Nature & Biodiversity

LIFE PROJECTS 2012
Introduction to LIFE+ Nature & Biodiversity 2012

LIFE+ Nature & Biodiversity 2012: Commission funds 92 innovation projects in 24 countries with €139.3 million

The European Commission has approved funding for 92 new environment projects in 24 countries under the LIFE+ Nature & Biodiversity programme 2012. These projects will demonstrate new methods and techniques for dealing with a wide range of problems affecting species, habitats and biodiversity in Europe. The projects are led by ‘beneficiaries’, or project promoters, based in Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, the Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden and the UK. They represent a total investment of €247.4 million, of which the EU will provide some €139.3 million.

Background

LIFE is the EU’s financial instrument to support environment and nature conservation projects throughout the EU, and in certain non-EU countries. Since 1992, LIFE has co-financed some 3 900 projects, contributing approximately €3.1 billion to the protection of the environment. LIFE+ is the European financial instrument for the environment with a total budget of €2.143 billion for the period 2007-2013. During this period, the Commission is launching one call for LIFE+ project proposals per year. LIFE+ Nature & Biodiversity is one of three thematic components under the LIFE programme. The other two components, LIFE+ Environment Policy & Biodiversity and LIFE+ Information & Communication, focus respectively on supporting pilot projects that contribute to the development of innovative policy ideas, technologies, methods and instruments; and on disseminating information and raising the profile of environmental issues, or providing training and awareness-raising for the prevention of forest fires.

LIFE Nature & Biodiversity in 2012

LIFE+ Nature & Biodiversity projects aim to improve the conservation status of endangered species and habitats. Of the 258 proposals received under the 2012 call for proposals, the Commission selected 92 projects for funding. These projects will be carried out by partnerships of conservation bodies, government authorities and other parties located across 24 Member States. In total, they represent an investment of €247.4 million, of which the EU will provide some €139.3 million.

The majority (82) are Nature projects, contributing to the implementation of the Birds Directive and/or the Habitats Directive and the Natura 2000 network. The other 10 are Biodiversity projects, a LIFE+ project category for pilot initiatives that tackle wider biodiversity issues. The total amount invested in Biodiversity projects will be €14.5 million.

More information on each LIFE+ project is available at: http://ec.europa.eu/environment/life/project/Projects/index.cfm

Contact details for the relevant national authorities can be found at: http://ec.europa.eu/environment/life/contact/national-contact/index.htm
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Reason for Hope - Reintroduction of Northern Bald Ibis in Europe

Project background

The northern bald ibis is listed as ‘critically endangered’, with only one remaining colony in Morocco (consisting of around 200 adults) and a few individuals in the Middle East. A further colony with up to 100 individuals exists in Birecik, Turkey. Though these birds are a remnant of a former migratory colony that is now semi-captive, they are a valuable genetic backup for the Middle East birds and a resource for reintroductions. In Europe, the species became extinct about 400 years ago, mainly due to human persecution, possibly worsened by climate change (Little Ice Age) and the Thirty Years’ War.

In 1997, a first European sedentary, partly free-flying, northern bald ibis colony was established in Upper Austria. In the following years, further sedentary colonies were established in Rosegg, Austria and in Andalusia, Spain. The two Austrian semi-captive breeding colonies consist of up to 50 birds per colony and are self-sustaining during the vegetation period. These colonies strongly indicate that in Europe suitable habitats for free-flying birds are available.

Project objectives

The main objective of the project is the reintroduction of the critically endangered northern bald ibis into Europe and the establishment of a pattern of migration that will ensure the survival of the species. The work is based on a 10-year feasibility study that led to the creation of a first small migratory breeding group. Nine partners in three countries will establish migratory breeding colonies in Germany and Austria, with a common wintering area in Tuscany. The majority of birds will be electronically monitored, while genetic screening will optimise the genetic variability. Juvenile birds will be provided by sedentary free-flight and zoo colonies.

Monitoring and management will reduce losses from illegal hunting. In the medium term, a ‘Reason for Hope’ campaign consisting of conservation and demonstration actions across Europe, with a major focus along the migration corridor, is also expected to reduce losses and raise awareness of European migratory bird species in general. Various public relations activities, particularly with European zoo partners, and media coverage will raise awareness about the need to conserve this species, as well as the importance of sustainable land use and the value of biodiversity.

Expected results

• Three self-sustaining, migratory northern bald ibis colonies with a common migration tradition; by 2019, the colonies will consist of a minimum of 119 birds, a figure greater than the minimum viable population size;
• Permanent electronic monitoring of up to 100 birds by the use of a specially developed GPS system. Live tracking via internet will allow the public to follow the majority of the birds;
• Implementation and development of innovative methods and techniques for conservation, monitoring and scientific assessment, thus offering substantial benefits for other conservation and research projects;
• A substantial increase in public awareness (measured by regular surveys) of the northern bald ibis and the threats it faces.
Project background

The project area encompasses two main Natura 2000 (N2000) network sites, the “Styrian Dachstein plateau” (7 455 ha) and “Totes Gebirge” (16 178 ha). Two smaller N2000 network sites and several habitat connectivity corridors are also included within the project area. The main habitat type targeted by the project is forest. During recent centuries, monocultural spruce forests have been developed that are characterised by low diversity and structure, increasing sensitivity to pests and a wetter micro-climate.

The alluvial and riparian forests have become degraded through regulation of rivers and drainage of wetlands. Open areas, which formerly were used as alpine pastures, are often abandoned and the valuable grassland habitats are progressively overgrown by spruces.

Project objectives

The focus of the project is to improve the structural diversity in the forests, as well as the function of ecological corridors between the mountainous areas.

The main objectives are:
- To develop forest areas characterised by an ecological diversity and high share of dead wood within the “Dachstein plateau” and “Totes Gebirge” N2000 sites;
- To create a “grouse habitat network” for Tetraonidae (grouse/capercaillie) through the development of “stepping stones” between the two Natura 2000 sites on some 300 ha;
- To create the “Mitterndorfer habitat network”, a system consisting of peatlands and wetlands. After the restoration of target habitats, some 150 ha will be nominated for inclusion in the Natura 2000 network;
- To integrate regional partners and non-governmental organisations into the project and carry out public relations activities focusing on LIFE and the N2000 network.

Expected results

- Transformation of 2 600 ha of spruce-dominated montane forests to ensure ≥ 10 m³ of dead wood per ha, thereby providing suitable habitat for a number of saproxyllic species;
- Development of 300 ha of forest according to the needs of the wood grouse (Tetrao urogallus - goal ≥ 150 breeding pairs) and of 50 ha of sub-alpine shrub vegetation for the black grouse (Tetrao tetrix - goal ≥ 290 breeding pairs); adoption of a 300 ha core "grouse habitat network” area into a Natura 2000 network site;
- Restoration of 1 km of drainage ditches and 60 ha of peatlands;
- Creation of small habitats for the yellow-bellied toad (Bombina variegata);
- Restoration of some 15 km of the river Salza;
- Restoration of 4 km of valley creeks and removal of barriers to improve habitats for the stone crayfish (*Austropotamobius torrentium*), bullhead (*Cottus gobio*) and other freshwater fish species;
- Creation of 15 ponds > 40 m² for the Italian crested newt (*Triturus carnifex*);
- Implementation of a gene pool programme for the stone crayfish;
- Re-naturalisation of the river mouth area of the Stimitz river in lake Grundlsee; for the Caspian shemaya (*Chalcalburnus chalcoides*); and
- Connection of the regional nature trail network and creation of three theme trails of (2.5 km long). Five information points will be creating along the trails.

Themes: Biodiversity issues: Ecological coherence / Habitats: Forests
Restoration of natural habitats for critically endangered species by defragmentation of the Sonian Forest

Project background

The Sonian Forest (Forêt des Soignes/Zoniënwoud) is a 4,421-ha forest in Belgium that is primarily within the administrative region of Vlaams Brabant (Flanders), as well as covering parts of south-east Brussels and Brabant Wallon (Wallonia). Roads and railways, however, run through the forest dividing wildlife populations. Monitoring of road kill of the most common species (e.g. roe deer and red foxes) shows that more than 50 individuals die every year. Several protected species are found in the area: Daubenton’s bat (Myotis daubentonii), Leisler’s bat (Nyctalus leisleri), the European pine marten (Martes martes), ground beetle (Carabus coriaceus), palmate newt (Lissotriton helveticus) and Eurasian beaver (Castor fiber). Populations of critically-endangered species can be maintained or improved by using defragmentation techniques to restore their habitats.

Project objectives

The project aims to connect areas of the Sonian Forest with high ecological value by constructing wildlife crossings (such as underpasses, viaducts and culverts) and erecting fences to impede the access of wild animals to roads and rail lines. It also aims to protect forest biodiversity through nature-friendly and adapted forest management (e.g. the restoration of forest edges along the Brussels ring and the creation of open areas) and by redirecting recreation activities to less sensitive areas.

The project site covers 2,761 ha. The necessary measures have been or will be included in a new forest management plan. To achieve this objective, a partnership between the agency for nature and forests, the agency for roads and traffic, the Brussels Institute for Environmental Management, the department of environment and energy and the local government of Overijse and Hoeilaart has been formed.

Expected results:
The project expects to achieve the following results:

- Restoration and reconnection of relevant habitats by reinstalling ecological corridors to counteract the fragmentation of the Sonian Forest. This will enable movement between isolated patches of vulnerable species;
- Extension of the populations of typical species of this forest;
- At least a 90% reduction in road kill; and
- Involvement of local residents in the conservation of Sonian Forest and its valuable European habitats and species.
Grassland restoration in the East Coast polders

Project background

Some 2 000 years ago, the original mudflats along the Belgian coast were closed off by a dune belt, behind which an extensive area of peat bogs formed. Incursions by the sea during the Middle Ages caused this bog to become saline and left it covered with a fertile layer of mud. Converted to polders, the land has been used mostly as pasture. Since the 1960s, the polder grasslands have been levelled, and large areas drained, excessively covered in manure or transformed into maize fields or high-yield grasslands.

Nevertheless, the polders at the eastern end of the Belgian coast are core-areas for inland saline habitats and are an important breeding and wintering territory for many grassland bird populations, including ducks, geese and waders.

The project site comprises four areas: Uitkerkse polders (1 223 ha), Zwaanhoek (166 ha), Ter Doest (63 ha) and Polders van Koolkerke tot Lapscheure (5 247 ha). Local NGOs began the first conservation initiatives in the early 1990s. In 1999 and 2003 Natuurpunt launched two LIFE projects in the Uitkerkse Polder to purchase and restore degraded grasslands.

Present threats in the project site relate to the direct destruction of the micro-topography of the (salty) grasslands, inadequate management, non-optimal water-level management, disturbance and insufficient public support.

Project objectives

The main objective of this project is the large-scale restoration of typical grassland habitats in the polders of the eastern Belgian coast. The habitats 1310 (Salicornia and other annuals colonising mud and sand) and 1330 (Atlantic salt meadows Glauco-Puccinellietalia maritimae) form a patchy network throughout the project area. Because of their size and isolation, some patches are very vulnerable to further degradation.

The project also focuses on breeding and wintering species of grassland birds, including the pied avocet (Recurvirostra avosetta) that is listed in Annex I of the Birds Directive. Furthermore, the project area is an important wintering site for Annex I species such as the short-eared owl (Asia flammeus), pink-footed goose (Anser brachyrhynchus) and greater white-fronted goose (Anser albifrons).

Expected results

- Large-scale restoration and sustainable management of 75.5 ha grassland with Annex I habitats 1310 and 1330 in the pSCI;
- Restoration of an additional 140 ha of grassland habitat leading to increased breeding or wintering populations of various bird species of Community interest in the SPA; and
- Enhanced visitor facilities and dissemination of information in the area.

Annually, 60 to 80% of the Spitsbergen population of pink-footed goose winters here. These primary target species act as umbrella species for others such as barnacle goose (Branta leucopsis) and black-winged stilt (Himantopus himantopus). Grassland restoration focuses mainly on restoring the typical micro-relief and on optimising the hydrology of the project area. Suitable nesting sites for the Western marsh-harrier (Circus aeruginosus), also will be created.
Project background

Wet and dry heath vegetation, bogs, mires and lowland river systems covered much of the Campine region in north-eastern Belgium, until the early 20th century, when industrialisation, urbanisation and intensification of agricultural practices largely destroyed this natural landscape mosaic. The project area lies within the southern limit of the sandy Campine region, and is part of the ‘Grote Nete’ proposed ecological site for protection under the EU’s Natura 2000 network.

