

# THE EUROPEAN UNION'S BIODIVERSITY ACTION PLAN

Halting the loss of biodiversity  
by 2010 – and beyond



EUROPEAN  
COMMISSION



environment

# Contents

|  |    |
|--|----|
| Foreword   | 3  |
| <b>THE EU BIODIVERSITY ACTION PLAN</b>   |    |
| Biodiversity loss: why does it matter?   | 4  |
| The EU Biodiversity Action Plan: re-enforcing Europe's commitment to 2010                        | 6  |
| <b>POLICY AREA 1: BIODIVERSITY IN THE EU</b>   |    |
| <b>Action Plan Objective 1:</b> Safeguarding the EU's most important habitats and species        | 8  |
| <b>Action Plan Objective 2:</b> Conserving biodiversity in the wider EU countryside              | 10 |
| <b>Action Plan Objective 3:</b> Conserving biodiversity in the wider EU marine environment       | 14 |
| <b>Action Plan Objective 4:</b> Integrating biodiversity into land-use planning and development  | 16 |
| <b>Action Plan Objective 5:</b> Reducing the impact of invasive alien species                    | 18 |
| <b>POLICY AREA 2: THE EU AND GLOBAL BIODIVERSITY</b>   |    |
| <b>Action Plan Objective 6:</b> Strengthening international governance                           | 20 |
| <b>Action Plan Objective 7:</b> Strengthening support for biodiversity in EU external assistance | 20 |
| <b>Action Plan Objective 8:</b> Reducing substantially the impact of international trade         | 20 |
| <b>POLICY AREA 3: BIODIVERSITY AND CLIMATE CHANGE</b>  |    |
| <b>Action Plan Objective 9:</b> Supporting biodiversity adaptation to climate change             | 22 |
| <b>POLICY AREA 4: THE KNOWLEDGE BASE</b>   |    |
| <b>Action Plan Objective 10:</b> Improving our knowledge base                                    | 24 |
| <b>SUPPORTING MEASURES</b>   |    |
| Finance, governance, partnerships, awareness raising   | 25 |
| <b>MONITORING</b>  |    |
| Monitoring progress to 2010 – and beyond   | 26 |

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## THE EUROPEAN UNION'S BIODIVERSITY ACTION PLAN "Halting the loss of biodiversity by 2010 – and beyond"

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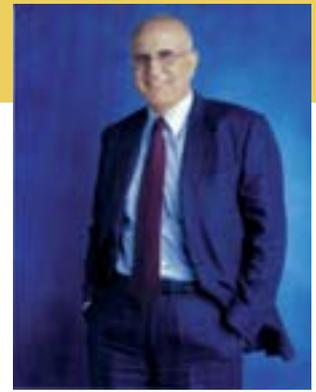
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# Foreword



Two of the greatest challenges humanity faces are halting the loss of biodiversity and combating climate change. They both have potentially devastating impacts on our environment, health and economy. Healthy ecosystems regulate floods, absorb greenhouse gases and protect us from increasingly extreme weather patterns and they are therefore vital to help us reduce and adapt to the impact of climate change.

Biodiversity in Europe is under immense pressure. According to the Millennium Ecosystems Assessment, ecosystems have suffered more human induced fragmentation in Europe than in any other continent. Much of our land is being used intensively and urban areas are rapidly expanding into the countryside. Built up areas have increased by 20% in the last 20 years alone. As a result, almost half of our wildlife is in serious decline and valuable ecosystems have become degraded and fragmented, undermining their capacity to deliver valuable ecosystems services.

In 2001, the European Union set itself the ambitious goal of halting the loss of biodiversity by 2010. The policy framework is largely in place at Community level. Important progress has been made and there are signs that the rates of loss are beginning to slow. But the pace of change and extent of implementation had so far been insufficient to meet the 2010 target.

The EU therefore decided to re-double its efforts, and the Commission launched a new Biodiversity Action Plan in 2006. This provides a strategic European response to tackling biodiversity loss and establishes a detailed set of target driven objectives and actions at both national and European level. In addition to a focus on implementation, the Action Plan also calls for the full integration of biodiversity concerns into all other EU policy areas, from territorial and rural development policies to fisheries and development cooperation.

Partnership is essential. The Action Plan recognises that change will only happen if Member States and all sectors of society share responsibility for its implementation. It is also important to look beyond 2010 – delivery of the Action Plan is an essential basis for informing and shaping the post 2010 policy framework.

This brochure outlines key elements of the EU Biodiversity Action Plan and summarises its ten principal objectives, illustrating these with practical examples. It provides a clear demonstration of Europe's strong commitment to halting biodiversity loss in the lead up to 2010 – and beyond.

A handwritten signature in blue ink, which appears to be 'Stavros Dimas'.

Stavros Dimas  
European Commissioner for the Environment



© Staffan Widstrand/naturapi.com

Brown bear, *Ursus arctos*, with cubs, Lapland, Finland.

## Biodiversity loss: why does it matter?

Biodiversity matters for a whole variety of reasons: ethically, emotionally, environmentally and economically. It is at the very foundation of our society and the basis of our economic success and wellbeing.

- **Economically**, biodiversity sustains our economy and our quality of life. It provides us with a whole range of direct economic benefits that are all too often unrecognised and undervalued.

In many respects, an ecosystem operates in the same way as our own body's immune system. Every day, it protects us from negative outside influences, but once compromised, that immunity is lost with sometimes devastating consequences on our health. The same is true of our ecosystems: a damaged ecosystem exposes us to threats that we would normally be buffered from, such as floods or climate change. What is more, the financial cost resulting from this damage usually far outweighs any initial short-term financial gains obtained by the few individuals who destroyed the environment in the first place.

- **Environmentally**, biodiversity provides a stream of useful ecosystem services ranging from the provision of food, fuel, fertile soils, clean air and water to raw materials for clothes and medicines. Ecosystems also help regulate the climate, control floods and fires, prevent the spread of diseases and pests, fertilise crops and purify water.

Unfortunately, the value of these services is often only appreciated when they are lost. Flood events in Europe, for instance, have increased dramatically in recent years largely as a result of poorly conceived river regulation schemes, damage to watersheds and the loss of natural floodplains. The high human and financial costs of these floods bring into sharp focus the significant economic value of intact regulating services.

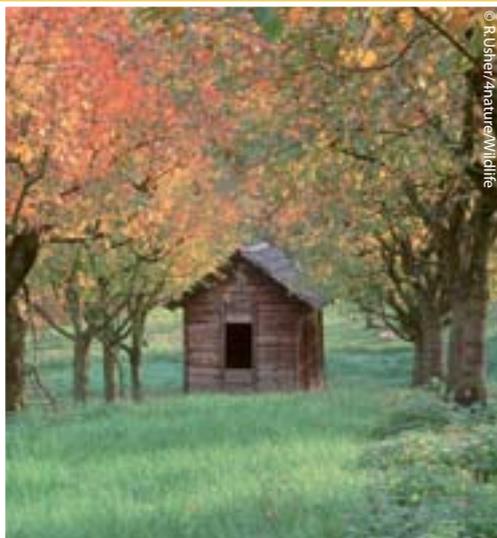
- **Emotionally**, biodiversity has an intrinsic value. It supports our cultural identity, offers spiritual inspiration and solace, and plays an important role in our mental and physical well-being.

Research has also shown that, where green areas are available locally in towns and cities, social cohesion tends to be higher and crime rates significantly lower. In addition, people who have frequent access to nature tend to be healthier and are more willing to exercise regularly if they are surrounded by a pleasant green environment.

- **Ethically**, we have a moral duty to look after our planet and preserve its riches for the benefit and enjoyment of generations to come.

Overall, there is now irrefutable evidence to demonstrate that safeguarding biodiversity, and the ecosystem services it provides, is more than just a moral pre-occupation; it has become an economic imperative. It is time we stopped spending the earth's natural capital, putting at risk the ability of ecosystems to sustain future generations.

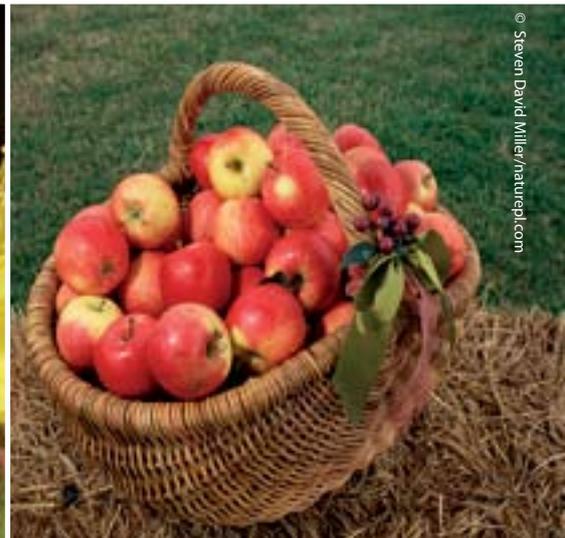
*Biodiversity is the sheer variety of life on earth. It includes all living organisms – plants, animals, even invisible micro-organisms, bacteria and genes – which, together, interact in complex ways with the inanimate environment to create living ecosystems. Biodiversity is all around us: not just in wild places and nature reserves but also in our cities, our farmland and our countryside. We are an integral part of this biodiversity and exert a major influence over it.*



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© Steven David Miller/naturepl.com

Cherry orchard in Autumn.

