acceptance of a grass-roots approach should be taken into account when it comes to implementing future rural development and conservation programmes where the involvement of the local population is necessary.

ACKNOWLEDGEMENTS

Maite Navarro (PRODER Aljarafe-Doñana); Paco Hidalgo (Mancomunidad para el desarrollo socioeconómico del Condado); Juan Carlos Orella, Jesús Casas and Arturo Cuadrado (Dirección General de Conservación de la Naturaleza of the Ministry of the Environment); Alberto Larramendi (National Park) and Rafael Alvarez (Natural Park).

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Hainich (Thuringia-Germany)

Axel Klaphake¹ and Alexander Carius².

Hainich National Park is an example of the innovative character of nature conservation in the structurally weakest regions, where the contribution of protected areas to regional development is of key importance. The authors note that Hainich could be more benefited by the different sources of funding if there were greater coordination, for which they suggest the creation of a local development agency.

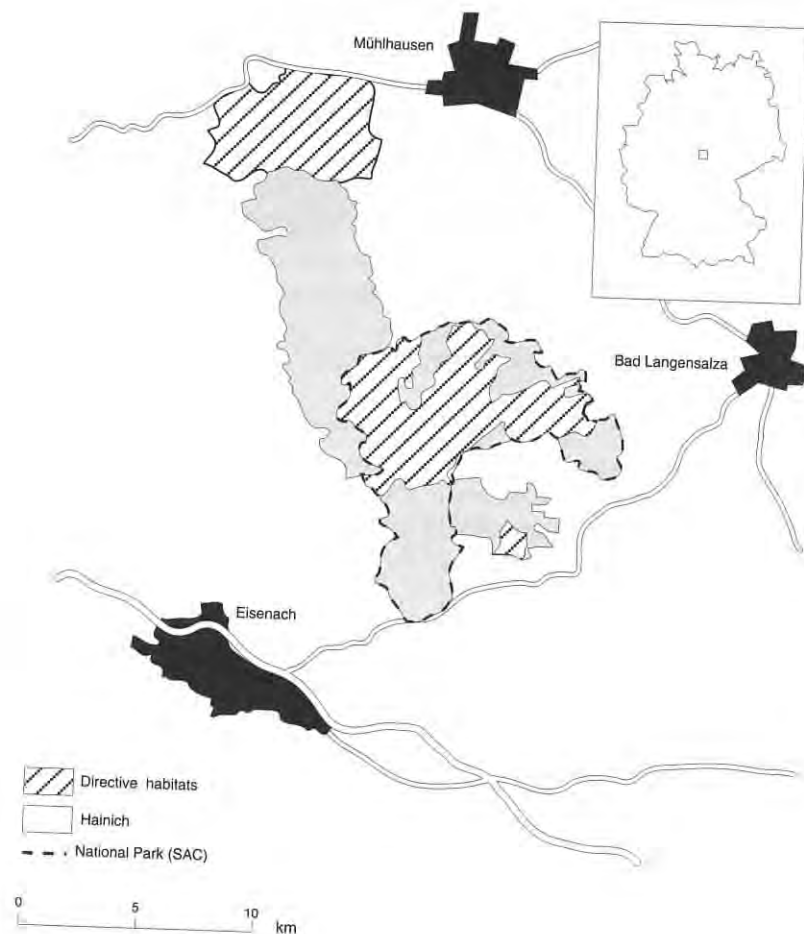
1. Implementation of the Habitats Directive in Thuringia.
2. The surroundings of Hainich from an economic viewpoint.
3. Land-use conflicts in Hainich.
4. EU support for the Hainich region.
5. Conclusions

1. IMPLEMENTATION OF THE HABITATS DIRECTIVE IN THURINGIA

In Germany, the responsibility for registering protected areas in accordance with the Habitats Directive lies with each region (the Federal *Laender*), who are required by their constitutions to report to the Federal Ministry of the Environment. In Thuringia, as in other Federal *Laender*, it is envisaged that no areas will be registered as Special Area of Conservation other than those already protected to a greater or lesser extent under national law.

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There has not yet been an agreement between *Laender* in Germany on the type of national protected area which corresponds to the SAC described by the Habitats Directive. The reticence of the German *Laender* to report habitat areas is due not only to this and other unclear aspects (amendments to the German law on nature conservation, changes to the law on environmental impact assessment, etc.) but also to the unsatisfactory financial provision for the implementation of the Habitats Directive¹.

HAINICH NATIONAL PARK

The Hainich ridge has the largest beech wood in Thuringia, covering an area of some 20,000 ha, and is virtually unimpaired by transport routes. There are two large former military training areas (approx. 8,000 ha). In one of these sites, at Kindel, there is a natural succession over large areas to near-natural deciduous forest, while the Weberstedt site encompasses large stands of deciduous and coniferous trees which have only been used extensively in recent decades. A special cultural feature is the 4,000 ha of gap-felled forest (*Plenterwald*). This is near-natural forest from which selected trees are removed individually, resulting in a characteristic mosaic of young, mature and old trees. Almost all of this forest is privately-owned by forest cooperatives.

After controversial public debate, the Thuringia government decided in October 1996 to establish Hainich National Park on the two former military training areas, covering a total of 7,400 ha. The corresponding legislation, which is in preparation, is due to come into force in 1998. The protection strategy is to concentrate on the undisturbed dynamic development of the beech wood, though this does not exclude the adoption of other specific measures, e.g. to care for the juniper heathlands.

The discussion surrounding the protection strategy for the woods and open areas of Hainich reflects the range of views on nature conservation. Supporters of process protection favour the complete abandonment of land usage over the largest possible area in order to encourage natural succession. Biotope conservationists argue for the extensive management of non-forestry open land areas. In addition to ecological arguments (such as exploiting the potential of the sites) there are also economic reasons for allowing succession over large areas. Keeping open large parts of the former military training areas would be very costly while the maintenance of small areas of valuable open-land biotopes, such as calcareous meadows, would be feasible².

The future forestry use of the former military training areas will depend largely on the size of the core area of the future National Park. At present the

Table 1. Habitats of Community Importance in the Hainich Region

Habitats	N2000 code	Occurrence
Petrifying springs with tufa formation (*)	7220	Weberstedt former military training area, Grossen Behringer Holz Nature Reserve, 3 ha.
Cephalanthero-Fagion middle European calcicolous beech woods	9150	Former military training areas, steep slopes, 200 Ha
Asperulo-Fagetum beech woods	9130	Weberstedt former military training area, Grossen Behringer Holz Nature Reserve, 14,300 ha
Gallio-Carpinetum oak woods	9170	Easterly edge of Hainich, 2,100 ha
Stellario-Carpinetum oak woods	9160	
Tilio-Acerion ravine forests (*)	9180	
Juniperus communis on calcareous heaths or grasslands	5130	250 ha
Bog woodland (*)	91D0	Former sheep pasture, 50 ha
Residual alluvial forests (*)	91E0	50 ha
Demi-natural dry grasslands and scrubland facies on calcareous substrates	6210	50 ha
Eutrophic tall herbs	6430	Former military training areas
Kindel		One habitat on the former military training area at
Lowland hay meadows	6510	Large areas at the edge of Hainich

intention is that some 30% of the National Park area should be a reserve without any form of forestry activity, and that there should be traditional near-natural forestry on the other 70% in the form of gap-felling (*Plenter*) forest.

HABITAT AREAS IN HAINICH

Whereas the establishment of Hainich National Park was accompanied by several years of lively debate, there seems to be little public interest in the registration of the SACs. Most of those involved seem to lack an overview of the differing consequences which the various forms of protection entail. The requirement established by the Habitats Directive to carry out environmental impact assessments for all projects and plans which could impinge on a SAC is not yet of significance in Hainich, in contrast with other areas in Thuringia. For this reason it is not perceived as a potential constraint on economic development.

Of the total deciduous wood areas of Hainich, about half is to be protected under the Habitats Directive. This includes the areas of the future Hainich National Park which are state-owned, the Grossen Behringer Holz Nature Reserve (110 ha) and the Muehlhausen Forest (2,980 ha) which is owned by the town and registered as a Landscape Conservation Area.

The large-scale option favoured by conservationists and the chambers of industry and commerce³, which would have integrated all the wooded areas in the National Park and allowed the registration of all of Hainich as a SAC, lost out to the opposing property interests and the fact that Thuringia lacked the necessary funds to purchase the land (estimated at 13,5 MECU).

While it was politically possible to designate the state-owned former military training area a National Park, this could not be achieved for the privately-owned woods in the northern areas of Hainich. There is a clear political priority for maintaining the private *Plenter* forests. On the other hand, it is possible that the areas of Muehlhausen forest will be integrated into the National Park. Negotiations are under way between the town and the Thuringian Ministry of Agriculture, Nature Conservation and Environment about the future use of the areas for forestry, and possible compensation.

2. THE SURROUNDINGS OF HAINICH FROM AN ECONOMIC VIEWPOINT

In terms of European regional policy, Hainich is a structurally-weak rural region. Given its peripheral position prior to the opening of the inner-German border in 1989, the weakening of the rural structural has been cumulative⁴. A characteristic of the region is the grave need for infrastructure improvements.

The populations of the two districts bordering on Hainich have declined markedly (3,4% in Unstrut-Hainich and 3,6% in the Wartburg district). This is due mainly to a drop in the birth rate and a decline in the proportion of 18-30 year-olds in the population (in Unstrut-Hainich by almost 20%). The per capita gross domestic product in the region in 1996 was equivalent to the average for Thuringia, and thus only 58% of the EU average.

The considerable employment problems in the region are reflected in unemployment levels of 16,3% in the Wartburg district and 18,2% in Unstrut-Hainich. Locally, levels sometimes exceed 20%. The decline in employment affects all sectors, with a few exceptions such as motor vehicle production and parts suppliers in the Wartburg district. The greatest problems are found in manufacturing and in high-value services.

A problem for the future development of the region is its geographic location between several development zones within a radius of some 90 km (Erfurt, Kassel, Eisenach). These 'traditional industrial regions' cannot be expected to provide appreciable external impulses for the Hainich region in view of their high levels of unemployment and low growth. It is more probable that increased transfer payments will flow to these towns from the various funding programmes.

The agriculture which characterizes the communities around Hainich has stabilized in recent years after a period of considerable job losses. The proportion of people working in farming is 6%, only slightly above the average for Thuringia. Overall, about three-quarters of all jobs in agriculture have been lost since German unification.

Most farms are now large-scale, almost completely with arable land. The average field productivity index under the German system is 56, though values of 80 are achieved in some areas^{III}. An increase in agricultural employment is not to be expected. There are very few local initiatives such as direct marketing, and the establishment of a special association for this purpose is being considered. Following the restructuring of agriculture in the Hainich region after 1990, it is crucial for the economy and job market that new ways of adding value to the current production be found.

The economic situation in the region explains the interest in moving away from nature conservation in Hainich and towards the consideration of regional structural policies. The discussion about protected areas has always been accompanied by the consideration of how the National Park could be made to benefit the regional economy.

As in other peripheral regions of eastern Germany, the existence of a large-scale protection area and its influence on the surrounding areas are viewed as key elements of an endogenous regional development strategy

which would integrate the ecological attractions of the region in an environmentally-friendly development strategy dominated by tourism. Hainich National Park has a special role to play in forming the character of the region. Hainich lies in two planning regions, North and South Thuringia, and it was only during the course of the discussions about establishing a National Park that the area came to be seen as one region in its own right.

The future Hainich National Park, under the motto 'wilderness', will be a tourist attraction with an influence which extends beyond its own boundaries. It will thus integrate itself in surroundings where high priority has been attached to the creation of an extensively used cultural landscape. The integration of effective nature conservation, sustainable land-use and the large-scale protection area in the region as a whole will require zoning of the various intensities of use.

This model cultural landscape is to be supported mainly by the planned Eichsfeld-Hainich-Werretal Nature Park, which will be situated around the Hainich Nature Park. A zoning plan is envisaged with Nature Reserves (including National Parks), Landscape Protected Areas (with land-use based on goals of nature conservation), Landscape Development Zones (mainly for recreation) and a Development Zone for settlement activities. Recreational uses will dominate in terms of area⁵.

From the point of view of local economic promotion, the establishment of Hainich National Park is understood in terms of the development of an economic infrastructure around the protected areas⁶. The registration of areas for protection, including under the Habitats Directive, are of wider-reaching significance in terms of both size and quality and assign to the region in which the reserve is situated a specific function, thus being part of a division of competencies between the national and European level.

The effects of Hainich National Park on the regional labour market are:

- Public contracts and increased regional demand for goods and services
- Up-grading of the entire vicinity for tourism by developing the National Park as a service product
- Location for expert and scientific institutions.

The National Park will lead directly to an increase in demand in the hotel and catering trade, and also indirectly to increased demand for retail supplies and services. Major development opportunities in Hainich are felt to lie in tourism. Models are other tourist areas such as the Bavarian Forest or the Harz, which experienced a boost in visitors when National Parks were established there.

There are currently some 250.000 overnight stays annually in Hainich and its surroundings, and tourism will increase considerably when the reserve is

^{III} German index

established and provisions are made for visitors. Optimistic estimates see the creation of some 1.000 jobs in the tourism branch over the next ten years as a result of the positive image generated by the nature reserve. The main constraints lie in the lack of good quality tourist accommodation and recreational opportunities.