The soil is very varied, with a rich microtopography and iron-rich seepage water. Alluvial woods are still present, in spite of the human intervention on the hydrology of the area.

Current threats are: habitat fragmentation; existing plantations and spread of invasive alien plant species; habitat loss caused by lack of suitable management; eutrophication as a result of nitrogen deposition and agricultural practices; unnatural hydrology; and a lack of social support.

Project objectives

The lowland river system ‘Grote Nete’ is well-suited to the development of a vast woodland with new habitat for very critical species such as otter (*Lutra lutra*), black stork (*Ciconia nigra*) and beaver (*Castor fiber*). The main focus of this project – encompassing a surface area of 1 700 ha – is the large-scale restoration, development and sustainable management of alluvial forest (90%), mainly by means of natural forestation, and of small pockets of the most valuable open habitats (10%). This increase of habitats will be sustainable, because of the acquisition of at least 120 ha, which is the best way to protect these habitats in the long term.

Based on studies of the abiotic (non-living) environment, the top layer of the phosphate-enriched soil will be excavated, to ensure the right conditions for the development of valuable habitats. Furthermore, the project aims to restore the habitat of Annex II fish species by improving the structure of the river or smaller streams and by facilitating the migration of these species. The sites of former weekend houses will be reintegrated in the natural river valley.

The beneficiary and partners also aim to offer unique adventurous nature experiences and create public awareness that will remain in people’s minds. Stakeholders will be involved and support of local authorities for the project is also expected because of the ecological and financial benefits it brings.

Expected results

- The large-scale restoration and sustainable management of at least 108 ha of the priority habitat 91E0* (alluvial forests). In the long term, the restored area will be large enough to potentially host vulnerable species such as the otter, beaver and black stork;
- An increase of the populations of the Annex II fish species *Lampetra planeri*, *Cobitis taenia*, *Cottus perifretum* and *Rhodeus sericeus amarus*;
- A sustainable increase of populations of Annex II species of the Habitats Directive *Myotis dasycneme* and of Annex I species of the Birds Directive e.g. *Luscinia svecica*; and
- Raised awareness through an improved visitor experience.
Habitat Restoration of alluvial forests and creeks within the flood controlled Scheldt estuary site
Kruibeke-Bazel-Rupelmonde

Project background

The project area is located in Flanders, near the border of the province of East Flanders and Antwerp. Here, the Sigma-plan is being implemented by the Flemish authorities, in collaboration with stakeholders in the agricultural and nature sectors. One of the aims of the plan – which is linked to the economic development of the port of Antwerp – is to make the area around the river Schelde more natural, safer and more accessible. This forms part of a long-term vision for the Schelde estuary, which was agreed by authorities in Flanders and the Netherlands.

Project objectives

The main aim is to develop a sub-area of Kruibeke-Bazel-Rupelmonde (89.97 ha) as a high-quality site, in a good state of conservation, that functions as a flood and recreational area.

The project will help restore a total of 79.64 ha of alluvial forests and 10.23 ha of small lakes. Such restoration will have a beneficial impact on the European bitterling, spined loach, bluethroat, common kingfisher, little bittern and purple heron. The project will also introduce a specially tailored forest management plan, as well as regulating its use for recreation through the creation of an accessibility plan. It will also try to increase local public support for nature conservation.

Restoration measures for the alluvial forest habitats and small lakes will include:
• Optimisation of water management;
• Construction of a fish passable flood-control dam;
• Ecological reconstruction of banks;
• Restoration of a forest complex that is rich in structure;
• Removal of foreign material and illegal constructions; and
• Total depletion and removal of burrowing fish species with a view to fish stock management.

Tailored nature and forest management measures will include:
• Drafting of an integrated nature and forest management plan for Kruibeke-Bazel-Rupelmonde, with a view to the establishment of a Flemish nature and forest reserve; and
• Conclusion of a management agreement between the owner of Waterwegen en Zeekanaal NV and the administrator ANB, in order to achieve long-term conservation objectives.

Control of recreational activities will include:
• Refining the visitor’s management plan for woods and creeks in the sub-areas of Bazel and Rupelmond polder; and
• Reorientation of recreational flows with clear zoning.

Expected results:
• A total of 79.64 ha of the habitat relic forests on alluvial soil, and a total of 10.23 ha of the habitat ‘natural eutrophic lakes with Magnopotamion or Hydrocharition-type vegetation’ will be restored;
• The area will obtain the protection status of a Flemish nature and forest reserve;
• The implementation of the accessibility plan will improve access to the forests for hikers; and
• Communication actions will help to make the new hiking paths better-known, and to enhance the appeal of the forests to visitors.

Beneficiary:

Type of beneficiary
Regional authority

Name of beneficiary
Agentschap voor Natuur en Bos

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Name of contact person
Laurent VANDEN ABELE

Duration of project:
48 months (01/09/2013 – 01/09/2017)

Total budget in euro:
1,744,732.00

EC contribution in euro with %:
872,366.00 (50.00%)

Theme: Habitats: Freshwater-Forests
FLemish And North-French Dunes REstoration

Project background

The coastal dunes between Dunkirk in France and Westende in Belgium make up one of the most famous dune systems in continental Europe. The area is characterised by broad sandy beaches, carved foredunes, megaparabolic dunes with large humid dune slacks and low, gently undulating older ‘fossil’ dunes. Atlantic salt marshes also occur in the Yzer estuary, at Nieuwpoort.

The dune soils have a high lime content, except for those of the ‘fossil’ dunes, which are heavily decalcified. During the 20th Century, the dunes on both sides of the border became strongly degraded as a result of urbanisation, water extraction, recreational use, the fixation of sand drift, invasion by alien species, intensification of agriculture in the transitions between dunes and polders, and the decline of traditional agro-pastoral activities on the remaining dune area.

Project objectives

The project aims to consolidate the Natura 2000 network in both countries by restoring habitats that are typical for the sedimentary coasts of the Atlantic biogeographical region, and by boosting the populations of species of Community interest. It aims to achieve these goals through land purchase, management planning, nature restoration, public awareness raising and by strengthening cooperation between the Belgian and French public authorities that are competent for the acquisition and management of protected sites. The project will also establish an Advisory Committee (to be continued after the end of the project) as a transnational management board, and draw up a cross-border directive management plan for the management of the dune belts. In this way, the project aims to be a first step in the establishment of a transnational ‘European’ natural park, which will serve as an example of cross-border cooperation for other Member States.

Expected results

Belgium:

- Management plans for at least 93 ha of dunes that were purchased by the Agency for Nature and Forests between 2005 and 2010 and are scattered over five different sites. These sites will receive the legal status of a Flemish nature reserve;
- The acquisition of 30 ha of dunes to expand the publicly-owned and actively-managed dune area, and
- Restoration of 2 ha of humid dune slack habitat, the creation of three ponds, and the restoration of three ponds as aquatic habitat for the great crested newt and the natterjack toad.

France:

- The acquisition of 58.3 ha of dunes that will be added to the managed, publically-owned sites;
- Restoration of 65.1 ha of humid dune slacks and grey dunes;
- Optimisation of 3.6 ha of habitat of the narrow-mouthed whorl snail (Vertigo angustior);
- The creation of 10 ponds as aquatic habitat for the great crested newt and the natterjack toad; and
- A new walking path in the Dune Dewulf, to reduce the negative impact on biodiversity of uncontrolled recreational use.

Both countries:

- A common directive management plan for the cross-border dune belts between Dunkirk and Westende, and a legal basis for the cooperation between French and Belgian authorities for the management of coastal dunes as a transnational European natural park.
Project background

The Natura 2000 site, Valleigebied van de Kleine Nete, is located in northeast Flanders, in the central Campine region, and covers 4,884 ha. The project focuses on 732 ha in the eastern part of this site, where nutrient-poor sandy soils are predominant. In 1935, the project area was mostly a heathland landscape, with a complex of land dunes and dry and wet heath. However, by the 1950s, it was used mainly for agricultural purposes, and today the area is dominated by homogeneous coniferous woods, and intensively farmed agricultural land. Nevertheless, on an area of 107 ha, some dunes and wet heathland habitats remain. In spite of problems of eutrophication, fragmentation and isolation, and high recreational pressure, the prospects for restoring valuable habitats are good, especially the habitat of the smooth snake (*Coronella austriaca*), which can be found in the area.

Project objectives

The project’s main objective is to restore habitats and create an ecological infrastructure in the Natura 2000 site. Conservation measures foreseen for the species and habitats targeted include:

- Restoration of dune and heathland habitats by changing land use on an area of 61 ha;
- Conversion of 15 ha of homogenous pine forest into old oak woods;
- Elimination of the invasive alien species, black cherry (*Prunus serotina*), in a 90 ha forest;
- Regulation of recreation activities and the closing off an area of 100 ha to the public;
- The creation of two grazing blocks; and
- The creation of two core areas of habitat, covering 50 ha for the smooth snake.

In addition, the project aims to increase public awareness and understanding of the conservation actions, encourage the exchange of knowledge amongst local stakeholders and other projects, and facilitate the dissemination of project results. It also aims to enhance cooperation between the partners and create a solid basis for collaboration in the future.

Expected results

Habitat restoration and the creation of ecological infrastructure:

- A global vision and a concrete plan of execution;
- 31 ha of agricultural land and 30 ha of homogenous pine forest converted to dune and heathland habitats;
- Improvement of 150 ha of dune and heathland habitats;
- The removal of 15 ha of homogenous pine forest and its replacement with old oak woods;
- Control of the invasive alien tree species, *Prunus serotina*;
- Regulation of recreational activities and the closing of 100 ha to the public;
- Two grazing blocks established;
- Two uninterrupted core habitat areas of 50 ha for the smooth snake;
- Corridors and connections through the forests in the project area, with habitats and populations in surrounding areas; and
- A decrease in eutrophication of the habitats by halting intensive agricultural activities in adjacent areas.

Beneficiary:

Type of beneficiary: Regional authority

Name of beneficiary: Agentschap voor Natuur en Bos

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Duration of project: 48 months (01/10/2013 – 30/09/2017)

Total budget in euro: 1,447,117.00

EC contribution in euro with %: 723,558.00 (50.00%)

Theme: Habitats: Heath and Scrublands

LIFE12 NAT/BE/001098
Life Together
Enhance conservation of globally threatened imperial eagle in Bulgaria by reducing mortality caused by power lines

Project background

During the implementation of the LIFE SAVE the RAPTORS project (LIFE07 NAT/BG/000068), which targeted the imperial eagle (Aquila heliaca) and Saker falcon (Falco cherrug), it became clear that the main cause of death of young imperial eagles is electrocution by uninsulated electricity poles. A study undertaken during the course of the project showed that there are more than 5,000 dangerous electricity poles in the distribution area of the imperial eagle in Bulgaria.

Project objectives

The long-term objective of the LIFE for safe grid project is to ensure an increase in the imperial eagle population in Bulgaria by reducing the impact of its main threat. In aiming to reach this overall, long term goal, the project targets the following specific objectives:

- Increase knowledge of the risk posed by overhead electric power lines to the imperial eagle by identifying areas of high risk and carrying out mitigation measures;
- Establish a GIS database of eagle nest sites, temporary settlement areas and hazardous power lines, and produce a report on the risks, mortality, priority areas and mitigation measures based on such field work and GIS analysis;
- Reduce mortality caused by electrocution and collision with electric power lines in the most important Bulgarian Natura 2000 network sites for the eagle by insulating dangerous poles and avoiding electrocution and collisions with overhead power lines;
- Increase the capacity of key stakeholders (other electricity line operators in Bulgaria and relevant authorities) for solving the conflicts between birds and power lines in the country; and
- Increase public/stakeholder awareness on conflict between electric power lines and conservation of the imperial eagle and other birds.