Buff-tailed bumble bee, *Bombus terrestris*, UK.

Apple harvest.

### Damaged river ecosystems: a high cost for society

Between 1998 and 2002, Europe suffered over 100 major damaging floods which caused some 700 fatalities, the displacement of around half a million people and at least €25 billion in insured economic losses. Today, over 10 million people still live in areas at risk of extreme floods along the Rhine, and the potential damage to material goods is valued at around €165 billion. In addition, floods have potentially severe environmental consequences and human health implications, for instance, if waste water treatment plants are inundated or toxic chemical factories are affected.

Recognising the high social and financial costs of flood events and the importance of working with nature rather than against it, the German authorities are now investing millions in restoring natural floodplains and deregulating parts of the Rhine again in order to recreate its natural functions. The tragedy is that the cost of protecting these areas in the first place would probably have amounted to only a fraction of the amount now required to repair them and could have saved lives.



© Adrian Arbib/Stillpictures

Flood damage can be significant.

<http://www.irma-programme.org/>



© Josh Trix

### National Parks in Wales: driving the local economy

A recent study of the economic value of the three National Parks in Wales designed to conserve the region's natural beauty, wildlife and cultural heritage concluded that the Parks support nearly 12,000 jobs (amounting to 10% of all employment in Wales), produce a total annual income of ca €250 million and generate ca €300 million in Gross Domestic Product.

The EU as a whole has over 250 National Parks and, whilst it is not possible to extrapolate from the figures for Wales, it is clear that, collectively, they not only provide people with attractive places to visit and enjoy but also make a very significant contribution to the local economy.

[http://www.nationalparks.gov.uk/voe\\_national\\_parks\\_summary\\_english.pdf](http://www.nationalparks.gov.uk/voe_national_parks_summary_english.pdf)

Walking in Brecon Beacons National Park, Wales.



Gothenburg EU Summit, 2001.

## The EU Biodiversity Action Plan: re-enforcing Europe's commitment to 2010

The European Union has long been committed to halting the loss of biodiversity, both on its territory and beyond. EU nature legislation dates back to 1979 and its Biodiversity Strategy has been in place since 1998. The EU Member States were also amongst the first, in 2001, to undertake to halt the loss of biodiversity by the year 2010.

Yet, whilst important progress has been made, the pace of change is still considered too slow to meet the 2010 target. Overall, biodiversity in Europe continues to decline. Almost half of Europe's mammals and birds are now under threat and even populations of the more common wildlife species are falling. Many ecosystems are still being degraded or destroyed to make way for intensive farming, ill-considered developments and urban sprawl.

Europe's high per capita consumption and waste production means that our impact also extends well beyond our continent. European lifestyles rely heavily on the import of resources and goods from all over the world, often encouraging unsustainable exploitation of natural resources elsewhere.

Recognising that more needs to be done, the European Commission launched, in 2003, a wide-ranging review and in-depth consultation amongst all sectors of society on the effectiveness of the EU Biodiversity Strategy and its associated action plans. This revealed that, whilst the policy framework was largely in place, the commitment to implement was generally lacking.

Backed by an unprecedented level of stakeholder consensus, the EU decided therefore to re-double its efforts and endorsed, in June 2006, an ambitious new Biodiversity Action Plan.

The objectives of this new EU Action Plan are to:

- Reinforce action to halt the loss of biodiversity in the EU by 2010;
- Accelerate progress towards the recovery of habitats and natural systems in the EU;
- Optimise the EU's contribution towards significantly reducing the rate of biodiversity loss worldwide by 2010.

The Action Plan identifies four main policy areas and sets out 10 key objectives to deliver the 2010 biodiversity target and put biodiversity on the course to recovery. These are, in turn, translated into over 150 individual priority actions and supporting measures which are to be implemented against specific time-bound targets at both national and European level.

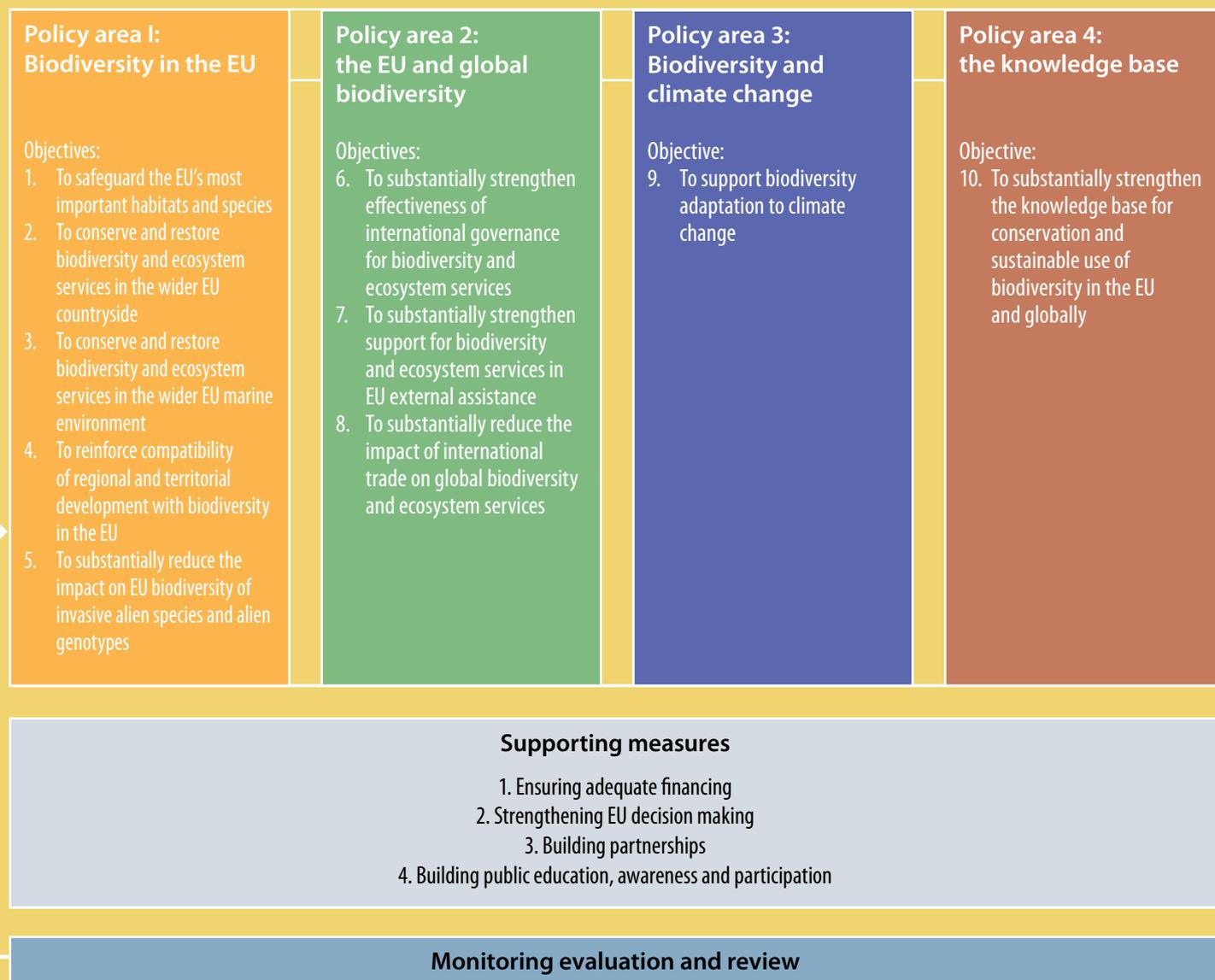
The Action Plan represents an important new approach for EU biodiversity policy as it is the first time that all the relevant economic sectors and policy areas are addressed in a single strategy document and apportioned a share of the responsibility in its implementation. It recognises that change will only happen if there is a concerted effort from all sectors of society and Member States to help deliver the overall objective of halting biodiversity loss by 2010.



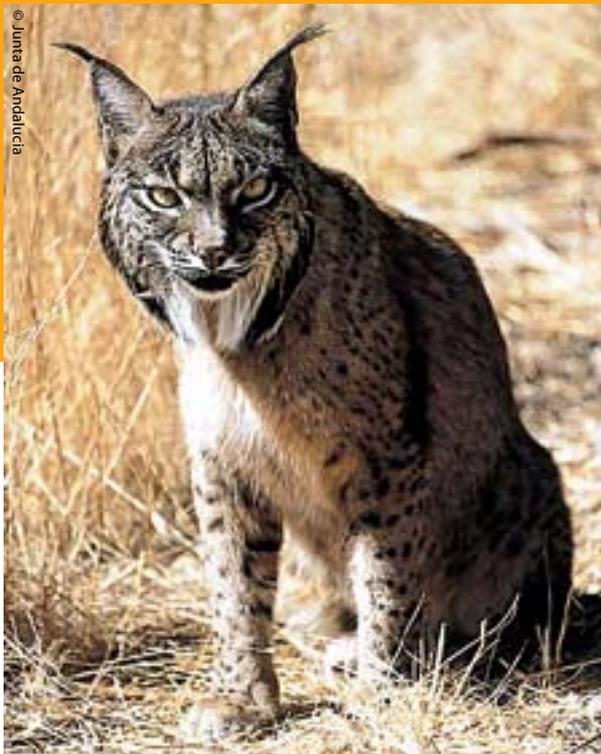


Snowy owl, *Nyctea scandiaca*, Finland.

