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BENEFITS**

Promoting the Socio-Economic Benefits of Natura 2000

**Background Report for the European Conference on
'Promoting the Socio-Economic Benefits of Natura 2000'
Brussels, 28–29 November 2002**



Indicative Map of Biogeographical Regions

adopted by the Habitat Committee

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**Background Report for
European Conference on
'Promoting the Socio-Economic
Benefits of Natura 2000', Brussels,
28–29 November 2002**

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Institute for European Environmental Policy

The Institute for European Environmental Policy (IEEP) is a leading centre for the analysis and development of environmental policy in Europe. Our work focuses on European Union (EU) environment policy, and environmental aspects of other sectoral policies such as transport, regional development, agriculture and fisheries. We are also actively engaged in the development of policy in EU Member States and in Central and Eastern Europe. IEEP seeks both to raise awareness of European environmental policy and to advance policy-making along sustainable paths.



WWF

WWF is one of the world's largest and most experienced independent conservation organisations, with almost 5 million supporters and a global network active in more than 90 countries.



WWF's mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature, by:

- Conserving the world's biological diversity
- Ensuring that the use of renewable natural resources is sustainable
- Promoting the reduction of pollution and wasteful consumption.

Executive Summary

This report explores the diversity, importance and source of socio-economic benefits from Natura 2000 sites designated under the European Union (EU) Habitats and Birds Directives¹, and lessons in how they can be realised. Such a discussion is particularly important, given stakeholder resistance to the implementation of the Natura 2000 network in some parts of Europe. Biodiversity protection is often perceived as implying costs or restrictions to local people and local economies, but in reality, Natura 2000 sites can offer significant economic and social benefits. There are many opportunities for pro-active and engaged stakeholders to realise these benefits, but these are hindered by a lack of awareness of how to use the particular assets of each site to stimulate appropriate socio-economic development.

A constructive dialogue is needed that moves away from a 'costs to us' approach. A broad appreciation of the full range of benefits, concerns and trade-offs can lead to the identification of how a Natura 2000 site can become a driver for sustainable development of the local community. Active consideration of these issues will be invaluable for the successful establishment of the Natura 2000 network and its integration into the wider socio-economic sphere of an enlarging European Union.

Background to the Project and the Case Studies

The insights of this report stem from four EU Member State and two Candidate Country case studies of specific sites, as well as existing research literature and discussions with key parties involved in nature conservation. The six case studies are:

<i>Austria</i>	Steirische Grenzmuir
<i>Belgium</i>	Pond Complex of Central-Limburg
<i>Denmark</i>	Lille Vildmose
<i>Estonia</i>	Emajõe Suursoo Mire and Piiirissaar Island
<i>Latvia</i>	Ainazi Town and its Rural Territory (ATRT)
<i>Spain</i>	Riaza River Gorges

The case studies provide interesting results as well as useful experience via stakeholder dialogue. Workshops with stakeholders were initiated as part of the project to explore and assess the benefits of Natura 2000 and proved to be a key step in realising benefits. Thus the process involved in the case studies addressed people's concerns, raised awareness, and fostered interest, initiative and partnership.

What are the Socio-Economic benefits?

Natura 2000 sites are designated according to ecological and bio-geographical criteria, and are thus designed to provide environmental benefits.

However they can also offer socio-economic benefits.

Economic benefits can stem from ecosystem services (eg water purification and supply, protecting the water table), provision of food and timber products, and activities on and related to the site such as tourism, training and education, and the direct sale of products. This can lead to significant local income and employment gains as well as wider regional development benefits.

Social benefits can include broader employment and diversification opportunities for local people leading to greater economic stability and improved living conditions; a strengthened sense of place and social identity promoting greater civic responsibility; safeguarded cultural (as well as natural) heritage; and more opportunity for environmental education and leisure, health and amenity.

Natura 2000 sites can contribute to each of these. The type, number and value of benefits depend on the site concerned and on the initiatives of stakeholders. While there have been no comprehensive assessments of such benefits at EU level, some broader work on the benefits of safeguarding our natural heritage has provided indications of their potential significance, as follows.

- Constanza (1997) estimated the world value for ecosystem services to be \$33 trillion and Balmford et al (2002) stated that conservation activities could help preserve assets of around \$5000 billion per year, at a cost of only \$50 billion per year.
- A study by the Scottish Parliament (2002) concluded that tourism activities are making increasingly important contributions to rural areas. In Scotland walking and cycling contribute £438 million (circa. €730 million) of expenditure.
- It has been estimated that around 125,000 jobs were supported in the EU through nature protection related activities in 1999 (ECOTEC, 2001b).

The six case studies focus on exploring the type of benefits or opportunities for benefits from sites, and how these can best be realised by the local community and stakeholders. While this approach

has not generated quantitative estimates of economic or employment benefits, it has demonstrated that:

- Communities can benefit significantly from the provision of ecosystem services such as supply of quality water and flood control;
- Protecting nature, often also means preserving important characteristics of landscapes and the cultural heritage which are widely valued aspects of (local) community identity;
- Communities can benefit from locally significant levels of direct and indirect investment into Natura 2000 sites from local, national and EU sources;
- Natura 2000 sites can be a key tourist attraction, attracting external purchase of local products and services, and supporting diverse local economic activity, as well as helping visitors gain greater awareness of habitats and their function and value;
- A significant number of local jobs can be supported through Natura 2000 related activities, diversifying rural employment opportunities and encouraging skills retention and development.

Many of Europe's rural areas face serious development challenges. Socio-economic benefits from Natura 2000 sites can contribute to the competitiveness of rural regions in a modern economy and become drivers for attracting incoming investment as well as improving job satisfaction of employees. In short, sites can become an integral and important part of sustainable development for local communities.

Examples of Benefits

Ecosystem services

In Austria the nature protection of the floodplain corridor of the Border Mur minimises the pre-treatment costs of water supply and is extremely important for the water resources of the whole region, particularly flood protection and the long-term security of groundwater supplies. In Denmark, the peat bogs of Lille Vilmoose are an important carbon store. In Estonia, the Emajõe Suursoo Mire and Piirissaar Island wetland retains enormous

quantities of water and absorbs a large amount of sediment, including pollutants; the wetland mitigates the effects of nutrient run-off from the River Emajõgi to Lake Pepsi; and the complex mix of peatlands, fens, swamps, forests, and bogs controls the impacts of annual flooding. In Latvia, the waters of the ATRT site provide self-purification capacity and ensure high water quality, despite being located next to small towns that discharge domestic wastewaters.

Investment and external funds

In the Riaza River Gorges, Spain, many different EU funding sources are combined – the site has won funds from the EU LIFE and LEADER II programmes and harnessed support from LEADER, ERDF (European Regional Development Fund) and EAGGF (European Agricultural Guidance and Guarantee Fund) for the wider *comarca* region, plus ESF (European Social Fund) and National investment funds. In Latvia, the Ainazi town and its rural territory obtained funding from Phare, the UNDP (United Nations Development Programme) Global Environment Facility and money from the Dutch government. In the Austrian case study, INTERREG funding supports river and floodplain forest restoration.

Developing products and logos

These include ‘Vildmose potatoes’ in Denmark, ‘Salt from the Laesoe’, vodka with bisongrass from Poland, pumpkin oil from the Mur region in Austria, and Piirissaar Island onions from Estonia. The Natura 2000 identity can offer a valuable opportunity to brand regional products, complementing specific local brands and underlining particular local qualities. In the Spanish case study area, the new mayor of the region commented that ‘local products, with a stamp of origin and quality, should be produced and promoted’.

Tourism

There is significant potential to attract tourists already in the Austrian Mur region, given thermal baths, to add a day for cycling and a guided tour of the Natura 2000 site. Similarly, there are opportunities for tourists at the Belgian Terlaemen (Zolder) race-circuit or businessmen having

meetings at Bolderberg to complement their visit with a nature walk at the nearby Central Limburg Pond-Complex.

Employment

In Belgium the case study includes an innovative scheme, through which the the long-term unemployed are reintegrated. There are also many cases where seasonal employment can be extended through the longer seasons associated with nature tourism. The Danish case study estimates that if all Natura 2000 related opportunities were realised, 100 more jobs could be supported.

Amenity/leisure and health value

Natura 2000 can provide significant amenity benefit as well as leisure facilities including walking routes (eg Belgium), cycle paths (eg Austria), horse-riding tracks and water-based activities, whether boating (eg Latvia), rafting or fishing (eg Latvia, Estonia). In the Belgian case study, for example, the site has a network of cycle routes and nature trails, and a network of horse-riding trails is currently being developed. In Denmark, access and proximity to the site supports local people’s quality of life as well as attracting new inhabitants to the area. The Austrian case study shows that the landscape and nature resource of the Border Mur forms the basis for a growing tourism based on hot springs and cycling.

Promoting natural and cultural heritage

Lille Vildmose in Denmark, with its historic peat extraction for heat production, which employed much of the neighbourhood in the early parts of the last century, is a key aspect of the region’s history. Protecting the remaining raised peat bog, and restoring the local small peat train could safeguard and build on the particular cultural heritage of this area.

Capacity building opportunities through volunteer networks and other formal/informal networks

Volunteer programmes encourage an increased sense of pride and ownership, and responsibility for appropriate stewardship of the natural heritage. In the Spanish case, more than 500 WWF/Adena volunteers have participated in voluntary activities,

including reforestation work, supporting rangers and providing information to visitors. In the Belgian case, volunteers offer valuable support for species monitoring. In the Latvian case, there is a more formal network of volunteers, through an established association of local communities for the management of the River Salaca. Volunteers and members of local fishing clubs supervise wild salmon spawning areas to prevent illegal fishing.

Educational opportunities

Many sites are involved in awareness raising. This work typically includes school visits, workshops, exhibitions, events and tailored courses, as well as information provision for tourists and guided visits. Sites are also often used as study areas for specialist scientific and ecological education, and occasionally ethnographic interest (eg Estonian case study). In Spain, ESF funds have supported training at the site with locally run courses, including the management of information centres, voluntary work and environmental education. In total, 1,300 local people have been involved. In the Latvian case study area, training material for children and students has been produced. This includes a set of books, a web page, a film and an interactive exhibition, which looks at animal life cycles and introduces visitors to aquatic processes. There are also regular outdoor activities for local schools and an annual course for the University of Latvia on coastal and aquatic issues.

What Initiatives are Required to Realise these Benefits?

Socio-economic benefits depend not only on the ecological properties and assets of Natura 2000 sites, but also on developing the link between each site and the local and regional economy. There is often significant potential for addressing concerns and minimising costs, as well as improving the returns from the sustainable use of local resources. While the benefits of nature conservation are increasingly being recognised in the literature, they require the active initiative of interested parties in order to be fully realised. This requires a combination of innovative policy, public awareness and local stakeholders championing the potential of sites. The following issues are critical.

Informed dialogue has helped increase confidence in site designation, reduced resistance and concern, and increased collaboration between individual stakeholders. For that reason, **early stakeholder involvement** in the designation process should be standard practice and, where Natura 2000 designation has already progressed, dialogue to **clarify real costs and opportunities** is essential.

It is important to have **coherent and integrated policies and programmes for designated areas**. Natura 2000 sites' assets and associated activities and benefits should be integrated into local, rural, regional and national development plans. This requires a comprehensive review of sectoral objectives (eg covering transport, local economic development incentives). Integrated spatial planning can also clarify issues of access, most notably by identifying areas for access restrictions and areas which should remain open to economic and recreational development (the concept of zoning).

It should be relatively easy and effective to ensure the **inclusion of the Natura 2000 site** in local, regional and national **tourist plans and promotional material and campaigns**, yet this is often sadly lacking in practice.

Awareness raising and training can help land managers move from intensive farming to more extensive practice that fits in with Natura 2000 requirements. This need not compromise economic viability, if farmers can be helped to market their produce effectively. **Support for the development of niche markets** for local products, and developing brands that can obtain **ecological accreditation** will often be very important. In many cases, Natura 2000 'labelling' or 'branding' could be a very helpful tool, not only in the labelling of the products, but also in the tourist branding of a site or region.