Expected results:
The project expects to achieve the following results:

- Reduced electrocution risk for at least 16 breeding pairs (about 80% of all known pairs) of imperial eagle, at least 2,740 dangerous poles insulated;
- Reduced electrocution risks in the main temporary settlement areas for juveniles harbouring more than 15 individuals; at least 700 dangerous poles insulated;
- Reduced collision and electrocution risk for five breeding pairs and at least 10 juveniles birds per year;
- The conversion of 45 km of overhead power lines into underground lines; the replacement of a 15 km bare conductor power line with an insulated cable;
- The holding of two workshops where information will be distributed to representatives of key stakeholder groups (30 people in total);
- Installation of 12 information boards; and
- Creation of an electronic audio-visual archive, website, printed and press materials for dissemination purposes. Press briefings will also be held to ensure broadcast news coverage.
Conservation and restoration of rheophilic fish species and their migratory routes in key SCIs in Bulgaria

Project background

The biggest threat to Bulgaria’s rivers and their dependent species is fragmentation caused by the construction of artificial barriers, such as hydropower plants, bridges and erosion control features.

Bulgaria has no national requirements for river infrastructure works to take into account the protection of river habitats by allowing for the migration of aquatic organisms upstream and downstream. Most of the country’s river barriers were built from the 1960s-80s, an era of significant unsustainable industrial development and pollution, leading to the complete extinction of fish in many of the watersheds.

Migration barriers and severe industrial pollution have made natural restocking a slow, random and sometimes impossible process. As a result, the populations of many species are severely reduced.

Project objectives

The main project goal is the improvement of conservation status of six small rheophilic fish species and a mollusc species listed in Annex II of the EU Habitats Directive in selected river sections in Natura 2000 sites in the Bulgarian Danube river basin.

Specific objectives include:
- Improving longitudinal connectivity, reducing river fragmentation and improving habitats in selected river stretches to support the migration of target species connectivity of populations;
- Direct restocking to strengthen populations of the target species;
- Building capacity and involving institutions and other stakeholders to consider the issues of longitudinal river connectivity and plan for national measures;
- Creating public awareness and reaching out to local groups within the project area to secure support for the conservation of the target species.

Expected results:

The main expected result is the improved conservation status and strengthened populations of the target species, and the improved conditions in selected river stretches in the Danube river basin. Other results will include:
- Comprehensive scientific information covering populations of seven species of fish and invertebrates in 30 sites with a total area of more than 45 000 m² in at least 14 Natura 2000 sites;
- Surveying and assessment of at least 10 existing barriers in three Natura 2000 sites, with a proposal for making them passable for fish;
- Development of guidelines on requirements for fish passes with a view to their legal adoption at a later stage;
- Restocking of six fish and one mollusc species in selected locations in two Natura 2000 sites: at least 200 individuals of Cottus gobio, 5000 individuals of Rhodeus amarus, 800 individuals of Sabanejewia aurata, 1 000 individuals of Gobio kessleri, 200 individuals of Gobio uranoscopus and 400 individuals of Unio crassus;
- Restoration of at least 200 m of the Rusenski Lom river with a suitable bottom substrate, ensuring suitable habitats for Gobio kessleri and Barbus meridionalis;
- Construction of a fish pass to connect a 30 km section on the Rusenski Lom river, and
- Removal of two barrages on the Rusenski Lom within the Lomovete Natura 2000 site, thereby reducing river fragmentation and reconnecting at least 10 km upstream and 10 km downstream of each barrage.
Project background

The lesser spotted eagle (*Aquila pomarina*) is classified as a globally threatened species. Bulgaria’s population represents the southern tip of the species’ distribution and thus its conservation status is important for its overall population range. Bulgarian habitats for the lesser spotted eagle also act as important parts of the bird’s migration route along the second largest flyway in Europe – Via Pontica.

Project objectives

The project’s main objective is to support the long-term conservation status of the lesser spotted eagle by securing the protection and sustainable management of the forest habitats that are crucial for its existence. This goal will be achieved by carrying out a series of actions in 16 Natura 2000 sites, which will involve:

- Strengthening the strategic planning framework that guides the conservation of the species and its key breeding and hunting grounds;
- Maintaining and enhancing feeding, breeding and roosting habitats for the priority bird species through developing and deploying a model for sustainable forest management;
- Reducing the detrimental effects of unintended disturbance and direct persecution of the species; and
- Enhancing public understanding of and support for the conservation of priority bird species, their habitats and the wider Natura 2000 sites that are crucial for their long-term existence.

Expected results

The project is expected to strengthen the strategic planning framework for the raptor’s conservation by developing a revised, published and endorsed National Action Plan for the lesser spotted eagle. This will include the elaboration of a GIS model infrastructure and a feasibility study on integrating the traditional field inventory with new geospatial technologies.

Feeding, breeding and roosting habitats for the target species will be enhanced and managed through a new Habitat Distribution Model involving the development and application of a national methodology for establishing an inventory of biodiversity features covering approximately 80 000 ha. In addition, one forest will be registered for organic honey production, with 1% of the revenue from the apiculture products being returned to forest conservation. One Forest-environmental measure and one Natura 2000 and Water Framework Directive Payments measure will be officially adopted and included in Bulgaria’s Rural Development Programme for 2014-2020. Three forest extension services will contribute to the project and a conservation measure for birds will be introduced into the curriculum of forestry university students.

Detrimental effects of unintended disturbance and direct persecution will be reduced through a coordinated set of conservation operations including: establishing a stakeholder network; the mapping of target species’ nests within 16 SPAs; identifying 10 stop-over sites and temporary settlement areas for the birds; raising awareness in key Bulgarian institutions about the importance of bird crime, especially in relation to the target species; improving cooperation with organisations and experts dealing with bird crime issues; and addressing threats caused by forest operations and other issues for 20 pairs of the lesser spotted eagle in Bulgaria.
Improving the conservation status of the priority habitat types *1520 and *5220 in Rizoelia National Forest Park

Project background

The Natura 2000 site, Rizoelia National Forest Park, covers only 0.001% of the surface area of Cyprus, yet it is a reservoir of threatened plants (a so called ‘biodiversity hot spot’). The site contains four habitat types that are protected under the Habitats Directive, three of which are priority habitats. It is also home to 179 indigenous species (11% of the indigenous flora of Cyprus) of which 11 are endemic (7.9% of the endemic flora). Furthermore, the site is home to numerous migratory birds and important fauna species.

The park is close to heavily populated areas and has suffered intense human-related pressure over the years, the worst being afforestation of the park, which took place between 1974 and 1977. Plantations of exotic, invasive species dominate between the fragmented patches of the targeted habitat types. Habitat fragmentation has led to a decrease in size of two protected habitats and leisure and access infrastructure disrupt the continuity of the site. The dense road network also allows vehicle access to all areas of the park. Such fragmentation has a major impact on the genetic variability of the keystone species and populations in both priority habitats.

The risk of forest fires is also extremely high in the area due to the long dry season. Fires may also favour the further expansion of the invasive species Acacia saligna. The targeted habitats are also threatened by leisure activities.

Project objectives

The primary aim of this project is to promote and enable the long-term conservation of two priority habitat types: arborescent matorral with Ziziphus and gypsum steppes in Cyprus by quantifying and halting natural and human pressure and threats that contribute to their long-term degradation.

Specific objectives are to:
- Contribute to the consolidation and dissemination of a knowledge base for the protection, restoration, monitoring and evaluation of the two habitat types;
- Increase habitat connectivity for arborescent matorral with Ziziphus;
- Reduce the risk of fire affecting both targeted priority habitats;
- Eradicate competitive vegetation for both habitats; and
- Manage leisure activities and accessibility in the park in a way that is favourable to habitat conservation.

Expected results
- Habitat demarcation, improved inventorying and mapping;
- Restoration of 1 ha of habitat type *5220;
- Restoration and enhancement of gypsum steppes (0.1 ha and 0.1 ha respectively);
- Habitat restoration in a 2 ha area with Arborescent matorral with Ziziphus spp;
- Updating of the Natura 2000 site regarding the two priority habitats; and
- Creation of European and national networks, as well as after-LIFE conservation and communication plans, to ensure a longer term impact of the project results.
Preservation of species-rich
Nardus grasslands in pSCI Beskydy

Project background

The project area includes several habitats types that are listed in Annex I of the Habitats Directive. In particular, habitat type 6230*: species-rich Nardus grasslands on silicious substrates in mountain areas (and sub-mountain areas in continental Europe). This is present in the Natura 2000 site, Beskydy, covering an area of 647.6 ha – the third largest area of this habitat type in all sites of Community importance in the Czech Republic.

Habitat 6230* is under threat, mainly due to eutrophication and the abandonment of traditional land management practices such as grazing and mowing. Eutrophication leads to an increase in productive grasses and a decline in the prevalence of plants that are typical of this habitat, while the cessation of traditional land management practices leads to a gradual succession to forest vegetation. Some LIFE projects have already been implemented in the Carpathians. However, none of them have focused specifically on Nardus grasslands, which are now in urgent need of conservation.

Project objectives

The project aims to improve the conservation status and management of Nardus grasslands in the Beskydy Natura 2000 site.

Specifically, the project aims to:
• Improve the quality of Nardus grasslands in pSCI Beskydy;
• Determine the optimal management of Nardus grasslands;
• Create a management plan for the Nardus grasslands;
• Inform the majority of owners of Nardus grasslands about the importance of the grasslands, their threats and the need to care for their growth;
• Involve owners of Nardus grasslands in the project, and especially in carrying out management actions on their land; and
• Inform the general public about the importance of Nardus grassland and threats to its conservation.

Expected results

• An improvement in the condition of 45 ha of Nardus grasslands in the Beskydy site;
• An assessment of the current status of Nardus grasslands in the site and a plan for their conservation;
• The identification of the most appropriate management measures, based on an evaluation of monitoring data;
• Contact with at least 65% of the owners of Nardus grasslands in pSCI Beskydy throughout questionnaires;
• At least 10% of the total area of 45 ha of Nardus grasslands included in the project managed by the land owners; and
• A public information and awareness campaign carried out, and a range of dissemination material produced and distributed.
Raised Bog Restoration in Eastern Denmark

Project background

Bogs and fens are threatened by nutrient loading, overgrowth by trees and scrub and inappropriate hydrology. In addition, over the last 150-200 years, peat extraction and drainage have reduced the total area of intact blanket bog in the region. According to a recent Danish national assessment, the conservation status of raised bogs (7110*) and alkaline fens (7230) is in danger of further deterioration in the coming years. During the planning process for the management of Natura 2000 areas in Denmark in the period 2010-2015, special attention is being paid to ensuring that these habitat types are restored.

Project objectives

This project primarily targets the restoration and expansion of Annex I habitat type raised bogs (7110*) in the eastern part of Denmark. This wet, terrestrial habitat type is in an unfavorable conservation status in Denmark, as reported in the latest Habitats Directive Article 17 report.

The project also targets the management of the Annex II species, Leucorrhinia pectoralis at the Horreby Lyng Natura 2000 network site, as well as other habitat types (7230 alkaline fens and 7210* calcareous fens) connected with the core habitat type.

A major part of the project will be implemented on privately-owned land, and consultations with private landowners were conducted prior to the LIFE funding application, to ensure there was broad support for the project among these landowners. The clearing of vegetation and the changing of drainage systems in order to raise water levels on private areas can only be implemented with the agreement of landowners. Each sub-project has been carefully prepared to include landowner interviews and the necessary technical surveys in order to present realistic and viable actions. Landowner consultations were also necessary in order to negotiate compensation.