## The EU Biodiversity Action Plan summarised



# Action Plan Objective 1: Safeguarding the EU's most important habitats and species



© Junta de Andalucía

**ABOVE** Iberian lynx, *Lynx pardinus* – one of Europe's most endangered species. **ABOVE RIGHT** Golden eagle, *Aquila chrysaetos* – looking across heathland. **BELOW** Dalmatian pelican, *Pelicanus crispus*. **BELOW RIGHT** Map of the European Natura 2000 network. **CUT-OUT** Large Copper Butterfly, *Lycaena dispar*.

## The 'Habitats' and 'Birds' Directives

Recognising that nature does not respect national borders, the European Union has adopted strong legislation to conserve its most important habitats and threatened species across its territory.

The 'Birds' and 'Habitats' Directives are at the heart of the EU's policy response to halting biodiversity loss by 2010. They set the same high standard for nature conservation across 27 countries and enable Member States to coordinate their conservation efforts, irrespective of political or administrative borders. The process is science-driven, legally enforceable and based on an approach to management that takes account of the ecosystem as a whole.

Central to the Directives is the creation of a Europe-wide ecological network of protected sites – the Natura 2000 Network – which is destined to conserve over a thousand rare, threatened and endemic species and some 220 natural habitats listed in their annexes. Around 24,000 sites have been included in the Network so far. Collectively, they cover almost a fifth of the European territory. As a result, they not only help conserve rare species but also protect valuable ecosystems and provide a safe haven for countless other wildlife.



© DT/ping/Wildlife/Anatreat

## European Species Action Plans – a recipe for success

Since 1993, the European Commission has supported the development and implementation of EU-wide Action Plans for 46 of the most threatened bird species in Annex I of the Birds Directive. Prepared by BirdLife International, every plan goes through an extensive consultation process amongst scientific experts, government agencies and civil society in order to establish European priorities for the conservation of the target species.

A recent study on the impact of these plans after 10 years found that they are indeed very effective. The report concluded that significant progress had been made in implementing 18 of the 23 plans and that

the long and medium targets had already been met for 11 of them. It also found that the majority of the species had increased in number or expanded in range during that time. Amongst the most successful were the Dalmatian pelican, Imperial eagle and Zino's Petrel whose populations increased by 20% or more. In view of the success, the Commission intends now to start developing EU-wide action plans for threatened species other than birds as well.

[http://ec.europa.eu/environment/nature/conservation/wildbirds/action\\_plans/index\\_en.htm](http://ec.europa.eu/environment/nature/conservation/wildbirds/action_plans/index_en.htm)



With such an important part of the EU in the Natura 2000 Network, it is clear that conservation management has to move away from merely establishing strict nature reserves and focus instead on working closely with all stakeholders and economic sectors to ensure that the sites are managed in a sustainable manner over the long term.

In this way, Natura 2000 fully supports the principles of sustainable development. Its aim is not to stop economic activities but rather to set the parameters by which these can take place whilst safeguarding Europe's biodiversity.



## The EU Biodiversity Action Plan

### The Biodiversity Action Plan calls on the Member States and the Community to:

- Finalise the Natura 2000 Network by ensuring that every country (particularly the new Member States) proposes sufficient sites in their territory to safeguard the listed habitats and species across their natural range in the EU;
- Designate, protect and effectively manage terrestrial Natura 2000 sites by 2010, and marine sites by 2012 to ensure that the species and habitats are maintained or restored to a favourable conservation status and their long-term conservation management is secured;
- Ensure adequate funding to manage the sites over the long-term, *inter alia*, through EU funds and through greater integration of conservation management needs in other land use activities.

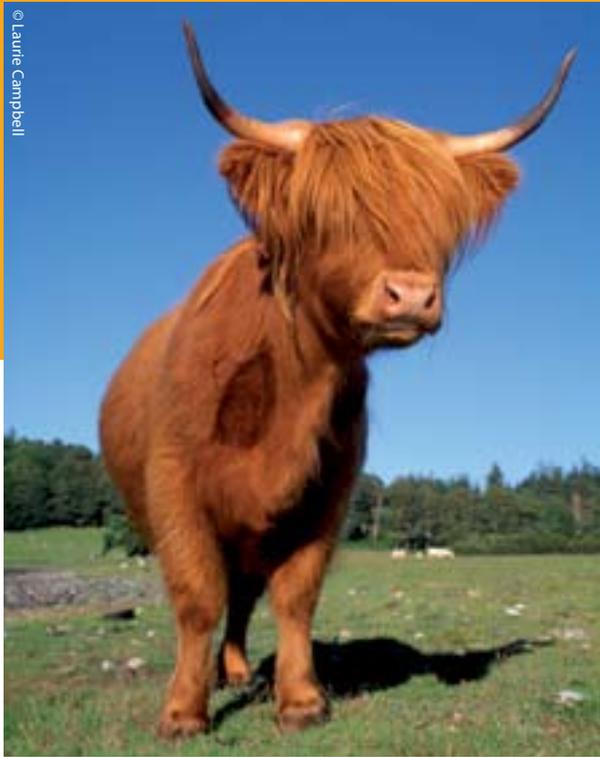
Recognising the value of coordinated action for threatened species and the need to ensure the Natura 2000 Network is both coherent and resilient the Plan also calls on Member States and the Community to:

- Ensure that no priority species are in a worsening conservation state by 2010, and that the majority of species are in, or moving towards, a favourable conservation status by 2013;
- Implement, review and develop further EU-wide species action plans for Europe's most threatened species. The intention is that new plans will be elaborated for additional bird species as well as for other wildlife, such as large carnivores. The EU LIFE-Nature programme will also continue to prioritise the funding of conservation projects that help implement the measures identified in the species action plans;
- Apply such tools as flyways, buffer zones, corridors, stepping stones etc. to strengthen coherence, connectivity and resilience of the protected areas network not only between Natura 2000 sites but also with other nationally or regionally protected areas in the EU by 2010.

The EU is also responsible for a number of outermost regions – Guadeloupe, Martinique, French Guyana and Reunion – that have an exceptionally rich biodiversity. Although not covered by the EU nature Directives, the Action Plan ensures that every effort is made to encourage a similar type of approach for the conservation of their valuable wildlife and natural areas.



## Action Plan Objective 2: Conserving biodiversity in the wider EU countryside



© Laurie Campbell  
**ABOVE** Highland cattle – a typical European breed. **ABOVE RIGHT** Bluebell woods, UK.  
**BELOW** Farmers in Ebro Delta. **BELOW RIGHT** Mixed farmland. **CUT-OUT** Corncrake, *Crex crex*, calling.

### Greening the EU's agriculture and forestry policies

The Natura 2000 Network, alone, will not be able to conserve Europe's biodiversity without action also being taken in the wider countryside. Our European landscape has been heavily modified in the last 50 years and over 80% of our land is now in productive use. As a result, many valuable ecosystems have become degraded and fragmented which undermines their capacity to deliver their valuable ecosystems services.

Farming is still one of the dominant land uses in Europe, covering almost 50% of the EU territory. It has also been a major contributor to Europe's biodiversity: around half of our wildlife species are associated in one way or another with farmland. This is due to centuries of diverse farming traditions which has resulted in the wide range of characteristic and contrasting agricultural landscapes we see today.

However, as elsewhere in the world, agriculture in Europe has changed dramatically in recent times. Driven by the Common Agricultural Policy (CAP) to increase productivity, many farms intensified their activities and became highly mechanised. Those who could not compete



### Agri-environment measures help conserve the Ebro delta

Located on the North East coast of Spain, the Ebro delta is one of the most important wetlands in the Mediterranean and a major overwintering site for hundreds of thousands of waterbirds. Two-thirds of the delta is made up of paddy fields which produce around 100,000 tonnes of rice every year.

Rice production and biodiversity are able to work hand in hand within the delta thanks to the introduction of EU agri-environment schemes. Farmers receive additional financial support in exchange for applying measures that go beyond statutory requirements, such as restricting the use of pesticides or leaving water on the fields in winter for the birds. Although this means more work

for the farmers, 80% have signed up to the schemes within the delta. The high quality of their organic rice fetches twice the normal market price and is in great demand amongst Europe's best restaurants. The area also benefits from increasing numbers of eco-tourists who come specifically to see the spectacular wildlife in the delta.

<http://www.iberianature.com/material/ebro.html>



© David Tipling/naturepl.com

found themselves increasingly marginalised and many were forced to abandon their land, with equally devastating consequences for biodiversity. Today, only 15–25% of Europe's once extensive high nature value farmland remains.

