

# BUILDING GREEN INFRASTRUCTURE FOR EUROPE



Special report



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## Foreword

Now is a critical juncture for the EU, with a new European Parliament and a new European Commission taking office in 2009 that will immediately be confronted with the need to speed up action tackling major and truly global challenges: economic, energy and climate crises; a structural growth in food and resource prices; growing competition for land and water; and the biggest mass extinction of species in 60 million years.

These crises must be addressed in a comprehensive, systematic and sustainable way providing real and lasting solutions. The starting point of such lasting solutions is the effective protection of ecosystems, which represent the world's "natural capital" that provides the raw materials and services at the heart of a sustainable and resilient economy.

The likely failure of the EU to reach its goal of halting the loss of biodiversity by 2010, recently announced by the European Commission, is another indicator of how far away the EU currently is from a solution. Developing and implementing an ambitious new biodiversity policy framework, including new and better targets, should therefore be a priority for the new European Parliament and Commission.

Such a new policy framework should not only seek to halt the loss of biodiversity but also actually seek to reverse it and restore ecosystems by reconnecting them.

Ensuring connectivity between important biodiversity areas means investing heavily in the construction of green bridges, tunnels, fish passes, restoration of rivers and wetlands, including the removal of obsolete infrastructure, and the creation of suitable habitats in the farmed landscape. In other words, a 'Green Infrastructure' network is now fundamental to preserving biodiversity as well as ecosystem functions in Europe.

In this paper EEB explains the importance of constructing this 'Green Infrastructure', what it will look like, and identifies key policy recommendations for the new European Parliament and Commission.

Most immediately, we hope this publication will guide governments that have chosen a strategy of boosting public spending as a way out of the current economic crisis to prioritise investment into Green Infrastructure.

**Pieter de Pous**  
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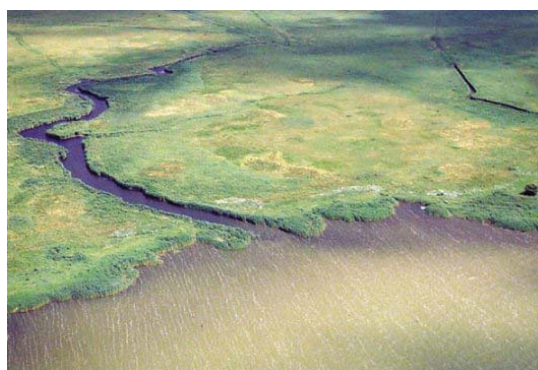
## Why does Europe need ‘Green Infrastructure’?

**Dealing with environmental change and uncertainty** The world needs to take urgent action to tackle climate change, before irreversible changes occur. However, we have already arrived at a point where a significant amount of change has become inevitable which means that we already need to adapt. Scientific modelling has provided us with many insights on the possible changes in climate Europe may be facing, such as more extreme weather events. Yet many things will remain difficult to predict. For example, what will the impact of these changes be at the local level such as the city, the farm, the lake, the forest, the river? This is an uncertainty that we will not be able to reduce with all the scientific models in the world and the challenge, therefore, is to manage this uncertainty.

**Managing our natural resource base** Ecosystems and their components of soil, water, air and biodiversity are the world’s natural capital. They provide the raw materials and services which are the basis of our economy and society. It is also through ecosystems that the inevitable impacts of climate change will be felt most strongly – impacts such as droughts, flooding or lost harvests. Despite past efforts to protect biodiversity, current policies and practices in some areas are still failing, particularly in the areas of agriculture, energy and transport. According to the first, conservative findings of the Economics of Ecosystems and Biodiversity (TEEB) study, the costs of this loss of biodiversity under a business as usual scenario could amount to 7 percent of global GDP by 2050.

**Addressing uncertainty and change by increasing resilience** Resilience is the ability of human and natural systems to deal with change without losing the ability to function. An impoverished ecosystem that has lost a lot of its original biodiversity may be able to provide a number of functions or ecosystem services. However, the lack of diversity in different species groups and types means that the number of services it can provide will be more limited. Moreover, the system will be less likely to survive a major shock such as a fire, drought, flood or pests. The ecosystem is more vulnerable and in the long run unlikely to be a reliable source of services. For example, a lake that has suffered from nutrient overload and has changed from a crystal-clear, species-rich water to a murky pool full of algae and few fish species could still be used to store excess water but can no longer be used for recreation, fishing or the provision of drinking water at an affordable price.