It is important for local people to be made aware of external financing sources and the capacity to access these for Natura 2000-compatible development purposes. NGO networks can play an important role here.

Supporting the development and **activation of volunteers and volunteer organisations** gives an

opportunity to generate significant benefits at low cost, increasing awareness and social responsibility. This can be a particularly valuable first step in site development, where external funding is scarce.

It is important that local people should appreciate instances, where a Natura 2000 site already provides significant economic benefits through ecosystem functions such as maintaining water quality. **Actions to promote understanding about potential direct cost savings**, eg to industry or to the public services, can help to support the designation and management of sites.

Finally there is a continued **need for dialogue and the sharing of successful solutions among EU Member States and Candidate Countries.**

Support for the Candidate Countries to help implement the El Teide Declaration *Natura 2000: a partnership for Nature* is particularly important. It will help to ensure that the unique opportunity to safeguard and benefit from the immense biodiversity in the Candidate Countries is not lost.

The EU commitment is to put in place the necessary measures to ensure that biodiversity loss in an enlarged Union is halted by 2010. This requires concerted action from policy makers, funding agencies and planners working with local community representatives and through local initiatives. With stakeholder dialogue and participation, further efforts to address funding concerns, and cross-sectoral effort, we can be well placed to use the Natura 2000 network to protect our natural heritage whilst, at the same time, turning it into a motor for sustainable development.

1. Introduction

This conference background report illustrates the many and varied socio-economic benefits that can result from Natura 2000 and some of the ways in which these can be realised. The insights stem from a series of case studies from four EU Member States and two Candidate Countries, as well as experiences from many other studies and practitioners involved in nature conservation.

Much is known about the biodiversity benefits of Natura 2000 sites – the particular species, habitats and ecosystems that they encompass. There is also ongoing discussion regarding the management of sites, and the importance of actively involving local actors in and around Natura 2000 sites in their management. Nevertheless, poor information and awareness at the

national and local levels has led in many places to considerable and widespread resistance to designation of Natura 2000 sites. In particular, there has been little discussion of how Natura 2000 can contribute to the sustainable development of local economies and communities.

This situation underlines a need to explore and understand further the full benefits of Natura 2000, as well as the potential trade-offs associated with Natura 2000 designation. In short, the successful establishment of the Natura 2000 network and its integration into the wider socio-economic sphere of the European Union (EU), requires active consideration of the concerns, opportunities and benefits of site designation.

Box 1.1 Natura 2000: the EU's ecological network

The EU has several thousand types of natural habitats, ranging from the plant rich grasslands of England and France to the extensive broadleaf and coniferous forests of Sweden and Germany. These in turn provide habitat for a diversity of plant and animal species, including some of Europe's last populations of large carnivores (eg bear, wolf and lynx). However, habitats and species are facing increasing threats, so much so that half of all mammal species, a third of reptile, fish and bird species, and 3,000 plant species are now endangered.

To tackle this serious biodiversity decline, the EU Member States have adopted two important Directives. The first was the Birds Directive (1979). Recognising the growing urgency of biodiversity loss, EU governments agreed to go beyond the Birds Directive and elaborated

a broader legal instrument for the protection of Europe's most threatened species and habitats: the 1992 Habitats Directive. Together, these Directives establish a European network of protected areas – Natura 2000 – consisting of Special Areas of Conservation (SACs) designated under the Habitats Directive, and Special Protection Areas (SPAs) designated under the Birds Directive.¹ Natura 2000 sites are designated for their European importance for habitats and species and are intended to form a coherent network across the EU, of protected areas which must be maintained at 'favourable conservation status'.

Alongside changes to the EU's other policies, Natura 2000 should make an important contribution to stemming the loss in EU biodiversity by 2010, an objective agreed by European Heads of State in Gothenburg in June 2001, and repeated at the World Summit on Sustainable Development in Johannesburg in 2002.

1.1 Introduction to the Case Studies

The six case studies used to inform this report focused on Natura 2000 sites where WWF National Offices had particular knowledge and where there was a need to get increased stakeholder support and involvement in the process. Some of the case studies offer significant socio-economic benefits; for others, benefits remain primarily ecological. All provide lessons for realising the benefits of the EU network of biodiversity excellence. While six case studies clearly do not suffice to offer a fully representative picture of the range of habitat types and species covered by the entire Natura 2000 network, the studies do reflect a wide variety of ecological, socio-economic and stakeholder situations. The six case studies (see Chapter 3, and separately published case studies) are:

<i>Austria</i>	Steirische Grenzmuur: Border section of Mur River with Gamlitz and Gnas Streams)
<i>Belgium</i>	The Pond Complex of Central-Limburg
<i>Denmark</i>	Lille Vildmose
<i>Estonia</i>	Emajõe Suursoo Mire and Piirissaar Island
<i>Latvia</i>	Ainazi town and its rural territory (ATRT)
<i>Spain</i>	Natural Area of the Rianza River Gorges

1.2 Process for Developing the Case Studies

In developing the six case studies, the WWF National Offices and partners organised local stakeholder dialogues to gain insights into possible ways of realising benefits, and to engage the interest and commitment of the various key actors. Two seminars were organised for each case study, complemented by additional bilateral discussions, interviews and consultation of official databases and institutions.

The discussions helped clarify concerns regarding Natura 2000 designation, and have subsequently allowed constructive discussion on possible strategies in addressing uncertainties. Potential initiatives that would benefit local communities (eg greater income from tourism, local product sales and diverse employment) were also discussed, building on the particular characteristics of the site's ecology, as well as its broader relationship with the local and regional economy. The intention is for the ideas and enthusiasm generated by the discussions to be captured and transformed into innovative solutions to rural and regional development within Natura 2000. In short, the stakeholder dialogue proved, in itself, to be a key step towards realising the benefits of Natura 2000 at the site level.

In practice, stakeholder discussions covered three aspects. They started from the more widely appreciated biodiversity benefits of protecting key sites, such as the benefit of preserving a particular species (eg Griffin Vulture in the Rianza River Gorges, Spain) and habitat or landscape (eg flood plain forests on the Border Mur, Austria/Slovenia). The second aspect concerned economic benefits, which include revenues from tourist visits, sales of local produce, attracting investments or projects related to the site and, where possible, to avoided costs through eco-system services, such as avoided pre-treatment costs for water supply, or flood control contributions. The third aspect concerned social benefits, such as rural population stability (eg Spanish case study), diversification of employment (eg Danish, Austrian, Belgian and Spanish case studies), training and learning, volunteerism and the importance of identity and cultural heritage given the landscape and history.

The results of the case studies and wider enquiry are presented in qualitative, quantitative and sometimes monetary terms, where appropriate and where data is available. While the sites are too few to allow a "grossing up" of site benefits into an assessment of the benefits of the Natura 2000 network as a whole, they nevertheless provide concrete lessons for EU practitioners and stakeholders engaged with the Natura 2000 network.

1.3 Structure of the Report

Chapter 2 presents the key challenges to protecting biodiversity in a "working landscape", but with the aim of using Natura 2000 as a positive motor for sustainable rural and regional development. Chapter 3, the core of this report, examines the benefits of Natura 2000, building on the six case studies, and supported by additional material from existing research. Chapter 4 looks ahead at ways of realising these benefits, complemented by references to additional material that could be of interest to stakeholders wishing to explore issues further. The full case studies are also published separately in their original language and in English.

2. Key Challenges for Natura 2000

There have been significant delays in the establishment of the Natura 2000 network. Often this has been due to Member States being slow to propose complete lists of suitable sites to make up the European network. To date, the only agreed list of sites relates to the Macaronesian region (see map on inside cover) although progress has lately been made for the Alpine, the Atlantic, the Continental and Mediterranean regions; the Alpine list should be published towards the end of 2002, beginning of 2003. The second seminars for the evaluation of the proposals for the Continental and Mediterranean regions are respectively planned for November 2002 and January 2003. Progress in finalising the Boreal lists has been delayed because of a legal challenge in the Finnish courts.

Nevertheless, the Natura 2000 network, including proposed and designated sites, now covers as much as 15 per cent of the EU territory, and the EU is looking forward to making Natura 2000 a reality and a success. In order to do so, a key challenge is to confront the misconceptions about Natura 2000, as well as to address its financial implications, and so to make Natura 2000 central to sustainable rural and regional development within the EU.

2.1 Natura 2000 in the Context of Rural and Regional Development

The EU embraces highly diverse social and economic landscapes, built upon the cultural and social traditions of the 15 Member States and their 250 or so regions. The resulting socio-economic "patchwork" has shaped and been shaped by Europe's natural environment.

The vast majority of Natura 2000 sites are situated in rural areas². The establishment of Natura 2000

consequently implies to a large extent interaction with rural communities, themselves facing a range of social and economic challenges:

- In general, rural areas have a lower economic activity and lesser income diversity than urban areas. The challenge is to address this imbalance, and moreover, to ensure that Natura 2000 is integrated as a core element of an economically viable rural strategy.
- Some rural areas face declining population levels, with the threat of abandonment of farmland and consequent loss of semi-natural habitats. There are also cases of counter-urbanisation, where the population in rural areas is growing. This often corresponds to growth in commuter populations, with residents working outside the area, resulting in a more weakly integrated socio-economic fabric and few links with the land and its management.
- Many rural areas face a reduction in the level and diversity of their labour force³, in part due to the process of intensification and specialisation of agriculture and forestry through over-reliance on subsidies and technological advances. This has led to a reduction in the skill base of regions. In such cases, labour retention needs to be encouraged, and the skill base maintained or improved.
- Rural communities benefit from significant subsidies. However, these may encourage environmental damage (intensification or non-appropriate crops), as well as distance farmers' economic activities from the true market requirements (eg by responding to subsidy incentives rather than market demands). The challenge is to move away from subsidy dependence (eg relinking to local market demands and locally branded products), and to encourage sustainable farming

Box 2.1
Natura 2000: The Specific Challenge
for the Candidate Countries

Agriculture has played a central role in shaping and influencing the European environment in numerous ways; the Central and Eastern European Candidate Countries for EU accession are no exception. The importance of agriculture as an environmental driver is particularly clear in these countries, which contain large areas of high nature value farmland, but also examples of severe pollution and environmental stress. The region is also remarkable for the extent of policy changes that have occurred in recent decades and the further changes entailed in joining the EU.

Despite these trends, the Candidate Countries contain sizeable areas of less disturbed semi-natural habitat and high nature value farming systems, usually associated with more traditional, less intensive forms of production. These semi-natural habitats, including large areas of both wet and dry grasslands, constitute a major conservation resource. Some of the other semi-natural habitats under agricultural management include low

intensity arable land, field margins and traditionally managed permanent crops, such as orchards and olives. However, many of the remaining valuable semi-natural areas are now threatened both by further intensification and at the same time land abandonment due to the changes accompanying the transition of the 1990s. Accession to the EU could exacerbate these problems, unless appropriate measures are taken.

It is estimated that 'hidden' agricultural unemployment in the countries of Central and Eastern Europe is very widespread, affecting at least half of those in agricultural employment – approximately five million people. With high levels of agricultural employment in many countries, particularly Poland, Romania, Bulgaria, Latvia and Lithuania, the alleviation of rural unemployment and hidden agricultural unemployment is a central challenge for rural development policy. Given the scale of the problems, it may be difficult to absorb more than a small fraction of this 'over-employment', whether it is through diversification eg. rural tourism or increased demand for 'environmental services'.

Adapted from IEEP, 2002

practices using agri-environment measures or wider rural development measures.

- Tourism has become a major growth sector for many rural regions, but needs to be managed sustainably such that tourism can provide significant and sustained benefits for local communities, and an important incentive for the long-term conservation of natural and semi-natural rural habitats, species and landscapes. In some regions, tourism is already playing a key role in maintaining rural livelihoods and landscapes. Austria is a prime example, with 15 per cent of its GNP generated from tourism.