The trend for Europe's forests is of equal concern. Most of the resource continues to be managed as commercial plantations with only limited biodiversity value. Just 1–3% of the forests in the EU are still natural and unmanaged.

The rapid rate of intensification prompted a series of major reforms of the EU's Common Agricultural Policy which has resulted in the decoupling of farm payments from production and the recognition of farmers as custodians of our countryside.



© David Norton/naturepl.com

## The EU Biodiversity Action Plan

**The Biodiversity Action Plan calls on all Member States** to make best use of these enhanced opportunities under the present EU Agriculture and Rural Development Policies and the EU Forest Action Plan in order to promote biodiversity in the wider countryside and to allocate sufficient money within each national or regional Rural Development Plan to support biodiversity related measures.

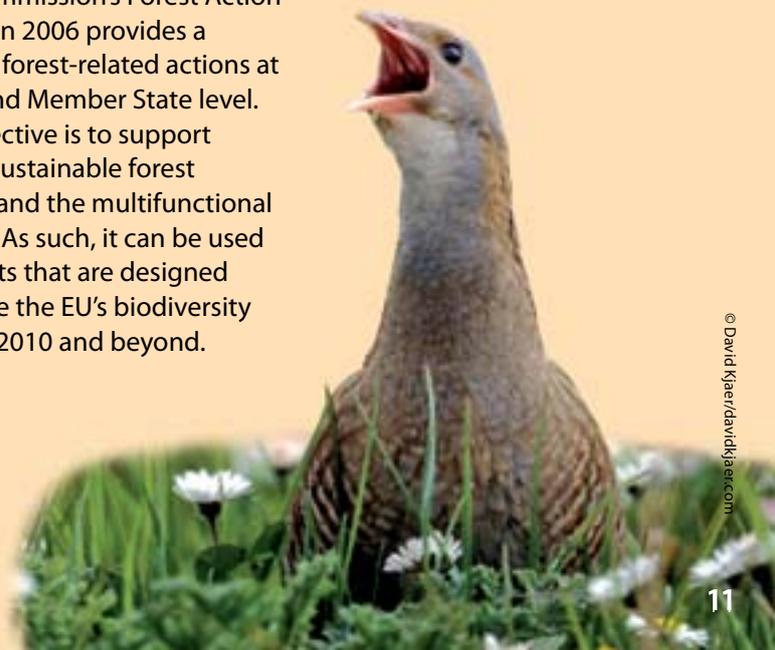
More specifically, this means taking advantage of the measures available under Axis 2 of the new Rural Development Regulation (2007–2013) which is now dedicated entirely to 'improving the environment and the countryside'. A minimum 25% of the €88 billion currently available is earmarked for this axis and could therefore deliver potentially significant benefits for biodiversity, both within Natura 2000 sites and in high nature value forest and farmland areas.

However, the extent to which this potential is fully exploited will depend on how each Member State or Region applies the broad measures foreseen under the EU Regulation within their individual Rural Development Plans. In this respect, the Commission has established strategic European guidelines to help prioritise spending, for instance by giving a clear focus to biodiversity and high nature forests and farmland.

Another key element of the new CAP is that it ensures there is cross compliance between farming practices and other EU legislation. Before receiving EU farm payments, land managers must demonstrate that they respect certain minimum standards as regards the environment, public health and animal welfare and they keep their land in good agricultural and environmental condition. The Habitats and Birds Directives are amongst the 19 EU Directives that must be complied with in this respect.

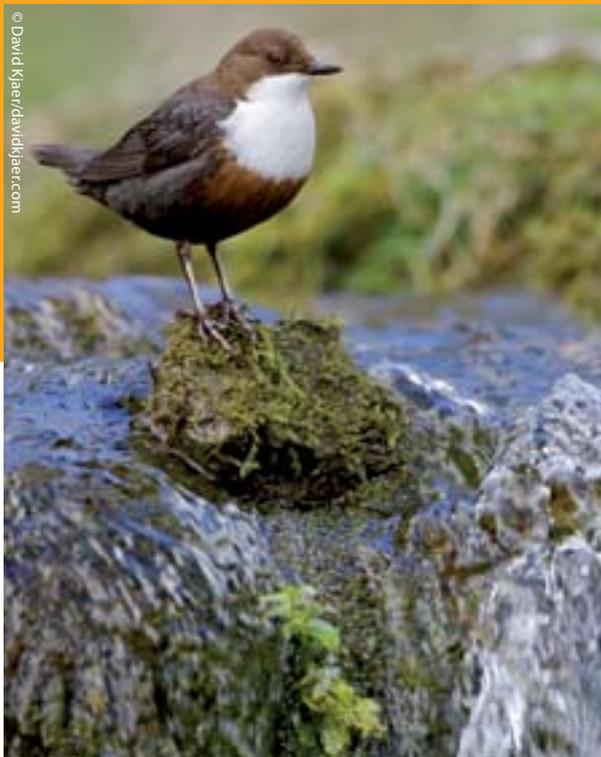
The EU has also adopted a Community Programme to help conserve Europe's rare domestic breeds and crops. There are still over 2300 different breeds of livestock in Europe today, more than anywhere else in the world. They have evolved through centuries of local farming traditions and are therefore particularly well adapted to their environment. However, many are now highly threatened as a result of changing agricultural practices.

Finally, the Commission's Forest Action Plan adopted in 2006 provides a framework for forest-related actions at Community and Member State level. Its overall objective is to support and enhance sustainable forest management and the multifunctional role of forests. As such, it can be used to fund projects that are designed to help achieve the EU's biodiversity objectives for 2010 and beyond.



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## Action Plan Objective 2: Conserving biodiversity in the wider EU countryside



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ABOVE European dipper, *Cinclus cinclus*. ABOVE RIGHT Aapa mires, Northern Finland.  
BELOW Map of new river bend at Keent. INSET Edible frog, *Rana esculenta*.  
BELOW RIGHT Water pollution. CUT-OUT Banded Demoiselle, *Calopteryx splendens*.

### Reducing pollution and restoring freshwater ecosystems

Water is both a vital economic resource and an essential feature of the natural environment. In the EU, water quality has improved over the last 20 years thanks to strict legislation. Significant advances have also been made in the treatment of sewage and industrial waste. Today, approximately 90% of the population in north-west Europe is connected to sewage treatment plants and over €5.6 billion has been invested in the last six years alone, through the EU's Structural Funds, to bring the new Member States up to the same standard.

Diffuse pollution, however, remains a challenge. Whilst some progress has been made, the widespread exaggerated use of fertilisers, especially nitrates, in intensive agricultural systems continues to pollute the groundwater and kill off our rivers, lakes and estuaries through the process of nutrient enrichment and eutrophication.

The physical management of freshwater ecosystems has also caused major problems. Most of the rivers and river basins in the EU have been modified for flood prevention, hydroelectricity, navigation or agriculture, amongst

### Putting the bends back into the River Meuse to help flood retention



The Dutch have a long tradition of 'fighting water' but, after several major floods hit the country in the 1990s, attitudes changed in favour of 'working with the river' instead. The Keent restoration project is an example of how this is being applied to flood alleviation schemes. Situated along the River Meuse, the project will re-divert a part of the canalised river into its original meanders in order to help retain excess water during periods of peak flooding. At the same time, it will recreate a valuable nature area of over 400 ha around the newly excavated meander.

In this way, the water authorities are able to address two key national priorities in one single project – one related to flood protection, the other to restoring ecological corridors. The process works because both issues are given equal footing at the early design stage which encourages 'win-win' situations and softer engineering solutions. The project is also likely to be cheaper to implement than the more classic flood retention schemes.



© Josef Hasek

<http://www.anyadavis.com/sand/index.html>



© Jorana Lohman/eurkaf

others. Not only has this led to a significant loss in biodiversity but it has also severely disrupted the river's ability to provide important ecosystem services, such as water purification or floodwater retention.

Acknowledging the high cost of cleaning up polluted waters and repairing flood damage, there has been a major rethink in Europe over how best to manage our freshwater ecosystems so that their ecological, biodiversity and economic values are taken into account at the outset. This has led to the adoption of a more holistic and integrated approach to ecosystem management which is now embodied in the EU Water Framework Directive.



© European Commission

## The EU Biodiversity Action Plan

**The EU Biodiversity Action Plan** re-enforces the need for a timely implementation of the Water Framework Directive and for sustained efforts to reduce water pollution across Europe. It also calls on Member States to protect fertile soils and to restore valuable rivers and wetlands so that they can help alleviate potential floods.

**The Water Framework Directive** is central to meeting these targets. It sets an ambitious overall objective of achieving a good water status for all European water bodies by 2015. This is achieved when the water has both a good chemical status (low levels of pollutants), and a good ecological status (in the case of surface waters like rivers and lakes). The latter is especially important for biodiversity as it acknowledges the value of intact freshwater ecosystems.

The Directive also requires that integrated management plans are developed at the level of each river basin by the end of 2009. Working at this level bring the decisions down to the most effective level and forces all administrations and stakeholders to participate, irrespective of political or administrative boundaries. Each plan will come up with an agreed programme of actions to meet the 2015 target. Measures to maintain and restore valuable freshwater ecosystems will no doubt be included, not only to protect their rich biodiversity and their landscape qualities but also to enhance their capacity to retain floodwater and purify polluted water.