**Building ecosystem resilience through space and diversity** Creating physical space for natural processes to take place and maintaining original diversity are critical to the resilience of a system. Losing space and diversity means locking ourselves into a particular state and losing future options. For example, we know more rainfall in a particular area can be expected. How much exactly and where this will fall, however, we do not know. What we can do is to take measures to increase the sponge function of the landscape by restoring wetlands and floodplains in key places, reducing soil sealing and improving soil quality and vegetation cover. This will ensure that whatever rain does fall, it is more likely that it will be stored longer in the right places and avoid floods downstream. As an extra benefit such wetlands can also help reduce the run-off from nutrients from farming. The retention of phosphorous in wetlands is also enhanced when there is a higher diversity of flowering plants. For example, in agriculture it has been proven that for the pollination of pumpkins the diversity of pollinator species matters most. To ensure the transfer of phosphorus from soil to plants the diversity of mycorrhizal fungi is key.



Nemunas river delta, Lithuania

**Reducing system pressure** At the same time that ecosystems and biodiversity will be coming under increased pressure from climate change impacts, other existing pressures such as pollution and the fragmentation and destruction of living spaces will continue to increase as well. In many cases this overall increase in pressure is pushing ecosystems beyond their tipping points, weakening or even eliminating the services they provide. Addressing the key drivers behind the pressure on ecosystems, thereby preserving ecosystem functions and resilience, should therefore be the highest priority in any successful adaptation strategy.

**Tackling fragmentation: free movement of plants and wildlife** The preservation of species diversity, fundamental to ecosystem health and resilience, is directly linked to the degree of connectivity between the places where these species live and the size of the habitats. Species often become locally extinct and only through connections between viable habitat areas can they survive over the long term.

Because of the long process of habitat fragmentation, especially caused by developments in transport infrastructure, urbanisation, energy generation and agricultural intensification, this loss of connectivity is now in many places the weakest link for species and therefore ecosystem survival. Europe is the continent that has suffered the most in this respect.



**Green Belt, Germany, Thuringia/Lower Saxony**

**...building Green Infrastructure for Europe** Ensuring ecosystem connectivity - by building 'Green Infrastructure' - should therefore be given the highest priority in EU biodiversity policy implementation and development, for the sake of preserving critical ecosystem functions including adaptation to climate change. Europe should now invest massively in the construction of green bridges, tunnels, fish passes, the removal of obsolete infrastructure on rivers and the protection and restoration of suitable habitats throughout the farmed landscape such as hedgerows, tree lines, trees and ponds.



## EU's Green Infrastructure under construction

**At the EU policy level...** EU nature conservation policy has been very successful in designating approximately 20% of EU territory as areas where the protection of nature is given the highest priority through implementation of the Habitats and Birds Directives. The designation of sites, however, is only the first step in this policy. Most crucially, the provisions of the Habitats Directive to protect species throughout the countryside, effectively manage and protect the sites, specifically encourage connectivity between sites and monitor status and trends are only starting to be implemented. In other words, Natura 2000 as a coherent and functioning ecological network, as foreseen in the Habitats Directive, has some of the building blocks in place but is still far from reality.

At the same time, through the Water Framework Directive, the EU is preparing a major reform of its water management practices with the purpose of meeting ambitious ecological objectives for Europe's rivers, aquifers, lakes and coastal waters by 2015. If implemented correctly, the Directive should lead to more sustainable flood management, more space for rivers including natural floodplains and wetlands, and the dismantling of artificial barriers on rivers for migratory fish species such as salmon and sturgeon.

Funding opportunities for building this infrastructure exist to a very limited extent under the reformed Common Agricultural Policy (CAP) as well as under Regional Policy funds and the LIFE+ fund. Despite being limited in budget, these funds are playing a very important role in getting important and effective initiatives off the ground.