Expected results

The combined effect of the implementation of the planned actions is expected to have the following results:

- The size of the habitat type raised bog (7110*) will increase from 2 ha to 150 ha in Horreby Lyng and by 72 ha at a second Natura 2000 site, Store Åmose;
- Hydrological conditions will be improved on 3.5 ha of alkaline fen (7230) and calcareous fens (7210*);
- An action plan will be developed for Leucorrhinia pectoralis, with recommendations for future management aimed at achieving favorable conservation status;
- Best practice methods will be developed for the clearance of shrub re-growth in raised bogs (7110*);
- Networking and exchange with two existing LIFE Nature projects in Germany on restoration of 7110* raised bog habitat (LIFE11 NAT/DE/000344 and LIFE09 NAT/DE/000009) will be facilitated;
- Best management practices for rare wet terrestrial habitat types will be developed through networking with the two Danish LIFE+ Nature projects: ‘Smooth’ (LIFE10 NAT/DK/000099) and ‘Lille Vildmose’ (LIFE10 NAT/DK/000102);
- Raised public awareness of the biodiversity value of Natura 2000 network sites and in particular, of the core habitat types of this project.
Restoration of Wet Habitats in the Jerup Beach Ridge Plain

Project background

The Natura 2000 network site, Jerup Hede, Råbjerg og Tolshave Mose, hosts one of the largest dune and mire habitats in Denmark (4 024 ha). It comprises an old heath and bog area (mose is Danish for bog) with 25 different habitat types, seven of which have priority status. Furthermore, the corncrake (Crex crex) is also present at this site.

Project objectives

The project’s overall objective is to restore the entire Jerup Hede Natura 2000 site to a favourable conservation status. Habitat types with an unfavourable conservation status will be targeted for restoration and enlargement. The project will address all identified threats, and will establish sustainable management practices to be continued after LIFE.

The project also aims to demonstrate new methods for:
- Clearing of tree and shrub overgrowth in inaccessible areas;
- Combining LIFE support with support from the Danish Rural Development Programme in order to enhance the conservation status of both areas suitable for agri-environment schemes, and areas that can only obtain support from the LIFE programme;
- Combating invasive alien species;
- Working with a large number (554) of private landowners; and
- Corncrake (Crex crex) management.

Expected results

It is expected that by the end of the project, the targeted habitat types will all obtain favourable conservation status, except raised bogs, for which it is only feasible to obtain a positive prognosis.

Specific results will include:
- Clearing of 1 116 ha of woody species;
- Mulching of 157 ha in preparation for grazing and mowing;
- Control of invasive alien species across 40 ha;
- Increased or improved grazing and mowing on 787 ha;
- Purchase of 20 ha;
- One-off compensation payments for 24.8 ha;
- Improved hydrology over 2047 ha;
- Culling of mink;
- Reestablishment of an area of at least 50 ha for natural regeneration of 7110* active raised bog;
- Enlargement of 2130*, 2140* and 6230* by 1 ha each;
- Of 4010, 6410 and 7230 by 5 ha each; and of 4030 and 91D0* by 10 ha each;
- Habitat types 2190 and 7140 will be improved, in particular because of the raised water table. Both will serve as habitats for the wood sandpiper (Tringa glareola) and the short-eared owl (Asio flammeus).
- A reduction in the presence of invasive species to an absolute minimum by controlling stands and reducing the risk of further spread;
- The water table in the summer period will be secured, resulting in fewer and shorter drought periods;
- The establishment of new populations of the marsh fritillary butterfly (Euphydryas aurinia);
- One breeding area suitable for the wood sandpiper, one breeding area suitable for the short-eared owl, and one additional suitable feeding area; and
- Three Crex crex singing males in at least two sub areas and an increase in breeding success due to more appropriate mowing.
Restoration of Danish Coastal Habitats

Project background

The 400 km west coastline of Denmark is home to a threatened area of coastal dune habitats. This area slowly emerges from the sea, as the land is continuing to rise following the last glacial period. This pristine, nutrient-poor land, mainly consisting of sand covered by coastal dune habitats, is probably the most valuable natural resource of Denmark.

The coastal dune habitats are a mosaic with the most abundant habitat types being well-preserved fixed dunes vegetation and humid dune slacks. These areas are unique, as they represent the only Danish land habitats with an end succession other than forest.

The project areas are threatened, however, by a lack of natural dynamic processes and the invasion of coniferous species, the target of an earlier LIFE project (LIFE02 NAT/DK/008584). Other threats include the fragmentation of habitats and loss of breeding and foraging areas for key animals. Even though these issues are being addressed, they constitute long-term potential threats.

Project objectives

The overall objectives of the project include:

- Improving the conservation status of the coastal dune habitats;
- Significantly reducing the threats to the plant species: *Ligusticum scoticum* and *Calystegia soldanella*; and
- Improving conditions for the following species: *Bufo calamita*, *Lacerta agilis*, *Tringa glareola*, *Recurvirostra avosetta*, *Stema albifrons*, *Gelochelidon nilotica*, *Euphydryas aurinia*, *Euphydryas aurinia*, *Pilularia globulifera*, *Coenagrion armatum*, *Subularia aquatica*, *Hammarbya paludos*, *Erynnis tages*, *Hesperia comma*, *Coenonympha tullia* and *Chorthippus jutlandica*.

Expected results

- Remote sensing on a total of 11 140 ha, resulting in GIS maps with the location and distribution of Japanese rose (*Rosa rugosa*). Occurrence of this invasive species is expected on 1.225% of the area, which implies a total of 136.5 ha with the Japanese rose;
- The project intends to remove the Japanese rose from a minimum of 10.9 ha and a maximum of 109 ha (dependent on whether the Danish authorities permit the use of pesticides for this task);
- The hydrological conditions of 51 areas will be improved and restored. Hydrological feasibility studies will be carried out on 529 ha and 5.5 km of watercourses;
- Establishment of five 'bird islands', free of mammal predators, with a total area of at least 3 000 m²;
- Fencing off of 17 ha to enable it to develop into a different (protected) habitat type;
- Removal of invasive species on 129.7 ha of decalcified dunes and 91.1 ha of wooded dunes;
- Cutting of a 105.56 ha plantation, resulting in the development of the fixed dunes and humid dune slacks habitats over a 10-year period. The removal of commercial plantations in the open coastal dune habitats will reduce habitat fragmentation;
- Improved conditions for the targeted species;
- Dissemination of the results and knowledge gained in the project to all stakeholders involved in conservation of Danish coastal dune habitats; and
- Communication with the general public by means of Interactive smartphone and tablet communications platforms.
Conservation and restoration of petrifying spring habitats (code *7220) in Estonia

Project background

Petrifying springs with tufa formation (a priority habitat type of the Habitats Directive) are among the most valuable and ecologically interesting European ecosystems, and also among the most difficult to protect. Protection of springs is not only a question of protecting the physical feature defined as the spring. In Estonia, the springs can form complexes with transition mires, fens, calcareous grasslands, etc. In order to preserve this habitat, it is also essential to preserve its surroundings and the entire hydrological system, not only within the habitat type’s topographical catchment area, but also its hydrological catchment area.

Project objectives

The LIFE Springday project aims to prevent the degradation of petrifying springs and to achieve or maintain their “favourable” conservation status in three Natura 2000 sites in Estonia. This will also help to improve the conservation prospects of the many associated rare and endangered species and habitats that they support.

The project's main objectives are to:
- Carry out detailed field surveys and data analyses using best available methods;
- Draw up a conservation plan and monitoring guidelines;
- Formulate protection proposals that will be provided to competent authorities;
- Restore the surroundings of springs (clearing of shrubs, trees and forest-like vegetation);
- Restore the natural hydrological regime of springs and their surrounding habitats (fine tuning of the water level through drainage-ditch filling, dredging of neighbouring streams, etc);
- Remove mud, reeds and floating herbage from spring streams and lake Prästvike;
- Design and create rapids (to disperse stones into the stream-bed of the springs);
- Remove obstacles from spring streams; and
- Construct/reconstruct wooden nature trails with information boards, in order to prevent trampling around the springs.

Expected results

- A maintenance strategy and detailed conservation plan for petrifying spring habitats;
- Publication of long-term monitoring guidelines;
- The restoration of the natural hydrological regime of petrifying springs and their surrounding valuable habitats, covering an area of 1,960 ha;
- Improved habitat and hydrological characteristics for 50 spring habitats in three project areas;
- 14,500 m of drainage ditches filled, in order to restore the natural water levels;
- Shrubs, reed and floating plants removed from a 30-ha area related to petrifying springs and their surrounding habitats;
- Approximately 1,000 m of nature trails constructed/reconstructed around the spring habitats, in order to prevent major trampling; and
- Greater awareness about petrifying spring habitats, conservation approaches and maintenance measures among the wider public and relevant field experts/specialists.
Restoring the integrity of freshwater habitats in Alam-Pedja Natura 2000 area – bringing the River Laeva back to life

Project background

This project is being initiated because of the destruction of the River Laeva, which runs through the Alam-Pedja Natura 2000 network site. This river used to be an excellent representative of a natural river, with attractive meanders and surrounding meadows. The river and regularly flooded meadow, was an extremely important habitat and spawning ground for many fish species, including the EU targeted asp (Aspius aspius), spined loach (Cobitis taenia) and mud loach (Misgurnus fossilis). The riverine ecosystem also played an important role for valuable invertebrate and bird species. Today, however, the waters have been directed away from their natural riverbed in the lower course, with a man-made canal taking them into the River Emajõgi, outside the Alam-Pedja Natura 2000 site. The river mouth, situated in an unnatural place and followed by 5 km of straight canal does not attract fish into the river. Thus, the quality of the river as habitat type and habitat for important species needs to be restored.

Project objectives

The project’s main objectives are to:
• Restore the River Laeva natural riverbed in the Alam-Pedja Natura 2000 site, to preserve habitats and species of European conservation priority e.g. Aspius aspius, Cobitis taenia, Misgurnus fossilis and Cottus gobio;
• Restore the alluvial meadow, thus providing important habitats for valuable birds e.g. Aquila pomarina, Crex crex, Gallinago media, Grus grus;
• To create spawning grounds for asp;
• To re-introduce the asp to guarantee populations’ stability/increase;
• To promote public awareness about the conservation of the habitats and species of EU importance and the role of the LIFE+ programme in it;
• To develop international co-operation for the river and river-dependent species’ conservation; and
• To promote the management and preservation of Natura 2000 biotopes in the Alam-Pedja Natura 2000 network area, to guarantee the presence and quality of spawning grounds for Aspius aspius, Cobitis taenia, Misgurnus fossilis and Cottus gobio.

Expected results

The project’s main expected results are:
• 5 km of the River Laeva natural riverbed restored, integrity and completeness of the Alam-Pedja Natura 2000 area improved;
• 12 ha of alluvial meadows restored;
• 300 m² of spawning grounds created;
• 10 000 specimen of asp (Aspius aspius) re-introduced;
• Raised awareness among different target groups about the importance of preserving the Natura 2000 biotopes in the Alam-Pedja area;
• Tangible monitoring indicators verified and results introduced, and
• The assessment of the efficiency of practical protection measures.
Safeguarding the Saimaa ringed seal

Project background

Once widespread in Finland, the Saimaa ringed seal (*Phoca hispida saimensis*) is now found only in the Saimaa fragmented freshwater lake complex. With a small population of about 310 seals, it is probably the world’s most endangered seal species and is categorised by the IUCN as Critically Endangered. In Annex II of the Habitats Directive, it is listed as a species that needs strict protection. The most severe threats to the seal population are fishing and disturbance during breeding. Climate change also poses an increasingly serious long term threat. A Finnish national conservation strategy and action plan for the Saimaa ringed seal was adopted in 2011, in order to improve the conservation status of the species.

Project objectives

The project aims to reduce the main threats to the Saimaa ringed seal, which were identified in the Finnish national conservation strategy. It will, in particular, seek to reduce risks related to fishing, disturbance by humans and climate change. The results of the project will be used in the updating of the conservation strategy and related regulations in 2015-2017. The main goals of the project are:

- To reduce by-catch mortality by developing seal-friendly fishing methods for professional use, by promoting fishing methods suitable for recreational fishing, and by reinforcing compliance with fishing restrictions;
- To reduce human-induced disturbances by identifying and defining risk areas, and by guiding land-use planning and activities in vulnerable areas;
- To facilitate adaptation to climate change by developing a method of producing manmade snow drifts to improve the Saimaa seal’s lairing conditions during mild winters;
- To involve local people in conservation actions;
- To update knowledge on essential ecological issues and on potential threats to the seals, as the basis for effective conservation and monitoring; and
- To increase the awareness among fishermen, tourists and children about the seal and its protection.