As regards **water pollution**, the Biodiversity Action Plan calls specifically for action to be taken to:

- Significantly reduce point source pollution – through the better implementation of existing EU Directives on Urban Waste Water Treatments, Integrated Pollution Prevention and Control, Large Combustion Plants and Waste Incineration;
- Substantially reduce diffuse pollution from agricultural sources through a better application of the EU Nitrates Directive and the implementation of the new Thematic Strategy on the Sustainable Use of Pesticides;
- Continue to reduce airborne pollution and exposure to toxic chemicals in line with the Thematic Strategy on Air Quality and REACH.

Finally, as regards **soil protection** and **flood risk management**, the Action Plan calls for the implementation of the new Thematic Strategy on Soil Protection to minimise soil sealing, soil erosion and the loss of soil biodiversity. It also asks that Member States and the Commission assess the risks and benefits of flooding for biodiversity and ensure that flood risk management plans developed under the new Directive on the assessment and management of flood risks optimise benefits for biodiversity.



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## Action Plan Objective 3: Conserving biodiversity in the wider EU marine environment



© Jose B. Ruiz/naturepl.com

**ABOVE** Shoal of cow bream, *Sarpa salpa*, in the Mediterranean.  
**ABOVE RIGHT** La Maddalena Islands, Sardinia. **BELOW** Basking shark, *Cetorhinus maximus*. **BELOW RIGHT** Fishing boat in Waddensea. **CUT-OUT** Beadlet anemone, *Actinia equina*, Brittany, France.

### Saving Europe's seas and oceans

The seas and coasts around Europe are important for millions of people and generate much of the EU's economic wealth. Fishing, shipping and tourism businesses all compete for vital space along Europe's long and diverse coastline. Nowadays, almost half of the EU's population lives within 50 kilometres of the sea.

These activities, however, put immense pressure on natural resources and on the fragile marine and coastal ecosystems. Over-fishing is widespread and many of the assessed fish stocks in EU waters are now beyond safe biological limits. The rate of discards (the dumping of dead, unwanted, undersized fish and other marine organisms) remains unacceptably high, representing up to 20–60% of the total catch weight in certain fisheries, and causing untold damage to the marine ecosystems.

Pollution is another major problem. Over 80% of the pollution in the sea comes from land, either from agricultural run-off or from industry. Nutrient loading leads to the proliferation of toxic algal blooms while heavy metals and other hazardous substances accumulate in the marine food chain, causing potentially severe human health problems.



### Limiting the bycatch of non-target marine animals

Thousands of sea turtles, sharks, dolphins and birds die accidentally every year in European fishing nets. According to the International Council for the Exploration of the Sea (ICES) over 4,400 harbour porpoises drown as a result of fishing operations in the North Sea alone and some 55,000 sea turtles are reportedly caught in the Mediterranean on pelagic long-lines designed for swordfish.

In 2004, the EU made it obligatory for all gillnet fishing vessels over 12 m to use acoustic 'pingers' on their nets to help ward off harbour porpoises. The EU is also considering setting minimum obligatory bycatch levels for all fisheries, but in order to do so, it must first have a reliable estimate of the total abundance of cetaceans and other marine species in EU waters.

In 2005, the EU co-financed a survey of small cetaceans across the entire EU Atlantic shelf waters (SCANS II). The scale of the operation was enormous involving seven ships, three aircraft and a team of over 70 observers, illustrating just how complex it is to obtain data on marine resources. Nevertheless the survey was successful and its results are now being considered as part of a wider package of measures to help reduce bycatch and discard levels across all EU fisheries.

[http://ec.europa.eu/fisheries/cfp/management\\_resources/conservation\\_measures\\_en.htm](http://ec.europa.eu/fisheries/cfp/management_resources/conservation_measures_en.htm)



© Kerstin Lindseth/Ecosystems Ltd

Oil spills and the cleaning of ship's ballasts at sea add further to these problems, as do invasive alien species, continued coastal development and climate change.

The situation is exacerbated by the lack of adequate scientific data and the legal complexities surrounding the world's oceans, particularly in the offshore environment. The various Conventions that are in place for the regional seas around the EU (e.g. OSPAR, HELCOM, Barcelona) provide an important framework for protecting marine ecosystems but often lack the force of law.



© KINAAH J. Roerström

## The EU Biodiversity Action Plan

In 2007, the EU adopted an ambitious new **Marine Strategy Directive** to save Europe's seas and oceans and to promote their sustainable use. Using the same ecosystem based approach as the Water Framework Directive the new Directive sets the target of achieving a good environmental status in all EU marine waters by 2020.

Building on existing legislation and conventions, its aim is to create a clear overarching vision for the European marine environment. Common objectives and principles are set at the EU level but management and implementation is devolved to each of the four EU marine areas (the North East Atlantic Ocean, Black Sea, Baltic Sea and Mediterranean Sea).

**The Biodiversity Action Plan calls on** Member States and the Community to ensure a rapid and effective implementation of the Marine Strategy Directive in order to bring all EU marine waters into a good environmental condition and to integrate biodiversity and ecosystems requirements into the future EU Maritime Policy.

The Biodiversity Action Plan also calls for a more sustainable use of marine resources under the new **Common Fisheries Policy** (CFP). Measures currently being introduced are based on a gradual application of a multi-annual, multi-species approach to fisheries management which takes account of the whole marine environment, and not just the commercially valuable fish stocks.

More specifically, under the CFP:

- Long-term management and recovery plans are being developed to help rebuild collapsed fish stocks and maintain others at safe biological levels;
- The overcapacity of the EU fishing fleet is being reduced to a level that better matches the available resources;
- New measures are being introduced to protect marine habitats and species, both inside and outside Natura 2000 areas. The EU has already banned the use of damaging fishing gear in Posidonia beds in certain parts of the Mediterranean and along the reefs around the Azores, Madeira and the Canaries. Further measures, such as the use of 'no-take zones', are currently under consideration;
- Community Action Plans for the conservation of sharks and seabirds are currently being drawn up.

The Biodiversity Action Plan also encourages Member States to make best use of the opportunities available under the new European Fisheries Fund to undertake actions that are beneficial to marine biodiversity and to continue to implement the Integrated Coastal Zone Management Recommendation in order to conserve and manage Europe's extensive 70,000 km coastline in a sustainable manner.



© Christophe Courteau/naturepl.com

# Action Plan Objective 4: Integrating biodiversity into land-use planning and development



**ABOVE** 'Spaghetti junction', Birmingham, England. **ABOVE RIGHT** Low intensity farmland in Europe is rich in wildlife. **BELOW** EIAs and SEAs lead to better planning. **BELOW RIGHT** Nature also exists in our cities. **CUT-OUT** Road kills are a major threat to wildlife.

## Making space for nature

The European Union has one of the largest and most dynamic economies in the world. In recent years, it has witnessed an unprecedented number of political, social, cultural and economic advances. It has also grown substantially in size from 15 Member States in 1998 to 27 today.

All these changes bring renewed opportunities for economic growth and social welfare but also place immense pressure on natural resources and our 'territorial space'. There is an even greater demand now for new housing and transport, infrastructure developments and changing land uses. Many of the new Member States are in full transition from the old communist regime towards a more liberal market-based economy.

The impact of such sustained economic growth and changing production and consumption patterns is reflected everywhere in our landscape. Built-up areas have increased by 20% in the last 20 years, towns and cities are sprawling out into the countryside, much of our farmland is being intensified, converted or abandoned and new transport infrastructure is being built at a sustained rate.



## EIA on Billund airport's runway extension saves money as well as nature

Billund airport, in Southern Denmark, has more than 2 million passengers a year but the frequent take off and landings were proving a nightmare for local residents. Over 1,300 homes were exposed to noise levels above the recommended threshold. In order to reduce this impact, the airport authorities decided to apply for planning permission to construct a new runway on the north side of the airport away from the residential zone.

The EIA revealed, however, that the new runway was not necessary. A similar reduction in noise could just as well be achieved by changing the take-off procedure. The EIA assessors discovered that if airplanes left as

quickly as possible and turned 30 degrees right, away from Billund, at 150 m above ground, the number of homes exposed to noise – even when the airport was running at full capacity – would be reduced by 75%.

The EIA ended up saving the airport authorities €40 million as well as protecting 450 ha of farmland and a valuable old-growth forest.



© David Noton/naturepl.com

Some 12,000 kms of new motorways are foreseen over the next seven years in the new Member States alone.

The Millennium Ecosystems Assessment concluded that Europe's ecosystems have suffered more human induced fragmentation than any other continent. Yet, the negative impact on biodiversity could be minimised if certain safeguards were built into the planning process early on. Environmental damage and biodiversity loss is sometimes caused by the way a project is conceived which prevents it from taking sufficient account of the wider environmental, social and economic contexts at an early enough stage in the planning process.



© Laurent Ceslin/naturepl.com

## The EU Biodiversity Action Plan

Recognising the need for sound spatial planning policies that help prevent, minimise and offset the negative environmental impacts of regional and territorial development, **the Biodiversity Action Plan calls** for all relevant territorial plans and projects within the EU to undergo a Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA) that takes full account of biodiversity concerns.