Nevertheless, similar tourism-dominated development strategies in other rural regions of eastern Germany have shown that these industries actually create few jobs over an extended period of time. A positive effect for the future commercial development of the region could result from the creation of a positive, 'green' image for Hainich as a location.

3. LAND-USE CONFLICTS IN HAINICH

FORESTRY MANAGEMENT

The vehement resistance by members of the forest cooperatives to the environmental protection of their stands is the result of historical developments since the early 18th century⁷. Throughout this period the forest cooperatives worked independently.

It was only in the 1970's that responsibility was transferred to the German Democratic Republic¹⁰ state forestry organizations as part of a scheme to unify forest management. Ownership rights were restored only in 1995. This experience with state forest management explains the problems encountered with the attempt to introduce protected status, which is perceived as back-door expropriation.

The decision by the Thuringian *Land* government on Hainich National Park envisages the protection of the *Plenter* forest as a natural forest reserve in its present management form. Contracts will be drawn up which exclude any other use of the areas.

In view of the low prices for beechwood, the current use of the cooperative forests amounts to only about 2-3 cubic metres of solid timber per hectare annually. In all of Hainich, some 100 people are employed in forestry either directly (foresters, forest workers) or indirectly (saw-mill workers). In addition to the private forests, Muehlhausen forest is also managed and represents a source of income which the town would be reluctant to lose. The productive forest of the former military training area at Weberstedt is also being managed. This is viewed critically by nature conservationists, since the current intensities of use could also affect valuable natural areas.

The preservation of the traditional *Plenter* forests could be of economic benefit to the region if it is possible to locate further wood-processing firms

and to market beechwood beyond the region. A marketing strategy might be developed involving the logo 'From Hainich National Park'. The establishment of a 'German Beech Centre' in the vicinity is currently under discussion.

AGRICULTURE

In view of the hard soil layers along the ridge and the dominance of forestry, there is little farming (mostly sheep grazing) on the protected land in comparison to the surrounding areas. The nature conservation goal of 'ecological succession' may be threatened by sheep grazing. Sheep grazing on the areas of Hainich is currently supported by Funds in accordance with the agri-environmental programme (R. 2078/92/EEC). For the future a restructuring of sheep farming and a switch to alternative areas is envisaged.

There are no other direct use conflicts at present between agriculture and nature conservation. However, since it is planned to establish a Nature Park on areas outside the Hainich National Park, there may be future conflicts in view of possible restrictions on conventional farming there (for the most part intensive agriculture).

Nevertheless, in the vicinity of the protected area the establishment of a National Park is viewed from an agricultural point of view as a development opportunity, firstly because it is not expected to lead to restrictions on use, and secondly because it is felt that it will make it easier to gain financial support and improve the chances of marketing 'green' farm produce.

HUNTING ACTIVITIES

The organization of hunting activities is in the competence of the forestry offices. Only the areas of the forestry office of Thuringia in Muehlhausen are under lease to hunting co-operatives. In general, hunting is carried out as individual hunting.

Since 1993 the Federal forestry office in Kammerforst offers has offered access to the forest for hunting parties from November to January. The most important species for hunting are deer (10-30 animals per hectare), red deer (0,25-0,5 animals per hectare) and fallow deer (1,1-2 animals per hectare).

EXTRACTION OF RAW MATERIALS

The extraction of raw materials, in particular limestone at four quarries, is an important economic factor in Hainich and its surroundings and an important source of employment (the largest firm provides 130 jobs).

In addition to the existing extraction sites, several applications for the opening of new quarries have been made in recent years. This is linked to

the route for the federal motorway (*Bundesautobahn*) which is to run close to the south of Hainich.

Following the Thuringian decision concerning the National Park, current extraction rights will be retained, but no new rights will be granted. Most people welcome the restriction of extraction in Hainich in view of the danger of loss of nature areas and the heavy traffic which would be generated.

COMMERCIAL DEVELOPMENT

At present there are no sites for trade and commerce in the protected area. In view of the stagnant economy in the region it does not seem likely that commercial developments will present a problem in the protected areas. Business sites in the surroundings are only partially used at present.

An interesting special case is the Kindel industrial park which is supported by the EXWOST research programme of the Federal Building Ministry, and is located on the road at the periphery of the former Kindel military training area. The zoning plan for this area envisages a sustainable commercial development with careful integration of local natural features. Firms using the site should be involved primarily in environmentally-friendly production.

RECREATION AND TOURISM

If the optimistic estimates of growing numbers of visitors in coming years prove to be true, then the establishment of protection for Hainich could offer considerable potential for conflict. The planned strictly-controlled nature zones in the south are among the most attractive wooded areas for holiday-makers. However, instruments for guiding visitors and the provision of information could ease this problem. At present, no appreciable restrictions of access for walkers are being considered outside the conservation areas.

4. EU SUPPORT FOR THE HAINICH REGION

Nature conservation over large areas is not possible without support. The benefits of conserving nature and landscape are not restricted to the direct locality, and cannot be fully internalized as returns in the region in which a reserve is located⁸. This applies in particular to reserves of European significance. Given the diverging interests of the various parties affected by the Hainich reserve, support can also be important in this case as an instrument for conflict resolution⁹.

LIFE PROJECT

The establishment of Hainich National Park has been supported by the European Union from 1995-1998 with LIFE funds. The main aim of the support is the establishment of a management plan for the future National Park. Other goals include the economic integration of the reserve in the region and intensive public relations work. The overall project cost amounts to 1.151.200 ECU, with EU co-funding of 50%. As part of the project, an Information Centre on the National Park has been opened in Muehlhausen.

Hainich is also integrated as one of 15 model areas in a LIFE project of the German Federal Institute for Nature Conservation (BfN) entitled 'Assessment of the state of preservation of natural habitats in accordance with the EC Habitats Directive'. In addition to the proposed SACs in Hainich, the 'Plenter' forest areas are also regularly evaluated as part of this project.

THE AGRI-ENVIRONMENTAL PROGRAM (REGULATION 2078/92/EEC)

All the farming land around Hainich is integrated in the KULAP programme for environmentally-sound farming and the maintenance of cultural landscapes in Thuringia. The KULAP programme is aimed at agricultural areas and has a total budget of 29,7 MECU, of which 75% is funded by the EU in accordance with Regulation 2078/92/EEC.

Sheep farming represents the only agricultural activity currently taking place on the land of the future National Park. KULAP funds are being used to support this activity, despite the potential conflict between sheep farming and the concept of 'wilderness' and 'ecological succession'.

The preservation of old orchards, which represent a typical landscape element in the Hainich region, and the development of management concepts for their use, as well as the replanting of traditional fruit-tree varieties, are also the objective of other projects supported in the framework of the KULAP programme.

STRUCTURAL FUNDS

Like all the other new Federal *Laender*, Thuringia is classed as an Objective 1 region. In all, Thuringia has 2,1 BnECU available from Structural Funds for the period 1994-1999, of which 50% is from the ERDF. The development supported by these funds should be 'based on the strengths and natural resources of the regions in question', and in particular with the aim for the regions covered by the EAGGF of 'an environmentally appropriate use (...) of rural resources'¹⁵. In Thuringia this is to be achieved primarily by improving coordination and increasing synergy effects between the individual funds.

Until 1993, measures under the Structural Funds were co-financed by the German joint policy instruments 'Improvement of the regional economic structure' (GRW)¹⁰ and 'Improvement of agricultural structure and coastal protection' (GAK).

The use of ERDF funds within the GRW meant that the bulk of Thuringia support went mainly to large, capital-intensive investments with national markets. As a result, most of the funds missed the structurally-weak rural areas with their structural problems¹¹.

From the point of view of the rural areas, at least as much importance should be attached to meeting regional needs as to selling beyond the region. Since it is not likely that major producers will relocate to Hainich, the 'endogenous potential' of the region lies with local and regional operators. At the beginning of the funding period 1994-1999 the link between the Structural Fund and the joint tasks was relaxed and each *Land* could define its own specific goals. In the environmental field in Thuringia, the 129 MECU of support for water supplies and sewage disposal is also of importance.

The EU Structural Funds do not directly finance the goals of the Habitats Directive. However, approaches to supporting the nature conservation strategy in Hainich are also to be found in the field of support for environmentally-sound agriculture and forestry. The care of landscapes and biotopes, the establishment of environmentally-appropriate agricultural pastureland and various forestry measures are mentioned explicitly in the operational programme for Thuringia and are potentially of great significance for Hainich.

There are various approaches for the proposed link between Hainich National Park and regional development in the joint funding strategy and the operational programmes: Measures to support rural areas, the environment, tourism, environmentally-sound farming and forestry, small and medium-sized enterprises.

The measures to develop rural areas, for which 112,7 MECU is available, are all supported by means of integrated Structural Funds. An inter-ministerial working group has been set up to administer the funds.

The investment volume expected as a result of the support by Structural Funds amounts to 100 MECU per 100,000 inhabitants, which would suppose the creation of at least 3,700 jobs; a figure which could rise to 5,500 depending on the type of funding. On the basis of experience to date, the goal of promoting tourism in order to develop the rural areas could only be reached to a limited extent.

The operational programmes of Thuringia do not specify regionally preferred zones (such as Hainich), unlike in other new *Laender* like Saxony, Brandenburg, or Mecklenburg-West Pomerania. The creation of the National Park and the registration of SACs do not directly increase the chance of receiving funds under the various programmes. Experience with other large reserves in the new *Laender* shows that they can add considerable credibility to funding applications for ecological development strategies¹².

From the point of view of rural development, the integration of the Structural Funds is generally positive. However, existing conflicts between extractors of raw materials and nature and landscape conservationists about land-use in Hainich could be exacerbated by the use of structural funding. There is a need for coordination at regional level in order to minimize the possible limitation of development options. In this sense, the decision of the Thuringia government to establish Hainich National Park and to launch a debate about the future regional development strategy for the region offers new opportunities to minimize these conflicts.

For agriculture, the operational programmes of Thuringia offer a total of 391,02 MECU in the period 1994-1999. In the Hainich region, these funds will be used to a considerable degree in compatibility with the National Park for the development of rural infrastructures (village renewal) and various initiatives for direct marketing and the promotion of tourism.

LEADER II

In the Hainich area of the Wartburg region, 4,8 MECU of funds are available from the LEADER II initiative¹⁴, which will be used for tourism promotion, infrastructure improvement, establishment of new lines of production, direct marketing of regional products, education programmes etc. Directly relevant to the Hainich area is the provision of 357,070 ECU from LEADER II funds for bike-ways to support 'green' tourism. The group of local agents which select projects for funding includes the Offices for Nature and Environmental Conservation.

5. CONCLUSIONS

Experience to date with funding in Thuringia as a whole and in the Hainich region in particular allows the following conclusions to be drawn in relation with the implementation of the Habitats Directive:

- The critical review of the first funding period of the Structural Fund from 1991-1993¹³ led to a number of positive changes, in particular relating to sustainable development in rural areas. Nevertheless, there are still many

¹⁴ The rest of Hainich, belonging to the Untrut-Hainich region of Thuringia, does not comply with LEADER II eligibility criteria.

inadequacies from the point of view of a protected region. The explicit inclusion of areas protected under the Habitats Directive in the funding goals of the Structural Funds and their relation with requirements for criteria regarding the sustainable development of protected regions should be priority items. This basic idea remains to be operationalized¹⁴.

- Nature conservation and environmental agencies and associations are still not adequately involved in the interventions of the Structural Funds¹⁵. With the exception of WWF, no environmental or nature conservation associations are members of the Structural Fund monitoring committee. The planned Hainich National Park demonstrates the innovative character of nature protection for structurally weak regions. Improving the involvement of NGO's and environmental agencies in the decision-making processes could lead to an integrated regional development approach supported by the EU financing activities.

- By linking the funding policy at *Land* level with stronger regional coordination it might be possible to enable the Hainich region to achieve greater benefits from the synergy effects of funding at regional level. On the basis of the Thuringia development programme, a regional development strategy is currently being developed for Hainich¹⁶. The implementation of these strategies and the establishment of a local development agency to coordinate the various instruments could lead to an improved utilization of funding options.

- The LEADER II programme has been of benefit to the region and was frequently used. In particular, the involvement of local agents has proved positive in Hainich. The special character of the LEADER II programme supports projects which could not be financed by other funds or national programmes.

- In order to integrate nature conservation interests in the allocation of Structural Funds, use could be made in the future of environmental impact assessments. A combination of environmental impact assessment and eco-auditing for projects supported by Community funds should be discussed in the future.

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¹² Kaether, J. 1994. *Großschutzgebiete als Instrument der Regionalentwicklung*, Akademie für Raumforschung und Landesplanung. *Arbeitsmaterial* Nr. 210. Hannover.