Expected results

Among the expected results are the following:

- By the end of the project, a seal-friendly fyke (a type of fishing net) will be approved and in use, 500 fishing nets will have been replaced by traps and 600-3000 old traps will have been made seal-safe, 300 fisher-

men will have committed to fishing without nets; and recreational fishing in seal areas will have been studied and be better understood;
- Two management plans prepared and adopted for the Natura 2000 areas that are vital for the seal;
- Human disturbance during the seal’s breeding season will be analysed. Guidelines will be drafted for land-use planning and management of possible conflict points; and shoreline development and breeding sites will be mapped in six Natura 2000 areas; and
- 34 ha land and 600 ha of water will be acquired for nature conservation.
Integrated habitat management for birds of Community interest in the Alpilles area

Project background

The Alpilles, located in the department of Les Bouches-du-Rhone, is a small, low-altitude mountain range with a unique limestone geomorphology in comparison with the rest of the Alps. The massif, a Natura 2000 network site, is an important part of the local Provencal identity, with its landscapes shaped by traditional human activities such as pastoralism and agriculture.

Some 27 bird species of Community interest are found within the Alpilles Natura 2000 site. Active conservation work has been carried out there since 1989, to protect these species. Despite these efforts, however, many rare and endangered bird species are still declining.

Project objectives

The ‘LIFE des Alpilles’ project is an integrated initiative (i.e. taking into account all factors related to sustainable land management) targeting the preservation of the area’s natural environment. Its overall goal is to maintain and restore the populations of 13 bird species of Community interest.

Specific goals are to:
• Strengthen the link between human activities and the preservation of bird biodiversity;
• Help local stakeholders to understand the ecological importance of the sites/species targeted; and
• Confirm the area’s ornithological importance by enhancing good practices.

Expected results

1. The maintenance and restoration of the populations of 13 EU Birds Directive-listed species, including:
   • The restoration of 150-180 ha of habitat;
   • A 20% reduction in the amount of phyto-sanitary products used in the ‘pilot’ areas; and
   • The restoration and diversification of 5 km of hedge-rows.
2. Behavioural improvements, with increased public awareness of birds and their ecological needs, including:
   • The testing of alternative farming practices involving at least 12 volunteer farmers;
   • The training of some 45 farmers in alternative, but economically viable, agricultural practices, aimed at meeting specific ecological objectives; and
   • A proposal for improved consideration of birds in agricultural practices translated into six languages (6 000 copies distributed).
3. Improved awareness and understanding of ecological issues among local actors, including:
   • Awareness raising among some 400 schoolchildren;
   • Informing 5 000 young people about the preservation of birds in the Alpilles;
   • An exhibition highlighting the links between human activities and birds; and
   • A public meeting.
4. The strengthening of eco-tourism in the project area, including:
   • Better regulation of visitor numbers in sensitive sites;
   • The training of (20) accommodation owners and the supply of ‘observation kits’ to better promote ‘ornithological tourism’;
   • An information cabin with at least 1 000 visitors/year;
   • The distribution of 5 000 copies of an ornithological chart.
5. An improvement in knowledge about the links between birds and agriculture.
Networking nesting habitats along the French Mediterranean coastline for conservation of colonial Charadriiformes

Project background

AMV (the project beneficiary) is developing and coordinating a colonial Charadriiformes (gulls and waders) conservation programme along the French Mediterranean coastline, where populations of these EU Birds Directive-listed species are in decline. This decline is mainly attributed to poor reproductive success resulting from the poor quality of nesting sites.

After some preliminary studies, pilot actions have been carried out since 2007, with the first measurable positive outputs recorded in 2011. Simple conservation actions (nesting islet restoration and raft building, adapted hydraulic management) have demonstrated positive impacts on reproductive success. The constituted management network has now been enlarged for a second action plan, which integrates new public and privately-owned areas.

Project objectives

The overall objective of the LIFE+ ENVOLL project is to improve the conservation status of colonial Charadriiformes species listed in the Birds Directive in nine Natura 2000 sites along the French Mediterranean coast.

This general goal will be achieved by:

- Managing and improving all project sites in order to enhance conditions for colonial Charadriiforme nesting (hydraulic work to manage water levels, islet and raft design, etc.);
- Improving knowledge in order to improve conservation management techniques;
- Enlarging the management and monitoring agent networks;
- Monitoring and evaluating the project’s impact over the entire targeted area (i.e., assessment of the impact on colonial Charadriiformes, as well as the socio-economic impact);
- Raising awareness among the general public and site users through an education programme focused on colonial Charadriiformes;
- Sharing the project results and outputs (international workshops, international seminar, coordination with other LIFE projects) during and after the project.

Expected results

- At least 50% of the managed sites will have been used at least once during the project by colonial Charadriiformes for nesting;
- Reproduction success will be better on managed sites than on non-managed sites;
- The nine Natura 2000 sites will have benefitted from conservation management, with 23-38 islets created or rehabilitated, six rafts installed, and 435 ha with restored hydraulic conditions;
- Awareness will have been improved through the various education and communication activities;
- Results and outputs will have been shared as a result of four training courses and two management booklets; and one international seminar; and
- The project actions will have been designed to maximise their sustainability, the networks will be self-sustaining after the project and new conservation techniques (training tools, management guidelines) will have been learned or acquired.
Alsace Life hamSTER: Demonstration project to preserve European biodiversity in Alsace

Project background

The common hamster (Cricetus cricetus) is a protected species emblematic to the biodiversity of the Alsace region. Since 2000, specific actions have been undertaken to provide the right conditions for its development. However, the viability of hamster populations remains under threat as a consequence of many pressures, including farming practices, urban development and infrastructure projects. The common hamster is still considered as a pest, rather than an element of biodiversity, by the majority of the inhabitants in Alsace.

Recent years have seen an increasing number of trials in France and elsewhere to improve the hamster’s protection. Those works have led to the identification of practices that could eventually ensure the protection of the species in France. However, these innovations remain to be tested under real-life conditions.

Project objectives

The ALISTER project aims to test the relevance, effectiveness and pre-conditions for innovative actions targeting an improvement in the viability of hamster populations in Alsace.

The project is structured around four objectives:

- Improving the habitat of the common hamster, by testing promising farming practices under real-life conditions so that the right habitat is provided in space and over time;
- Reconnecting hamster populations by testing adaptations to wildlife crossings that will increase the efficiency of this infrastructure;
- Creating new opportunities for hamster populations by testing the introduction of hamsters in urban/peri-urban areas; and
- Strengthening people’s awareness and social acceptance of the value of the hamster and its importance for biodiversity.

The proposed actions will complement other interventions aimed at protecting the hamster in Alsace.

Expected results

The project expects to contribute to the improvement of the hamster habitat and populations in Alsace by:

- Testing new farming practices that are favourable to hamster development with the aim of improving the number of litters per female from 1-3 and the survival rate of females by 10%;
- Implementing the most promising farming practices on 15 ha of utilised agricultural area so that the effectiveness of protection actions already taken in the agriculture sector in larger areas (around 300 ha) is greatly enhanced;
- Improving the habitat continuity in proximity to transport infrastructure, with an expected increase of 40% in hamster crossings along with a 70% reduction in their mortality due to predation;
- Introducing hamsters in selected sites within the urban area of Strasbourg under conditions that ensure the viability of the individuals released; and
- Improving the public’s acceptance of the need for hamster protection with 5 000 inhabitants of Alsace targeted by awareness-raising activities.

These results, combined with the evaluation of impacts of concrete actions and the strong involvement of all interested parties will lead to recommendations to support the dissemination of results to the Alsace plain and to other EU countries.
Heathland alliance: Biodiversity and habitat network in Nördlinger Ries and in the Wörnitz Valley

Project background

The project area encompasses calcareous and extensively used grassland and meadows, and woodland across 3 554 ha in the Nördlinger Ries and the Wörnitz river valley. It is situated in the transition area from the Franconian Jura to the Swabian Jura mountains and is a reduced and isolated part of the network of dry habitats at national and international levels, and thus is of Europe-wide importance. Dispersal routes for many plant and animal species overlap here, resulting in the co-occurrence of species with western/Mediterranean, eastern/continental and alpine distributions. These factors render the project area a biodiversity hot-spot.

Although there have been numerous stakeholder activities, habitats and species in the area remain threatened. Dry, open habitats and the species dependent on them are maintained by regular low-intensity grazing, traditionally by large semi-nomadic sheep flocks. This kind of pastoralism is in danger of being abandoned for economic reasons, resulting in the overgrowing of open habitats. In addition, within the region, there is a greater density of biogas plants than anywhere else in (central) Europe, resulting in incentives for intensified land use.

Project objectives

The project will seek to restore the region as an internationally important habitat corridor and a biodiversity hotspot. Project actions will include:

- Purchase of land for the restoration of calcareous grassland and hay meadow habitats, and development of areas for grazing;
- Restoration of calcareous grassland hay meadows and fens (6410, 7230);
- Restoration of shallow areas in water bodies that are habitats for the dusky large blue butterfly (*Glaucopsyche nausithous*) and other species characteristic of river valleys;
- Securing spawning habitats for the great crested newt and yellow-bellied toad;
- Tree and scrub removal (including the removal of invasive neophyte plant species) from dry open grassland habitats and preparation of these areas for grazing;
- Improvement of native woodland and their avifauna by increasing the amount of mature trees and deadwood in forest habitats;
- Optimisation and creation of woodland edge vegetation for the integration of open and wooded habitats;
- Implementation of visitor direction measures and target information for visitors about the Natura 2000 network and this LIFE Nature project.

Expected results

- Optimisation and restoration of 79 ha of calcareous grassland;
- Creation of 2 500 m of woodland edge vegetation, 1.5 ha of fen, 600 m of regraded ditch contours and 2 ha of shallow water areas;
- Restoration of 17 ha of extensively used grassland;
- Scrub removal from 10 rocky slopes;
- Restoration of a sheep grazing network covering 35 ha;
- Securing of 100 biotope trees and 20 ha of woodland with a large amount of deadwood;
- Improvement of the conservation status of habitat types 3150, 5130, 6110, 6210, 6230, 6410, 6510, 7230, 8210, 8220, 9130, 9150, and 9170 and of the yellow-bellied toad and dusky large blue butterfly;
- Securing and increasing the number of breeding pairs of woodland birds.
Bogs, flowing waters and nardus grasslands in the Bavarian Forest National Park

Project background

From a European perspective, the Bavarian Forest national park is of major importance for the preservation of biological diversity and has been identified as one of 30 hot spots of biological diversity in Germany. An important attraction for visitors, the national park is also of great significance for tourism. Despite the implementation of a consistent conservation strategy, however, there are problems in former land use areas that threaten valuable habitats and species. Particularly adversely affected are rivers and streams, bogs and the rare mountain pastures, known locally as the “Schachten”.

The project area of 24 206 ha, along the Bavarian-Bohemian massif of the Moldanubian, covers most of the national park. It features extensive semi-natural woodland crossed by numerous mountainous rivers, bogs and small clearings.

Project objectives

The project’s overall objective is to make an important contribution to the Natura 2000 network by improving habitat connectivity and characteristic species of this site. A main aim is to restore several rivers and streams, by establishing dynamic processes and removing obstacles that hinder the migration of aquatic fauna. Bog restoration, notably by restoring natural water tables is a second focal point. Innovative grazing regimes will also be tested for the conservation of pastures on woodland clearings (“Schachten”) and their typical habitats.

Specific actions include:
• Removal of bank reinforcements and lowering of lowland along rivers to strengthen river dynamics and help restore natural floodplains;
• Creation of spawning ponds for amphibians to improve the habitat quality for the black stork (Ciconia nigra);
• Replacement of manmade obstacles on streams to enable free movements of aquatic organisms, notably for the bullhead (Cottus gobio) and the European otter (Lutra lutra);
• Land-purchase and completion of restoration actions in the “Großer Filz/Klosterfilz” bog by closing drainage ditches and allowing natural succession. (This will also help secure and improve populations of the priority ground beetle – Carabus menetriesi pacholei);
• Hydrological restoration of raised bogs by closing drainage ditches and shrub removal;
• Water table restoration in bog woodland and spruce forests by closing drainage ditches; and
• Model grazing to be tested on one former mountain pasture to conserve the rare grasslands and mountain hay meadows;

Expected results

The project’s expected results include:
• Restoration of natural river dynamics on a length of more than 5 km;
• Restoration of natural contact zones between rivers and floodplain on 4.5 ha;
• Development of more than 11 km of streams without obstacles for animal movement, thereby strengthening the populations of bullhead and the European otter;
• Improvement of food supply for the black stork;
• Indirect improvement and development of bog habitat types 91D0*, 9410, 7140, 6410 on more than 30 ha that are in contact with rivers and streams by hydrological improvements; and
• Removal of obstacles on 20 locations along small streams with pipe culverts.
Rhine bend in Orsoy in the bird sanctuary “Lower Rhine Area”

Project background

Populations of meadow birds and several species of amphibians are declining in the Lower Rhine SPA (project location). Three key causes for this are: the deterioration of floodplain habitats, caused by falling groundwater levels as a result of erosion of the Rhine riverbed; increasing agricultural usage; and growing recreational pressure from local building development.