**EIAs** are obligatory in Europe since 1986 and play a key role in assessing the potential impact of major development projects on the environment, including on biodiversity. But they only consider the specific environmental effects at the level of each individual project. Yet, many of the decisions that cause damage to the environment are made much earlier and at a more strategic level in the planning process.

In light of this, the EU adopted the **SEA Directive in 2001**, which requires a more holistic and integrated approach to territorial planning where environmental and biodiversity considerations are taken into account already at the plan or programming stage. The advantage is that such considerations are no longer treated as an after-thought but are integrated into the planning process early on and at a much more strategic level.

Environmental experts can now work alongside planners to share information and identify least damaging options for the environment at the level of a plan or programme. EIAs still need to be carried out for individual projects funded under these programmes but studies have shown that those undertaken on projects within programmes that have undergone an SEA tend, on average, to identify significantly fewer negative environmental effects.

SEAs lead to 'a better deal for the environment' and promote a more sustainable, integrated and ultimately more efficient territorial planning.

The SEA Directive is now applicable to all **EU Funds** under the new financial period 2007–2013. In this respect, **the Biodiversity Action Plan requires that** projects funded under EU programmes prevent or minimise their impacts on biodiversity and where possible make a positive contribution.

This is especially relevant for the Structural Funds which provide a major source of funding (€347 billion over a seven-year period) for infrastructure investments and large development projects across Europe. Where damage is inevitable, the projects must at least ensure that the loss is compensated for, or offset against biodiversity gains elsewhere, in order to prevent the further significant degradation, fragmentation and damage to Europe's biodiversity.



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## Action Plan Objective 5: Reducing the impact of invasive alien species



© DHarms/nature/Milfieldnet

© W.Fiederl/Wildlife/Anature



© Adrian Davies/naturepl.com

### Tackling the problem of invasive alien species

Global travel and international trade is at an all-time high. Whilst this may be good for our economy, it unfortunately also brings about the spread of non-native or 'alien' plants and animals.

Some species are brought in on purpose, some are purchased as pets or garden plants and then escape into the wild, others 'hitch-hike' their way into Europe, inside cargo ships, containers or trucks. Most tend to die out upon arrival, but a growing number thrive in their new surroundings, sometimes due to the lack of natural predators, sometimes because they are more vigorous and the host ecosystem is already under stress and vulnerable. As a result they become invasive driving out native species and damaging valuable ecosystems.

As elsewhere in the world, the number of invasive species in Europe has grown substantially in recent years and is now a major problem for biodiversity, second only to habitat loss.

**ABOVE** Water fern, *Azolla* sp., choking up rivers. **ABOVE RIGHT** Spanish slug, *Arion vulgaris*; Zebra mussels, *Dreissena polymorpha*; red swamp crayfish, *Procambarus clarkii*. **BELOW** American comb jelly, *Mnemiopsis leidyi*. **BELOW RIGHT** Giant hogweed, *Heracleum mantegazzianum*. **CUT-OUT** Colorado beetle, *Leptinotarsa decemlineata*.



© Vidar Aas

### American jellyfish causes decline in Black Sea fish stocks

The American comb jelly, *Mnemiopsis leidyi* was accidentally introduced into the Black Sea through ship's ballast water in the early 1980s. With no natural enemies in sight, its population soon exploded, consuming vast amounts of zooplankton, larvae and fish eggs. This soon led to the collapse of pelagic fish populations and caused a major shift in the marine ecosystem.

The jellyfish had literally eaten its way through the food chain. By the mid-1990s, it was estimated that the Black Sea contained over a billion tons of American jellyfish, which is more than the weight of the world's entire annual commercial fish catch combined.

The mass occurrence of *Mnemiopsis* is now acknowledged to have contributed to the sharp decrease in no less than 26 commercial Black Sea fish stocks, including anchovy and chub mackerel. Local oyster fisheries, indigenous jellyfish and even endemic dolphins also suffered. The impact was all the more devastating as the Black Sea was already under stress for heavy fishing and eutrophication. The economic cost attributed to the collapse of fisheries and tourism industries around the Black Sea is estimated at \$500 million per year.



© Josef Hasek

Invasive alien species are not just an environmental problem – they are also of major economic and social concern. Every year, ‘garden escapes’ like the Japanese knotweed and giant hogweed cause over €32 million worth of damage to inland water systems in Germany alone. The giant hogweed, with its dense stands and 5m-high flowering stems, is also a major health hazard as its toxic sap causes serious burns. Many areas where this species is now present have been turned into lifeless ‘no-go’ zones for humans and wildlife alike.

Once established, invasive species are often difficult to eradicate, it is best therefore to prevent their arrival in the first place and to catch any problems very early on.



© Czaplich / Nature/Wildlife

## The EU Biodiversity Action Plan

**The Biodiversity Action Plan calls on** the Community to:

- Develop an EU-wide strategy to address invasive alien species;
- Devise an early warning system for the prompt exchange of information and expertise between Member States on the emergence of invasive alien species and ensure full cooperation on control measures across national boundaries;
- Fully apply the Cartagena Protocol on biosafety;
- Ensure the protection of biodiversity in relation to the deliberate release of Genetically Modified Organisms (GMOs) into the environment.

It further calls on Member States to:

- Develop their own national strategies for invasive alien species;
- Implement the International Convention for the Control and Management of Ship’s Ballast Water and Sediments under the International Maritime Organisation (IMO).

Although there is a comprehensive framework of laws and procedures in place within the EU to control the entry of agricultural pests and diseases affecting crops, livestock and farmed fish, there is, as yet, no comprehensive approach at European level to deal with invasive alien species. Efforts taken in one Member State are therefore at risk of being undermined by the lack of action in a neighbouring country.

In light of this, the European Commission is currently developing a comprehensive EU framework on invasive alien species. Its objective will be to substantially reduce their impact on European biodiversity and to minimise the economic and social loss they cause.

In line with the Convention on Biological Diversity Guiding Principles, the framework will be an attempt to help:

- Prevent the invasion of damaging species in the first place;
- Detect and eradicate any invasions early on;
- Where eradication is not possible, ensure their long-term control and containment in order to prevent the species spreading further across Europe.

In developing the framework, the European Commission is building on the work already done under a number of EU funded research projects such as DAISIE, ‘Delivering Alien Invasive Species Inventories for Europe’. This project has established an inventory of the 100 worst European invaders and has created a database of all alien species in Europe. It has also established a European Alien Species Expertise Registry to help build up best practice experience on the most effective means of eradicating different species.

<http://www.europe-aliens.org>



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## Action Plan Objective 6–8: Strengthening the EU's role in combating global biodiversity loss



### International governance, trade and development cooperation

The continuing loss of biodiversity around the world demands concerted international action. As a strong supporter of the Convention on Biological Diversity (CBD), the EU is fully committed to helping combat biodiversity loss across the globe. The EU recognises that, to be a credible partner in the international arena, it must also look at the impact of Europe's high consumption patterns on the rest of the planet.

As the world's biggest trader, Europeans rely heavily on the import of a wide range of goods and resources from outside the EU: coffee, tea, bananas, vegetable oils, timber and fish etc. This increasing demand for imports may however sometimes encourage exporting countries to over-exploit their resources and deplete their biodiversity, as in the case of palm oil or soya production which has fuelled the deforestation of tropical rainforests.

The EU is also the largest donor of development aid in the world. Its development policy is designed to alleviate world poverty through political dialogue, commercial relations, free trade and development aid.



ABOVE Fruit and vegetable stall, Bakau market, Gambia. ABOVE RIGHT Tropical rainforest in Amazon basin, South America. BELOW Gorilla-watching in West Africa. BELOW RIGHT African elephant in Namibia. CUT-OUT Phantasmal poison frog, *Epidobates tricolor*.

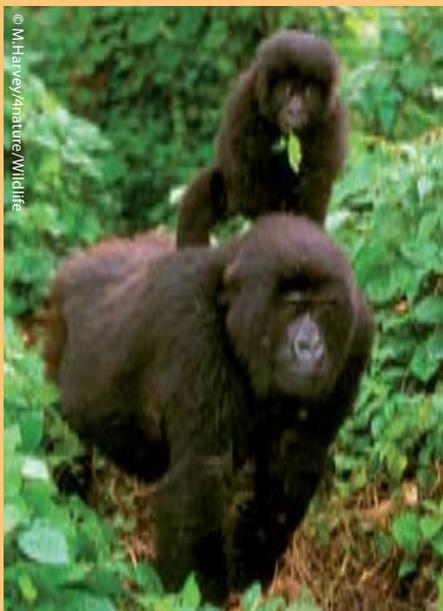
### Conserving biodiversity in Central Africa

The dense humid forests of Central Africa represent the second largest block of rainforest on earth, after the Amazon, and harbour an incredible diversity of wildlife, including many rare apes. Over the past 20 years the 'bush meat' trade has become a major threat to their survival. Its rapid evolution has been accelerated by the network of roads, many opened by logging companies, which now penetrate deep into the remotest corners of the forest.