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Snowdonia (Wales-United Kingdom)

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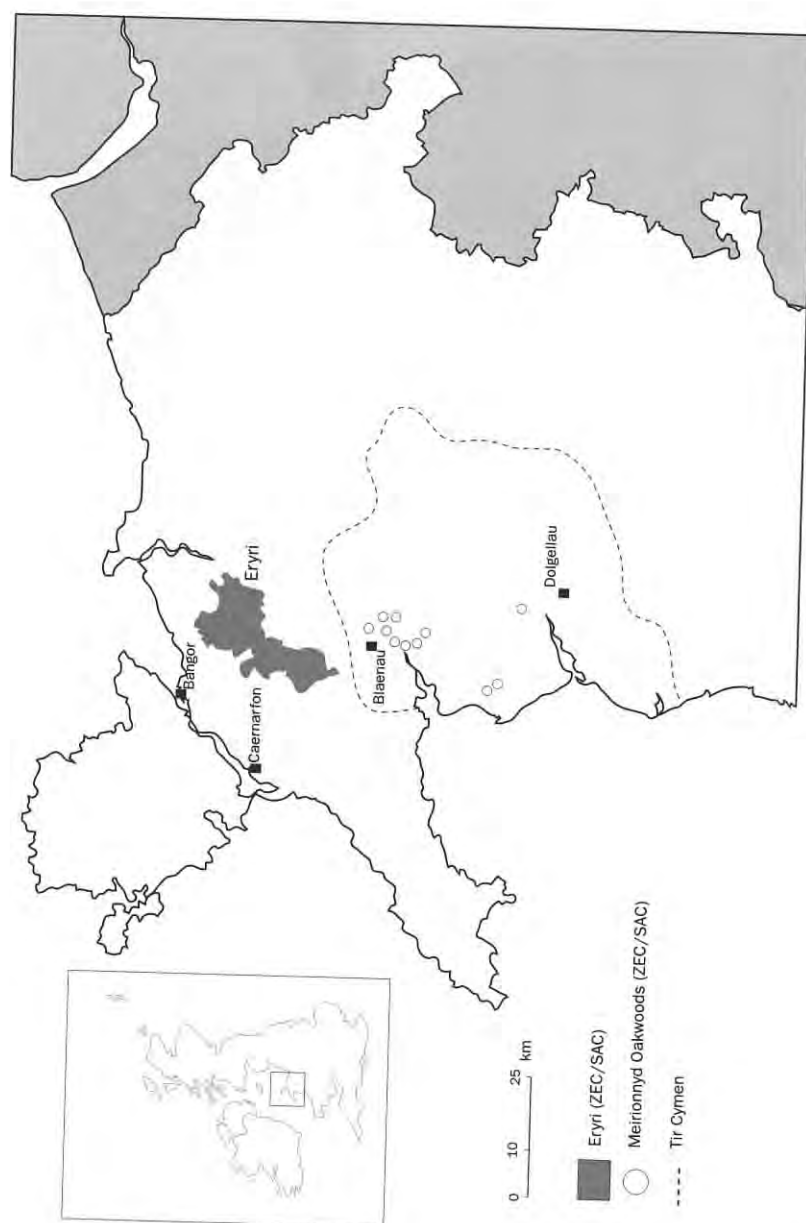
In order to effectively take advantage of the different financial instruments available it is necessary for there to be good coordination and contact with the local population. In Snowdonia, where this factor has been recognized, special efforts have been made in terms of both strategies, and as a result a good approach to integration between rural development and nature conservation is being obtained.

1. Introduction.
2. The nature conservation importance of the Snowdonia area.
3. Socio-economic profile of the area.
4. Management issues and objectives.
5. The role of European funding in conserving the SACs.
6. Local attitudes to nature conservation.
7. Conclusions and recommendations

1. INTRODUCTION.

To date, the UK government has submitted to the European Commission two lists of candidate Special Areas of Conservation (SAC) comprising a

¹ Institute for European Environmental Policy (IEEP). London.



total of 262 sites. All of these sites have already been designated as Sites of Special Scientific Interest (SSSIs) under national legislation.

Of the 416 candidate sites identified so far, 45 of them are found in Wales and for this case study, we have chosen to focus on two of the Welsh candidate SACs, Eryri and Meirionnydd Oakwoods in North Wales (Box 1).

The Countryside Council for Wales (CCW), which is the statutory countryside agency for the region, is responsible for securing compliance with the habitats Directive in Wales. As well as CCW, a number of other bodies are involved in the management of Natura 2000 sites through various initiatives. Many of the candidate sites will be managed by means of SSSI management agreements, which are nationally funded and negotiated with landowners on a site by site basis. However, there are other initiatives affecting SACs either directly or indirectly and which are supported financially by the EU.

Box1. Natural Importance of the Case Study SACs.

Eryri candidate SAC. Area: 13,710 ha

This is an amalgamation of three, neighbouring, large designated SSSIs: Carneddau in the east; Glyderau in the middle; and the Snowdon massif in the west. Habitats and species of importance include:

Tall herb communities - considered to be rare as their total extent in the UK is thought to be less than 1,000ha.

Nutrient poor, clear water mountain lakes or lochs with aquatic vegetation - one of only three outstanding localities in the UK.

Montane acid grasslands - considered to be one of the best areas in the UK

Acidic scree - considered to be one of the best areas in the UK.

Plants in crevices in limestone rocks - considered to be rare as the total extent in the UK is thought to be less than 1,000ha.

Plants in crevices on mainly acidic rocks - one of the best areas in the UK.

Floating water-plantain - one of only three outstanding localities in the UK.

2. THE NATURE CONSERVATION IMPORTANCE OF THE SNOWDONIA AREA.

Both SACs lie within the boundaries of the Snowdonia National Park and between them cover 14,174 ha which comprises over six per cent of the territory of the Park. The Snowdonia National Park, located entirely within Gwynedd, was designated in 1951 and now covers 214,200 ha of land. It is Britain's second largest national park and incorporates a diverse range of semi-natural habitats in an often rugged landscape. For example, within the National Park there are eight ranges of mountains with 14 summits exceeding 900 metres, including the highest peak in England and Wales, Mount Snowdon (Eryri).

The high nature conservation value of the National Park can be illustrated by the array of both international and national protected areas found within the Park boundaries (Table 1).

The heart of the Snowdonian mountain range is separated by two glaciated valleys, Llanberis and Nant Ffancon which represent a classic example of glacially formed landscapes. The three mountain ranges divided by these valleys are designated as SSSIs and are together proposed as the Eryri SAC. The park also contains areas of woodland protected as National Nature

Table 1: Protected areas found within Snowdonia National Park

PROTECTED AREA	Nº. OF SITES
International	
World Heritage Site	1
Ramsar Site	3
Biogenetic Reserve	12
EU	
candidate SAC designated	3
SPA	3
National	
SSSI National Nature Reserve	66
Local Nature	16
Reserve Forest	1
Nature Reserve	3

Reserves and SSSIs. Seven of these have been incorporated into the proposed Meirionnydd Oakwoods SAC.

The National Park also encompasses 57 km of sea coast including two salt marsh and sand dune National Nature Reserves (which are included in the Eryri SAC), Morfa Dyffryn and Morfa Harlech. Inland, Llyn Idwal and Llyn Tegid are two lakes designated as Ramsar sites, and Migneint, an area of marsh and heath, is a third Ramsar site in the National Park. Y Berwyn, an active blanket bog which lies mainly outside the Park boundaries has been designated as a Special Protection Area under the Birds Directive and is proposed as a SAC.

3. SOCIO-ECONOMIC PROFILE OF THE AREA.

Mid and north Wales is characterised by a sparse population and small and dispersed rural settlements. Within the National Park specifically, the popu-

lation is highly dispersed, with 75 per cent of people living in communities of only 2.000 inhabitants or less.

Gwynedd county, most of the territory of which is included in the Snowdonia National Park, has a population density of only 62 people per km² in comparison to the UK average of 230. During the last 100 years, the demographic trend has mainly been one of depopulation in rural areas due to the migration of young people to urban areas. More recently, there has been inward migration to the area but predominantly of elderly people retiring to coastal areas, particularly in Gwynedd. These factors, together with a reduction in birth rates, has led to an imbalance in the age structure with an increasing proportion of the population over 60 years of age.

At the same time, the provision of services has declined in rural Wales and the area remains isolated. For example, it is estimated that around 66 per cent of settlements lack a permanent shop. Access to the Snowdonia National Park is a major problem. It is between 30 to 60 km from the nearest dual carriageway and at least 90 km from the nearest motorways. There is only one rail link to the area and no airports.

Farming supports around 20 per cent of the economically active population in Gwynedd and is almost entirely restricted to sheep, cattle and dairy farming with sheep farming predominating, particularly in the upland Eryri SAC. There are around 299.000 ha of farmland in Gwynedd, representing 20 per cent of the total territory of Wales, of which over 285.000 ha is grassland. Sheep and lambs in Gwynedd total 2,12 million¹.

Owner occupier farmers manage approximately 80 per cent of the land in the Snowdonia National Park and many of these people only farm as a part time activity, supplementing their farming income from other sources, particularly tourism. In some areas of the National Park, income is generated by farmers through deer and game bird shooting, however, these activities are of little relevance to the case study SACs.

Taken in combination, the demographic and employment trends and dispersed settlement patterns have a negative influence on the cultural and social identity within the area and on the ability of communities to generate economic opportunities and increase income levels.

The high reliance of Gwynedd upon the agricultural and tourist sectors, both of which are closely related to the natural assets of the area and both of which suffer from seasonal fluctuations, means that rural services are vital to the health of the local economy. As rural services and businesses disappear, farming activity becomes increasingly marginal.

In the long term, the marginalisation and abandonment of land in areas of the Snowdonia National Park coupled with the concentration of livestock on

the more productive areas would be detrimental to the nature conservation interest of those semi-natural habitats which are maintained by appropriate farming activity.

4. MANAGEMENT ISSUES AND OBJECTIVES.

ERYRI SAC

The primary threat to the nature conservation interest of these uplands is the current high stocking levels which are causing severe overgrazing, particularly in the Carneddau area of the SAC. The Carneddau is a large expanse of upland acid grassland with areas of base enrichment and much of it is common land ie unfenced land to which the community has various rights, including the rights to pasture. The CAP Sheep Annual Premium headage payments and the less favoured area compensatory payments, which are also paid per head of livestock, act as an inducement to farmers to maintain high grazing densities. This incentive, in combination with the right to graze livestock on common land in Carneddau, has led to a situation whereby sheep stocking levels are higher than the vegetation can withstand in many areas of the SAC. Achieving suitable grazing regimes for the semi-natural grassland whilst maintaining the economic viability of farming is a major aim of the nature conservation authorities and requires co-operation with the local community.

Another management issue is that of recreational use of the area which is a popular location for ramblers; the Park as a whole attracts around 11 million visitor days annually, of which most congregate within the Eryri SAC. The management of public access to farmland has been a contentious issue in the past with farmers concerned about the effects of recreational use on their land and livestock. There are also the potential impacts of walkers on fragile upland habitats to be considered. However, the tourism industry is an important source of income for the local community and the goal of a sustainable balance between recreation, farming and nature conservation is being pursued.

MEIRIONNYDD OAKWOODS SAC

Most of the SAC is under the management control of CCW which either owns or leases the land, leasing it in turn to tenants. A small area of the site is privately owned and thereby managed by means of SSSI management agreements negotiated with the landowners by CCW.

As the market for local hard wood timber has declined since the 1940s, so too has the condition of the semi-natural ancient oak woodlands. Little timber is now harvested and this lack of woodland management has contributed to the current simplified age structure of the woodlands. Predominantly mature trees remain, with little or no younger growth occurring to replace trees lost, for example through windthrow. Conifers have been underplanted on one of the seven SSSIs resulting in the displacement of native species.

Natural regeneration has also been prevented by the incursion of livestock into the woodlands. This has been encouraged by some farmers in order to increase the farm's forage area. However, although overgrazing by sheep and browsing by feral goats is a major contributing factor to the prevention of natural regeneration, in certain areas high grazing pressure acts to support some rare plant communities such as Bryophytes.

One of the main aims of the nature conservation authorities is to secure the natural regeneration of the woodland. These initiatives focus on excluding livestock from woodland areas by the installation of stockproof fencing to enable natural regeneration. Other management objectives include the controlled harvesting of timber to secure greater diversity in the age structure of the woodland accompanied by new planting alongside old woodlands in some areas. The development of appropriate grazing levels to support Bryophyte communities is also required. Invasion by *Rhododendron ponticum* (an exotic ornamental shrub) has restricted the development of ground flora and understorey species in the majority of the SAC.

As for the Eryri SAC, the local community has an important role to play in the management of the woodland resource through the control of stock, planting of trees and the appropriate felling and processing of timber.

5. THE ROLE OF EUROPEAN FUNDING IN CONSERVING THE SACS.

There are a number of sources of EU co-funding available in the Snowdonia area for nature conservation related work. For the purposes of the case study SACs, we will focus on Objective 5b, LIFE, Regulation 2078/92 and Regulation 2080/92, providing a description of the application of each to the region as a whole and to the selected candidate SACs. It is not possible to evaluate the measures because many of the projects have not yet been completed or data specific to the SACs is not available.

Table 2: Structural funds allocation under Rural Wales Objective 5b SPB 1994-1999

Fund	MECU		% of total budget
	EC support	National counterpart funding	
FEOGA	35,6	35,6	14,7
FEDER	115,1	182,7	61,6
FSE	33,3	40,7	15,3
Total	184,0	259,0	91,6
Private contributions	40,4	8,4	
TOTAL BUDGET	483,42		

Table 3: Rural Wales Objective 5b sub-measures which may affect Natura 2000 sites

Priority area	Measure title and aims	Fund	Total cost MECU
Business Development	Development of agriculture and forestry: to develop and diversify agricultural and forestry business	EAGGF	53,50
Tourism Development	Agri-tourism: to maximise contribution made by farm tourism sector, to develop and market innovative farm based tourism products, improved quality of services and strengthen links between tourism and environment	EAGGF	18,75
Countryside Management and Community Development	Countryside enhancement: to improve the environment and to benefit the farming community (projects funded by this are not eligible for support under Regulation 2078/92)	EAGGF	16,75
	Development of rural services: to support local initiatives to empower disadvantaged communities and produce innovative actions to provide improved services and infrastructure	ERDF	32,00
	Developing skills in rural areas: to encourage the development of economic skills through locally based training opportunities	ESF	7,33
TOTAL			128,33

STRUCTURAL FUNDS OBJECTIVE 5B

The Rural Wales Objective 5b programme 1994-1999 is coordinated by the Welsh Office, which is the regional government office and which is responsible for the detailed implementation of the ERDF and the EAGGF of the Single Programming Document. This document acknowledges that the environment and landscape are of key importance for rural Wales.