Valuable bird species that are losing their breeding habitats along the river Rhine include the redshank (*Tringa totanus*) and the black-tailed godwit (*Limosa limosa*). Moreover, there is a noticeable reduction of habitats for resting and wintering bird species that depend on wet grassland.

Species-rich lowland meadows are also critically endangered in the state of North-Rhine Westphalia, primarily because of agricultural intensification.

Project objectives

The project’s overall aim is to improve the conservation status of species and habitats of European significance in the “Lower Rhine Area” Natura 2000 site.

Specific objectives include:

- Stopping the deterioration of floodplain habitats, increasing agricultural usage and growing recreational pressure. Project actions aim to increase and protect the population numbers of species of floodplain habitats. The focus is on meadow birds, which show declining populations since 1983, as well as on three amphibian species of European significance, whose local population size will be stabilised and increased;
- Bringing the habitat type, ‘Lowland meadows’, which is in a poor state of preservation in the project area, into a ‘favourable’ conservation status.

Expected results

- The creation of 4.6 ha of hollows periodically filled with water and furrows with sparse vegetation on an overall grassland area of 76.5 ha. The structural diversity will be enriched by creating both wet and drier elements in a mosaic. The banks of an artificial river channel will be cleared of bushes. By these means, the breeding habitats of black-tailed godwit (*Limosa limosa*), redshank (*Tringa totanus*), northern lapwing (*Vanellus vanellus*) and natterjack toad (*Bufo calamita*) will be improved;
- The creation of shallow, permanent water pools with an overall area of 0.3 ha, the banks of which will provide breeding habitats for Garganey (*Anas querquedula*), northern shoveller (*Anas clypeata*) and gadwall (*Anas strepera*). The pools will also provide breeding habitats for the great crested newt (*Triturus cristatus*) and pool frog (*Rana lessonae*);
- Fencing and creation of pastures in two areas (41 and 4.8 ha respectively), to enhance breeding conditions for birds such as the black-tailed godwit and corn-crake (*Crex crex*);
- A former NATO driveway will be broken up and removed over a surface of 190 metres;
- An overall area of 30 ha, comprising grassland, shrubs and floodplain forest, will be fenced, and controlled grazing will be introduced; and
- The development of lowland meadows will be initiated in two areas (totalling 11 ha). Part of the project area is owned by public authorities. A further 75 ha of land will be acquired.
Conservation and restoration of raised bogs in southern Egge mountains

Project background

There are still several areas in the southern Eggegebirge that harbour rare wetlands, such as the habitat type, “degraded raised bogs still capable of natural regeneration” or “transition mires and quaking bogs”. These peatlands provide habitat for highly endangered plant and animal species and function as important stepping stones that support the survival of wetlands and bog species in the whole nature region of the Weserbergland. However, the sites are increasingly degraded by drainage, disturbed water regime and scrub encroachment.

Project objectives

The overall aim of the project is to assure a favourable conservation status of the rare wetland habitats of the Natura 2000 network sites, “Eselsbett and Schwarzes Bruch” and “Sauerbachtal Bülheim”. Specific objectives include:

- Improving the conservation status of the habitat type, “transition mires and quaking bog” on the Eselsbett site by the restoration of a favourable water regime (blocking ditches and building dams);
- Restoring the water balance of the Schwarzes Bruch project site;
- Removing willow scrub from Eselsbett to restore its open landscape character and optimise the marshlands as a habitat for bog species;
- Sustained thinning of pine forests on the Schwarzes Bruch site to restore its open landscape character and make it favourable for bog species;
- Restoring a favourable water balance in the transition mires and quaking bogs on the Sauerbachtal Bülheim site;
- Improving the conservation status of habitat types, particularly their habitat-specific species composition, by inter-linking all project sites;
- Achieving broad support amongst stakeholders and the local population for the objectives of the project and on the appropriate actions to be taken; and
- Compiling and disseminating the lessons learned.

Expected results

- The Eselsbett site will be satisfactorily and sustainably re-wetted. The increased water levels will be recorded by water monitoring piles (dipwells). The accompanying phyto-sociological surveys will demonstrate the effects of rewetting by the increasing occurrence (abundance and dominance) of bog species. In the optimal case scenario, Sphagnum species will spread in the re-wetted area. The willow encroachment into the bog will be suppressed to 20% of the coverage at the beginning of project;
- Similar methods will be used on the Schwarzes Bruch site which, after the completion of the re-wetting measures, is expected to have a higher and more constant water level than Eselsbett. Some 80% of the pines within this Natura 2000 area will be removed;
- Pine removal and rewetting measures at Sauerbachtal Bülheim are expected to increase the water level in the small bog remnants which will allow the creation of new open treeless surfaces;
- Maintenance and stabilisation of populations of target fauna target species; and
- By stimulating the growth of peatland vegetation, the project activities will increase the ability of the target areas to sequester carbon dioxide and act as carbon sinks.
Project background

Though Brandenburg is home to large areas of xeric sand calcareous grasslands, these are among the most endangered habitat types in the region. Several key areas of development of xeric sand calcareous grasslands are found in Dahme-Seengebiet in the administrative districts of Dahme-Spreewald and Oder-Spree. This project aims to protect and restore areas where the habitat occurs or can be developed.

Project objectives

The project mainly aims to support structures of land use that are compatible with nature conservation aims and boost the connection of dry grassland habitat systems. Furthermore, the project adopts an integrated approach that also allows other habitat types to develop in the project areas.

Specific project goals include:

• Preservation and stabilisation of existing xeric sand calcareous grasslands;
• Restoration and development of different occurrences of xeric sand calcareous grasslands in suitable areas;
• Establishment and testing of land use that is suitable for long-term conservation of xeric sand calcareous grasslands, and the establishment of suitable structures for the management and maintenance of project areas in cooperation with regional land users and farmers;
• Securing ownership of very important and endangered areas of dry grasslands to protect them from changes in land use; and
• Stabilisation of the water balance in moor areas that accompany the xeric sand grasslands.

Practical measures foreseen include the extensive removal/reduction of wood on areas of development of xeric sand calcareous grasslands; opening of forests and forest edges; exposing of characteristic solitary trees; removal of raw humus; reestablishment of grazing and mowing on dry habitats; and the creation of mostly linear habitat corridors.

Project actions will be implemented in 20 Natura 2000 sites covering some 7 100 ha. Since there is widespread tourism in these areas, the project team will set up hiking trails, erect information boards and construct an observation tower.

Expected results

• Restoration of dry sand calcareous grasslands on an area of some 100 ha; and
• Indirect benefits on some 130 ha of connected dry habitats, such as dry sandy heaths, Inland dunes, old acidophilous oak woods with Quercus robur on sandy plains, Central European lichen pine forests and Sarmatic steppe pine forests.

Beneficiary:

Type of beneficiary
NGO-Foundation

Name of beneficiary
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Name of contact person
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Duration of project:
72 months (01/07/2013 – 30/06/2019)

Total budget in euro:
2,384,078.00

EC contribution in euro with %:
1,788,058.00 (75.00%)

Theme: Habitats: Grasslands
Sustainable management and financing of wetland biodiversity – The case of Lake Stymfalia

Project background

Lake Stymfalia, in Southern Greece, is a mountainous Mediterranean-type inland wetland with freshwater fens. It provides an important refuge for migratory birds and for breeding, passage and wintering waterbirds. The area of the small shallow lake fluctuates seasonally. During the droughts of the 1990s, the lake dried out entirely and was subsequently cultivated by the people of the nearby villages. The water of the lake is drained by the natural karst and by intensive water drawing for the surrounding cultivated areas. Artificial drainage is a commonly used method to temporarily reclaim fertile land for cultivation. Groundwater and surface abstraction from the springs within the wetland has reduced the area and the depth of the lake considerably; the reed-beds have expanded to a great degree.

The lake is an important habitat for a significant number of species of concern, including eagles and other raptors, egrets, herons, bitterns, ibises, patridges and terns, as well as providing a stopping point for migratory birds. Within Lake Stymfalia and its surroundings are also found the endemic fish taxon *Pseudophoxinus stymphalicus*, endemic Greek plant taxa and a diverse vertebrate fauna.

Project objectives

The main objective is the establishment of a sustainable management and financing system for an important but degraded wetland ecosystem (the Natura 2000 network site, "Limni Stymfalia", which is also a site with cultural importance, well-known from the myth of Hercules) in order to improve the conservation status of target species and wetland habitats and to ensure a viable scheme that will, in the long term, finance all necessary management activities.

The project’s specific objectives include:
- Restoration of important wetland habitats based on the ecological requirements of target species;
- The creation of conditions for the financial sustainability of the wetland’s management and conservation (exploit for profit the surplus biomass from reedbed management and divert a profit portion to the site management);
- Raising stakeholder awareness; and
- Engaging the local community in the sustainable management of Lake Stymfalia.

Expected results

- A management plan (general protection guidelines for the site);
- A series of special action plans and operational plans (directions and objectives for the conservation of target species and their habitats);
- A feasibility study (for the continuation of wetland/reedbed management after the end of the project);
- Establishment and operation of a local management unit for the surveillance of on-site actions;
- Implementation of reedbed management;
- Development of a model for businesses that wish to invest in producing energy from wetland biomass and return a percentage of the profits to sustainably finance the management needs of the site; and
- Establishment of a farmers’ network to introduce concepts such as payments for ecosystem services, organic farming etc.
Restoration and Conservation of Priority Habitat Type *9562
Grecian Juniper Woods in Prespa National Park

Project background

Grecian juniper woods (GJW) contain the *Juniperus excelsa* and *J. foetidissima* species that are characterised by extremely low germination rates, and thus have limited capability to germinate naturally. These are light-demanding species that require open canopy habitats and their natural regeneration can be adversely affected by forest densification, shrub invasion, or fire.

GJW habitats in the Prespa basin area remain threatened by changing land use patterns. The habitat is a dynamic system and its structure and function alter with the progress of time, following natural ecological succession. In the past, the forces that feed the process of secondary succession, i.e. encroachment of GJW by broadleaved species, were kept under control by traditional land use systems based on livestock grazing.

Livestock numbers fell dramatically in GJW habitats (more than 50% from 1964-1993) and wood cutting practices, that previously helped to sustain the habitats, have also declined in recent decades. Abandonment of such land use methods has led to ecological succession and the invasion of broadleaved species in the GJW.

Another threat to GJW is the lack of public awareness regarding the uniqueness of the habitat. This knowledge deficit amongst local people and visitors generates several problems (e.g. littering and illegal logging) that place the conservation status of the habitat in danger.

Project objectives

The LIFE JunEx project aims to restore and conserve the GJW habitat in Prespa National Park. It will achieve its objectives through five inter-related sets of project actions involving:

- Conservation of areas where the structure and function of the habitat type are found in good condition in terms of forest structure, typical species, natural regeneration, etc.;
- Restoration of areas where the structure of the habitat type is not found in good condition (decreasing trends in the number of typical species, no regeneration, etc.);
- Rehabilitating the health of the GJW (by improving regeneration, cleaning actions, etc.);
- Decreasing threats and risks for the habitat type such as ecological vegetation succession, illegal wood cutting, wild fires; and
- Raising scientific and public awareness concerning GJW.