Since 1992, the European Commission has been supporting a major regional forest conservation initiative, the ECOFAC Programme, covering six countries in West Africa. As a result of the project, some 28,000km<sup>2</sup> of forest are now being properly managed as functioning protected areas.

ECOFAC has also devoted considerable resources to providing alternative sources of revenue as a way of reducing hunting pressure on wildlife populations. Eco-tourism activities, based on great ape viewing, now generate important financial returns for local populations. Revenue from regulated safari hunting is channelled directly to the local communities and used for local development activities and management of the hunting zone.

<http://www.ecofac.org/>





© David Tipling/naturepic.com

Although environmental issues, such as biodiversity conservation, are also supported, the development cooperation process is very much demand driven and few countries so far have identified biodiversity as a priority area for development cooperation. Nevertheless, under the new EU Development Policy (2007–2013), the EU has pledged to help mainstream biodiversity into its development cooperation programmes with individual countries and regions.



© JBS/Nature/Wildlife

## The EU Biodiversity Action Plan

**The EU Biodiversity Action Plan calls on** the Community and Member States to strengthen the effectiveness of International Governance for biodiversity by:

- Pressing for effective worldwide implementation of the Convention on Biological Diversity (CBD) and other biodiversity related international agreements;
- Enhancing the integration of biodiversity into global processes such as the Millennium Development Goals, world trade and climate change mitigation or adaptation measures;
- Promoting improved ocean governance to help conserve marine biodiversity;

The Biodiversity Action Plan also calls for a substantial reduction in the impact of international trade on global biodiversity by:

- Identifying major impacts of EU trade on third countries' biodiversity and adopting measures to significantly reduce that impact;
- Fostering links between World Trade Organisation agreements and biodiversity related international agreements and promoting the acceptance of biodiversity as a 'non-trade concern' in order to help reduce the ecological impact of globalisation;
- Promoting the full implementation of the CBD Bonn guidelines on Access to Genetic Resources and Fair and Equitable Sharing of Benefits arising from their Utilisation, and other similar international agreements;
- Ensuring timber imports are derived from sustainable sources, combating illegal logging and adopting measures to prevent, minimise and/or mitigate against deforestation;
- Ensuring bilateral fisheries agreements do not deplete or destroy marine ecosystems outside the EU;
- Ensuring that the Convention on the International Trade in Endangered Species (CITES) is effectively implemented within the EU and illegal wildlife trade is controlled.

As regards EU external relations and Development Cooperation, the EU Biodiversity Action Plan requires that:

- Adequate EU funds are earmarked for biodiversity within the Country or Regional Strategy Programmes;
- Country Environmental Profiles are systematically drawn up for each Country or Regional Strategy Programme to assist in the integration of biodiversity needs into these programmes;
- Strategic Environment Assessments are systematically carried out on all draft Strategy Programmes and EIAs are conducted on all development projects funded by the EU to avoid negative impacts on biodiversity;
- A dedicated fund is set up to support, *inter alia*, conservation projects outside the EU.



© David Klæbe/davidklæbe.com

# Action Plan Objective 9: Supporting biodiversity adaptation to climate change



© David Norton/naturepl.com  
**ABOVE** Traffic: a major source of greenhouse gases. **ABOVE RIGHT** Devastating floods in the UK, 2007. **BELOW RIGHT** Arctic fox, *Alopex lagopus* – an early victim of climate change. **CUT-OUT** Looking after the next generation.

## Biodiversity and climate change

We have entered a period of unavoidable and unprecedented climate change. Unlike previous climatic fluctuations on earth, the changes we are experiencing today are largely down to our own activities (through the massive release of greenhouse gases) and are happening at a much faster rate than ever before.

The Intergovernmental Panel on Climate Change (IPCC) predicts that average surface temperatures across the globe will rise by 2–6.4°C by 2100 compared to pre-industrial levels. This not only means that our planet is getting warmer but that it will also experience more extreme weather patterns, from extended periods of drought to severe, unpredictable storms and heavy rainfall.

The impact on our biodiversity and ecosystems is difficult to predict but is expected to be considerable. As the life cycle of many wild plants and animals are closely linked to the passing of the seasons, climatic changes are likely to alter their breeding patterns, migration routes, flowering times, growth periods etc., which could put them out of equilibrium with their natural environment, disrupt food chains and so disturb the delicate balance of species within entire ecosystems.

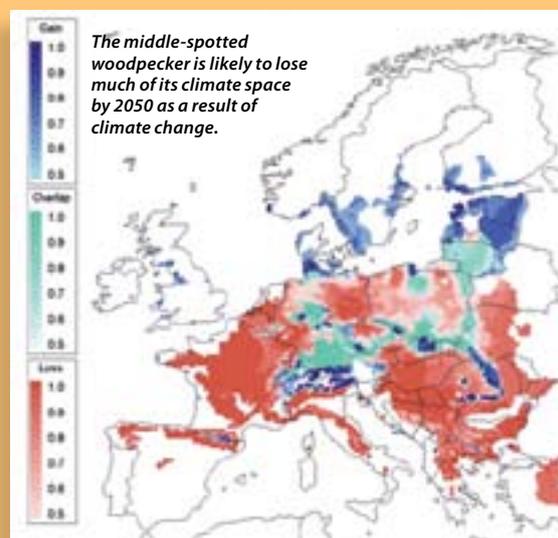
## The BRANCH project

BRANCH – ‘Biodiversity, spatial planning, climate change’ – was a three-year (2004–2007) project, funded under the EU’s INTERREG fund, aiming to promote the importance of adapting to climate change using spatial planning systems. BRANCH brought together spatial planners, policy makers and scientists from across North West Europe to:

- Review existing spatial planning policies and recommend a new policy framework to provide greater resilience for our biodiversity;
- Model how European wildlife will respond to climate change under varying climate scenarios and how their climate space might alter over time;
- Develop planning options and tools to help tackle the impacts of climate change on our coasts;
- Assess the impact of climate change on inland ecosystems and ecological networks;
- Engage stakeholders so that adaptation to climate change is integrated at all planning levels.

The project results conclude that Europe’s fragmented landscape is likely to prevent many species from moving into new areas as a result of climate change. It brings into sharp focus the urgent need to integrate biodiversity into spatial planning procedures and mitigation measures which are being developed to reduce the impact of climate change.

<http://www.branchproject.org/>





© Mark Taylor/naturepl.com

Species will attempt to move with their 'climate space' but may be prevented from doing so for a variety of reasons, not least because the wider environment outside protected areas contains many barriers to movement, such as roads, built up areas, intensively managed farmland or forestry.

Biodiversity and climate change are closely linked. Healthy ecosystems are essential for any strategy to mitigate climate change or adapt to it. In many respects, biodiversity is our life insurance for the future.



© DJ Cox/Wildlife/nature

## The EU Biodiversity Action Plan

The EU is leading the way in tackling global climate change. Its overall objective is to limit the rise in global surface temperatures to no more than 2°C above pre-industrial levels and to move towards a low carbon economy.

In order to achieve these ambitious targets, the European Commission is working on a new far-reaching climate and energy policy for Europe. A central aim is to reduce the EU's greenhouse gas emissions by at least 20% of their 1990 levels by 2020 – or by 30% if other industrialised countries agree to do the same.

The new proposals will also boost renewable energy sources like wind and solar power or biomass production. At the moment, renewables account for 8.5% of the EU's energy consumption. The goal is to more than double this to 20% by 2020 and for biofuels to make up 10% of petrol and diesel by the same date.

Recognising the potential impact of climate change on global biodiversity, **the EU Biodiversity Action Plan** endorses these ambitious new measures and, additionally, calls on Member States and the Community to:

- Recognise the central role biodiversity and ecosystems can play in reducing the impact of, and adapting to, climate change, for instance in helping to reduce floods, prevent erosion or absorb greenhouse gases etc.;
- Ensure that any mitigation or adaptation measures adopted to combat climate change do not impact negatively on biodiversity. In this respect, the Commission's Green Paper on climate change adaptation recognises the central importance of maintaining healthy functioning ecosystems as part of our strategy of coping with climate change. It is also large scale research projects like ALARM "Assessing large scale environmental risks on biodiversity" <http://www.alarmproject.net/alarm/>;
- Ensure that the relationship between climate change and biodiversity is fully recognised.

**The Biodiversity Action Plan also calls for action** to be taken to:

- Improve the resilience and connectivity of protected area networks, such as the Natura 2000 Network, in order to ensure they continue to act as safe havens for species adjusting to climate change;
- Actively help Europe's biodiversity adapt to climate change by developing a comprehensive programme of priority actions aimed at assisting those species and habitats most at risk.