EU regional policy has played an important role in encouraging initiatives to reduce the disparities between different parts of the EU, using the Structural and Cohesion Funds. Over the years, there has also been a growing recognition that nature and environment play an important role in the long term development of regions, and increasing funding has consequently been allocated to these ends. In 1999, provisions were made so that the EU Structural Funds could potentially be used to help fund the implementation of Natura 2000⁴. There are also

CAP-related initiatives such as agri-environment measures and other 'Pillar II' funding opportunities⁵ under the Rural Development Regulation (1257/1999) for environmentally sustainable farming.

Against this background, Natura 2000 sites can play a central role in long-term development strategies for often marginal economies facing problems of population decline and either intensification or abandonment. This is the challenge of sustainable development for local economies in and around Natura 2000 sites.

2.2 The Way Forward

As recognised in the 'El Teide' Ministerial Declaration (May 2002) – *Natura 2000: a Partnership for Nature* – important progress is now being made on Natura 2000, with the adoption of the Macaronesian list a landmark in its development. However, there remains an urgent need to finalise the network. Supporting initiatives include promoting awareness and understanding of Natura 2000, supporting the exchange of experience and good practice, and supporting the sustainable use and management of Natura 2000 areas. Together such efforts

should help ensure the maintenance and restoration of existing sites, while also using Natura 2000 as a motor for rural and regional development.

The European Commission and some Member States are supporting initiatives to ensure that Natura 2000 is promoted more widely among stakeholders and that people affected are better informed about its objectives and the opportunities the network offers⁶. Greater emphasis is being placed in particular on communicating the benefits of Natura 2000 to local actors, including within the framework of this IEEP/WWF project and elsewhere. However, more concerted efforts will be needed to get the message across to the full range of stakeholders in the EU and Candidate Countries.

Appropriate management of sites and communication of the social benefits of Natura 2000 will require additional targeted resources, an issue which is being examined by a Working Group established by the European Commission. Estimates suggest that the costs associated with the long-term management of Natura 2000 may be in the region of €3.9 billion per year⁷. There, in principle, is provision for Member States to receive EU co-financing to help cover some of these costs, from, for example, the LIFE instrument, the Structural Funds and the Cohesion Fund, as well as funding from the Rural Development Regulation of the Common Agricultural Policy. However, additional national and EU funding will be needed to ensure sufficient resources are in fact targeted at Natura 2000. A Communication⁸ from the Commission to the Council and the Parliament on financing Natura 2000 is envisaged for 2003.

These efforts have of course to be framed within the context of an enlarging EU. In 2004, ten further countries are set to join the Union, to be followed at a later date by Bulgaria, Romania and Turkey. The new Member States will together make an enormous contribution to the EU's biodiversity assets and it is important that they are supported in their endeavours to designate and manage Natura 2000. If support is not provided, the opportunity to broaden the EU's nature heritage cannot be fully realised, with the risk of incurring irreversible losses.

3. Socio-economic Benefits of Natura 2000

3.1 Introduction

A few high-profile analyses of the economic benefits of natural heritage have been undertaken. Notable among these is the work by Constanza (1997) which estimated the world value for ecosystem services to be \$33 trillion. A 2002 study by Balmford et al (University of Cambridge) stated that conservation activities could help avoid losing around \$5,000 billion annually, at a cost of only \$50 billion per year. The message of these studies is clear: safeguarding our natural heritage is not only of prime importance for its own sake, but it also makes good economic sense.

Natura 2000 sites, selected according to ecological and bio-geographical criteria and thus designed to offer environmental benefits, can also offer numerous socio-economic benefits if they are properly managed and protected. Economic benefits can stem from eco-system services (such as water purification and supply, flood control, erosion limitation), site management (protecting the water table, with due benefits to local agriculture, sustaining species and habitats), the provision of food and timber products, and benefits related to activities on and related to the site (tourism, sales of products). This can lead to significant employment gains, improved community identity and cohesion, as well as other social and wider regional development benefits.

The type and number of potential benefits will depend on the site concerned, but also the successful management of the sites and their integration into the wider local and regional economy. For example, designation of a small wetland area may only require local farmers to adapt their land-use practices to ensure adequate habitat and species management. This can be facilitated by EU funding from the second pillar of the

Common Agricultural Policy such as agri-environment funding, or funding from measures for LFAs (less favoured areas) or areas with environmental restrictions, which may provide economic returns to a select number of farmers. However, the potential benefits of economic development associated with sustainable management of Natura 2000 sites can extend far beyond simple payments to farmers, to include recreational and educational benefits, tourism/leisure receipts and new opportunities to diversify local economies and improve regional competitiveness.

The aim of this chapter is to highlight the range of socio-economic benefits associated with the management of Natura 2000 sites. It will provide an overview of potential benefits, drawing on the experience of the six case study areas, and using experience and evidence gathered from other projects and studies in the EU.

3.2 Ecological and Environmental Benefits

Traditionally, discussions on the benefits of Natura 2000 and other protected areas have focussed on the environmental and ecological benefits of conservation and its landscape value.

Discussions on the benefits of nature conservation have also looked at the ecological services which protected areas provide. These can include providing a quality water resource and groundwater or river recharge, maintaining the water balance, supporting soils (via nutrition retention and erosion control), flood protection and storage, shore line protection, nutrient cycling/storage and pollution abatement or retention, carbon storage, micro-climate stabilisation, the provision of (diverse) habitats for valued species, and the provision of a rich variety of food, timber and other products.

The ecological and environmental benefits of Natura 2000 are demonstrated by the six case studies (see Box 3.1). In turn, these benefits generate the potential for a range of socio-economic benefits and indeed contribute to the delivery of other policy, such as the implementation of the EU Water Framework Directive.

Box 3.1
Ecological and Environmental Benefits
Demonstrated by the Six Case Studies

AUSTRIA: Steirische Grenzmuur mit Gamlitzbach und Gnasbach (Border section of the Mur River with the Gamlitz and Gnas Streams in Styria)

The 1,000 km floodplain corridor of the Border Mur are extremely important for the water resources of the whole region, particularly in terms of flood protection and the long-term security of ground water resources for drinking water and agriculture. It hosts the second largest softwood forest in Austria (Alluvial forest with alder and ash – priority habitat of Annex 1 of the Habitats Directive), which functions as an important breeding ground, feeding habitat and transit area for numerous protected species, including 13 bird species from Annex I of the Birds Directive and 26 animal species listed in Annex II of the Habitats Directive. The floodplains of the River Mur also have several important ecological service functions, including hydrological and local climate benefits (micro climates become more humid as water tables rise, with benefits for local agriculture).

BELGIUM: The pond Complex of Central-Limburg

The site is the most important pond complex in Belgium, and is a wintering, breeding and feeding area for several bird species, such as the Bittern, Little Bittern, Bluethroat and Marsh Harrier. The site is also home to three animal and one plant species listed in Annex II of the Habitats Directive, four species of amphibians protected under Annex IV of the Habitats Directive, and 11 bird species protected under Annex I of the Birds Directive. Initiatives on the site have already led to increased sightings of several bird species and the “rediscovery” of the tree frog.

DENMARK: Lille Vildmose

The Lille Vildmose combines a raised active peat bog (the largest remaining in Denmark) and two forests with

3.3 Socio-Economic Benefits

Socio-economic benefits discussions invariably focus on employment benefits as a key indicator of the scale of benefits as well as increased income, usually focusing on tourism spend and investment from outside the local area. These are often packaged together within rural,

a high component of broadleaf species, with good populations of Red Deer, and the larger forest holding the only population of Wild Boar in Denmark. The habitats include natural dystrophic lakes and ponds, European dry heaths, Juniper commnis formations on heaths or calcaeruous grasslands, semi-natural dry grassland, beech and alluvial forests. The raised peat bogs are a significant carbon store.

SPAIN: Riaza River Gorges

The Riaza River Gorges include more than 22 km of spectacular gorges and ravines that represent a very interesting geological formation. The site is home to several birds of prey, including the largest colony of Griffin vultures in Europe, Egyptian vultures, Peregrine falcons and Golden eagles. The area includes good areas of endemic Juniperus forest and other types of forests and it is the home of endangered species like the otter, the Pyrenean muskrat and different species of bats.

ESTONIA: Emajõe Suursoo Mire and Piirissaar Island

The site is internationally important for migrating waterfowl and as a breeding area for many rare and threatened birds and mammals. It is also an important spawning area for fish and the habitat for several rare amphibians. The large wetland holds enormous quantities of pure water and absorbs a large amount of sediment, including pollutants. The protected wetland area mitigates the effects of nutrient run-off from the River Emajõgi to Lake Peipsi. The complex mix of peatlands, fens, swamps, forests, bogs etc, controls the effect of annual flooding.

LATVIA: Ainazi town and its rural territory

The River Salaca has the fourth biggest wild Atlantic salmon spawning population in the Baltic Sea area, and is home to several other species covered under the Birds and Habitats Directives. The waters provide high self-purification capacity and ensure a high water quality, despite being located next to some small towns which discharge their domestic waste-water into the river.

regional or sustainable development discussions, where issues of diversity of employment and economic activity, social development and engagement, awareness and scientific learning are integrated. Often forgotten or taken for granted are the benefits of the ecosystem services that a site offers, which can also produce real economic returns.

It is also important to underline that the socio-economic benefits derived from a site are not limited to the site itself but spread throughout the local and regional economy, partly due to the fact that there is direct expenditure en route to or from a site, in addition to the fact that money spent at a site flows around the local economy, offering 'multiplier benefits'⁹. Incomes earned in the local area will inevitably benefit the wider region through the purchase of goods and services. A Natura 2000 site is therefore much more than just a site that protects species and habitats, but one that plays, or can play, an integral role in the development of the local community and region.

For example, the presence of a Natura 2000 site can act as a pull into a region for tourists and other businesses, thus creating inward investment. This can have knock-on effects as tourists visit other attractions in the vicinity or purchase local produce which supports traditional economic activities of cultural importance. New businesses may be attracted due to new opportunities from tourism or products (for example a new retailer or processor), or because of the strong locational quality of the area enhanced by the Natura 2000 site. Ecological services, such as a clean water supply or a 'green lung' for nearby urban populations, can also offer economic and health benefits for businesses and their employees. Businesses, unrelated to the direct use of a site's assets, may also be attracted due to the area's natural beauty and appeal as a place to live. This can be particularly true of businesses which have no strong locational demands (eg no need to be in close proximity to industrial or government centres).

From the sustainable development of Natura 2000 sites, based upon nature management and associated promotional and marketing opportunities, regions can also benefit from the diversification of the rural economy away from a strong dependence on agriculture, which is likely to face significant challenges in the next few years. By broadening economic activity to include nature conservation, tourism, new and traditional products and services, the region will be better placed to cope with future change and will therefore be more sustainable in the long term. Diversification and the provision of new

employment opportunities is also vital for sustaining the rural population and the services which support it, such as education, health care and public transport. In addition to economic benefit, there can also be social benefits from increased awareness, education, the development of new skills, preserved traditional skills, a sense of identity linked to the landscape, engagement in social networks (eg volunteers) and more stable populations among local communities. These factors can keep rural society dynamic and with the potential to address future challenges

The variety of socio-economic benefits is detailed below. We begin by describing overall economic benefits, including employment benefits, then funding, tourism and product benefits which can help to generate new jobs. This is followed by a discussion of social benefits (see Section 3.5).

3.4 Economic Benefits

As mentioned previously, a global economic valuation figure of \$33 trillion for ecosystem services for the world has been calculated (Constanza et al 1997). There has been no equivalent study at the EU level. Indeed, most EU studies on socio-economic benefits have focused on narrower and more concrete economic values for particular local areas – covering items such as investment, tourism receipts, product sales etc, i.e. values that actually relate to economic transactions in the economy.