The Objective 5b programme has a total allocated budget of 483,42 MECU, including both EC and national counterpart funding (Table 2). The majority of the EC support is allocated from the ERDF with the rest comprising EAGGF and ESF support equally.

Table 4: Projects with a potential direct or indirect effect on case study SACs

Lead project sponsor	Project title	Grant obtained (ECU)	Fund source
Countryside Council for Wales	Eryri SAC Scheme	468.000	EAGGF
	Interpreting rural Wales	96.785	ERDF
	Training in countryside skills	95.225	EAGGF
Gwynedd County Council	Feasibility study for processing timber	9.500	EAGGF
	Tree nursery	60.676	EAGGF
Snowdonia National Park	Countryside Enhancement Programme	585.000	EAGGF
TOTAL		1.315.186	

The Single Programming Document identifies three priority action areas: business development with a budget of MECU 298,98; tourism development, with a budget of MECU 126,50; and countryside management and community development with a budget of MECU 56,08. Although the third of these priorities has greatest potential application to Natura 2000 sites, business and tourism development may have indirect roles to play in terms of supporting a healthy rural economy.

Several sub-measures and objectives are defined for each of the three action areas of which a number may affect Natura 2000 sites (Table 3). These measures are listed in Table 3 along with their indicative budgets. A total of 128,33 MECU, the 27% of the total Objective 5b budget for rural Wales, is potentially available to fund projects relating to Natura 2000 sites, both directly or indirectly (Tables 4).

Objective 5b funding is of major importance in the Eryri SAC. SSSI designation of the site means that the CCW has powers to negotiate management agreements with the site owners and occupiers.

In Snowdonia, CCW has secured matching Objective 5b funding for the so-called Eryri SAC Scheme. The main aim of the voluntary scheme is to improve the grazing management of the SAC by providing payments to farmers to: reduce sheep numbers on the uplands; increase numbers of cattle on the lower slopes in order to manage habitat; and re-introduce shepherding on the open mountain.

Farmers are also required to allow public access to the land under the scheme.

The management agreements are negotiated on a farm by farm basis, providing the opportunity for the scheme prescriptions to be tailored to suit the locality. Furthermore, the scheme is run in conjunction with another voluntary Objective 5b scheme which is administered and co-funded by the Snowdonia National Park (with a contribution from the National Trust, an NGO), the so-called Countryside Enhancement Scheme. The Countryside Enhancement Scheme is effectively merged with the Eryri SAC Scheme for land located within the boundaries of the SAC, thereby providing a coherent, almost whole farm, approach to the preservation of nature, landscape and archeological interest. Furthermore, the Countryside Enhancement Scheme applies to land immediately surrounding the SAC, giving a buffer effect.

Within the SAC, one agreement integrating the two schemes is made with each participating farmer. The Eryri SAC scheme requires the farmer to follow a Code of Good Environmental Practice which includes conditions such as:

- the opportunity for CCW to designate the land as a National Nature Reserve;
- the provision of information about livestock premia, stocking densities etc on the farm.

There are also a number of conditions which are included both in the Eryri SAC scheme and the Countryside Enhancement Scheme for land outside the SAC, as follows:

- the land is to be maintained free from waste plastic material;
- no infilling of any watercourses, drains, polls or marshes;
- the control of pollutants on the farm
- no damaging or removing of trees or planting of trees and shrubs without prior approval.

Capital grants are also available under the Snowdonia National Park scheme for works such as dry stone walling and fencing around deciduous woodland.

Another Objective 5b project run by CCW is the provision of interpretation and improved visitor facilities to various National Nature Reserves in Wales, of which the Snowdon NNR, which falls within the boundaries of the SAC, is one. In the Snowdon NNR, the main aim of the project is to educate the public about the existence and function of the NNRs and to inform visitors about the nature conservation interest of the area generally and the role that farmers play in maintaining the site. Although explicit reference to SAC designation is not made, raising general awareness of the issues and the role of the local community may contribute in the long term to improved relations between conservationists, tourists and land owners.

Gwynedd County Council is leading two projects which may benefit the Merionydd Oakwoods SAC. With Objective 5b funding, a tree nursery providing local provenance broadleaved stock has been established and is used by both CCW and the Snowdonia National Park as a source of appropriate trees for replanting in the Meirionnydd area.

In addition, the Gwynedd County Council, in association with Coed Cymru (an NGO), undertook an Objective 5b funded feasibility study two years ago on the use of locally produced timber, including oak from upland coppice. The project led to the development of added value products such as wood flooring which are now being manufactured locally. Active management of the Meirionnydd Oakwoods SAC, including the removal of timber, is a key aim to which the creation of local demand for harvested wood will contribute.

THE AGRI-ENVIRONMENT REGULATION.

There are a number of schemes in Wales which are funded under EU agri-environment Regulation 2078/92. In the Eryri SAC, two schemes are of potential relevance: the Moorland Scheme, which provides incentives for farmers to remove ewes from moorland, and the Habitat Scheme which aims to encourage the re-creation and enhancement of certain habitats, including species-rich grassland and water fringes.

In implementing the Eryri SAC schemes described above, CCW and Snowdonia National Park co-ordinate where possible with the Moorland and Habitat Schemes. Currently, payment levels per ewe removed under the Moorland scheme are too low to attract farmers to enrol so this scheme has had no effect in the Eryri SAC. The Habitat Scheme may be of value on the lower slopes of Snowdon but no farmers have yet enrolled.

A third and major agri-environment programme is Tir Cymen which was originally launched as a pilot programme by CCW in 1992 in three counties of Wales and is now funded under Regulation 2078/92. One of the counties, Meirionnydd, includes the Meirionnydd Oakwoods SAC. The scheme encourages farmers to manage their holdings in an environmentally beneficial manner by providing annual payments and capital grants in return for specified land management over a ten year period. Participation in the scheme is voluntary.

Farmers receive a basic annual payment per hectare for following a code of good environmental practice on the whole farm, with additional annual payments for positively managing a number of different habitats, including moorland and heathland, unimproved grassland, broadleaved woodland and new permissive paths. Standard capital payments are available for works such as restoration of stone walls, fencing for environmental management, installing nest boxes and bracken control.

The experimental phase of Tir Cymen is due to end this year and the development of a similar scheme covering the whole of Wales has recently been announced. The new all-Wales scheme is likely to absorb the Moorland and Habitat Schemes as well and may have implications for the continuation of the Eryri SAC and National Park schemes.

There is approximately 109,140 ha of farmland eligible for Tir Cymen in Meirionnydd, of which 46.6 per cent has been enrolled in the scheme since it was launched in 1993, exceeding the programme's target by over six per cent. Agreements have been made with 257 farmers covering 50,859 ha of farmland, including 21,254 ha of heather moorland, 10,335 ha of upland grassland and 1,595 ha of woodland management.

Total payments in Meirionnydd in 1995-96 reached MECU 2,52, of which around 15% is reimbursed from the CAP budget.¹¹ A number of farms which include woodland falling within the boundaries of the Merionnydd Oakwoods SAC are enrolled in the Tir Cymen scheme and some have received payments under the scheme to exclude stock and install fencing around SAC woodland.

THE FORESTRY REGULATION.

The Woodland Grant Scheme is administered by the Forestry Authority (a government agency) and provides incentives for farmers in the UK to create and manage woodland.

Elements of the scheme receive co-funding from the EU under Forestry Regulation 2080/92. There are two options under the scheme which are of potential application in the Meirionnydd Oakwoods SAC.

The first is the Woodland Improvement Grant which provides a single discretionary payment to farmers to encourage the active management of woodlands. The Woodland Improvement Grant measure of greatest relevance is the Woodland Biodiversity project which targets semi-natural upland oakwoods of the sort found in Meirionnydd. A Woodland Management Plan is required under the project and works may include the fencing of woodland to control grazing stock, ecological surveys, removal of non-native trees and shrubs which threaten habitat quality, the creation and management of buffer zones around woodland and monitoring. This scheme has been used around the Meirionnydd Oakwoods SAC for the clearance of invasive Rhododendron.

The Woodland Grant Scheme also provides an annual management grant of 23 ECU per ha per year which is intended to contribute towards some of the follow-up costs of woodland maintenance and may be used, for example, to control the regrowth of rhododendrons after their clearance.

LEADER

Although there are no current LEADER funded projects which relate to the SACs, there are a few initiatives under discussion which have the potential to contribute to the management of the Meirionnydd Oakwoods SAC. They include a Timber Marketing Group Initiative which aims to complement Tir Cymen by supporting the development of a group of farm based timber producers and co-ordinating the production, management and marketing of timber and wood products in the Meirionnydd area.

The project would promote sustainable woodland management by providing an added value market outlet for small parcels of timber, raising the profile of Welsh timber and supporting the rural economy. Another potential project is a comprehensive feasibility study on the development of a forest residue and biomass power plant.

LIFE

There are two LIFE projects which involve the case study SACs. In 1995, the CCW won funding from the European Commission under the LIFE initiative for a project entitled *Integrated Monitoring with Management Planning: A demonstration of good practice on Natura 2000 sites in Wales*. The project began in September 1995 and is due to end in March 1999. The total budget for the work is ECU 786,000 of which 50% is provided by the EU.

The project aims to contribute to the effectiveness of the Directive by developing standards for monitoring the conservation status of protected

¹¹ Due to the so-called Fontainebleau agreement, the net value to the British budget of EU co-funding for UK national schemes is reduced in comparison to that received by other Member States, which in

habitats and species. Its main objective is to develop a monitoring methodology for all the terrestrial habitat types listed in Annex 1 of the Habitats Directive which are found within the proposed Natura 2000 sites in Wales. This includes seven 'priority' habitat types, including ravine and alluvial forests, raised and blanket bogs and calcareous fens, plus a further 18 non-priority habitat types including heaths and grassland, oak and beech woodlands and open mountain habitats. These habitats occur in 20 SACs throughout Wales, including the Eryri SAC.

As well as contributing to the appropriate management of SACs within Wales, the monitoring methodology and data management system which are being developed are of potential interest and application to Natura 2000 sites throughout the EU. Although attention is currently focused on site selection in many Member State, the monitoring and evaluation of designated sites is an essential component of any management strategy.

More recently, in June 1997, the European Commission approved LIFE funding for a four year project on the restoration of Atlantic oakwoods. The project aim is to demonstrate, undertake and promote, innovative and coordinated approaches to achieving the favourable conservation condition of seven of the nine SACs listed for this habitat in the UK, of which Merionnydd Oakwoods is one.

The project is being led by a private company based in Scotland in cooperation with a number of partners including the UK nature conservation agencies and the Forestry Authority. Around 600.000 ECU will be contributed from LIFE towards the total project costs of 925.000 ECU. The majority of the matching funding will be obtained through those elements of the Woodland Grant Scheme which are funded solely nationally (rather than by Regulation 2080/92). In the Merionnydd Oakwoods SAC, CCW will also contribute funds. The work in Meirionnydd will concentrate mainly on the removal of conifers and Rhododendron both within and immediately outside the SAC and the establishment of stock proof fencing.

6. LOCAL ATTITUDES TO NATURE CONSERVATION

The development of the CCW and Snowdonia National Park SAC management schemes in particular have provided the nature conservation authorities with the opportunity to increase their influence on farming activities and thus improve the integration of conservation and agriculture objectives in the Park. In general, farmers have viewed conservation objectives as conflicting with their own management objectives and imposing restrictions on their farming practices. However, anecdotal evidence suggests that the SAC management schemes are gaining support amongst farmers.

CCW view the maintenance of strong links with local communities as an important part of scheme effectiveness. All administration of the schemes is undertaken bilingually as many farmers speak Welsh as their first language. Furthermore, CCW has been instrumental in the formation of the Wales Highland Forum which comprises representatives of farming unions, the Snowdonia National Park, CCW and other local organisations.

The Snowdonia National Park authorities have a major role to play in establishing and maintaining links with the Park's inhabitants. The Snowdonia National Park is managed by a committee which includes nine Gwynedd County Councillors, three representatives from Aberconway Borough Council and six members appointed by the Secretary of State for Wales. The Park has further links to the 55 Parish Councils that form the Snowdonia National Park's local communities through a Community Liaison Officer and through the Park Wardens who meet with ten committees made up of members of the Parish Councils on a monthly basis. The mix of representatives from local authorities and the local community aims to facilitate the integration of the Park's conservation objectives with local needs.

Farmers are often preoccupied with their concerns about the recreational use of private land. Activities such as mountain biking and paragliding present emotive issues. Objective 5b funds are being used to assist in managing access and supporting tourist activities, including tourist information schemes, planned cycle and walking routes and farm management agreements that include the maintenance and improvement of public rights of way.