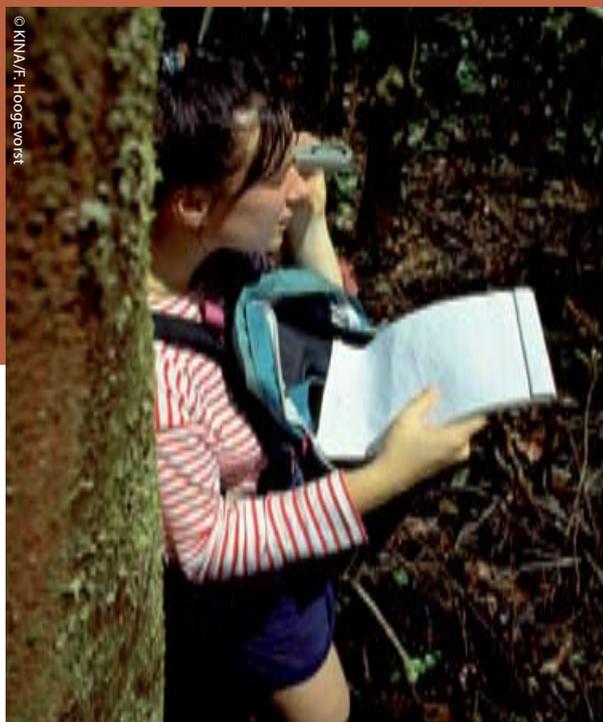


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## Action Plan Objective 10: Improving our knowledge base



© Wildlife/Anatreat



© KINA.F. Hoogevoorst

**ABOVE** Field research, French Guyana. **ABOVE RIGHT** Alpine marmots, *Marmota marmota*. **BELOW** Volunteers count wild meadow plants in Wales.

### European biodiversity research

Our knowledge of biodiversity and how ecosystems work is still relatively limited despite decades of research. The lack of knowledge must not however be used as an argument for inaction. We know enough to know that biodiversity loss is at an all-time high, that our ecosystems are under immense pressure and that a precautionary approach is urgently required for their sustainable management and use.

Strengthening our understanding of biodiversity and ecosystems services is nevertheless important if we are to refine and improve our policy responses in the future. In Europe, successive EU Framework Programmes for research, technological development and demonstration activities have helped to increase our knowledge base. They have also facilitated a European approach to biodiversity, land use and climate change research and, as a result, improved the science-policy interface.

## The EU Biodiversity Action Plan

### The EU Biodiversity Action Plan calls on Member States and the Community to:

- Reinforce independent scientific advice and establish a mechanism to fill any gaps in the science policy interface;
- Allocate adequate financial resources to European and national biodiversity research under the new EU Framework Programme (FP7) and enhance research efforts on the status, trends and distribution of European habitats and species;
- Enhance research on the most significant pressures on biodiversity, develop and test prevention and mitigation options;
- Establish an effective and inclusive European Research Area for biodiversity;
- Establish common data standards and quality assurance procedures to enable interoperability of key European and national biodiversity databases and inventories.



© T. Dines/Panliffe

## Supporting measures: Finance, governance, partnerships, awareness raising



**TOP** Games are being used in Spanish schools to explain the importance of biodiversity. **ABOVE** Speakers and panelists at a major conference on 'the EU Business and Biodiversity Initiative' held in Lisbon, November 2007. <http://www.countdown2010.net/business/european-business-and-biodiversity-initiative>.

## Involving all sectors of society

In order to ensure that the Biodiversity Action Plan objectives and targets are met, adequate financing is required to support biodiversity measures within the various EU and Member States' funding instruments. The Community and Member States also need to coordinate their various activities to ensure a coherent and effective approach to biodiversity conservation across the EU.

Ultimately though, we will only meet the 2010 target of halting biodiversity loss if all sectors of society – from public authorities and industry to private landowners and individual members of the general public – are actively involved. In this respect, one of the EU's Biodiversity Action Plan's aims is to get 10 million Europeans actively involved in biodiversity conservation initiatives by 2010 and to actively engage the business community in the fight against global biodiversity loss.

## The EU Biodiversity Action Plan

### Supporting measures for the EU Biodiversity Action Plan include:

- Ensuring adequate financing for the Natura 2000 network and for biodiversity in the wider environment under the various EU financial programmes;
- Strengthening the EU decision-making process to ensure that biodiversity concerns are integrated into all EU and national policies and new initiatives are screened for their potential impact on biodiversity. Greater coordination and coherence will also be encouraged between Community actions for biodiversity and those undertaken by Member States;
- Ensuring the active collaboration of all key stakeholder groups in the conservation of biodiversity across the EU territory;
- Raising awareness and encouraging public participation in biodiversity conservation initiatives.





© G.Martin/BIOS/nature

Monitoring bird movements using telemetry.

## Monitoring progress to 2010 – and beyond

To know whether we are succeeding in meeting our 2010 target of halting biodiversity loss, it is essential that we review progress in implementing the EU Biodiversity Action Plan at regular intervals and monitor the impact it is having on biodiversity in Europe. In this way, additional measures can be taken if it is found that certain targets are not being met or if they are not having the desired effect. In this respect, the European Commission will report back at regular intervals on progress made in implementing the EU Action Plan.

Determining the impact of the Action Plan on Biodiversity is rather more complex. Work is underway to develop a set of 26 European 2010 biodiversity indicators to assist in this process. The advantage of these 'indicators' is that they help to summarise complex and often disparate sets of data. They are, in many respects, like the temperature or fuel gauges in the cockpit of a plane. The gauges show the pilot that the plane is operating smoothly, or in the event of a malfunction, allows them to take immediate action, without having to understand the full complexity of the plane's functionality.

Similarly biodiversity indicators offer carefully selected range of interrelated information, which can be used both individually and in combination, to provide a consistent framework for assessment. Some of the 26 European biodiversity indicators directly track the impacts on a component of biodiversity (eg the state and trends of common farmland birds – see box), whereas others reflect threats to biodiversity, its sustainable use and integrity.

In addition to the biodiversity monitoring indicators the EU is also developing a 'traffic light system' for assessing whether or not the 1,000 or so species and 220 habitats of European interest protected under the Habitats and Birds Directives are in, or progress towards, a favourable conservation status. This will not only help to determine the impact of these two EU directives on safeguarding Europe's most important habitats and species but will also give a general indication of biodiversity trends in Europe.

Finally, recognising the value of the 2000 Millennium Ecosystems Assessment undertaken by the UN, the European Environment Agency launched in 2007 a EURECA project on a major ecosystem assessment for Europe. The Assessment will be published in 2012.

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Children looking at a nest box, Norway.



© Tomi Muukkonen/birdfoto.fi

Common tern, *Sterna hirundo*.

## European 2010 Biodiversity indicators

### Status and trends of components of biodiversity

1. Abundance and distribution of selected species (e.g. birds, butterflies)
2. Change in status of threatened species
3. Change in status of protected species of European interest
4. Trends in ecosystems coverage
5. Trends in habitats of European interest
6. Trends in genetic diversity of domesticated species (livestock, crops)
7. Coverage of nationally designated protected areas
8. Coverage of Natura 2000 sites

### Threats to biodiversity

9. Critical loads for excess nitrogen deposits
10. Trends in invasive alien species in Europe
11. Impact of climate change on temperature-sensitive species

### Ecosystems integrity, goods and services

12. Marine trophic index of European seas
13. Fragmentation of natural and semi-natural areas
14. Fragmentation of river systems
15. Level of nutrients in transitional, coastal and marine waters
16. Freshwater quality

### Sustainable use

17. Area of forest under sustainable management
18. Extent of deadwood in forests
19. Nitrogen balance in agriculture
20. Areas being managed in a way that potentially supports biodiversity
21. State of European commercial fish stocks
22. Effluent water quality from finfish farms
23. Ecological footprint of European countries on the rest of the world

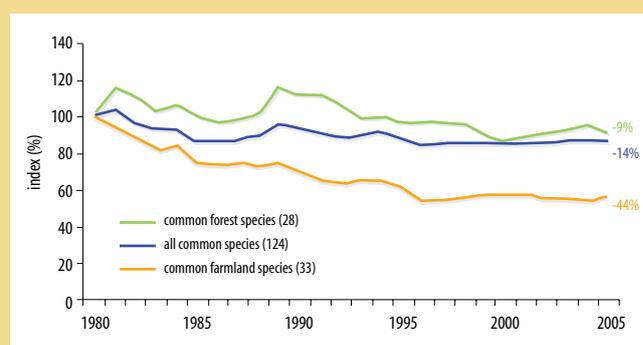
### Other

24. Patent applications based on genetic resources
25. Financing biodiversity management
26. Public awareness and participation

## The common bird index

Birds are excellent barometers for the health of our environment: they occur in a wide range of habitats, reflect changes in other animals and plants, are sensitive to environmental degradation and have great resonance with the public. They are also relatively easy to observe and have a long tradition of monitoring across Europe. That is why they have been selected as a key indicator not only of the state of Europe's biodiversity but also of whether or not the EU is meeting its overall sustainable development objectives.

The pan-European common bird monitoring scheme (PECBM) is run collaboratively by BirdLife International and the European Bird Census Council, with support from Statistics Netherlands. The scheme collates national data on 124 common bird species collected from 20 European countries by a European network of ornithologists. The resulting 'Common Bird Indicator' shows at a glance the general overall health of the environment and of key habitat types in the European Union. The most recent survey from 2007 shows that common farmland birds in Europe have declined steeply over the last two decades, whilst common woodland birds and generalist species have declined more moderately.



EBC/RSPB/BirdLife/Statistics Netherlands