Ecosystem benefits can include benefits from avoided costs – such as the avoidance of treatment costs for water that is protected through nature management (see Box 3.2), and the benefit of water availability, reduced soil erosion, reduced healthcare costs via the provision of

Box 3.2 Water Supply and Avoided Pre-treatment Costs

It was estimated that it would cost between \$6-8 billion to construct water treatment facilities in New York City that would perform the same function as the natural woodlands on the city's watershed. However, by spending \$1.5 billion, New York will be able to preserve the watershed forests and forego new construction. In this case, the value of the ecosystem service is in the range of \$4.5 to 6.5 billion. Wall (2002)

clean air, or amenity benefits by providing access to high quality nature and landscape. These kinds of value have to be calculated or assessed indirectly, as the market itself does not directly provide prices for them. In the EU there have been far fewer calculations of this type of benefit than for the benefits of addressing pollution (see ECOTEC, 2001a).

Within the six socio-economic case studies developed for the current project, the focus has been to explore what type of benefits or opportunities for benefits there are, and how the opportunities for benefits can best be realised by the local community and stakeholders. While this 'bottom-up' approach does not give quantified results for economic and social benefits in billions of EUR or multiples of GDP, the messages are clear:

- A significant number of jobs can be supported in local areas through Natura 2000 related activities;
- Natura 2000 sites can often be a key tourist attraction, helping bring in external funding and supporting diversification of local economies;
- The local community can benefit from often significant levels of investment into the Natura 2000 site directly, and indirectly through supporting activities; and
- The community can benefit significantly from the provision of ecosystem services such as supply of quality water and flood control.

These messages are also supported by examples from research at a broader scale, as follows.

- It has been estimated that around 125,000 jobs were supported in the EU through nature protection related activities in 1999; around 100,000 are direct jobs and 25,000 indirect, with around two thirds of the direct jobs relating to operational expenditure and one third relating to investments (ECOTEC, 2001b). This study estimates that in France and Spain this industry employs around 25,000 and 16,000 people respectively¹⁰.
- The 'value-added' of nature protection related activities was estimated at €3.84bn in 1999, or just over 10% of the total value of EU resource management (which also includes water supply and the value of recycled materials). However, this figure does not include reduced water supply costs or broader ecosystem service benefits.
- A study commissioned by the Scottish Parliament (2002) concluded: "Tourism activities are making increasingly important economic contributions to rural

areas. Key growth sectors in global tourism include nature based tourism. In Scotland walking and cycling contribute £438m of expenditure. Archaeology and wildlife tourism are growing niche markets. 90% of visitors associated Scotland with beautiful scenery and 65% with 'interesting history and culture'. The development of two Scottish National Parks presents new challenges and opportunities for the local tourism sectors."

- The importance of tourism in the Candidate Countries is also growing. There were, for example, 1.78 million visitors to the Sumava National Park in the Czech Republic in 1999, more than double the 1992 level.

These points underline the importance of the natural heritage and its value for tourist-related economic benefits, in particular. However, more broadly, nature is increasingly recognised as an important sector of European economies which offers a range of opportunities for further growth and diversification. Furthermore, the economic and social benefit of each Natura 2000 site will depend on the site's particular characteristics and opportunities, its policy context (EU, national, regional and local), and the potential for stakeholder engagement and related actions. The following sections on benefits therefore include both 'overview' figures for particular sectors or areas, and site-specific figures, to give a flavour of how these may vary.

Insights into how further opportunities can be realised are discussed in Chapter 4.

Employment

100,000 jobs are directly supported in the nature sector in the EU (ECOTEC, 2001b). This makes it an important sector of the economy. Direct employment opportunities include jobs directly associated with sites such as wardens, conservation project officers, education officers, and those carrying out site management, protection and improvement activities. They also can include employment in on-site agriculture and other land-based production, fishing and fish farming, and direct employment in the provision of on-site services such as hotels and guesthouses, restaurants, tours and guides, training and awareness and research.

The level of direct employment varies across countries, and across sites. Direct employment clearly depends on the nature, activities and size of the site. It also importantly depends on the level of linkage with local and regional economic and tourist planning and the initiatives of local stakeholders to realise the

opportunities inherent in the site, given its local and regional context.

There is also additional employment more indirectly linked to the site. It is important to note that for each 3 to 5 Full-Time-Equivalent (FTE)¹¹ jobs created directly by Natura 2000 site related activities, an additional job is created by the impact of the revenue from site related activities (the multiplier effect, see Box 3.3). In addition, where the site is the prime reason for a tourist visit, one job for site-related activities can support 4–6 additional jobs through tourist expenditure in the form of travel, accommodation or shopping en route. In other words, where one job is created directly related to the site, additional employment benefits accrue.

Tourism associated with nature conservation can also have the added benefit of extending the traditional tourism season, and consequently extending seasonal jobs and income. In the Isles of Scilly, the tourism season is extended into October as birdwatchers visit the area to see migrational birds (Rayment, 1997).

The figures below show that these effects are not insignificant.

- In the UK more than 10,000 FTE jobs were supported by the nature conservation sector (Rayment, 1995). Subsequent research carried out on behalf of the National Trust estimated that conservation spending in the South West of England alone supported 6,421 direct and indirect FTE jobs in 1997. (Rayment and Dickie, 2001).
- In Denmark, a study indicated that investment in nature conservation schemes, including habitat restoration, woodland and hedgerow planting and environmentally sensitive management of parks, woodlands and nature reserves, would generate 500 FTE jobs. Annual revenue costs would support a further 2300 FTE jobs (Broom et al, 1999).
- The conservation management of reed beds provides nature, water management, recreational, financial and employment benefits. In the UK it is estimated to support up to 90 FTE jobs and with additional contract work, is valued at £4million per year (€6.5million). Furthermore, the commercial harvesting of reeds from these areas provides additional employment and income benefits (Rayment and Dickie, 2001).

Box 3.3 Indirect Employment and the 'Multiplier Effect'

Employment benefits do not stop at the site's boundaries. For every FTE direct job there are a number of indirect jobs created or supported elsewhere. This includes supplier industries, for example a company that provides marketing services for locally produced goods, or laundry services for local hotels. Employment gains may also be achieved as wages of those employed directly and indirectly are spent in the local economy, thus supporting/inducing more jobs. Furthermore, tourist receipts recycle through the economy, having a positive impact on local and regional employment. These knock-on effects are termed the 'multiplier effect'.

Several studies have been carried out to calculate the value of the multiplier effect. Halhead (1987), for example, used a multiplier of between 1.2 and 1.25 to estimate that in the Highlands of Scotland, in addition to the 305 direct FTE jobs created from expenditure from conservation organisations, a further 60 to 77 FTE

jobs depended on this expenditure. Other studies have used a multiplier of between 1.5 and 1.75 to calculate the knock-on effects.

The multiplier used varies depending on the size of the area. Generally, smaller areas tend to suffer from more leakage of benefits outside of the area, and consequently have a smaller multiplier effect. Larger areas, on the other hand, tend to have more locally sourced products and services and so are able to retain a greater proportion of the benefits within the area. Geographical remoteness also has an impact on the multiplier effect. In island economies, for example, the multiplier is higher as their remoteness tends to make them more self sufficient (McNickoll, 1991)

The economic multiplier effect is complemented by the issue of expenditure multiplier – the ratio of the expenditure in on-site activities to the total tourist expenditure (including travel, hotels, purchases on route). This ratio is generally estimated to be of the order of 4 to 6 times – in other words for each Euro spent on site, between 4 to 6 Euros are spent en route (Rayment 1995). This distinction is important for any in-depth economic analysis.

- Woodland management schemes on protected sites can have huge potential for local employment creation. Where existing under-managed woodland is targeted this can also protect habitats and prevent jobs being displaced from other land uses (both of which can result from the planting of new woodland). Rayment (1997) referred to the potential benefits of the restoration and management of hazel coppice in the Wessex area of southern England. It was estimated that 500 jobs could be created in the area by restoring 6400 ha of derelict coppice, and up to an additional 1500 jobs created in the wider region through multiplier effects.

Examples from the case study areas echo some of these findings.

- The Central Limburg Pond Complex case study (Belgium) estimates that the total employment benefit from on-site activities is approximately 50 to 60 full time equivalent jobs (FTE). Taking into account the off-site employment linked to the site, the total employment is estimated at 65 to 85 FTE. The site also offers an innovative venue for reintegrating the long-term unemployed; the regional government offers a subsidy for the long-term unemployed to work on site activities (eg putting up fences, cutting trees).
- In the Lille Vildmose case study (Denmark), it was estimated that if all Natura 2000 related opportunities are realised, 100 more FTE jobs could be supported than would be the case with a designated site where no initiatives were taken.

The conclusion from the Danish case study is important to underline – designation itself will not automatically lead to benefits: these require pro-active local initiative and support by broader policy makers (See chapter 4).

Investment and External Funding

The sites' management and development can be supported by local funds, local investments, regional and national funds and investment, and EU programme funds. Designation as a Natura 2000 site can be an important driver and key to access (EU) funds and to give Member States confidence that investments are worthwhile – and not just because of co-financing requirements.

Such investments can include visitor related facilities such as centres which can promote awareness and encourage tourism; walking and cycle paths, and related investment in the supply of goods and services such as local

products, hotels, and guided tours. These are all related to local amenity or attracting outside interest in a site. At the other end of the scale are the investments in intrinsic site functions – the core aim of nature investments – which include site management, protection and improvement or restoration works. These can promote wider economic benefits via ecosystem functions, for example addressing the water table, so that floodplain forest, now threatened, can be sustained (Austrian case). This will have benefits not just for the site, but it will also provide clean water, greater ease of access to water (supplying a higher water table for farmers in surrounding areas), increased carbon sequestration, and enhanced flood control.

At the local or site level, being able to attract investment from the outside is a real benefit. Without external funding, key conservation initiatives might not be launched and site integrity may be lost, leading to irreversible damage. This is, arguably, particularly important for some Candidate Countries facing significant limitations on investment budgets and fierce competition for funds between all sectors of the economy.

Examples of investment benefits:

- In Denmark, investment in nature conservation schemes, including habitat restoration, woodland and hedgerow planting and environmentally sensitive management of parks, woodlands and nature reserves was estimated to bring in around €2billion over 15 years, and additional operating expenditure generated by this investment was worth an estimated €100 million a year.
- In the South West of England, it was estimated that investment spending on nature conservation activity amounted to around £245 million (around €400 million) in 1997.

National funding can be complemented by EU programme funding. Assistance with rural development and nature conservation is provided through several EU funding mechanisms, including LIFE, INTERREG¹², LEADER, the Structural Funds, the Cohesion Fund, and the CAP second pillar Rural Development Regulation (RDR). More limited funds are also available from SAPARD and PHARE in Candidate Countries. In some cases (eg LIFE-Nature funding), a site has to be designated as Natura 2000 to have access, in others the existence of a Natura 2000 designation may facilitate selection or can be used to emphasise the broader benefits of investment.