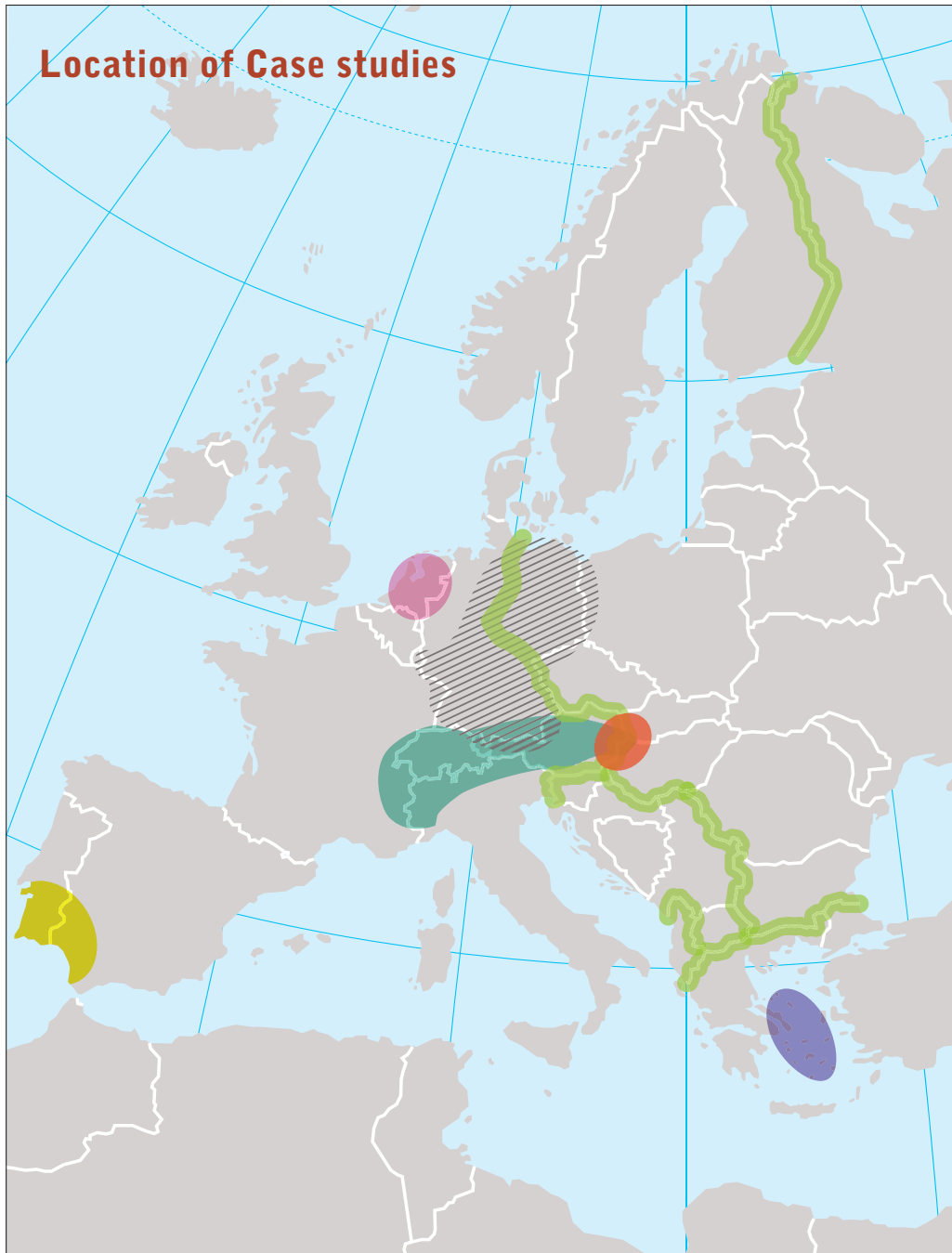
The effective and ambitious implementation of existing nature and water policy is therefore critical for the construction of a Green Infrastructure for Europe, as a lot of the case studies outlined in this paper will demonstrate.