Expected results

Outcomes envisaged from the project include:

- The strengthening of the GJW structure by removing invading broadleaved shrubs and trees. Typical habitat plant species (some of which are important in local, European and global level, such as the Madonna lily - *Lilium candidum*) are expected to expand in an area larger than 50 ha;
- Improving the functionality of GJW by increasing floristic diversity in an area larger than 50 ha, and establishing favourable conditions for fauna (e.g. facilitating movements of brown bear (*Ursus arctos*) by retaining fruit-bearing trees);
- Increasing natural regeneration of junipers in an area of more than 50 ha;
- Enriching natural regeneration of junipers in an area of more than 0.5 ha; and
- Reducing wildfire risk by removing dead organic material, garbage and forest openings in an area of more than 50 ha.
Good practices to minimize impacts of wind farms on biodiversity in Greece

Project background

A significant percentage of Europe’s wind energy potential is found in Greece, and this is expected to help the country meet its target of producing 35% of its power from renewable sources by 2020.

A significant increase in the number of wind farms in Greece is required, however, and the impact of this on biodiversity needs to be carefully assessed prior to any works taking place. An analysis of potential negative impacts will help to ensure the introduction of appropriate mitigation or compensation measures. At present, there are gaps in knowledge, policy and planning frameworks in Greece concerning the impacts of wind farms on biodiversity.

Project objectives

This LIFE Biodiversity project aims to help fill these gaps and prepare a methodology that can be applied to harmonise the needs of wind farm developers with the conservation needs of EU biodiversity. Guidelines will be produced that enable public authorities in Greece, and wind farm developers, to effectively plan, implement and regularly evaluate the performance of the measures specifically designed to safeguard biodiversity.

Project actions will focus on demonstrating effective integrated approaches to post-construction mitigation of negative impacts on biodiversity (in accordance with the EU Guidance document ‘Wind energy development and Natura 2000’).

Expected results

The project expects to increase the proper implementation of mitigation technologies on wind farms of Greece. This will be achieved by producing a series of detailed reports clarifying the effectiveness of specific mitigation measures using Early Warning Systems for controlling wind turbine operation and/or deterring birds. A dedicated mitigation laboratory will operate at a demonstration wind farm (PENA), generating data on the efficiency and effectiveness of mitigation measures.

Findings from this work will inform the preparation, production and promotion of a Good Practice Guide, as well as a GIS Decision Support Tool. Training will then be provided for key stakeholders on the procedures and standards for the application, operation and evaluation of mitigation technologies on wind farms.

Beneficiary:

Type of beneficiary
National authority

Name of beneficiary
Centre for Renewable Energy Sources and Saving

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Duration of project:
48 months (01/10/2013 – 30/09/2017)

Total budget in euro:
894,784.00

EC contribution in euro with %:
430,642.00 (50.00%)

Theme: Climate change-Energy: Energy supply

A wider communication campaign will help to raise awareness about the project and the outputs among a wider group of stakeholders. A website will be developed and a series of events, including an international scientific symposium, will be organised.
Project background

The Mediterranean monk seal (Monachus monachus) is a priority species for conservation, according to Annex II of the Habitats Directive. It is also a “critically endangered” species under the IUCN Red List, and is included in Annex III of the Marine Strategy Framework Directive – as a key indicator of the status of the marine environment.

One of the rarest seal species globally with an overall negative population trend, there are an estimated minimum 170 Mediterranean monk seals in the Greek seas, the largest population of the species in the Mediterranean.

Regular monitoring since 2004 has revealed that the project area, which includes the island of Gyaros and a surrounding marine area, hosts one of the most important breeding nuclei of the species, with an observed pupping rate of some seven births per year. Moreover, the ‘original’ behaviour of the species – which has been observed occupying open beaches for resting and reproducing – indicates both the existence of a large breeding colony in the area and excellent seal habitat.

Gyaros is estimated to have a Mediterranean monk seal population of approximately 70 individuals, excluding pups. However, the particularly confined area of the island, the few coastal caves and beaches suitable for rearing pups and the island’s proximity to other areas of intense human activities (fisheries, shipping, tourism, etc) are significant risk factors and point to the critical need to protect the site.

Project objectives

The project aims to establish a unique protected area on the island of Gyaros and its adjacent marine area. This effort will be based on the Ecosystem Based Management (EBM) approach, encouraging the participation and active involvement of local stakeholders.

Specific objectives are:

• The conservation and protection of the local Mediterranean monk seal population;
• The protection and improvement of the conservation status of the species’s habitat, and in particular of Posidonia beds, reefs and partially submerged marine caves;
• The overall protection and improvement of the conservation status of the Natura 2000 site;
• The active participation and involvement of local stakeholders in the conservation and co-management of the protected area; and

Expected results

• A study on the status of the natural/human environment of Gyaros and a legislative blueprint for the designation of the area as a Wildlife Refuge (WR) and a Marine Protected Area (MPA);
• A reduction in incidences of illegal activities, especially those related to fisheries, and effective regulation of human activities threatening the conservation of the marine environment of the area;
• An increase in the abundance of the monk seal’s main prey, the common octopus (O. vulgaris) in the project area;
• A reduction of the threat posed by fishing gear to new-born pups and juveniles; and
• An improvement of the conservation status of the targeted habitat types, through the implementation of in-situ conservation actions.

Beneficiary:

Type of beneficiary
NGO-Foundation

Name of beneficiary
World Wide Fund For Nature (WWF) Ellas

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Duration of project:
48 months (01/07/2013 – 30/06/2017)

Total budget in euro:
2,237,346.00

EC contribution in euro with %:
1,677,977.00 (75.00%)

Theme: Species: Mammals
Conservation actions for improving conditions of human-bear coexistence in Northern Pindos

Project background

The project will target the Dinaric-Pindos sub-population of the brown bear (*Ursus arctos*). This is the third largest brown bear population in the EU, as well as the southernmost distribution of the species in Europe. The bear population in the project area (the Northern Pindos national park and the municipality of Grevena) is an estimated 140 individuals, representing some 35% of the total brown bear population in Greece.

Data on the species in Greece collected over the last 10 years, primarily through previous LIFE projects, show that bear-human interference is becoming an increasing problem for the conservation of the species. This in turn is attributed to three main factors: (i) positive trends in local bear sub-populations that have resulted in bears expanding their range into areas that were part of the species’s historical range; (ii) habitat fragmentation, disturbance and the barrier effect caused by transport infrastructure; and (c) negligence and lack of correct management of human related food sources, such as domestic refuse.

These are the main factors accounting for human-bear conflict situations, which if not appropriately managed, are likely to jeopardise any previous efforts that have been deployed in order to bring and to maintain the species at an “adequately favourable” conservation status.

Project objectives

The project’s objectives are to:

- Improve the conservation status of the species in terms of population levels and trends, by achieving a sustainable human-bear coexistence status through the minimisation of bear-human interference and subsequent conflicts that are detrimental to the species;
- Maintain human caused mortality at a sustainable level (i.e., not exceeding 4% of the minimum estimated population) in the project area;
- Maintain the number of annual reproductive females at no less than 10–12% of the minimum estimated bear population in the targeted areas;
- Improve the tolerance level of specific target groups regarding their coexistence with the brown bear;
- Improve awareness about the added value the presence of the brown bear can confer on the project area (e.g. through labelling of local produce);

Expected results:

The project expects to:

- Increase the knowledge of the national park authorities staff on specific bear monitoring and management techniques; and
- Put in place self-sustainable initiatives (such as providing guard dogs) that can prevent human-bear conflicts in the long term.

Beneficiary:

**Type of beneficiary**
Local authority

**Name of beneficiary**
Municipality of Grevena

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**Duration of project:**
45 months (01/10/2013 – 30/06/2017)

**Total budget in euro:**
1,582,160.00

**EC contribution in euro with %:**
1,186,620.00 (75.00%)

**Theme:** Species: Mammals
Restoration and conservation of Alluvial forests with Alnus glutinosa and Fraxinus excelsior in Kaszo

**Project background**

The basic threat to the project area, the Natura 2000 network sites of the West-Inner-Somogy natural micro region (south-west Hungary), is a decrease in groundwater levels caused by diminishing total annual rainfall; the earlier demolition of natural water-retaining landforms; and forced drainage of land as a flood prevention measure.

With the drying out of the area, favourable conditions have been created for invasive alien species (IAS) to spread rapidly within the protected areas, to the detriment of native species, e.g., there are areas infected by the invasive non-native cockchafer beetle (*Melolontha melolontha*), which poses a specific threat to the renewal of targeted natural forest habitats because the beetle gnaws at the thin root-branches of young plantations, causing them to die-off.

**Project objectives**

The project’s overall objectives are to manage the targeted Natura 2000 sites and to restore degraded natural habitats.

Specific objectives are to improve the water supply of the forests, smaller swamps and grasslands of Szentai Forest area, as well as retaining precipitation in the area, thus stabilising a favourable ecological state. The aim here is to retain available water-quantities and to increase the level of underground water by 10-20 cm – which would result in favourable ecological impacts for existing swamps and woodland habitats. The project also plans to replace depleted woodland stocks. Monitoring of the impacts of these actions will take place.

Another important objective is to disseminate the long-term results and present best practices applied to other Natura 2000 site managers through seminars and media work.

**Expected results**

The various project actions will be carried out over a total area of more than 2 100 ha. The expected results include:

- Stabilising the water supply of swamps and narrow forests along watercourses – making self-maintenance and conservation of wet habitats easier;
- Suppression of IAS – aided by a more frequent water supply for native habitats;
- An increase of the water level on the entire project area (2 100 ha);
- • Reducing the damage caused by the cockchafer beetle;
- • Creation of a 147 cm deep reservoir in the Bükk forest (0.86 ha) that provides water during the dry season;
- • Development of two additional lakes, as result of the enlargement of Lake Kűvölgy – this should provide another possibility for water retention on a total surface area of over 7 ha;
- • Maintenance and conservation of existing watercourses and lakes;
- • Construction of a gutter at Lake Baláta, in order to retain water, and building of riverbed ribs at Taranyi-Rinya to aid water retention. (These actions will be carried out over a total length of 26.5 km);
- • Dredging of mud from the existing two lakes of Kűvölgy;
- • Rebuilding of service roads (6 km);
- • Establishment of 14 plots of 100-100 sample European alder (*Alnus glutinosa*) trees for monitoring; and
- • Creation of a 960 m-long educational trail.
Conservation of dry grasslands in Central Hungary

Project background

The 650-hectare project area covers nine project sub-sites within nine Natura 2000 network sites. Three priority habitat types are present: Sub-Pannonic steppic grasslands, Pannonic loess steppic grasslands and Pannonic sand steppes. These dry grasslands are generally in good conservation status with many protected species, but are endangered by spontaneous reforestation, the spread of invasive species and various types of negative human impacts.

Land use related to dry grasslands has changed significantly in recent decades, as extensive livestock farming has declined sharply in Hungary. Consequently, these habitats are now threatened by spontaneous reforestation on many sites. Without urgent intervention, this process will result in the radical shrinkage, or even complete disappearance, of the dry grassland habitats.

Another problem is the spread of invasive species (IS). Seven project sub-areas are infected with IS, mainly black locust, black pine and common milkweed. For a number of economic and historical reasons, use of grasslands in Hungary is often unfavourable to the maintenance of these habitats. Some of the project areas are affected by negative human impacts. Use of illegal roads, deposit of urban waste and illegal mining are three of the most frequent examples.

Project objectives

The project’s main objective is the protection of three priority habitat types: sub-Pannonian steppic grasslands, Pannonian loess steppic grasslands and Pannonian sand steppes. This will be achieved by:

- Elimination of shrubs and of invasive species;
- Purchase of land in order to ensure adequate nature conservation management; and
- Mitigation of human induced negative effects (illegal road use, depositing of urban waste and illegal mining) in the project area.

Expected results

The project expects to achieve the following results:

- Elimination of non-arboreal invasive plant species from 24.4 ha of dry grasslands;
- Elimination of arboreal invasive species from 54.5 ha of dry grasslands;
- Elimination of indigenous shrubs from 118 ha of dry grasslands;
- Restoration of 17 ha of former arable lands and highly degraded grasslands;
- Purchase of 192.1 ha of dry grasslands, to be permanently given over to nature conservation;
- Transportation of 780 m\(^3\) of waste from dry grasslands;
- Closure and mitigation of one illegal sand pit;
- Installation of 25 gates to stop illegal traffic on the project sites;
- Monitoring of management activities, reconstruction activities and grassland regeneration;
- The opening of two new study trails and the renewal of an existing study trail;
- Dissemination activities, including the publication of project brochures and the organisation of awareness-raising events; and
- The involvement of at least 320 volunteers in nature conservation activities.