From the Natura 2000 case study examples:

- *Riaza River Gorges, Spain*: €900,000 has been awarded from the LIFE and LEADER II programmes to the site itself, plus an additional €7,745,167 in the wider *comarca* region from LEADER II, ERDF and EAGGF. An additional €230,000 has been invested in training and educational activities, much of which was subsidised by the European Social Fund (ESF). The National Ministry also invested €1,490,588. The aid has mainly supported projects in rural tourism, craftsmanship, the restructuring of farm and forestry production, advisory services for local small businesses, and conservation and improvement of the natural environment. This is a good example of how different funding sources can be combined.
- *The Pond Complex of Central-Limburg, Belgium*: Thanks to the Natura 2000 proposed designation of the site, the nature conservation NGOs obtained LIFE-Nature funding (€1,119,000) for the rehabilitation of the site (land purchase and management). Furthermore, the Flemish nature conservation administration invested around €2.5 million in two nature reserves within the Natura 2000 site. Finally, ERDF investment allowed a hydrological study (of water level, quality and flows) to be carried out, facilitating future sustainable management of the site. In total more than €3,725,000 was invested in nature conservation in the area during the period 1997-2002.
- *Steirische Grenzmur mit Gamlitzbach und Gnasbach (Border section of the Mur River with the Gamlitz and Gnas Streams in Styria), Austria*: A €2.6 million INTERREG Ila project has already been successfully concluded on the River Mur – the ‘living space – Lower Mur Valley’ project, supporting 17 individual projects in a variety of scientific disciplines (habitat and use mapping, forest mapping, open space use, fish ecology research, etc.). This has set the basis for the first implementation measures – to be financed as part of a follow-up project under INTERREG IIIa: *Lower Mur Valley Action*. A further €3.2 million has been obtained, funding actions in the alluvial forest along the Grenzmur and structural alterations to the River Mur (widening of the riverbed and structural improvements) and on its affluents and adjoining waters. In addition, €400,000 has been made available in order to prepare a management plan and the initial implementation measures for Natura 2000. The basic arrangements and measures to restore ecological function to the river and the floodplain forest – to secure the long-term preservation of the site – were

drawn up in close co-operation with project partners in Slovenia, without whom national efforts at supporting the integrity of the site would be compromised. This underlines the need for cross-border co-operation.

- *Ainazi town and its rural territory, Latvia*: Funding from Phare, the United Nations Development Programme Global Environment Facility and from the Dutch government have been made available to support investment and measures in the nature site. This offers a valuable example to other sites in Candidate Countries that are struggling to obtain the required funds to make investments and ensure effective management.

While there are a number of funding sources, many local stakeholders are not aware of them (eg as was found in the case of the Estonia land maintenance support scheme). Sometimes they lack the capacity to apply for certain funds (eg as with the local community in the Riaza River Gorges, in Spain). It is therefore important to address these awareness and capacity issues to ensure that available funds are used effectively. This can be done nationally, or by EU-funded support initiatives (eg books and other literature and events have been funded, including this project), as well as by NGO networks that provide an important capacity building function, and enabling resource for nature conservation in Europe.

Natura 2000 faces important national and EU financing challenges, such as the requirement for Member State cofinancing of EU regional development funds, and the appropriate reform of the CAP to enable a real increase in the second pillar, to support actions including nature protection and management. Pillar II of the CAP, the Rural Development Regulation (RDR) notably includes agri-environment schemes that can support Natura 2000 by providing regular management payments to farmers for following sensitive practices, as well as other opportunities to promote enhanced site planning, investment and management. If the reform of the CAP enables the expansion of the RDR and explicitly supports its use for Natura 2000, this will offer an important signal to communities in rural areas in and around Natura 2000 sites. Under these circumstances it should be increasingly possible to obtain EU support for sustainable land management practices. This offers a long term potential support for the Natura 2000 case study sites in Spain, Austria and Belgium, hopefully complemented by separate initiatives for branded local products that can obtain an eco-label. In turn, such developments might make Natura sites a positive magnet for RDR funding as it develops.

Even with EU co-financing, investments in Natura 2000 sites will be difficult to achieve in some countries. The forthcoming report of the Article 8 Working Group, which will include an estimation of the budget needed for Natura 2000 management, should help to clarify what can most constructively be done.

Finally, enlargement of the EU to include ten new Member States in 2004 will no doubt put additional emphasis on the need to identify alternative, enhanced or additional sources of income for Natura 2000 – some coming from new grants or subsidies, others coming from own activities and site related income.

Tourism

Sustainable tourism activities are compatible with the management of most Natura 2000 areas. Tourism can generate jobs and income for the local area (as well as leading to an increase in visitors' awareness and knowledge of nature, see section 3.5). In many cases the secondary employment opportunities from tourism have a much greater economic impact (per Euro spent on site) than the benefits of site management itself, given the tourist spending en route to site and other external activities (hotels, transport, meals, other goods and services). Typical estimates suggest that conservation supports 4-6 times as many jobs by attracting visitors to rural areas than it employs directly (Rayment, 1995). This estimate will of course vary depending on several factors, including the site's location and its accessibility. For example, accommodation type is a significant factor: locally owned hotels generate more financial benefits per visitor than externally owned hotels which cause more leakage of revenues away from the area. It is important to remember, however, that not all sites may be suitable for tourism, particularly those which are more ecologically fragile.

Examples showing the importance of tourism include:

- A Special Protection Area (SPA) on Germany's Baltic coast (Vorpommersche Boddenlandschaft), for instance, provided 67 full-time jobs in 1996, and visitor numbers increased from 1.6 million in 1992 to 2.2 million in 1995. As a result, tourism was estimated to account for 80 percent of the district's GDP (Cuff and Rayment, 1997).
- In the South East region of the UK, the New Forest Special Area of Conservation (SAC) is a complex matrix of habitats, rare and fragmented (including three 'priority' habitats), which is supported by a pastoral economy and tourism through high recreational usage

of approximately 17 million recreational visits a year. Tourism is the largest employer of local people and generates £100 million per annum. The potentially negative impacts of recreation on the habitats of the protected area (eg habitat loss, erosion) are tackled by a LIFE-nature project involving the local population and raising awareness throughout the area, including among the tourist sector (Ecotec, 2001a).

- In Prespa, a Greek national park and SPA, ecotourism has developed on the conservation site. Two information centres have been developed which are run by trained wildlife guides. More than 13,000 visitors were received in 1995, spread over the year and so extending the traditional tourist season. Around a third of visitors were students, reflecting the centre's educational role. Young people from local communities benefit from training in environmental management and ecotourism, and the centres are also actively involved in awareness raising in the local area.
- In the UK, the Isle of Purbeck contains several Natura 2000 sites with rare species. With 4.3 million visitors per year, tourism accounts for 14% of the county's annual income. The local authorities have set up a strategy involving local populations to reduce the impact of traffic on the ecosystems.

Natura 2000 sites can offer broad attractions to tourists and hence local attributes and activities can benefit a much broader, often international population. In addition, sites offer supplementary income opportunities – eg in Prespa (Greece), the growing tourism industry provides valuable supplementary income to farmers in a remote rural area. This has led to the additional benefit of rural population retention and added impetus for 'wildlife friendly' agricultural management practices (Cuff and Rayment, 1997).

All the case study Natura 2000 sites can generate associated tourism spending. Depending on the site and the local/regional economy and activities, there is the possibility of attracting new visitors to the site and region, or encouraging tourists already in the region to visit the site, and for tourists already on the site to spend more (eg on newly available products or services). There is significant potential to attract tourists already in the Austrian Mur region, given thermal bath tourism, to add a day for cycling and guided tour of the Natura 2000 site. Similarly, there is an opportunity for tourists at Belgium's Terlaemen (Zolder) race-circuit or businessmen having meetings at Bolderberg, to complement their visit with a nature walk at the nearby Central Limburg Pond-

Complex. Interestingly, attracting tourists from other sites can be positive for both sites as it can in some cases reduce tourist pressure in heavily visited sites, (Natural Park of the Duraton River Gorges, Spain). Clearly, such sustainability considerations need to be incorporated into tourism development plans (see European Commission, 2000). Existing tourists can spend more where there are appropriate products (see next point) or services (cycling in Austria, guided walks in Spain and Belgium, hotels, restaurants in Denmark).

- In Spain, the site visitors to the Montego Refuge grew by a factor of 3 over three years, and the accommodation infrastructure in the *comarca* grew from 5 to 11 hotels/hostels, supporting the diversity of employment in the region. There is positive feedback between demand and supply.
- In Latvia, a survey underlined that 99% of the local population are interested in supplying tourists with goods (local products) and/or services (hotel/bed and breakfast), and are simply awaiting tourism to increase. Once there is recognition of the site, and recognition of the availability of appropriate goods and services, one can expect a rapid development of the market, and diversification of the local economy, activities and income sources – ideally within a sustainable tourism and development framework.

Products and Logos

There are numerous examples within the EU where economic benefits are being gained from products of nature conservation sites. Several studies have highlighted that consumers are willing to pay for products which have a particular identity, history or story attached. This is particularly the case when products are branded and marketed to be associated directly with the area. Examples of this include ‘Vildmose potatoes’ in Denmark, ‘Salt from the Laessoe’ and vodka with bisongrass from Poland (Dissing, 2002b), pumpkin oil from the Mur region in Austria and Piirissaar Island onions from Estonia. Branding the area can increase the benefits to the wider region.

The ‘brand’ can act as a hinge for tourism marketing and the sale of locally produced goods. The French regional parks, for example, have a label for products (Marque label, Parcs Naturels Régionaux), which is directly associated with the image of the landscapes of designated areas of environmental value. The aim is to build a mutually beneficial relationship between producers and the parks, whilst promoting traditional

and environmentally sensitive products and raising awareness of the parks (Morris et al, 2001). In addition, a logo can be of greater regional development benefit: the bear symbol of the Abruzzo national park in the Italian Apennine mountains has become part of the logo not just of the park, but also for a local bank, and has become a symbol of new regional development following a period as a semi-abandoned rural area.

The potential to develop these practices further was identified in several of the case studies. For example, in the Spanish case study area, the new mayor of the region commented that ‘local products, with a stamp of origin and quality, should be produced and promoted’. The Natura 2000 logo may offer a valuable opportunity to brand regions, complementing the specific local brand underlining the particular local quality. This would offer a common EU-wide recognisable natural heritage logo. This is already starting to be pursued as part of a branding strategy in several countries to attract tourism, inward investment, product sales, and a greater recognition and pride in the importance of the site.

3.5 Social Benefits

Social benefits cover a range of benefits including: employment opportunities and diversification as noted earlier; the benefits of greater economic health and improved living conditions; improved social fabric and relations; formal and informal networks and civic responsibility; culture and (cultural) heritage which includes values and engaged responsibility; awareness, education and knowledge; and entertainment, pleasure, and quality of life. Natura 2000 sites can contribute to each of these. It is therefore valuable to examine how this may be achieved.

In order for nature conservation sites to provide social benefits, the potential social functions of the site need to be realised, and this can require pro-active initiative by stakeholders and policy makers. Amenity/leisure value and health benefits of the site will only be significant if the site is used, and initiatives may be needed to engage potential volunteer networks and develop other formal and informal networks; for example providing guides and information (centres, posters, documentation) to ensure that the awareness raising and education benefits are realised.

Social ‘use’ values of sites can be complemented by broader societal benefits including the ‘option’ value of the site (ensuring that the site is still there to ‘use’ if they choose to do so); the benefit of keeping the site for

future generations ('bequest' value); and the 'intrinsic' value of the site. There is also the 'composite' benefit of developing the opportunities inherent in a Natura 2000 site – namely that of offering a sustainable future for the community, through the due protection and development of the inter-related social, economic, and environmental aspects and requirements of a community. This is vital for the local community, and for any country wishing to preserve its rural communities.

Amenity/Leisure and Health Value

Natura 2000 sites can provide leisure for the local population and visitors alike. In its simplest form this is enjoying the site in its natural state, but it can include activities such as walking (eg Belgium), cycling (eg Austria), horse-riding and water-based activities, whether boating, rafting or fishing (eg Latvia). The potential to promote and develop these different activities in Natura 2000 sites or in relation to them, should be fully taken into consideration in the development of management plans. In the Belgian case study, for example, the site has a network of cycle routes and nature trails, and a network of horse-riding trails is currently being developed. Interestingly, the famous Belgian marathon runner Marleen Renders trains almost daily on the site. In Denmark, access and proximity to the site supports the quality of life for local people, as well as attracting more people to move into the area. The Austrian case study shows that the landscape and nature resource of the Border Mur forms the basis for a growing tourism based on hot springs and cycling.