**And on the ground...** In a lot of Member States, for example Czech Republic, Denmark, Germany, Netherlands and Slovakia, the establishment of ecological networks is foreseen in national legislation, usually the same legislation which transposes the Birds and Habitats Directives. A combination of EU level and national level policies and civil society initiatives has led to numerous projects which have started building this Green Infrastructure for Europe. This section outlines case studies in varied ecological and geographical regions of Europe.



**Green Infrastructure construction in the Netherlands**

The purpose of presenting these case studies is to explain what the construction of Green Infrastructure actually looks like on the ground. What these initiatives have in common is that they not only help species move around but also restore ecosystem functions such as sustainable flood management, the transport of sediments to protect coastal regions from the rising sea, provision of recreational space, creation of spawning grounds for fish, delivery of drinking water, treatment of nutrients, sequestration of carbon and many others.



-  1 Austrian Alps + Carpathians
-  2 Alpine Region
-  3 Iberian Lynx
-  4 German Wildcat
-  5 Greenbelt initiative
-  6 Dutch Ecological Hubs
-  7 Aegean flyways for Eleonora's Falcon



**CASE STUDY 1: CONNECTING WILDLIFE BETWEEN THE ALPS AND THE CARPATHIANS**

Both the Alps and the Carpathian mountain ranges are important hubs for wildlife such as the brown bear, red deer and lynx. The exchange between these two biodiversity nodes is, however, blocked by a number of traffic routes, areas of intensive land use and threatened by an increasing demand for built up land between Vienna, Bratislava and Budapest in the Danube and Morava valleys.



**Landscape providing wildlife cover**

Since 2002, following an initiative of the Donau-Auen National Park and the Austrian Federal Ministry for Traffic, Innovation and Technology, a broad partnership of organisations including environmental NGOs and hunters, supported by the Austrian and Slovakian road authorities, have joined forces to construct and preserve a coherent corridor from the Alps to the Carpathians. In a feasibility study with Austrian and Slovakian partners key actions to re-establish and maintain the corridor have been identified. From 2009-2012 implementation measures are planned within the framework of a cross-border and cross-sectoral project – the Alpine Carpathian Project - under the European Territorial Cooperation objective of the European Regional Development Fund (ERDF).



**Green bridge in Austria**

Cornerstones of this project are improvements in the traffic network by building ‘green bridges’ over highways at key points/bottlenecks as well the creation of suitable habitat patches or stepping stones, which will serve as a sort of roadside restaurant or resting place for migrating animals. To guarantee the effectiveness of these measures the ecological network will be integrated into spatial planning and management instruments. For example, a new federal law in Austria now requires the construction of one green bridge per year over existing highways as well as over all major new roads. These measures will help attain the overall goal of the project to safeguard the ecological connectivity between the Alps and the Carpathians and enable migration of wildlife and exchanges between populations.

**CASE STUDY 2: MAKING CONNECTIONS WITHIN THE ALPS**

Within the Alpine region, three closely linked initiatives have been, since 2007, working together in implementing the “ecological network” of the Alpine Convention, the Ecological Continuum project started by four active alpine network organizations and the ECONNECT project of 16 partners. Pilot projects are now being delivered in the Austrian-German border region of Salzburg-Berchtesgaden, the French Department Isere, the Eastern Austrian region around the National Park Kalkalpen and the National Park Gesäuse (critical for its connections to the Carpathians), and the Italian region of South Tirol. These focus on connectivity along the Adige and Inn valleys.

The initiative will identify barriers to species and propose measures to lift these barriers such as the construction of green bridges, tunnels and the creation of suitable stepping stones throughout the landscape.



**Brown bear**

**CASE STUDY 3: GIVING SPACE TO THE WORLD'S MOST ENDANGERED WILD CAT SPECIES**

With its distribution limited to the southern part of the Iberian Peninsula and with a total population of around 150 individuals, the Iberian lynx (*Lynx pardinus*) is the most endangered wild cat species in the world and is classified as critically endangered by the IUCN. Its habitat is the cork forests, called 'Dehesa' or 'Montada,' an ancient agri-forestry system, rich in biodiversity, which has produced cork, the famous 'pata negra' hams and honey for thousands of years. Currently this species has only two known breeding populations, both in Spain (in the Sierra Morena Oriental at the Parque Natural de la Sierra de Andújar and in south-western Andalusia at Parque Nacional Doñana) with the occurrence of occasional individuals in Portugal.