7. CONCLUSIONS AND RECOMMENDATIONS.

- In the Snowdonia National Park, valuable use has been made of a variety of sources of EU co-funding for both the direct management of the SAC sites reviewed here and more broadly to promote a coherent approach to nature conservation in the whole area.

- Many of the management initiatives which we have reviewed have been developed as joint initiatives by a number of different organisations including non-governmental organisations, nature conservation bodies and the local council. Such co-ordination between diverse interests should be encouraged to ensure that account is taken of different perspectives and experience during the development of appropriate management measures.

- It is important that clear information is made accessible to groups about the potential sources of EU funding to enable them to make maximum use of such support.

- It is important to farmers that the conservation objectives of the Natura 2000 site management schemes are clearly stated. This enables the land managers to understand the reasons for changes to their farming practices and may encourage greater commitment to the management measures.

- In order to secure a coherent network of Natura 2000 sites, rather than geographically isolated areas, measures are required which apply between sites and which promote the management of the wider environment as encouraged under Article 10 of the habitats Directive. It is also important to address the management of land immediately outside the boundaries of a Natura 2000 site in order to prevent off-site conditions or activity negatively affecting the integrity of the protected area and to avoid the 'halo' effect, ie the intensification of farming on areas of the holding outside the SAC in response to extensification on land within the SAC.

- As well as the maintenance of the *status quo*, there is a place also for the funding of active habitat restoration and re-creation schemes.

- Although there are funds available to contribute to the management of Natura 2000 sites, some of the threats the species and habitats are facing may stem from the CAP support regimes which encourage farmers in some areas to overstock and to include woodland as forage area. At the same time, however, the economic viability of many hill sheep farms is dependent upon support payments.

- The opportunity to use EU co-funding under Regulation 2078/92 for farmer training has not been taken up in the UK so far. Farmer training has been funded under Objective 5b in parts of Wales but a national programme, adapted to local conditions, would provide a more comprehensive and long term approach and would enable the integration of farmer education with all aspects of farm practice.

ACKNOWLEDGEMENTS

Arfon Griffiths, Peter Stockton, Siân Shakespear, Barbara Jones, Emyr Williams, Rod Grittsen, and Chris Smith (Snowdonia National Park); Michael Willis, Simon Billsborough, Robin Griffiths, Alan Brown, Doug Oliver and Phil Stevenson (CCW); Dafydd Watts (Cymad).

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The Maurienne Valley (Savoy-France)

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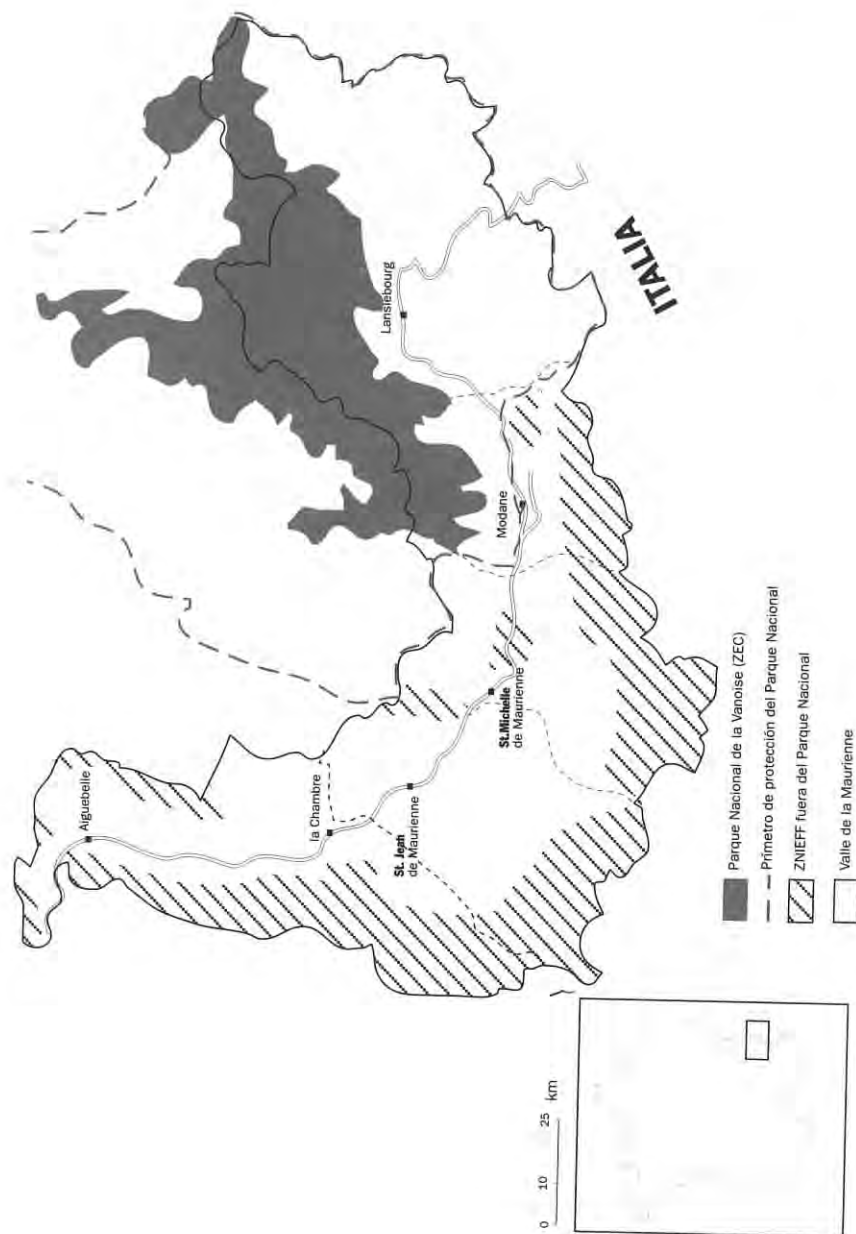
The Maurienne valley is an area of great ecological value threatened by rural abandonment. Though a wide range of financial instruments, which could be of interest for the Natura 2000 network, are applied in the area, the lack of integration between nature conservation and rural development means that these instruments are more focused on the latter, trying to halt the process of rural abandonment.

1. Introduction to the Maurienne Valley.
2. Historic evolution.
3. Socio-economic profile.
4. Agricultural context.
5. Environmental framework.
6. Funding for land management.
7. Conclusions.

1. INTRODUCTION TO THE MAURIENNE VALLEY

The Maurienne valley is a geographic feature of the south of the department of Savoy, situated in an area of medium and high mountain. Its position on the border with Italy makes it an international communication route. The valley runs from east to west, following the course of the river Arc for 120 km between the Tarentaise and Briançonnais valleys. The Arc valley is

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a steep-sided narrow valley which reaches depths of up to 1.500 m, making it unsuited to the development of agriculture. Of a total area of 187.000 ha, only 17.500 ha (9.3%) is farmed and 70,000 ha dedicated to mountain pasture.

The valley can be divided into the following zones:

- the lower valley (400 m), comprising the entry to the valley
- the middle valley (400-700 m), with the main urban and industrial centres
- the upper valley (1400 m), surrounded by well conserved natural areas, agricultural and tourist zones, Vanoise National Park and several mountain massifs.

Maurienne is one of the longest valleys in the Alps, crossing them almost in their entirety and passing through some of the main glacial areas. These natural features make Maurienne a typical high mountain valley. The natural environments are clearly staged, with deciduous and conifer woods alternating with dry-farmed arable land, alpine pastures, rocky outcrops and cliffs, and reaching up to glaciers and permanent snows.

The climate, protected from the rains blown in from Italy and the Atlantic, is rather dry in comparison with the northern Alps. These characteristics are of great importance in the process of rural abandonment.

2. HISTORIC EVOLUTION

In Maurienne man has long lived from farming activities, in a pastoral society established on the mountain plateaux and hillsides. In the 19th century electricity began to be generated by the torrent streams, and the lack of technology for transporting this energy led to the setting up of industries and the transformation of Maurienne into "aluminium valley". The upper Maurienne valley, however, remained isolated from this transformation, conserving its pastures and its virgin spaces which would later become Vanoise National Park.

The Fréjus railway tunnel between Modane and Italy, opened in 1971, divided the valley in two. The lower part of the valley was marked by the development of industry and the upper part by the conservation of the farming society, and later the opening up to tourism.

The installation of numerous factories in the lower part of the valley accelerated the transformation of the agropastoral society. However, the economic crisis of the 1980's saw the closure of several factories, with knock-on effects throughout the valley.

Concern about this process of deindustrialization in Maurienne led to the grouping in 1972 of all the municipalities in the valley in the Association of

Mayors of Maurienne. This association has become Maurienne's representative political institution and aims to present the future of the valley with one single voice.

3. SOCIO-ECONOMIC PROFILE

In 1990 Maurienne had 41.193 inhabitants, giving it a population density of 22 persons per km² (Savoy 54 persons/km², France 105)¹. The territory is essentially rural and is organized in 6 cantons with a total of 62 towns and villages.

The four cantons in Savoy which have been losing population since 1982 are all located in the Maurienne valley. Demographic decadence is not, however, a new phenomenon in Maurienne and has been the tendency for more than a century, 21% decline in population between 1861 and 1990, due above all to a migratory deficit which continues to this day.

The urban municipalities are those most affected by depopulation (3,3% decline since 1982), while the population is increasing in the rural municipalities with winter sports stations (8,1% since 1982) and decreasing in the remaining rural communities. In general, the development of tourism has permitted the fixing of the population and has favoured the arrival of new inhabitants, though its impact has been somewhat less important than was expected.

The population is also getting older. The proportion of the population under twenty years of age fell between 1975 and 1990 from 31,5% to 25,3%, while the population over 60 years of age rose from 18,1% to 20,8% in the same period.

The number of second homes in the area has risen by 50% in 8 years and these now outnumber first homes, especially in the areas around the winter sports stations.

ECONOMIC SITUATION

In 1990, 56% of the economically active population was employed in the services sector, 30% in industry, 8% in agriculture and 6% in construction.

Though the unemployment rate is 6,4%, low in comparison with the rest of the country (9,5%), Maurienne has been hit hard by industrial unemployment since 1982, with the number of salaried workers falling by 20% in 8 years. Large industries are today no longer the driving force of the economy and there is a renaissance of small and medium enterprises and crafts². Construction companies have also experienced a 20% decline in the number of salaried workers.

The development of the tertiary sector has permitted the conservation of independent employment, with a 20% increase in the number of people employed in commerce and services. This growth is being generated above all by the development of tourist activities (hotels, restaurants) and recent years have seen a growth in 'green' tourism. The existence of Vanoise National Park has been an important factor in the consolidation of tourist activity.

4. AGRICULTURAL CONTEXT.

The climate, with precipitation arriving from the west, favours the existence of pastures and orients agriculture towards mixed milk and beef production with tarenta cattle or just meat production (bovine-ovine).

The percentage of farmers with second jobs is one of the highest in the department. Secondary employment, often connected with tourism, provides substantial complementary income in the high mountain area (in 1988 two farm managers out of every three had second jobs³).

Most of the cantons in the valley are benefiting from the presence of dairy cooperatives manufacturing Beaufort cheese with controlled denomination of origin¹¹, now one of the most important local products. Its quality and commercial success have permitted the conservation of dairy activity in this mountain area. There is, however, no quality policy to valorize the production of beef or sheep meat.

Maurienne has suffered very rapid decline during the course of the last decade, with the loss of 40% of agricultural employment, and agricultural assets today represent only 2%; compared with 4% in 1982 and 7% in 1975. It is estimated that one farm in two will disappear during the next ten years (the number of farms fell from 1.443 in 1979 to 835 in 1988), weakening those which remain and the fabric of rural society as a whole.

More than 1.500 ha of farmland have been abandoned, and in the canton of Saint Michel de Maurienne the area occupied by working farmland fell by 54% between 1979 and 1988, causing serious land management problems. It is in the upper Maurienne valley where agricultural activity is best maintained, with well structured farms whose income is supplemented by tourist activities.

Rural abandonment, in conjunction with the narrowness of the valley, leads to low land occupation rates, low stocking rates and low farm recovery rates. The same phenomenon is also observed in lower Maurienne.

¹¹ AOC, Appellation d'Origine Contrôlée

CONSEQUENCES OF RURAL ABANDONMENT.

A consequence of the disappearance of traditional agro-pastoral activities, which maintain diversified ecosystems, is the transformation of land from uncultivated to scrub and subsequently to woodland. This evolution is rapid in the lower and middle Maurienne valley (from 5 to 10 years) but slower in the upper valley, being limited to the development of junipers (*Juniperus sp.*).

This process impoverishes biodiversity, leading, for example, to the disappearance of species associated with open spaces, such as the hare (*Lepus capensis*) and the partridge (*Alectoris graeca*), and the appearance of other more woodland-type species such as the wild boar (*Sus scrofa*).

Abandonment also causes the degradation of the landscape, which little by little loses its originality, threatening the valley's tourist potential.

All of the above accentuates the devitalization of the rural municipalities and accelerates their depopulation, increasing natural risks such as fire, avalanche, erosion and flooding.

REACTIONS OF THE LOCAL POPULATION.

The local population is clearly concerned about the consequences of abandonment and is making efforts to confront the situation. For this reason Maurienne is particularly active in environmental projects. The project "Arc clean river", which aims to clean up the river, valorize fishing activity and develop white water sports; the project "Green passes", which aims to valorize the major mountain passes; and other environmental projects within the industrial sector, are some examples of local initiatives.