Through Natura 2000 designation it can be ensured that the natural values of the area are conserved. Where they are close to settlements and/or urban centres, such sites not only ensure an attractive and desirable place to live, but can provide valuable leisure opportunities for non-residents, particularly those seeking an 'escape' from urban living. Research into the psychological effects of nature has shown that contact with nature is good for the mind. There are also physiological benefits of nature, including stress reduction, respiratory health and the promotion of exercise (English Nature, 2002).

Natural environments provide attractive living areas, which in itself can have many benefits. By making a place more attractive to live in it is more likely that a larger population can sustain vital local facilities and services: health, education, transport and local shops. The desirability of the area can also result in increased property values. In Denmark, houses in natural environments, when compared to similar houses elsewhere, sell for a 25

percent higher price (Dissing, 2002b). This is particularly true where they are located within 30-45 minutes of an urban centre (eg Danish Lille Vildmose site).

A study on the quality of natural heritage jobs in Scotland, found that such jobs encouraged retention of the rural population and helped to diversify the local economy. It was also thought that it created a positive identity for the area and contributed to community life (RSK ERA Ltd, 2001).

Promoting Natural and Cultural Heritage

The landscape of the sites is often of particular value for amenity, and as part of the cultural heritage of the area (eg Austrian flood plains). The site history, landscape, and particular habitats and species can be an integral part of the identity of the region, and facilitate appropriate stewardship of resources. This can be a helpful basis for 'branding' and sustaining traditional management practices (skill retention) as well as being a social and community benefit in its own right (strengthening a sense of place and civic pride). The history of Lille Vildmose in Denmark, with its historic peat extraction for heat production, which employed much of the neighbourhood in the early parts of the 20th century, is a key aspect of the region's history. Stakeholder discussions explored the value of building on the local small peat train, which could be of significant value for tourism if put back into service.

Volunteer Networks and Other Formal/Informal Networks

Volunteer programmes centred on nature conservation sites have two main benefits. Firstly, with new sites it is sometimes the case that the skills needed are not available in the local economy, and this skills gap can be closed through volunteering. Secondly, volunteering has the wider benefit of enabling local people to engage more with their local environment, thus encouraging an increased sense of ownership and hence stewardship.

Volunteering, regardless of sector, is also recognised as being a valuable capacity building tool for local communities, promoting confidence building, team work, local participation in the wider community, and other social skills.

Many designated nature conservation sites have established volunteering programmes. In the Spanish case study area, for example, more than 500 WWF/Adena volunteers have participated in voluntary activities, including reforestation work, supporting

rangers and providing information to visitors. In the Belgian case study, volunteers offer a valuable support in the process of monitoring species. Furthermore, In the Latvian case study area there is a more formal network of volunteers, through an established association of local communities for the management of the River Salaca. Volunteers and members of local fishing clubs supervise spawning areas to prevent illegal fishing of wild salmon.

More broadly, formal and informal networks comprising site representatives, NGOs, policy makers and broader stakeholder representatives can be very effective, for example in addressing capacity gaps in finding funding (NGOs have proven very helpful here), and in exploring realistic solutions to conflicts (eg through clarifying land-use possibilities).

Knowledge/Scientific Value

Nature conservation sites provide invaluable resources for science and scientific research. Habitats and species are constantly used in scientific research. They act as a 'library of biological information' enabling us, among other things, to understand the origins of life and landforms, evolutionary processes and periods of major extinction (English Nature, 2002). They can also allow scientific advances which benefit mankind, most notably through medical developments. For example, insects are a major source for pharmaceutical product development, such as water beetles that produce large quantities of hormone analogues which can be used as hormone substitutes.

Research into nature conservation is an important aspect of the Sixth Environmental Action Plan (6EAP). The consultation on 6EAP noted that "for many commentators, closing the knowledge gap – improving the process of identifying and addressing the gaps in our basic knowledge of many of the environmental issues – had to be a major priority. For a number of environmental issues we suffer a significant knowledge gap that hinders the elaboration of good policy and meaningful targets and indicators. Examples include chemicals, soil degradation, and biodiversity¹³."

Certain sites also offer important social research opportunities. For example Estonia's Emajõe Suursoo Mire and Piiressaar Island region is of special interest for ethnologists as the population on Piiressaar Island forms one of the most complex "Old Believers" communities. The community has been living on the island for more than 200 years without mixing with the Estonian population. At the moment 50 out of 60 permanent inhabitants are Old Believers.

Educational Opportunities

Natura 2000 sites also provide important resources for education. Many sites are involved in awareness raising regarding environmental issues related to the site and its habitats and species, either as part of general activities or through special events, such as "Green Days"¹⁴. This typically includes school visits, workshops, exhibitions and tailored courses as well as information provision for tourists and guided visits. Sites are also often study areas for specialist scientific and ecological education.

In the Spanish case study area, €230,000 has been invested in training, much of which was subsidised by the European Social Fund (ESF). Locally run courses, including the management of information centres, voluntary work and environmental education, have been delivered. In addition, there are various awareness raising activities targeted at the local population, and school visits. In total, 1,300 local people have been involved.

In the Ainazi town and its rural territory site training materials for children and students have been produced. These include books, a web page, a film and an interactive exhibition that looks at the life-cycle of caddis flies and introduces visitors to aquatic processes. There are also regular outdoor activities for local schools, and an annual course for the University of Latvia on coastal and aquatic issues.

Finally, the site supports a scheme for minor offenders, in which social learning and on-site activities serve as an alternative to punishment. Similarly the Belgian Limburg Pond Complex Natura 2000 site, benefits from minor offenders being sent to carry out 'nature service' activities, much as other countries require minor offenders to carry out work for the local community as a constructive approach to punishment.

3.6 Synthesis

The above summary underlines the range of economic and social benefits from nature protection and Natura 2000 in particular. The benefits overall are very significant. In terms of jobs, the current estimate is 125,000 FTE (paid) jobs in the EU; in terms of economic investment and the value added of the sector, this translates into billions of Euro. It must be remembered that these figures do not include the value of ecosystem services provided by Natura 2000 sites, nor do they take account of the social and cultural benefits that they provide.

The challenge is to ensure that all of these benefits, not just quantifiable ones, are appreciated, protected and

indeed built upon, so that Natura 2000 can realise its full potential to support sustainable local and regional development.

3.7 Case Studies

This section presents short summaries of each of the six case studies used to underpin this report. All six studies relate to typical sites, offering examples of issues, opportunities and barriers to realising the socio-economic benefits of Natura 2000. They also demonstrate how site managers in the EU and Candidate Countries can address these barriers.

The case studies do not seek to 'sell' Natura 2000 on the basis of its socio-economic benefits, but rather to communicate key insights into realising these benefits. The aim is to encourage site managers and local stakeholders to actively develop and launch initiatives to build on the opportunities inherent in their local Natura 2000 site.

From a strategic policy perspective, they offer less quantitative information on many of the benefits than might initially have been expected. In practice, many stakeholders attach greater priority to developing strategies to make the most of site designation, than to quantifying potential benefits in financial terms. The case studies were drafted accordingly.

CASE STUDY 1 • AUSTRIA

Steirische Grenzmur mit Gamlitzbach und Gnasbach (Border section of the Mur River with the Gamlitz and Gnas Streams in Styria)

THE SITE

The Natura 2000 site, "Steirische Grenzmur mit Gamlitzbach und Gnasbach" in the lower Mur valley (Steiermark (Styria)/Austria). This is the start of a 1000 km, unique floodplain corridor of the Mur, Drava and Danube rivers, of pan-European importance. Because it marks the border between Austria and Slovenia, measures can only be put in place with cross-border co-operation.

EXISTING BENEFITS

- The floodplains of the Border Mur are extremely important for water resources of the whole region, particularly in terms of flood protection and the long-term security of ground water resources for drinking water and agriculture. The Border Mur area comprises the largest groundwater surface of the Mur valley in Austria. Based on an investigation made possible by the province of Styria, these water resources are the last remaining resources that are in both quality and quantity of national importance. Most of the available drinking water in this region is provided by groundwater.
- The ecosystem services of the region help minimise the treatment costs for drinking water, the cost of water supply, the costs of irrigation and of flood control.

"The rehabilitation of the ecological functions in the Border Mur is the best guarantee for the long term protection and security of ground water stocks and the continued quality and quantity of these valuable fresh water resources" (Representative of the Radkersburg's Water Supplier Association)

- The well-developed tourism based on hot springs and cycling already constitutes an appreciable source of revenue, which has led to an (at times considerable) increase in the number of visitors to the region. Thus the number of overnight stays in Bad Radkersburg and the surrounding area rose from 8,438 in 1970 to over 400,000 in 2001. The landscape and nature resource of the Border Mur forms the basis for this growing tourism. The Natura 2000 site offers an opportunity to take an

even stronger position in the growing market of high-quality and sustainable tourism.

“The health facilities and the beautiful landscape are the prime reasons for spending a holiday in the region” (Conclusion of a visitor survey, 2002)

- The province of Styria has benefited from EU co-funding of €2.6 millions in preparatory work for restoration and conservation of the Mur floodplains (INTERREG IIa project 1995-99). An additional €3.6 million was obtained under (INTERREG IIIa) to implement a series of measures over the period until 2006, being carried out in close co-operation with project partners in Slovenia.

The economic benefits the region can derive from the inclusion in the Natura 2000 network will depend on how well the region succeeds in exploiting the opportunities offered. In fact, calculations from other regions, e.g. the Waldviertel in lower Austria, show that it is precisely in poorly developed regions – such as the Grenzmuur region – that there can be a positive impetus in favour of long-term sustainable development from Natura 2000.

THE FUTURE

- Preservation and development of water resources for the whole region, particularly: flood protection and long-term security of the ground water resources for drinking water and agriculture;
- Attraction of public funding to the region;
- Strategic synergies with important economic goals, especially in tourism;
- Focal point for cross-border cooperation
- Preservation and development of a landscape and natural area of European importance;
- Careful spatial planning and management of gravel mining;
- Initiatives and signals for developing biological agriculture and the development and marketing of agri-products using the Natura 2000 logo.

The creation of a Natura 2000 site can be expected to have positive impacts on the economic development of the region. Primarily, these are synergies with the tourism activities in the region and the possibility of attracting “external” funding. In agriculture, forestry and fishing, the broadly positive impacts will depend on the practical implementation under the

management plan that is being drawn up on the basis of a partnership process. Intelligent planning can help address risks of losses for the raw material extraction industry (gravel).

CASE STUDY 2 • BELGIUM

The Pond Complex of Central-Limburg

THE SITE

The area comprises the biggest pond complex in Belgium and is of major importance for some rare or threatened bird fish and amphibian species. During the winter months, the area harbours 2% of the total Western European gadwall population.

The natural value has increased as from the middle of the 19th century, thanks to the site’s adaptation for extensive fish-farming. However, since the intensification of this activity during the 1970s and the worsening of the water quality in the region, many reed beds and their related fauna disappeared. A LIFE project under the co-ordination of WWF-Belgium started up in 1997, in order to initiate the rehabilitation of the site, which has also been chosen by the authorities as a pilot project for the elaboration of nature vision plans, necessary for the future management of the Flemish Ecological Network and the Natura 2000 sites.

EXISTING BENEFITS

- The social benefits for the community are certainly known: more and more people use the area for gentle recreation, such as walking and cycling. Around 20,000 people visit the area each year. The area also acts as a “green lung” for the region.
- Most hotel, restaurant and bar business (in the north-western part) is derived from activities taking place outside of the site, such as auto races, or business meetings. However, approximately 10% of their turn-over can be related to the nature value of the site. The camping site, Heidestrand, in the centre of the area particularly benefits from its location within the Natura 2000 area.
- The economic sector which benefits most from the site is fish farming (four fish farms that are family businesses), occupying some 188 ha. Their total turnover can be estimated at around €1,400,000. Several ponds have become more extensively managed during the last few years.

- The total employment benefits from on-site activities are at present 50 to 60 full time equivalent jobs (FTE). Taking into account the off-site employment linked to the site, the total employment can be estimated at 65 to 85 FTE.
- The nature conservation NGOs (through the support of the European LIFE fund), the Flemish nature conservation administration and the European Regional Development Fund (ERDF) invested more than €3,725,000 in nature conservation in the area during the period 1997-2002.