Iberian lynx habitat in Portugal

Despite all the efforts carried out for the conservation of the Iberian lynx's habitat and its natural prey (the wild rabbit), many threats still continue to act throughout its distribution range. Along with the decline of rabbits (due to myxomatosis and viral hemorrhagic fever) to extremely low numbers, habitat loss, diseases such as feline leukemia and traffic collisions remain the main threats responsible for the lynx's extreme decline.

In Portugal, the Liga para a Protecção da Natureza (LPN), a NGO that has been working on nature conservation over the last 60 years, launched its Lynx Programme in 2004, in partnership with Fauna & Flora International. The project's aim is to establish a corridor of suitable habitat to allow for the reconnection of currently isolated lynx populations. Actions include increasing wild rabbit numbers, involvement of local inhabitants and awareness-raising. The conservation efforts carried out by LPN have been focused mainly in Natura 2000 sites. A 3-year LIFE project in the Moura/Barrancos Site started at the end of 2006 and will finish in 2009.

On the other side of the border, WWF Spain has already identified areas which could serve as natural corridors within areas of suitable habitat for this species' occurrence. These corridors would allow the safe migration of individuals, not only between the two remaining breeding areas, but also to the former distribution range which includes Portugal.

The survival of the Iberian lynx as a species is now dependent on the efforts made to stop encroachment into its natural habitat, along with the conservation and enhancement of its natural prey. In Spain, where the mortality rate due to road collisions is high, new road plans must be carefully evaluated and road construction projects must include strong mitigation and compensation measures, ensuring the survival of this charismatic and endangered species.

**CASE STUDY 4: A 20.000 KILOMETRE SAFETY NET FOR THE WILD CAT IN GERMANY**

Since 2004, the German environmental group Friends of the Earth Germany/BUND is working together with government authorities, landowners and hunters to develop 20,000

kilometres of migration corridors for the endangered wild cat (*felix sylvestris*).

Because of increased traffic intensity, development of settlements and agricultural intensification, the wild cat has disappeared from a large part of its original habitat. Under the BUND initiative, connectivity between existing and potential habitats will be restored through the planting of trees along migration routes and the construction of 'green bridges'.



Wild cat



Since the start of the project, the first corridor has been constructed between the Thuringia Forest and the Hainach National Park (in the Thuringia region) after years of careful preparation and studies. In 2006 more than 2,500 people participated in a public "fun run" to inaugurate the route. Many more corridors are currently under construction in Germany, for example in Rhineland Palatinate which hosts almost half the German wild cat population. A comprehensive monitoring programme, using picture traps and collected hair samples, documents the effectiveness of the actions taken.



**BUND employees and volunteers planting trees**

Although the wild cat is the target species of the initiative, many other species such as badgers, beetles and tree frogs will benefit from the initiative, thereby improving the health of entire forest ecosystems. Because the wildcat needs a landscape which is varied in structure, successful protection of the wildcat will create wider benefits such as an attractive landscape and less vulnerability to erosion.

**CASE STUDY 5: THE GREEN BELT INITIATIVE** In 1989 BUND initiated the project *Green Belt* in Germany, which aims to preserve and develop valuable habitats along the former inner-German

border. In the seclusion of the border areas natural habitats and endangered animal and plant species found a retreat, where nature was granted a reprieve of over 30 years. Early surveys in the 1970s by BUND volunteers and other NGOs (only possible from the Western side) had already revealed the richness of nature around this "death zone" for people. Within Germany, the Green Belt runs 1393 km, covering an area of 177 km<sup>2</sup>. 48% of the 109 different habitat types within the Green Belt Germany are listed as endangered.