The numerous land management initiatives developed in Savoy are a sign of the awareness of the local population and its desire to resist the process of farmland abandonment. Land management has become a priority in Maurienne in order to respond to the following needs:

- support to agricultural and pastoral activity
- conservation of a way of life and a quality environment
- conservation of landscapes and of plant and animal species, the keypins of tourist activity
- restoration of deteriorated spaces
- prevention of natural risks

5. ENVIRONMENTAL FRAMEWORK.

Vanoise National Park, created in 1963, is the oldest National Park in France. It is located in the upper Arc and Isère river valleys, bordering with the Italian 'Gran Paradiso' National Park. The park consists of two parts; a

central nucleus of 52.800 ha designated as SPA in 1988, and around it a peripheral protection area of 145.000 ha.

Its height above sea level oscillates between 150 and 3.852 m, with 107 peaks over 3.000 m, and the fauna and flora are typical of the high mountain. Of particular note is the presence of ibexes (*Capra ibex*), chamois (*Rupicapra rupicapra*) and marmots (*Marmota marmota*), and the most important bird species include birds of prey, forest species and high mountain species^{4,5}.

Though the flora and fauna is protected, livestock and forestry activities are indispensable for maintaining the natural balance.

Maurienne also contains 6 areas of the ZNIEFF (*Zone Naturelle d'Interet Ecologique, Faunistique et Floristique*) inventory^{III}, some of which have a great wealth of species of Community interest^{6,7} (Table 1)

Though the areas inventoried as ZNIEFFs in the Maurienne valley are potential SACs, it will most probably be the central zone of the National Park which will be designated a SAC as it has already been declared a SPA under the Birds Directive.

Table 1. Areas of the ZNIEFF inventory in the Maurienne valley with habitats and species of Community interest⁷.

- **Upper Maurienne Valley** (ZNIEFF 7350). Great diversity of habitats in relation with the geological complexity. A total of 17 habitats listed in annex I, two of them calcareous bogs (Natura 2000 code: 7240 and 7210) of priority interest
- **Vanoise National Park** (ZNIEFF 7360). 17 habitats listed in annex I of the Directive, two of which are priority, the *Pinus nigra* woods (Natura 2000 code: 9430) and alpine pioneer formations of calcareous bogs (Natura 2000 code: 7240). Also presents a great diversity of flora, with more than 1.000 species, and of fauna, with more than 125 species of birds.
- **Belledune Massif and Hurtières Mountains** (ZNIEFF 3804). Of great interest for birds, with more than 117 species. There are also habitats of Community interest such as the calcareous bogs (Natura 2000 code: 7210).
- **Rousses Massif** (ZNIEFF 3886). Of notable botanical richness, particularly raised bogs.
- **Mount Thabor, Neuvaiche Valley and Galibier Pass** (ZNIEFF 7334 y 7341). Presents 7 habitats listed in annex I of the Directive.

6. FUNDING FOR LAND MANAGEMENT.

Maurienne was classified as an Objective 5b region by the Commission in 1994 and designated a Rural Revitalization Zone by the French State in

^{III} ZNIEFF is an inventory of sites of ecological fauna and flora interest whose compilation began in 1982 and which has been used to identify potential SACs

1995. Thus there are several Community and national funds which can be applied in the zone to directly or indirectly favour land management and nature conservation.

LIFE

There are two LIFE programmes in Maurienne. The LIFE bogs programme, which aims to establish a national conservation policy for bogs, has a total budget of 2.591.600 ECU and is concentrating on 36 bogs, carrying out specific actions for the restoration of bogs. It is managed by Espaces Naturels de France.

Only a small zone of the upper Maurienne valley, in the municipality of Montgilbert, is affected by this programme, through the sub-programme *Carex bicolor-atrofusca*, which it is managed by the Conservatoire du Patrimoine Naturel de Savoie (NGO belonging to the national federation of conservatoires: Espaces Naturels de France). These bogs are priority sites for the application of the Habitats Directive in the region of Rhône-Alpes.

There is a second LIFE project, entitled Natura 2000 Management Plan, which consists not of specific actions but more of a reflection on the management plans of sites in the future Natura 2000 network, and which is being carried out in 37 pilot sites all over the country, selected on the basis of their interest, their biological diversity and their actors. In Maurienne this programme affects the area corresponding to the potential SAC in the Natura 2000 network, i.e. the central zone of Vanoise National Park and part of the surrounding area. The National Park is the programme administrator.

LEADER II

The LEADER II programme for Maurienne was prepared with the support of the Association of Mayors of Maurienne and the programme administrator is the regional prefecture. This programme has a total budget of 163 MECU⁸ and its objectives concern the development of the valley's industry and heritage, including measures aimed at demographic revitalization and the creation of links and synergies between areas for the greater valorization of communication routes. Some of its objectives have potential repercussions on nature conservation (Table 2).

INTERREG II

The INTERREG II initiative is applicable in all of Savoy and in the neighbouring regions of Piemonte and Vall d'Aosta in Italy. Its objective is to organize a common land management programme with transboundary

Table 2. LEADER objectives with implications for the natural environment

1. Territorial organization and mobilization of actors. Of particular note are the actions related with communication and sensitization of actors and a strategic reflection on territorial organization.
2. Creation of new cultural discovery activities.
- 2.2. Creation of a network of cultural centres relating to the industrial, agricultural and natural heritage. It is envisaged to build several cultural centres which will focus on the relationship between man and the natural environment.
- 2.3. Valorization of equipment in the lower valley to create approved visitor accommodation options. This accommodation will permit the promotion of 'green' tourism in other strategic parts of the valley.
3. Harnessing, channelling and orientation of new flows of visitors in order to prevent negative consequences in sensitive areas.

effects, e.g. the routing of mountain footpaths to link up hostels in the two countries.

OBJECTIVE 5B

All the municipalities in the Maurienne valley belong to Objective 5b of the Structural Funds. A regional rural development programme has been designed for the application of these funds⁹. This is an integrated programme which targets all the sectors involved in the development, management, maintenance and valorization of the region (agriculture, forestry, business, infrastructures, tourism, environment).

The Community credits reserved for Objective 5b in Rhône-Alpes for the period 1994-1999 amount to 169,61 MECU, of which 11,7 MECU are earmarked for the department of Savoy, where priority is given to development and employment (Table 3).

Though the programme is oriented towards local development and the maintenance of existing farming structures, environmental objectives are also included in certain measures (measure 7). However, as of June 1997 this was the only measure which had yet to consume any credit in Maurienne, though twelve projects were being studied by the department's technical committee in relation with measure 7.2 and one in relation with measure 7.3.

It should also be noted that Vanoise National Park has had no participation in the projects relating to Objective 5b. The National Park, which has its head offices in Chambéry, outside the eligible zone, cannot present projects itself, but could be a partner in projects prepared by the municipalities in the area around the park, which is an eligible zone. Though this is an

Table 3. Main measures of the regional rural development programme in the department of Savoy.

- 1- Reorientation of basic rural activities: agriculture, forestry
- 3- Development and modernization of industry, commerce and crafts
- 5- Opening up of rural spaces to tourism and valorization of heritage
- 7- Conservation and valorization of a quality environment

By the Department

- 7.2- Assistance in the application of land management plans
- 7.3- Assistance in the application of management plans for natural areas
- 7.6- Assistance in the normalization of buildings

By the Region

- 7.1- Assistance in the animation and promotion of local land management programmes

opportunity for the park to participate in actions connected with the area's nature conservation objectives, it has not yet been taken advantage of. The subdirector of the natural heritage department has in fact prepared several projects for which Objective 5b funding has been requested, but all of these are situated outside the study zone.

Thus it can be concluded that though structures (instruments and actors) for the execution of projects aimed at nature protection in Maurienne do exist, there is still a lack of efficiency in their execution, and for this reason the only actions really affecting nature conservation which are being executed are those relating to the LIFE programme.

AGRI-ENVIRONMENTAL PROGRAMME (REGULATION 2078/92/EEC)

Agri-environmental measures have been applied in Maurienne valley since 1985, in the framework of the "Maurienne Local Operation" in accordance with article 19 of Regulation 797/85^{10,11}, subsequently covered by agri-environment Regulation 2078.

The objective of the agri-environmental programme is to halt the deterioration of certain agricultural areas, which are in the process of being abandoned, through the application of maintenance actions¹² (Table 4).

In the selection and demarcation of zones for the application of the agri-environmental programme consideration is made of:

- Coherence of the physical environment, which must be a natural entity where the abandonment of agricultural land is more intense.
- Demarcation by municipalities of the zones sensitive to abandonment.

Table 4. Zones included in the Maurienne agri-environmental programme and actions which are contemplated.

The parcels which can be financed by the Maurienne agri-environmental programme must be within the perimeters defined as sensitive zones:

- Zone 1. Zones close to hamlets
- Zone 2. Zones with a slope of more than 20%. Zones with a slope of more than 35% are especially sensitive zones
- Zone 3. Zones not close to hamlets which are farming centres
- Zone 4. Breeding sites of the Black Grouse (*Tetrao tetrix*)

Objectives	Type of action
Maintenance of areas in use	Annual harvest (1.000 ha) Maintenance of pasture (1.000 ha) Spreading of manure (100 ha) Maintenance of crops (10 ha)
Conservation of species	Conservation-oriented management of Black Grouse (300 ha)

This demarcation involves the participation of a municipal jury (working group open to all interested parties and which meets with all the actors involved in local land management).

The scope of the programme covers all the Maurienne valley, with a total eligible area of 2.320 ha (Table 4) and a total budget of 207.779 ECU/year during a 5 year period, giving an average of 89 ECU/ha. Take-up by farmers has been satisfactory, as has the sensitization of the local population in relation with this measure.

The programme is being applied with greater intensity in the lower Maurienne valley, where the risk of agricultural abandonment is greater, and is having a lesser repercussion in upper Maurienne¹³, given that here the risk of abandonment requires less intervention.

However, it is precisely in the upper Maurienne valley where the National Park is located. What appears to be a contradiction is not actually so, as when the programme was designed its objective was to maintain farmers and the farming economy, thus assuring the existence of biological diversity (DDAF com. pers.).

Though the Zonal Programme is not sufficient to resolve the problems generated by agricultural abandonment, it can meet some specific local

needs regarding certain zones and concrete actions. Nevertheless, even with this approach it is seen that the level of the subsidies is not sufficient to motivate farmers to accept extra obligations.

On the other hand, Beaufort cheese, which must be elaborated in a conserved environment using practices which respect this environment, is perceived as abounding in the logic of agri-environmental measures.

OTHER STATE FUNDS

In parallel with the agri-environmental programme, other financial instruments have been applied with greater efficiency and coherence to confront the problems of land abandonment.

- FGER^{IV} (Rural Land Management Fund). Created in 1995 and funded by the State, finance actions which secure the lasting rehabilitation of abandoned rural areas.

- FDGEN^V (Departmental Land Management Fund). It assists local collectives committed to a long term land management programme.

- OGAF^{VI} (Grouped Land Management Operation). This is a measure which accompanies article 19. It was created in 1991 to improve territorial and structural farming structures.

- FADEGA^{VII} (Departmental Fund for Assistance to the Equipment of Farmers' Groups). Helps to equip farmers' groups. It is a direct aid to farmers within the framework of the Savoy agriculture development policy. FADEGA has been operating since before Objective 5b.

- CPER^{VIII} (State-Region Plan Contract). Is funded by the State and the regional administrations and is aimed at local collectives and associations in the weakest zones. In Maurienne it's objective is to achieve the economic consolidation of agriculture and the reorganization and permanence of farmland.

- River Contract^{IX} (Arc clean river). Aims to clean up the river, valorize fishing activity and develop white water sports.

- Environment Contract^X. Funded by the State, the beneficiaries are local collectives and associations. It was created some 10 years ago by the Association of Mayors of Maurienne. The operation 'Rural Landscapes of Savoy', initiated in 1990 and 1991 by the General Council, the Chamber of Agriculture and the public administration (DDAF, DATAR, MAPA, Ministry of Environment) is aimed at experimenting with new landscape management methods.

- Four Country Contracts^{XI}. Their objective is to improve land management though actions related with farming land or farming instruments.

^{IV} FGER, Fonds de Gestion de l'Espace Rural

^V FDGEN, Fonds Départemental de Gestion de l'Espace Naturel

^{VI} OGAF, Operation groupée d'Amenagement Foncier

^{VII} FADEGA, Fonds d'Aide Départementale pour l'Equipement des Groupements Agricoles

^{VIII} CPER, Contrat de plan Etat-Région

^{IX}

There are also other funds, such as annual agreements for job creation in the environment sector between local corporations and the regional administration, a local environment plan, a tourist development contract in upper Maurienne, and a global development contract.

7. CONCLUSIONS.

- In a context of important levels of agricultural land abandonment with effects on the environment, the Maurienne valley shows a generalized mobilization and a desire to combat this situation.

- Despite the abundance of programmes for local land management and development at all levels, there is a true desire to ensure their cohesion. There complementary nature of the different programmes contributes to the obtainment of more efficient results. The "Cellule Europe" plays an important role in preventing duplicities and assuring the complementariness of actions. But though these actions seem to be in synergy, the fact cannot be overlooked that they are more oriented towards local development and land management than towards the management of a natural heritage of collective importance, though they do contribute indirectly.

- LIFE is the only instrument oriented towards the management of the natural heritage. LEADER, INTERREG and Objective 5b programmes are being executed in Maurienne, but they still lack efficiency in terms of environmental protection.