THE FUTURE

- The Pond Complex of the Central Limburg should be included in a structural and specific way in a regional vision for tourism and recreation, and in promotional actions. The growing economic importance of nature should not be underestimated. The challenge is to develop this opportunity sustainably, within a sustainable tourism plan and associated guidance and protection measures in place.

"The site has a tremendous potential as far as tourism and recreation are concerned"
(Marcel Dumon, Tourism Office Heusden-Zolder)

CASE STUDY 3 • SPAIN

Natural Area of the Riaza River Gorges

THE SITE

The Riaza River Gorges are a protected area (SPA since 1989) of great natural significance hosting a considerable variety of habitats, and animal and plant species, many of which are endangered in other parts of Spain and the EU. Of particular note is the presence of endemic Juniper species forests and populations of birds of prey, such as Griffin vultures (the largest colony in Europe), Egyptian vultures, Peregrine falcons and Golden eagles.

The presence of more than 300 vertebrate species and 547 taxa of plants make the Riaza River Gorges one of the most valuable natural areas of the Iberian Peninsula and Europe. Amongst the fauna are scavenging birds, as well as other vulnerable or endangered species, such as Dupont larks, otters, Pyrenean muskrats etc. Among the flora, of greatest note is the presence of sabina, an extremely rare

species that is only found in the Mediterranean region.

The area is part of the northeastern *comarca* [administrative region] of Segovia and has a severe demographic problem, because it is very sparsely populated (377 inhabitants) and has a predominantly elderly population. Measures for the settlement of young people are essential. The Natura 2000 network could have a positive socio-economic impact in the *comarca*, encouraging job creation and reducing population loss.

"Nature protection will encourage development, as long as those of us who live here manage to have faith in its potential for various activities (rural tourism, restoration, environmental activities)"
(Jesus Lopez, tourist sector entrepreneur)

EXISTING BENEFITS

- The main activities in the area are related to the use of nature for leisure, with added benefits to visitors' health (exercise, peace and quiet, clean air).
- The service sector has gained in importance, thanks to the increase in rural tourism and hotel accommodation.
- In the *comarca*, €230,000 has been invested in training activities, more than 70% of which were subsidised by the European Social Fund (ESF). Within the LIFE project '*Management of the Montejo de la Vega (Segovia Refuge for Birds of Prey)*' three training courses have been developed (voluntary work, support for rangers and environmental education), as have various activities to raise awareness amongst the local population, and school visits to bring an appreciation of the value of nature to the younger generation. In all, more than 1,300 people were involved.

"Having contact with nature and learning about one's surroundings is very educational, and school children can also learn and put into practice an attitude of respect towards, and care for, the environment" (local teacher)

- More than 500 WWF/Adena volunteers have participated in the activities of the Montejo refuge (reforestation, inventories, support for rangers, visitors information).
- The two seminars, held as part of this project, represent the first milestone of a new process for

the socio-economic development in a Natura 2000 perspective, and guarantee wider participation and awareness.

THE FUTURE

- Further development of the existing infrastructure (accommodation, visitors centres, museums) and leisure and educational activities (visitors guides), to exploit all the tourist potential of the area. This will create new jobs, which will reactivate the social dynamic of the area. The existing visitors' centre will create several new jobs in the immediate future.
- Existing agricultural practices can be easily converted towards environmentally sensitive farming, hence facilitating a response to developments with the CAP and Pillar II funding. This will guarantee the maintenance of a firm basis for the local economy, and at the same time it will stimulate the local production of local goods and crafts and its purchase, and the branding of products.
- For the surveillance and management of this area, there will be a necessary increase in some specific jobs (rangers, field technicians).
- All of these different changes will result in an important change in the existing socio-economic dynamic of this economically disadvantaged area.

Some of the activities executed in the past, will form the basis for the future. Training activities, for example, will enable people to initiate the new activities. The volunteers' programme has represented an important awareness raising campaign that will guarantee the existence of an important social basis for new activities and campaigns.

CASE STUDY 4 • DENMARK

Lille Vildmose

THE SITE

The Lille Vildmose is the largest raised peat bog in Denmark. Despite the designation of Lille Vildmose as a Natura 2000 area, with special focus on the existing raised bog, the central part of the bog is still being exploited by peat mining and farming. This implies that peat is still excavated, draining is taking place, and fertilisers are used in the hydrological basin forming the basis of the raised bog.

EXISTING BENEFITS

The site is currently an important carbon store, given the volumes of peat, but this is under threat through peat mining. It is also a valuable site for nature tourists, particularly bird watchers, given the spectacular number of Cormorants on the lakes. Furthermore, the site has an important history and is core to the cultural heritage of the area; this is due in part to the importance of peat mining in the middle of last century, which provided not just a source of heat, but also employment for the local and wider community. This was an important magnet in the region at the time and can be built on to develop the tourism potential. There is also some farming of wild boar but so far no coherent strategy for the development of the area has been developed.

THE FUTURE

Environmental aspects: Following the Habitats Directive the whole area must be protected in its entirety both with respect to what is taking place within the area and with respect to activities in the immediate surrounding land. In the central part of the area this implies among other things restoration of the raised bog (as already noted by a decision by the Nature Conservancy Board) and a stop to the use of fertilisers (contrary to the decision by the same Nature Conservancy Board). Moreover, a buffer zone around the whole area should be designated (Particularly Sensitive Agricultural Area) in order to enforce the protection of the raised bog.

Local development and Natura 2000: Existing stakeholder discussions have highlighted a number of potential stakeholder initiatives that could benefit the region, including building on the cultural heritage of the site, attracting tourists with a mixture of nature attractions, the particularity of the raised peat bog, and the development of the historic peat train, the infrastructure of which is still largely in place.

Employment in the area is at present around 58 fulltime jobs but this is expected to grow significantly if the range of initiatives discussed by stakeholders are realised. A conservative estimate suggests that a proper implementation of a local development plan, building on Natura 2000, will result in 150 fulltime jobs for the area – ie. a net benefit of about 92 fulltime jobs over some years. The employment within agriculture and peat mining, which has dropped significantly during the past years, can be

replaced by increased employment of a more sustainable character within nature restoration, tourism, education and research.

Public participation is crucial to the future of the area as many people must be dedicated to the nature project. One way to involve more people in directly managing nature could be through the establishment of a co-operative grazing association; various animals could graze those areas not being directly re-established.

CASE STUDY 5 • ESTONIA

Emajõe Suursoo Mire and Piirissaar Island

THE SITE

Emajõe Suursoo Mire and Piirissaar Island comprises a large, flat wilderness area with an integral complex of different types of peatland, rivers and lakes (including the shallow waters of Lake Peipsi), coastal habitats and an island. There are fens and swamps, swamp forests, peat bogs, reed beds, shores, open and mixed forests, and some agricultural areas.

- Piirissaar Island's population forms one of the most complex 'Old Believers' communities, who have been living on the island for more than 200 years without integrating with the Estonian population. At the moment 50 out of 60 permanent inhabitants are Old Believers.

The total permanent population on the site is 160, but in summertime this number increases two or even threefold. This does not include tourists but relatives visiting for the summer months. Nearly 50 percent of the population are pensioners and less than 10 percent are children younger than 15. The major source of income for local people is fishing and onion growing (especially on Piirissaar Island).

EXISTING BENEFITS

- Emajõe Suursoo Mire and Lake Peipsi around Piirissaar Island are rich in fishstock, providing full or part-time jobs for approximately 75 people.
- The Emajõe Suursoo Mire is a popular cranberry picking site, where people go from Tartu (30 km upstream). In addition raft hikes are organised in the mire area and several fishermen go for recreational fishing.

- In Emajõe Suursoo Mire the number of tourists visiting annually is comparatively small, as the facilities and services offered are meant for small-scale tourism and it can be regarded as niche tourism. The biggest share of tourists is brought to the Emajõe Suursoo Mire area by V-Matkad Ltd., who organise 2-day trips on the waters of Mire by small rafts equipped with little engines and tents on the raft. From May to September every year, approximately 450 people take part in the trips. Most of the tourists belong to the 1-day excursion groups, but the rest stay overnight in tents as there is no hostel or Bed and Breakfast on the island.
- Although people are aware of possible land maintenance support schemes, so far only two farmers near Virvissaare have used the source. They cut hay and smaller brushwood on 3.3 ha, and have built 100 meters of cattle fence. The first sums were delivered in 2001 and the activities continued in 2002. One likely reason behind the low popularity of the support schemes, is the small sum offered by the state – 650-1000 EEK (€1~15.6 EEK) for cutting 1 ha and 10 EEK for building 1 meter of fence.

THE FUTURE

As the area is not threatened by strong human impact, the site has a realistic opportunity to remain a nearly intact wilderness area, which are becoming less and less common in Europe. Fishing will remain the most important way of earning one's living in the region, and the most popular recreational activity will be cranberry picking, hobby fishing and canoe/raft/kayak trips in the wetland area. Frog research and bird watching can be regarded as niche tourism in the region, but as Piirissaar Island is named "frog researchers' paradise" and Emajõe Suursoo Mire is famous for its eagles the number of interested people is expected to increase. The region is of special interest also for ethnologists as the population on Piirissaar Island forms one of the most complex Old Believers communities. They have been living on the island for more than 200 years without mixing with the Estonian population. At the moment 50 out of 60 permanent inhabitants are Old Believers. The level of tourism will, however, have to be carefully managed, giving the limited carrying capacity of this island. Developing an official eco-brand for the most well known local product – Piirissaare onion – has been the plan of several regional stakeholders for some time already. When

obtained, it should support this important activity and source of income as well as prove important for preserving the habitat of two amphibian species.

See also: *Peipsi CTC website www.ctc.ee and Lake Peipsi regional website www.peipsi.org*

CASE STUDY 6 • LATVIA

Ainazi town and its rural territory (ATRT)

THE SITE

The town Ainazi and its rural territory is situated in the NE shore of the Riga Gulf, approx. 120km from Riga and 65km from the regional centre (Limbazi). It borders with the Republic of Estonia. The total territory is 143km², of which 22.3 percent is agricultural land, 70.5 percent is forests, and 3.5 percent is port territory. There are only 2100 inhabitants, with a population density 14.6/km². Within the administrative territory there is the River Salaca, which is an important salmonoid river (Latvian Salmon Index River), and a prospective Natura 2000 site.

It is a picturesque 10-15m deep valley with terraces and sandstone outcrops, and a mosaic of different forest types and extensively used farmlands. The river holds the fourth biggest Wild Atlantic Salmon spawning population in the Baltic Sea area, and has more than 300 aquatic insect species, 600 plant and fern species, 31 fish and lamprey, and 8 bat species. There are also common records of beavers, otters and kingfishers, and a stable population of mussels.

EXISTING BENEFITS

- According to existing statistics there are records of up to 3000 tourists using rafts and canoes on the river Salaca annually. River flow conditions make it especially popular for families. There were also 22,000 recorded visitors for Skanais kalns Park in 2001 (upper reaches of the river). It is the most important river for sport fishing of Vimba in Latvia.
- The impact on employment in ATRT at the moment comes mostly through tourist purchases in local shops and catering facilities. There are also impacts through providing guiding services to fishermen (anglers).
- According to a survey carried out by "Salaca Valley" among the local population, 99% of the

inhabitants living along the river are willing to supply various goods to tourists. To develop this opportunity information should be provided to tourists and the inhabitants should be encouraged to carry out these activities.