**Green belt Germany, Thuringia, Hesse**



**Black stork, Stara Drava river, Croatia-Hungary**

Since 1989 BUND and other organisations have carried out conservation activities and projects, political lobbying and public relations work to make preservation of the Green Belt a reality. Since 2000 BUND has purchased land in six places in Germany and carried out measures like the restoration of wetlands and riverbanks, the transformation from arable land to grassland and special measures for highly endangered species, such as the Black Stork (*Ciconia nigra*), Whinchat (*Saxicola rubetra*), River Otter (*Lutra lutra*), a species of bushcricket (*Polysarcus denticauda*), and Tree Frog (*Hyla arborea*).

As the Iron Curtain not only divided Germany but also the rest of Europe, the idea of a European Green Belt developed soon after. In 2004 the European Green Belt initiative, a wide range of organisations and stakeholder groups all over Europe, kicked off. The European

Green Belt initiative has the vision of creating the backbone of an ecological network, running from the Barents to the Black Sea to become a global symbol for trans-boundary cooperation in nature conservation and sustainable development. It runs more than 12.500 km, connecting 23 Countries and nearly all the bio-geographical regions of Europe. The European Green Belt is not so much a consistent strip of protected areas, but rather a tool to bring together core areas through corridors and sustainable use zones. Projects implemented and proposed include the restoration of river floodplains, wetlands, fenlands, species protection projects and recovery programmes for the Balkan lynx (*Lynx lynx balcanicus*), Little Tern (*Sterna albifrons*) and River Otter (*Lutra lutra*), as well as the harmonisation of protection

efforts in cross border areas, regional development, public awareness raising and engaging with landowners.

One such initiative is taking place along the Drava and Mura rivers that form the border between Croatia and Hungary. Although heavily impacted by hydropower further upstream, the rivers have maintained a lot of their natural characteristics in the lower stretches. The little tern (*Sterna albifrons*), an indicator species for healthy functioning river systems, still breeds in the rivers' gravel beds. Although some parts of the rivers are already under protection, more efforts are needed now to protect them from unsustainable gravel abstraction and further developments for hydropower. This will not only benefit the little tern whose numbers have dwindled to 15 breeding pairs but also ensure that important river functions such as sustainable flood management, spawning grounds for fish and the downstream deposition of sediments can continue to be provided. Through its 'Tourism by the river' concept WWF is promoting sustainable forms of tourism in the region by identifying zones for fishing, bathing and developing biking and hiking trails.



**Sandmartins along river Drava, Croatia-Hungary**

Another action is the generation of a common geo-database of the Green Belt providing cartographic input for planning future activities linked to improving connectivity, biodiversity or adaption to climate change as well as public relations work. The geo-database is available for download at [www.europeangreenbelt.org](http://www.europeangreenbelt.org).

#### **CASE STUDY 6: MULTI-FUNCTIONAL CLIMATE BUFFERS AND 'ECOLOGICAL HUBS' IN THE NETHERLANDS**

The Netherlands is a delta country and as such is acutely aware of the impacts of climate change, wedged between a rising North Sea and swelling rivers. In a joint initiative, a number of Dutch conservation organisations and the state forest board are proposing the development of multi-functional natural climate buffers, which should increase the amount of space available in this densely populated country to deal with more water while at the same time providing opportunities for recreation and innovations in housing such as floating houses. Part of this initiative is a set of projects which will restore the connections between the Netherlands' largest forest complex, the 100,000 hectares Veluwe. The other ecological 'hubs and important nature areas for the Netherlands are in the neighbouring countries of Germany and Belgium.



**Green bridge construction in the Netherlands**

One such project is taking place at the southern edge of Veluwe forest, near the village Renkum, where a corridor is being created, reconnecting the forest by way of the vale of a small creek, the 'Renkumse Beek', to the floodplains of the Rhine river. The establishment of this corridor required the removal of a small industrial site of 12 hectares but a relocation agreement with the users of the industrial site was achieved. The project will also require a number of adjustments to the roads and railway tracks that currently prevent wildlife such as red deer and wild boars from reaching the floodplains. The project is expected to be finalised by 2010. Apart from serving as a corridor for wildlife, the restored meadows will also serve as a reservoir to store water when peak floods are coming down the Rhine river.

Over the last 20 years eight green bridges have been constructed in the Netherlands, including the longest green bridge in the world (800 meters), with another 26 planned to be built by 2018. This has significantly increased the living space for wildlife such as red deer, wild boar, badgers, foxes and semi-wild cattle, thereby also increasing the attractiveness of the region for tourism.