- With regard to agri-environmental measures, the fact that priority is given to agricultural concerns and that efforts are concentrated in the areas most threatened by agricultural abandonment clearly shows the limitations of the integration of agriculture and environment. Agri-environmental measures do, however, constitute adequate instruments for meeting certain local needs in well defined zones. The experience obtained in the Maurienne valley agri-environmental programme opens the way towards greater synergy between the actors involved in land management.

- It is evident that structures do exist and that their design has taken environmental considerations into account. It is also clear that Maurienne is preparing itself to improve these programmes.

ACKNOWLEDGEMENTS

Robert Meot (Direction Départementale de l'Agriculture et de la Forêt de Savoie, Cellule Aménagement du Territoire et Développement Local, Service Equipement et Développement Rural); Annick Bernard (Chargée de mission, Préfecture de la Savoie, Cellule Europe); Mr. Brugiere (Parc

National de la Vanoise); Mr. Fabrice Coq (DIREN Rhône-Alpes, Protection et Gestion de l'Espace).

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Villafáfila (Castille and Leon-Spain)

Carlos Sunyer¹

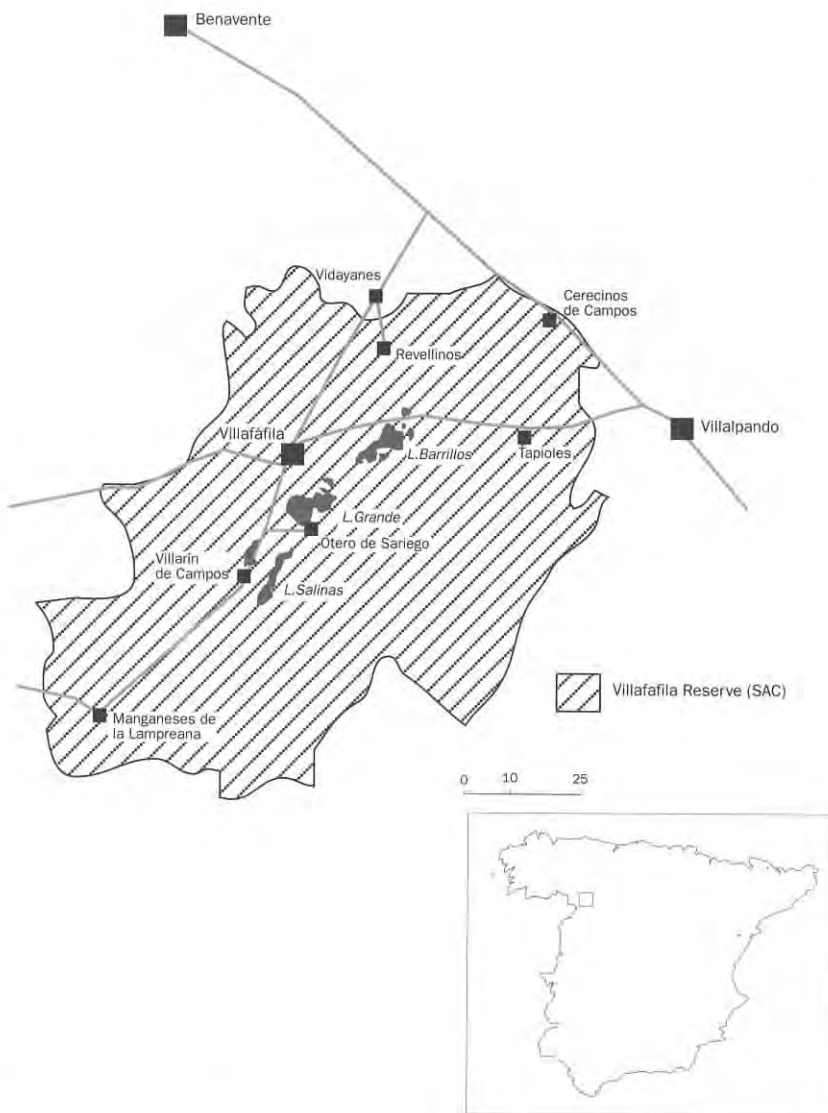
This example demonstrates how a wide range of highly different financial instruments can be applied to the same natural site with the aim of its conservation. Only one of these instruments, LIFE, is specifically designed for this purpose while the rest seek to integrate conservation and rural development, promoting 'green' tourism and local products.

1. Introduction.
2. Socio-economic profile.
3. The agriculture.
4. Ecological importance.
5. Community financial instruments.
6. Conclusions.

1. INTRODUCTION

Villafáfila is situated in the province of Zamora, in the region of Castille and Leon; which with a size three times that of Belgium is the most extensive region in the European Union (94.193 km²). In general terms, the geography of Castille and Leon is characterized as high plateau 900 m above sea level surrounded by mountains, giving it a continental Mediterranean climate

¹ TERRA, environmental policy center. Madrid



defined by harsh contrasts, and with the predominance of flat cereal field landscapes.

The 42% of the population (2,5 million people) live in the provincial capitals. The population density of the region is very low, with 27 people per km² (the national average is 77 people per km²). The demographic situation is characterized by ageing and depopulation. During the period 1981-1991 there was a net population loss of 1,4% and in 1986 15% of the population was above 65 years of age¹.

The Villafáfila reserve covers an area of 32.682 ha with an average height above sea level of 700 m. It is characterized by a gently undulating treeless landscape with the predominance of extensive cereal crops. The centre of the reserve is an endorheic basin with a series of seasonal brackish lagoons, comprised by three main lagoons and 40 smaller, which in rainy years can inundate close to 600 ha.

The climate is continental Mediterranean, with very cold winters and hot dry summers, with a mean annual precipitation of 450 mm and a mean annual temperature of 12°C, reaching minimums of -15.6°C and maximums of 45°C.

The lagoon area is of great interest to hunters because of the abundant wintering of water fowl, and in 1972 was designated a Controlled Hunting Zone (2.854 ha). However, the interest of Villafáfila is not limited to the wetlands but is also due to the presence of important Great Bustard (*Otis tarda*) populations, which led to the creation in 1986 of the National Game Reserve of Villafáfila (32.682 ha). In addition to the lagoon area the reserve provided coverage to the important population of Great Bustards in the zone. Subsequently all of the area was designated a SPA under the Birds Directive and the lagoon area a Ramsar site. At present it is in the process of being declared a Protected Natural Site by the regional government of Castile and Leon and has been proposed as SAC.

2. SOCIO-ECONOMIC PROFILE

The human habitat in Villafáfila is intimately linked with the natural environment through the important participation of agriculture in the local economy, the maintenance of extensive agricultural systems which permit the existence of the associated wildlife, and through the local architecture, whose predominant raw material is adobe (a mixture of straw and mud), all of which configures a cultural landscape of great interest.

The population is concentrated in small communities. There are 11 villages with a total of 4.708 inhabitants (1991) within the SAC, giving it a population density of 14 people per km². There are also some isolated cons-

tructions, generally for agricultural use and dovecotes, the latter being traditional structures which give the landscape a distinctive personality. Villafáfila is the largest village with 898 inhabitants.

The demographic tendency is regressive and tending towards ageing, the population having halved since 1960, with a vegetative growth of -9,67 per thousand and more than 25% of the population is more than 65 years of age.

The area is eminently agricultural. 57% of the economically active population is employed in the farming sector, which accounts for 50% of family incomes. In 1993 the per capita income in Villafáfila was equivalent to 59% of the Community average².

Though the zone is well communicated, being situated at 15 km from the nearest motorway, and has interesting potential for tourism, these resources are not yet well developed.

3. THE AGRICULTURE

Agriculture, which is the main productive activity of the district, is centred on cereal crops. During the 1960's and 1970's the productivity of the zone was increased by means of landplot consolidation and an increase in the use of fertilizers and agrochemicals. Several irrigation projects were also attempted, but these failed due to the high salinity of the aquifer. A project to drain the lagoons for agricultural purposes was also carried out, and though one of the lagoons was drained in 1972 it was subsequently restored by the Administration in 1988.

At present 81,4% of the SAC is occupied by cereals, with a traditional crop rotation system (one year cultivated, one year fallow), and the only non-cereal crop of importance is dry-farmed lucerne, which occupies some 2.600 ha, i.e. 8,4% of the SAC³ (1988).

Livestock farming is relatively important, consisting above all of extensive sheep farming (43.850 sheep), with maximum densities of 2 head/ha and minimums of 0,2.

4. ECOLOGICAL IMPORTANCE.

Though the potential vegetation of the zone is Holm Oak woodland (*Quercus ilex*) this has been eradicated throughout history, giving rise to an open and humanized habitat with few natural habitats except around the perimeter of the lagoons. There is an interesting community of zooplanktonic crustaceans, with species which are only found in the north of Africa, the Asian steppes and some wetlands in this zone.

Table 1. Habitats and Species of the Birds and Habitats Directive present in Villafáfila

Habitats listed in annex 1

8 habitat in annex 1, two of them priority habitats:

Salt steppes (Limonieta) * and Pseudo-steppe with grasses and annuals (Thero-Brachypodietea) *

Most significant vertebrate species in the zone according to the criteria of the Birds and Habitats Directive (n.p. nesting pairs, ind. individuals).

Water fowl		
Wintering		
Greylag Goose <i>Anser anser</i>	24.000	maximum 34.183
Water fowl	29.574	
Crane <i>Grus grus</i>	350	maximum 800
Breeding		
Avocet <i>Recurvirostra avosetta</i>	15 n.p.	
Black-winged Stil <i>Himantopus himantopus</i>	150 n.p.	
Marsh Harrier <i>Circus aeruginosus</i>	5 n.p.	
Steppe birds		
Montagu's Harrier <i>Circus pygargus</i>	40 n.p.	
Great Bustard <i>Otis tarda</i> *	2.168 ind.	
Little Bustard <i>Tetrax tetrax</i>	30-40 n.p.	
Lesser Kestrel <i>Falco naumanni</i> *	420 n.p.	
Stone Curlew <i>Burhinus oedipnemus</i>		
Black-bellied Sandpiper <i>Pterocles orientalis</i>	50 n.p.	

* Globally threatened species⁶, n.p. = nesting pairs

It is interesting the presence of Wolf *Canis lupus* (2 ind.).

The greatest acknowledged ecological importance of the zone is centred on the birdlife linked with the lagoons and above all the cerealistic pseudo-steppes (Table 1), and particularly the population of Great Bustards. This reserve supports the highest density of these birds in the world, with 1.000 individuals during the breeding period and 2.200 during the autumn and spring, reaching densities of 15 birds/km² ^{4,5}. The importance of the zone for steppe birds is a result of the persistence of extensive crop systems which have permitted the maintenance of a mosaic of land uses vital for the different species, with zones of cereal alternating with uncultivated zones (fallow land, stubble fields and pastures), and of particular importance for the Great Bustard the presence of small areas of dry-farmed lucerne.

THREATS TO THE CONSERVATION OF THE SAC

The main threat to the conservation of the steppe habitats is the gradual abandonment of traditional farming practices, generally motivated by pressures of the CAP which promotes agricultural intensification and gives priority to cereal crops over dry-farmed lucerne. This implies the gradual disappearance of the mosaic of land uses and the abandonment of the cultivation of dry-farmed lucerne, vital for the Great Bustard. These changes, scarcely perceptible to the untrained eye, simplify the habitat and lead to the disappearance of the most sensitive species.

Among the threats to the wetland are the gradual silting up of the lagoons due to the erosion of crop fields. Though this is a natural process in all endorheic lagoons, it has accelerated since the 1970's in Villafáfila as a consequence of landplot consolidation which eliminated the boundaries between fields, which until then acted as a brake to erosion. It is estimated that the average depth of the main lagoon in the 1940's was 10 metres, which by the 1960's had been reduced to 4-5 metres and at present is 30 cm ⁷.

Other threats to the SAC are the new irrigation projects envisaged in the Regional Irrigation Plan, which will affect a part of the SAC, the construction of a golf course in the interior of the SAC and the impact of uncontrolled tourism.

Though as a threat has not yet been identified, the gradual abandonment of agriculture due to the ageing of the population and the increasing importance of the services sector could condition the long term viability of the zone.

5. COMMUNITY FINANCIAL INSTRUMENTS.

STRUCTURAL FUNDS OBJECTIVE 1

All of the region is included within Objective 1, and therefore Community co-funding covers up to 75% of investments. During the previous program-

ming period (1989-93) the EAGGF-O Operational Programme for Castille and Leon was oriented in Villafáfila toward the improvement of rural roads and village infrastructures (paving, street lighting, etc.).

In the present programming period (1994-99) Structural Fund investments in Villafáfila come from the Operational Programme for Castille and Leon "Agriculture and rural development" with budget from the EAGGF. Within this Operational Programme there is a measure entitled "Conservation of biodiversity, natural spaces and wildlife" whose objective is to preserve biodiversity by means of the creation of a network of protected natural spaces and the conservation and recovery of species, for which it is intended to link conservation and rural development. The socio-economic impact pursued by this measure, as described in the Operational Programme, is the maintenance of the population in protected areas, which tend to be the most depressed areas in the region, the improvement of quality of life and the application of a model of sustainable development⁸.

To this end, the investments envisaged in Villafáfila are aimed to integrate conservation and development, with the largest investments destined to obtaining greater knowledge of the ecological processes necessary to conserve the zone and to providing infrastructures for the promotion of orderly 'green' tourism (Table 2).