- In the North Vidzeme Biosphere Reserve there is a training program for children and students, as well as outdoor equipment for the detection of the biological quality of aquatic systems. There is also an interactive exhibition 'In the Water and in the Air', which deals with the life cycle of caddis flies (Trichoptera) and introduces the local community to the processes in aquatic media. There are regular outdoor activities for different audiences (kindergardens, schools, etc).
- There is an annual training scheme for students from the University of Latvia dealing with coastal and aquatic issues. A separate program deals with the improvement of local conservation skills and practical activities in training for low cost river restoration patterns.
- The main tourist attractions in the area are Salaca river with its fishing and boating opportunities, Ainazi beach, and two museums in Ainazi. The exact number of tourists in ATRT is not known, but it can be estimated to be around 20,000.
- There is no regular employment in ATRT at the moment related to site management. However, there are two people in ATRT now irregularly employed on site management (on piece-rate basis) and two people provide guiding services to fishermen (anglers) during the salmon fishing season (spring).

THE FUTURE

- Promotional campaigns for Natura 2000 and its benefits should help address local misperceptions. Local residents generally feel that they are prohibited from access to the site, and greater awareness should help address resistance and facilitate initiative.
- Capacity building and education of the local inhabitants as well as local authorities should be an asset for sustainable development of the area. Special attention should be paid to promoting environmentally friendly businesses and activities, which could be an attraction point for local and international tourists.

- Co-operation among the local municipalities shall be improved, thus helping to form the common vision for the future development of the area, as well as attracting financing for the nature conservation activities and businesses in the local area.
- In co-operation with North Vidzeme Biosphere reserve, training in nature conservation should be offered to local fishermen, forest owners and farmers to ensure appropriate stewardship of natural resources.
- Small grants for local residents should be provided to launch environmentally friendly businesses as well as maintaining current activities.
- Consultation with, and participation of, stakeholders and municipalities is needed for river management.
- Local municipalities should search, with assistance of the governmental authorities, to be "twinned" with municipalities in the other countries, promoting international exposure of the area.

4. Addressing Barriers and Realising the Benefits

The discussions with stakeholders throughout the development of the four EU and two Candidate Country case studies underline the fact that socio-economic benefits depend not only on the ecological properties and assets of the site, but also on developing the link between the site and the local and regional economy. However, while extensive opportunities are being recognised in the literature, concerted efforts are needed to realise these benefits in practice. In many cases this requires a combination of innovative policy, public awareness and local stakeholders championing the potential of sites.

4.1 Overcoming the Costs of Managing Natura 2000

When local stakeholders refer to the costs of Natura 2000, they are often referring to constraints to their particular economic activity resulting from the designation or management of a site. Such constraints may in fact be more limited than many expect, since Natura 2000 will not normally require economic activities to cease. The case studies include some exceptions, notably in relation to gravel and peat extraction, where practices may need to change. Natura 2000 can result in additional 'costs', such as reducing agricultural land prices, or increasing house prices in neighbouring areas. Sites may also require changes to agricultural and other practices, such as the introduction of more extensive fish farming methods.

Overcoming such costs will require information and awareness raising initiatives by officials and authorities to explain to stakeholders how and why a site has been designated, including the ecological benefits that a site offers. For example, the benefit that the good management of a site can offer in supplying clean water

can easily be compromised by pollution infiltration into groundwater aquifers, resulting in costly water pre-treatment or use of alternative sources of water. In many cases certain stakeholders will block progress given perceived concerns, because they are not informed of the ecosystem benefits, or simply because they were not involved in the decision making process.

Even if local actors are well informed, they may need additional capacity to develop initiatives, such as obtaining ecological accreditation for products, or using volunteer networks to support site maintenance. The cost of Natura 2000 designation, planning, management, and investments varies significantly according to the site, with estimates ranging from €20/ha to €500/ha per year, or €15,000/site to €2million/site/year¹⁵. Funds may be available from a number of sources (EU, national, regional and local funds) but there is often a lack of awareness of funding possibilities, or a lack of capacity to access funds. Insufficient resources to support initial investment (eg a new information centre, cycle paths) or long term management activities may hinder the successful realisation of the socio-economic benefits of certain sites, as well as affecting the management of the site itself.

Many of these barriers can, however, be addressed.

4.2 Practical Lessons on Removing Barriers to Benefits

- **Informed dialogue and debate** is required on the broader benefits of Natura 2000. Where such a dialogue has taken place, this has helped to reduce resistance and concern, and increased collaboration between stakeholders. Informed dialogue can clarify that environmental, social and economic interests can

be furthered together within Natura 2000 sites. Greater optimism and local support can in turn be a key factor in successful conservation management.

- To address stakeholder resistance to the designation of Natura 2000 sites, given fears and misconceptions, **early and ongoing stakeholder involvement** in the designation process should be considered standard practice.
- It is important that Natura 2000 sites and associated activities, benefits and values are **integrated into local, rural, regional and national development plans**, to ensure that the specific aspects of the site and the opportunities they offer are integrated into planning decisions (see Box 4.1). This should also clarify issues of access, including areas which remain open for development (eg gravel mines in Austria).
- It should be relatively easy and effective to **ensure the inclusion of the Natura 2000 site in** (local, regional and national) **tourist information, but it appears this is often overlooked**. In some cases the sites (eg Belgium and Danish case studies) were not on the tourist map; in other cases they are on the map, but there is little tourist information available encouraging visitors (Austria, Spain).

Box 4.1 Steps for Supporting Sustainable Site Management

Various authors (eg Dissing, 2000), have called for changes to the way that public authorities deal with Natura 2000. They argue that public authorities should ideally:

- work more in a **cross-sectoral manner**;
- extend and improve **involvement of the public**;
- change from command-control to **facilitate-integrate** approach;
- change Natura 2000 approach from **top-down to bottom-up**, site related;
- **improve the flexibility and adaptability** of Natura 2000 management frameworks by taking local particularities into account.

By adopting the above approaches, a number of obstacles to the Natura 2000 process can be addressed, and the identification of opportunities facilitated.

Box 4.2 Addressing Financial Barriers

- Start-up funding from the EU for accompanying measures for site designation can help many sites.
- Available CAP Pillar II funds should be promoted and communicated to Natura 2000 stakeholders and applied to Natura 2000 sites in imaginative and integrated ways.
- Reform of the CAP to move away from funding under Pillar I (with its focus on agricultural production, eg direct payments) to more finance for Pillar II (rural development, agri-environment schemes) is very important (Dissing, 2002). The Commission has proposed a gradual downscaling of Pillar I, leading to the diversion of funds to Pillar II. However, even if it is agreed by the Member States, this would not create immediate new funds and the transfer would be implemented over seven years. Thus, more ambitious options should be actively considered.

- It is essential to ensure that there are no 'bottlenecks' for the use of the CAP second pillar for Natura 2000; Dissing (2002) noted that in Denmark, the sectoral set-up prevents integration of Natura 2000 and nature conservation, as administered by the Ministry of Environment (MOE), with CAP Pillar II funding which is administered by the Ministry of Agriculture (MOA).
- Structural Funds (ERDF and ESF) can provide invaluable support, and Community Initiatives can be locally important (Leader+, URBAN, INTERREG). Information on what is available at present, and future potential, must be regularly communicated and easily accessible, and examples of success in securing such funds for Natura 2000 should be more widely promoted across the EU.
- Finally, many stakeholders argue that it is worth exploring alternatives to 50% (25% in objective 1) Member State co-financing for EU funds, given that the sites are of EU importance.

- Exchange of expertise and professional training can support **changes in production methods**, such as introducing more extensive fish farming practices that comply with the needs of Natura 2000.
- There is often scope for better information on and support for the **development of niche markets** (eg local traditional products), or for developing ecologically accredited brands (eg agricultural produce in Spain).
- **Appropriate marketing** can generate increased spending from visitors and locals. In many cases, Natura 2000 'branding' could be a very helpful tool not only for products, but could also support branding of the region more broadly. Linking product and regional branding should therefore be explored where possible.
- **Financing for Natura 2000** needs to be maximised, by supporting applications for existing EU and national funds¹⁶, and ensuring long term financing offers adequate funds and appropriate incentives (see Box 4.2). Rural support schemes and associated incentive structures in particular need re-examining, and tailoring in support of Natura 2000 areas.
- **Investment in**, where appropriate, **information centres, tourist accommodation, walking and cycling paths**. The existence of such infrastructure can be a "pull-factor" or "enabling mechanism" for tourists, awareness raising and leisure activities.
- **Investment in training and awareness** can often be encouraged at the local level, but can also be activated by volunteer networks or environmental NGOs (eg the Spanish case study). The Rural Development Regulation and European Social Fund can be a source of funds. The former can help in training related to sustainable farming and setting up producer groups under Article 9.
- Supporting the development and activation of **volunteers and volunteer organisations** is an opportunity to have benefits at virtually no cost, increasing awareness, learning and engaging social responsibility (eg Spanish volunteers in Riaza River Gorges or Estonian volunteers to protect salmon breeding grounds). This can be a particularly valuable resource where insufficient funding is available.

These lessons are relevant to the full range of stakeholders involved in Natura 2000 in the existing and future EU Member States, including policy makers, funding agencies and planners, and critically also local

community representatives. Bottom-up initiatives can be particularly fruitful since they build on knowledge of both the site and the local community, even though they may depend on some level of top-down support. With strengthened stakeholder involvement and initiative, and renewed attention to funding issues, the EU is well placed not only to reverse the decline in biodiversity by 2010, but to also use Natura 2000 as the basis for broader sustainable development in many regions and localities.

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Footnotes

- 1 For Commission Web-page: <http://www.europa.eu.int/comm/environment/nature/natura.htm>
- 2 A few proposed sites are urban, eg. in Brussels region.
- 3 There are recent examples of greater economic activity, often with increasing service sector activity.
- 4 Commission Communication concerning the Structural Funds and their co-ordination with the Cohesion Fund-Guidelines for Programmes in the Period 2000-2006
- 5 The Rural Development Regulation (RDR) is funded from the EAGGF. Note that some Pillar II measures extend beyond farming, such as those noted under Articles 16 and 33 (promoting the adaptation and development of rural areas) and Articles 25 to 28 (processing and marketing). Eco-labelling falls under the measures of Articles 33 and 25-28 rather than measures under the RDR.
- 6 In January 2002, the European Commission set up a working group on Communicating Natura 2000; and the European 'Green Spider Network' has also been working on how to better communicate about Natura 2000 <http://www.ubavie.gv.at/greenspider/2002.HTM>
- 7 <http://www.europa.eu.int/comm/environment/nature/presentation/presentation-rayment.pdf>
- 8 The Commission Working Group on financing Natura 2000 is expected to report before the end of 2002.
- 9 In any economy, money goes around several times within a given year – offering additional benefits (value-added) at each stage (increasingly small with each cycle/change of hands). The same money can go around the economy as much as 7 times a year (eg average for US), and a key aspect of modern economics is to encourage rapid consumption.
- 10 The study also cites other employment analysis. For France and Spain the ECOTEC estimates were arguably conservative given that other studies (see the report) give higher values.
- 11 FTE: full time equivalent. In some cases there are part time or seasonal jobs, and these are aggregated into FTEs.
- 12 Interreg: http://europa.eu.int/comm/regional_policy/interreg3/index_en.htm; & Au-Slo: <http://www.at-si.net/>
- 13 http://europa.eu.int/comm/environment/newprg/ms_summary.pdf
- 14 The "Green Days" are special events organised by authorities and NGOs and dedicated to improving the understanding and acceptance of Natura 2000, many of which took place in parallel to the Brussels "Green Week" of 13 to 21 April 2001. Special activities included guided walks through Natura 2000 sites, information sessions and special festivities for local communities. See <http://www.eurosite-nature.org/en-accueil/> and http://europa.eu.int/comm/environment/greenweek/greendays_en.htm
- 15 op. cit. footnote 8
- 16 For LIFE funding et al under DGENV: http://europa.eu.int/comm/environment/funding/intro_en.htm; for DGREGIO: http://europa.eu.int/comm/regional_policy/themes/environ_en.htm; for RDR: http://europa.eu.int/comm/agriculture/rur/index_en.htm http://europa.eu.int/comm/agriculture/rur/leaderplus/index_en.htm

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