#### CASE STUDY 7: AEGEAN FLYWAYS FOR ELEONORA'S FALCON

The Greek Islands in the Aegean Sea are important breeding areas for Eleonora's Falcon (*Falco eleonora*), a bird characteristic of the region. Greece hosts about 80 percent of the global population, thereby having a special responsibility for its preservation. The effective protection of its breeding sites, which include remote cliffs and uninhabited islets, is critical to its survival. Threats come from disturbances from tourists, the introduction of rats and poorly planned infrastructure, such as the case of Skyros Island where the biggest wind farm in Greece is being planned. This 333 MW project, which is proposed to be constructed within a Natura 2000 site on the island, will also disturb the habitat of another important Greek species, the Skyrian Horse, a unique, native Greek breed.

Ensuring the effective protection of this charismatic bird species will require very careful planning of developments which consider the needs of this falcon as well as the wider ecosystem in which it lives. Two Greek NGOs, Elleniki Etairaia, the Society for Environment & Heritage and the Hellenic Ornithological Society (a member of Birdlife International) are working together in order to protect this Natura 2000 site against these threats.



Eleonora's Falcon and its habitat, Greece

## Undermining the foundations of Green Infrastructure

Although the EU is already making concerted efforts to build this Green Infrastructure network, a number of current policy developments are at the same time posing a direct threat to its realisation. Most critical are the developments in the agriculture, transport, energy and increasingly raw materials policy areas:

- **Agriculture Policy:** Agricultural intensification and the accompanying removal of 'obstacles' in the landscape, such as hedgerows, individual trees and ponds, has been the main cause for the isolation of wild species and the fragmentation of habitats. Mandatory cross compliance, introduced under the 2003 CAP reform to ensure better protection of such critical landscape elements, has been so poorly implemented and monitored that no one really knows if and what it has delivered. Recent decisions taken during the CAP 'Health Check', such as the abolition of the set-aside regime, low rates of 'modulation' (transfers from pillar 1 to 2), and the simplification of the cross-compliance regime are indications of a trend once again heading towards more intensification at the cost of wildlife.
- **Transport TEN-T:** A recent study from BirdLife, T&E, WWF and EEB found that up to 1,000 Natura 2000 sites in Europe are potentially threatened by the Trans European Network for Transport (TEN-T). The reality is potentially more serious since the study did not even assess the impacts of these developments on connectivity between sites and the possibility for species to move throughout the landscape. It concluded, however, that many potential conflicts could be avoided by the careful planning of the exact routes.
- **Energy policy:** Although the EU has no comprehensive energy policy yet, it is playing an increasingly important role, for example, in the promotion of renewable energy resources. Europe needs to boost its capacity for renewable energies. However, hydro-power developments or the intensification of agriculture for the purpose of producing liquid fuels can have devastating environmental impacts. These are some of the more prominent examples that show the importance of energy policy not being based solely on reducing CO<sub>2</sub> emissions; other impacts need to be considered with the same level of importance as CO<sub>2</sub> reduction. The most important impact to be considered is the demand for space and the resulting fragmentation of habitats and loss of ecosystem functions.
- **Natural resources:** The 2005 Thematic Strategy on the Sustainable Use of Natural Resources stated an overall objective to reduce the negative environmental impacts generated by the use of natural resources in a growing economy. Since then, very little has happened. In the mean time, the Commission's Raw Materials Initiative of 2008 puts the focus more on securing access to materials, both internationally and domestically, before addressing resource efficiency and recycling. A 'scramble for resources', based on security of supply concerns, which has already begun internationally as richer countries buy up land or concessions in resource rich developing countries, will lead to more and more claims on land and pose a direct threat to a more sensible and sustainable resource policy. More political importance and efforts are needed to move ahead faster in developing a sustainable EU resources strategy for the 21st century.