Structural Fund investments in Villafáfila have been made in coordination with the INTERREG initiative, which since 1995 has taken over the investments in the zone.

Table 2. Objective 1 Structural Fund investments in the Villafáfila reserve during the programming period 1994-1999.

Project name	Total investment (ECU)	Year
Demarcation of areas in the agri-environment programme	3.164	1994
Census of nesting harriers (<i>Circus</i> sp)	6.226	1994
Sedimentological and limnological study	35.396	1994
Radio-tracking of Great Bustards (<i>Otis tarda</i>)	60.167	1995
Construction of a bridge in the wildlife park	16.936	1994

1 ECU = 159 pesetas

Source: Data from monitoring reports of the operational programme.

INTERREG

The INTERREG II initiative for transboundary cooperation between Spain and Portugal is constituted in the form of an Operational Programme and

Table 3. INTERREG II investment programme in Villafáfila reserve (1995-1999)

Project	Total budget (ECU *)
Infrastructures for public use	6.140
Water management infrastructure in the artificial lagoon	4.085
Infrastructures of the Reserve	56.920
Nature information centre (construction)	137.206
Nature information centre (adaptation)	138.365
Improvement of waste water treatment systems	100.629
Adaptation of dovecotes	31.446
Reconstruction of a roman bridge	9.434
Reconstruction of dovecotes	125.786
Study of the impact of combine harvesters on birdlife	6.289
Limnological study	50.314
Construction of a traditional pelota court	157.232
Recreation area	9.433
4WD vehicles	44.025
4WD vehicles for feeding birds	106.918
Total estimated cost of investments in the Reserve	968.553

(*) 1 ECU = 159 pesetas

Source: data from monitoring reports of the operational programme.

incorporates a measure known as protection of the natural heritage, whose objective is to achieve a balance between nature conservation and the development of tourist capacity. 73% of the total investment comes from Community co-funding, mostly from the ERDF. This measure has been applied in Villafáfila since 1995 to replace the activities co-funded by the EAGGF-O Operational Programme. For this reason, the funded projects pursue the same objectives, i.e. in-depth ecological studies for the conservation of the SAC, restoration of elements of the cultural landscape (dovecotes and roman bridge) and providing the zone with the infrastructures necessary to receive "green" tourism (Table 3).

This aspect is of great interest as until just a few years ago Villafáfila was only visited by ornithologists, and it is intended to stimulate the development of the zone by trying to attract a broader and less specialized tourism but which also goes in search of nature. To this end an area of 24 ha has been prepared, including a lagoon, with different infrastructures destined to attract non-specialized visitors while dissuading visits to the more fragile

zones in the reserve and offering added value to the visitor. The infrastructures include a reception centre, in which an explanation about the history, interest and ecology of the reserve is provided, a car park, and a long itinerary visiting 8 observatories in the form of dovecotes in the area around the lagoon, from where it is possible to observe the different species of water fowl characteristic of the zone.

As a result of this the area is now attracting "green" tourism which did not previously visit the zone and which contributes to the revitalization of the local economy. The number of visitors to Villafáfila has risen from 30.000 in 1993 to 60.000 in 1996. A cooperative has been created to run the attractions in the Reserve, providing employment for 5 people, and new jobs have been created in the hotel and catering sector.

THE AGRI-ENVIRONMENT PROGRAMME (REGULATION 2078/92/EEC)

Since 1993 Villafáfila has been included in the scope of the "Zonal Programme for steppe birds in Castille and Leon", which covers a total of 1.190.762 ha. The objective of this programme is to promote agricultural systems compatible with the maintenance of steppe bird populations and more specifically the Great Bustard (*Otis tarda*). This species is threatened at world level and has its main bastion in Spain where there are 17.000-19.000 individuals, 40% of the world population⁹. The greatest density in the world is found at Villafáfila.

Table 4. New types of contract in the Zonal Programme for steppe birds in Castille and Leon.

Basic menu

- Increase in fallow areas
- Improvement of fallow land
- Improvement of pastures
- Reduction in use of fertilizers
- Creation of margins and copses
- Complementary environmental measures

Abandonment of land for 20 years

Planting of species of conservation interest

For the application of the steppe programme there are a series of measures destined to maintain and foster certain practices. Until 1997 the programme had 4 options, and in Villafáfila a basic menu with greater environmental demands was applicable due to its status as a priority zone. During the 1996-

97 campaign 16% of the reserve was covered by the programme, and though it is still early to evaluate the results it seems to be insufficient to prevent the abandonment of the cultivation of dry-farmed lucerne.

At the end of 1997 the programme was reviewed, simplifying the options which were reduced to 3 and promoting interest in the cultivation of dry-farmed lucerne by means of its inclusion in contract 4 with the maximum permitted subsidy (293 ECU/ha), making this option competitive with other CAP subsidies (Table 4). The programme is open to farmers who commit themselves to fixed practices for a period of 5 years or to abandon their lands for environmental purposes for a period of 20 years. Current take-up in the Villafáfila SAC consists of 4.324 ha under the basic menu, 35 ha under the land abandonment option and 89 ha under the option for planting species of conservation interest.

THE FORESTATION PROGRAMME (REGULATION 2080/92/EEC)

The forestation programme is applicable in the zone, and in fact at first aroused greater interest than the agri-environment programme. Though applications for reforestation in the Reserve were made during the first year, these were rejected by the regional environmental authorities in view of the ecological importance of the semi-steppe character of the zone.

LEADER II

The SAC is included within the scope of the LEADER programme "Tierra de Campos", which covers an area of 1.892 km² and affects 23.624 people.

Table 5. Main lines of action of the LEADER programme Tierra de Campos (in MECU)

Creation of rural development and innovation centre	1,36
Vocational training	0,68
Promotion of rural tourism and 'green' tourism	4,76
Support to SMEs and crafts	2,04
Valorization of agricultural products	3,40
Conservation of the natural and rural environment	1,15
Total	13,40

This programme is managed by a Local Action Group located in the village of Villafáfila and participated by local administrations, agricultural trades unions, associations and business organizations. The LEADER objectives are centred on supporting rural development through 'green' tourism,

the promotion of SMEs and the valorization of agricultural products. 25% of the investment is earmarked for conservation and environmental improvement (Table 5). However, given the recentness and the ongoing character of the programme, it is still early to evaluate its effects on the SAC.

The projects which have been presented to date are oriented towards the development of tourist infrastructure (hotels and restaurants), the promotion of local production (cheese, pigeon meat) and support to small businesses (craft shops, agricultural warehouses). In the environmental field the projects seem to be centred on the reconstruction of dovecotes, which constitute important landscape elements. At the time of writing a new restaurant had been opened in Villafáfila as well as a small hostel, the only one in all the Reserve.

LIFE

In September 1996 the Commission approved a LIFE project whose main objective was the conservation of the Great Bustard in Villafáfila. The project envisages the application of measures to complement the agri-environmental programme (Regulation 2078/92), including the purchasing of land to maintain the cultivation of dry-farmed lucerne, management work and equipment (Table 6).

Table 6. LIFE project in Villafáfila¹⁰

	ECU
Acquisition of land (purchase)	332.278
Management	31.645
Equipment, personnel, etc.	98.101
Total budget	460.000

1 ECU = 158 pesetas

6. CONCLUSIONS

- Conservation in Villafáfila can be seen to be intimately linked with the balanced rural development of the zone, in which the human factor plays a fundamental role. The region's development authorities have interpreted protected areas as a set of resources and possibilities rather than a limiting factor, and Villafáfila is a good example of this.

- Advantage is being taken of the different opportunities offered by Community funds to conserve the zone through two clearly differentiated types of actions: on the one hand developing strictly conservation actions on

the habitat, including research activities, and on the other hand fostering the maintenance of the population by promoting a type of rural development which valorizes the endogenous potential of the zone - 'green' tourism and local production. These two strategies are connected through the promotion of traditional agricultural practices compatible with the natural resources of the zone.

- Though it is still soon to evaluate the results of these investments it may be noted that they have contributed to valorize the natural heritage of the zone and to offer new economic alternatives to the local population.

ACKNOWLEDGEMENTS

Jesús Diez, Jesús Palacios and Mariano Rodríguez (Consejería de Medio Ambiente, Junta de Castilla y León); Rafael Saez and Herminio Velicia (Consejería de Agricultura, Junta de Castilla y León); Miguel Angel Naveso (SEO/BirdLife); Juan Carlos Orella and Arturo Cuadrado (Dirección General de Conservación de la Naturaleza del Ministerio de Medio Ambiente).

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Appendix 1. ECU EXCHANGE (December 1997)

Belgique	Franc belge	40,76
Danmark	Dansk krone	7,52
Deutschland	Deutsche Mark	1,97
Ellas	Drachmi	310,86
España	Peseta	167,11
France	Franc français	6,61
Ireland	Irish pound	0,76
Italia	Lira italiana	1937,16
Luxembourg	Franc luxembourgeois	40,76
Nederland	Nederlandse gulden	2,22
Portugal	Escudo	201,94
United Kingdom	Pound sterling	0,66
United States	US dollar	1,11
Sverige	Svensk krona	8,65
Finland	Markka	5,97
Oesterreich	Oester Schilling	13,90
Austria	Chelín austriaco	13,90

Appendix 2. LIST OF ABBREVIATIONS

Agri-environmental regulation Regulation EEC 2078/92

BECU 1×10^{12} ECU

CAP Common Agricultural Policy

SPD Single Programming Document

EAGGF European Agricultural Guidance and Guarantee Fund

ERDF European Regional Development Fund

ESF European Social Fund

EU European Union

FIFG Fishing Guideline Financial Instrument

GATT General Agreement on Tariffs and Trade

GDP Gross Domestic Product

GNP Gross National Product

LU Livestock Unit

LFA Less favoured areas

MECU 1×10^6 ECU

BECU 1×10^{12} ECU

NUTS Nomenclature of Territorial Units of Statistics⁴⁸

	NUTS 2	NUTS 3
Bélgica	Provinces	Arrondissements
Dinamarca	-	Amter
Alemania	Regierungsbezirke	Kreise
Grecia	Development regions	Nomoi
España	Comunidades autónomas	Provincias
Francia	Régions	Départements
Irlanda	-	Planning regions
Italia	Regioni	Provincia
Luxemburgo	-	-
Países Bajos	Provinces	C.O.R.O.P. Regio's
Portugal	Comissaoes de coordenação regional + Regioes autonomas	Grupos de Concelhos
Reino Unido	Group of counties	Counties/Local authority regions

OJ Official Journal

SAC Special Areas of Conservation (under the Habitats Directive)

SCI Sites of Community Importance (under the Habitats Directive)

SPA Special Protection Area (under the Birds Directive)

SSSI Site of Special Scientific Interest

UAA Utilized Agricultural Area

ZNIEFF *Zone Naturelle d'Interet Ecologique, Faunistique et Floristique*. Natural area of ecological, faunistical and botanical interest

Appendix 3. USEFUL ADDRESS LIST

LIFE-Nature

European Commission
DG-XI. D2, TRMF 02/089
Rue de la Loi, 200 B-1049
Bruselas Fax
(32 2) 2969556

LIFE-environment

European Commission
DGXI. B.2, BU-5, 05/118
200 rue de la Loi
B-1049 Bruxelles
Fax (+32 2) 2969561

LIFE-third countries

European Commission
DGXI. A.5, TRMF 05/62
200 rue de la Loi B-1049 Bruxelles
Fax (+32 2) 2994123

ERDF

European Commission
DG XVI
Rue de la Loi 200
B-1049 Bruselas
Fax (32 2) 2966003

ESF

European Commission
DG V
Rue de la Loi 200
B-1049 Bruselas
Fax (32 2) 2956701

EAGGF

European Commission
DG VI
Rue de la Loi 200
B-1049 Bruselas
Fax (32 2) 2959808

FIFG

European Commission
DG XIV Rue de la Loi 200
B-1049 Bruselas
Fax (32 2) 2966003

COHESION FUND

European Commission
DG XVI
Rue de la Loi 200
B-1049 Bruselas
Fax (32 2) 2966003

INTERREG

European Commission
DG XVI.A
Rue de la Loi 200
B-1049 Bruselas
Fax (32 2) 2962568

LEADER

European Commission
DG VI. F.1.2.
Rue de la Loi 200
B-1049 Bruselas
Fax (32 2) 2957547

REGIS

European Commission
DG XVI.A
Rue de la Loi 200
B-1049 Bruselas
Fax (32 2) 2962568

Financial instruments for the Natura 2000 network and nature conservation makes a practical review of the possibilities offered by different European Union funds for nature conservation.

Following a brief analysis of the different conservation requirements of the Natura 2000 network, Part One of the book outlines the opportunities presented by each of the financial instruments: LIFE, the Structural Funds, the Cohesion Fund and the CAP accompanying measures. It includes many examples and an introduction to the European Commission's proposals for the reform of the Structural Funds.

Part Two presents the results of six field studies, showing what opportunities exist and how they have been taken advantage of. On the basis of this experience a series of conclusions and recommendations are drawn up.

With this compilation of real case studies, *Financial instruments for the Natura 2000 network and nature conservation* constitutes an accessible guide to the wide range of ways in which the different funding sources offered by the European Commission can be used.

This publication appears at a crucial time for the future of nature conservation in the European Union, marked by the opportunities which, if used in the right direction, can result from the reform of the Structural Funds and the start of a new programming period and from the reform of the Common Agriculture Policy.