## How to secure Green Infrastructure for Europe

Building Green Infrastructure does not require the EU to develop new legislation, but rather to invest in the better implementation of existing Directives such as the Habitats and Birds Directives and the Water Framework Directive. Under these Directives Member States have already committed to meeting ecological objectives for their water bodies as well as for their protected areas by 2015. These set an important timeframe and policy context for the construction of Green Infrastructure. At the same time, existing policies for agriculture, energy and transport need to be further reformed to better protect the natural capital upon which our economy relies.

The construction of this Green Infrastructure is the joint responsibility of the European Commission, governmental authorities at national and local levels, members of national and European Parliaments and civil society organisations including landowners and land users.

### The European Commission will need to:

- At the beginning of 2010, propose an ambitious new Biodiversity Policy to follow up on the Biodiversity Action Plan, which will not only seek to halt the loss of biodiversity but also to restore biodiversity and ecosystem functionality and resilience and make the construction of Green Infrastructure a central element of this.
- Embark on a true reform of the CAP, to be implemented by 2013, with effective instruments for protecting landscape elements and make existing subsidies to provide an incentive for farmers to protect farm biodiversity.
- Develop an EU budget for the period 2013-2020 which will have the Sustainable Development Strategy at its heart. In this new budget propose the construction of Green Infrastructure as an investment priority.
- Conclude as soon as possible a review of the use of biofuels in meeting the 10% target for Renewable Energy in transport in order to avert a new trend of agricultural intensification and expansion of croplands.
- As a follow up to the Commission's report on the implementation of the Habitats Directive, which will be published in spring 2009, prioritise the coordination and spatial coherence between existing national and regional ecological networks.
- Evaluate the implementation of the guidance documents on Article 12 of the Habitats Directive on how effective this has been in protecting species in the wider landscape.
- Evaluate specifically the implementation of Article 10 of the Habitats Directive, which encourages Member States to take measures to improve the coherence of the Natura 2000 network.
- Ensure effective application of the SEA and EIA Directives. In the planned review of these Directives, ensure they will consider impacts on connectivity.
- Assist in the implementation of supranational conventions like the Landscape Convention.

### National governments and parliaments will need to:

- Ensure that connectivity between major biodiversity areas is maintained when developing new infrastructure projects such as roads and railroads, through the careful planning of the route and the use of necessary mitigation and compensation measures.
- Invest massively into the development of mitigation measures to address the impacts of existing infrastructure, most of which have been developed without considering the impacts on connections between important biodiversity areas. Where countries have agreed on major government spending programmes to beat the recession, they should now prioritise Green Infrastructure.

- Plan the development of the renewables sector at a strategic level. Big investment decisions which run for several decades, such as new dams for hydropower, must be an integrated part of River Basin Planning under the Water Framework Directive and consider climate change impacts such as reduced water flows and high evaporation rates. New investments into biofuels should be postponed until it has been clarified which technologies and feed stocks would avoid indirect land use change impacts.
- Integrate connectivity between habitats and especially between protected areas into national and regional spatial planning policies and plans/programmes, especially when planning the use of EU funds.
- Integrate the development of Green Infrastructure as part of an ambitious landscape-level initiative to strengthen, prioritise and increase the funding for the agri-environmental schemes within Rural Development Programmes.

#### **The European Parliament will need to:**

- Use its co-decision powers on the new EU budget for the period 2013-2020 to allocate sufficient financial resources to building Green Infrastructure.
- Help develop an ambitious new Biodiversity Policy to follow up on the Biodiversity Action Plan, which will not only seek to halt the loss of biodiversity but also to restore biodiversity, eco-system functionality and resilience and make the construction of Green Infrastructure a central element of this.
- Continuously monitor implementation of EU policies supportive of Green Infrastructure, such as the Nature Directives and the Water Framework Directive, so that they are effectively and coherently implemented by Member States.
- Push for a real and lasting reform of the CAP, to be implemented from 2013 onwards, in which landscape elements are adequately protected and perverse incentives removed.

#### **Environmental organisations will need to:**

- Build on existing initiatives and launch new ones to construct a Green Infrastructure network in partnership with governments, landowners and land users.
- Promote the construction of Green Infrastructure as fundamental in our response to climate change impacts to avoid ecosystem collapse and preserve ecosystem functionality.



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