Beneficiary:

Type of beneficiary
Park-Reserve authority

Name of beneficiary
Duna-Ipoly National Park Directorate

Postal address
Strátsa-hegy
H - 2509 Esztergom
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Name of contact person
Gyula Kiss

Duration of project:
60 months (01/09/2013 – 31/08/2018)

Total budget in euro:
1,978,121.00

EC contribution in euro with %:
1,483,590.00 (75.00%)

Theme: Habitats: Grasslands
Project background

Böddi-szék, located in the central part of the Kiskunság national park, is one of the park’s Pannonic sodic lakes (with high concentrations of sodium carbonate). It is a priority habitat of the EU Habitats Directive and is also protected at national level. The extent of its area is significant, as it constitutes 18% of this total habitat type in Hungary. Unfortunately, however, the construction of a main canal and ditches for drainage has caused significant damage to the lake: the canal’s high water has led to water seeping through the dam and flowing along drainage ditches into the lakebed. Eutrophication and spreading marsh vegetation are also posing a considerable threat to the other habitats and species, notably nesting birds, associated with this special wetland. Additionally, the drainage canal has caused serious habitat fragmentation, whilst changing farming practices have meant an insufficient number of grazing animals in the area.

Project objectives

The overall objective of the ‘LIFE sodic wetlands’ project is to restore the original water dynamics and natural habitats of the Böddi-szék Pannonic sodic lake and its catchment area, which is one of the most important examples of this priority wetland habitat type in the Carpathian Basin.

Another aim is to increase the habitat management activities on the project site to an ecologically-sustainable level. During the project implementation, scientific monitoring will be carried out, applying the ecological criteria system and reference results of an earlier Hungarian LIFE project (LIFE07 NAT/H/000324).

A further project goal is to draw the attention of local people to the importance of sodic areas at European level, with special emphasis on the dynamism of the ecological system of sodic wetlands; awareness-raising actions will highlight the lakes’ vulnerability and the importance of agricultural practices to their long-term conservation.

Expected results

The project expects to achieve the following results:

- Elimination of detrimental factors and implementation of sustainable management to improve biodiversity on 2,345 ha;
- Moving of the drainage canal away from the Pannonic sodic lakebed and elimination and filling-in of a 5.9 km section of former canal and its 15 km-long drainage system (canals and ditches);
- Restoration of the natural water balance – the open water surface of the periodically flooded Pannonic sodic lake will significantly increase (by 120%) from the current 180 ha to 400 ha;
- A 330 ha increase in grazed areas, which will help ensure the long-term conservation of endangered habitats;
- Construction of infrastructure and livestock purchase – this will contribute to the management and long-term conservation of the most valuable micro-habitats on 810 ha;
- Conversion of 44 ha of farmland into grassland and elimination of non-native and invasive plants; and
- An increase of 50% of the most endangered sub-types of the priority habitat-type through the project actions and also an expected 20% growth of the Annex I (Birds Directive) nesting species related to the sodic wetlands.
The sustainable management of the priority Habitats Directive Annex 1 habitats of the Aran Islands

Project background

The project is taking place on three Natura 2000 sites: the islands of Inishmaan, Inishmor and Inisheer, which together make up the Aran Islands - located off the west coast of County Clare, in the west of Ireland. The islands are known for a range of intact habitats, including limestone pavement, calcareous grassland and Machair – all listed in Annex I of the Habitats Directive.

The principal land use on the islands is low-intensity farming, which, combined with the minimal use of fertiliser, has helped to maintain the species-richness and high diversity of the islands’ flora. However, the economics of this farming system has, in more recent years, led to a cessation, withdrawal, restructurbing or reduction in farming activity, resulting in a serious decline in the condition of these three habitat types, mostly due to under-grazing, abandonment and the loss of important land management traditions. There is a need to reverse these changes and improve the conservation status of these habitats by developing and demonstrating best management practices to restore these sites to a favourable condition.

Project objectives

The project’s objectives are:

- To demonstrate best management techniques to maintain, and bring sites to a favourable condition, by addressing the threats of land abandonment, under-grazing, intensification, loss of traditional management systems and the associated loss of knowledge;
- To improve the conservation status of 1,011 ha of priority habitats, comprised of limestone pavement (218 ha); calcareous grasslands (78 ha); Machair (29 ha) and a mosaic of calcareous grassland and limestone pavement (686 ha);
- To enhance understanding and appreciation of key stakeholders of the need to conserve priority habitats on the Aran islands, and to strengthen their engagement in the conservation efforts, by increasing the availability of information through the construction of a website, the production of six information sheets, five best practice guides and the provision of up to 39 educational visits and 39 classroom based presentations; and
- To recommend appropriate support mechanisms for farming on the Aran Islands that address the issues that threaten the status of the islands’ priority habitats.

Expected results

- An improvement in the conservation status of up to 1,011 ha of priority habitats;
- Proven methodologies for the sustainable management and utilisation of priority terrestrial Habitats Directive Annex 1 habitats on the Aran Islands;
- The sustainable management and use of 1,011 ha of priority habitats on the Aran Islands, with the demonstration of the above methodologies to around 220 local farmers;
- The distribution of best practice guides to encourage a more ecologically sensitive management of a further 1,880 ha of priority habitats; and
- Improved awareness and appreciation among the island community and other stakeholders of the importance of the natural heritage of the islands’ farmland.
Control and eradication of the invasive exotic plant species *Ailanthus altissima* in the Alta Murgia National Park

**Project background**

The invasive alien plant species (IAS), *Ailanthus altissima* (commonly known as tree of heaven, or ailanthus), is one of the most harmful and widespread invasive tree species in Europe. First brought to Europe from China in the 1740s, in recent years the rapidly growing deciduous tree has spread quickly in Italy, especially in the Alta Murgia National Park (located in the south of the country), where it has given rise to changes in ecosystem structures and is replacing and altering native plant communities of considerable conservation value, causing natural habitat loss and degradation.

**Project objectives**

The project aims to control and then eradicate the invasive exotic tree species, *Ailanthus altissima*, from the Alta Murgia National Park – a Site of Community Importance (SCI) and Special Protection Area (SPA) within the EU’s Natura 2000 network of protected areas.

**Expected results**

- The eradication of the IAS *A. altissima* from the park (68 077 ha), with many positive consequences;
- An improvement in the conservation status of natural valuable ecosystems and habitats, most of which have EU priority status, and include valuable flora and fauna species, as a result of the eradication of the park’s worst IAS;
- An effective, innovative, eco-friendly and sustainable strategy for the eradication and control of ailanthus and other woody IAS, which increases efficacy and minimises herbicide use to low volume stem application techniques;
- The protection of the environment and human health from risks and impacts posed by exposure to herbicides;
- A reduction in the negative impact, and the risk of diffusion, of the park’s most threatening IAS;
- An infestation map of the park; and
- An increase in stakeholder and public awareness and knowledge about the project and its results through: a website, illustrating the project objectives, activities and issues; five seminars on specific themes and one final conference; two information brochures; four information boards; four congress participations; four scientific publications; five field training days; two booklets; a layman’s report; and media relations.
Development of an innovative and user-friendly indicator system for biodiversity in groundwater dependent ecosystems

Project background

Freshwater ecosystems are very important in terms of the number and variety of species they host. Groundwater, including more than 70% of the Earth’s fresh water, plays a crucial role in the maintenance of most surface environments and has profound implications for human well-being and socio-economic development. Groundwater environments are also among the most important corridors, connecting different kinds of other freshwater environments, including lakes, rivers, springs and wetlands. In the European Union, all of these systems and their biodiversity are highly threatened. Consequently, the Groundwater Daughter Directive (2006/118/EC) underlines the importance of protective measures for groundwater ecosystems in its introductory section, and in further notes.

However, awareness of groundwater as a biological habitat has lagged behind awareness of its importance as a drinking water reservoir. As a consequence, no comprehensive indicator systems for the evaluation of biodiversity levels and losses in groundwater-dependent ecosystems are available.

Project objectives

The project will develop and disseminate the AQUALIFE Package, which will be an innovative and user-friendly work package of biodiversity indicators that will be easily and widely useable for assessing the status of biodiversity and biodiversity losses in groundwater-dependent ecosystems (GDEs). The AQUALIFE Package will fill an identified gap, as no similar indicator systems currently exist.

The specific objectives of the project are:

- To develop and test a new set of indicators for assessing and mapping biodiversity status, trends and losses in GDEs; and
- To produce the user-friendly AQUALIFE work package and to disseminate it to people who are potentially interested in its use for monitoring GDEs, management planning and the development of field interventions.

Expected results

- A first-level database will be assembled, gathering all the background information about the distribution of groundwater, drivers, pressures and impacts affecting GDE biodiversity, and including data gathered from 70 sampling sites;
- A table will be drawn up, with an annex describing the statistical methodology used and the criteria adopted for calculating the measured level of biodiversity at the monitored sampling sites. This will be accompanied by a methodology for extrapolating biodiversity losses and applying the results to other Italian regions and EU countries;
- A relational database will be established. Database users will be able to access the data in an almost unlimited number of ways, and to combine the tables as building blocks to create complex and much larger databases;
- A validation procedure will be carried out covering an additional 20 testing sites, the results of which will be used to fine tune the indicator system and extend its application; and
- The AQUALIFE Package will be produced and distributed to at least 250 relevant people in public and private institutions and NGOs.
SPIN Strategy for the Implementation of Natura 2000 in Sicilia

Project background

Sicily is the largest island in the Mediterranean, and its geographic isolation, proximity to Africa, and the geomorphological diversity of its mountains, plains, rivers, dunes, estuaries and islets, mean that its biodiversity is among the most varied in Europe. Sicily has 238 Natura 2000 sites, which are threatened by fire, grazing, erosion, logging, hunting and agriculture pressure, industrial activities, improper water management, urbanisation and uncontrolled human access. Consequently, an integrated regional strategy needs to be developed to improve the management of conservation actions and the implementation of buffering measures.

Project objectives

This PAF (Prioritised Action Frameworks) project’s overall objective is to contribute to achieving the goal set by the EU 2020 Biodiversity Strategy of: “halting the loss of biodiversity and the degradation of ecosystem services in the European Union by 2020, and restoring them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss”.

Specific objectives include:
- Putting in place a programme to restore sites, habitats and species to a favourable conservation status, and to ensure their long-term management, taking account of all potential sources of EU, national and regional funding. This will include the establishment of a list of priority actions to be carried out in the next decade;
- Improving the resilience of sites and their capacity to cope with environmental change by applying a range of practical measures within and around sites;
- Improving the quality and condition of the island’s Natura 2000 sites through management or restoration activities and the establishment of buffer zones;
- Increasing the participation of stakeholders, including private land owners and civil society organisations, in nature conservation (relating to agricultural, fisheries and forestry areas); and
- Achieving nature conservation via an integrated approach to the mitigation of, and adaptation to, climate change, in line with European Commission objectives.

Expected results

The project will provide:
- A realistic overview of the value of the Natura 2000 network in Sicily, from an environmental and a socio-economic perspective;
- Improved multi-sectoral management of the island’s Natura 2000 network;
- Increased mitigation of, and adaptation to, climate change at regional level;
- Increased public awareness about the benefits of Natura 2000 and ecosystem services, as a result of the production of a strategic communication plan for the next decade; and
- More green jobs opportunities.
Ligurian Invasive Fauna Eradication pro indigenous *Emys orbicularis* restocking

Project background

The practice of "cleaning" river beds using excavators and bulldozers, formerly favoured by local authorities in the Centa plain, has led to the loss of most river bed pools in the area. Most of the few scattered pools that are left are in isolated positions peripheral to river beds and are thus more subjected to in-filling. They also face a range of threats, including: uncontrolled access of vehicles (mainly motorbikes); trampling of clay pond/rivulet formations; the presence of dogs; and dumping of waste.

Uncontrolled access of vehicles and people to the habitats concerned has led to damage on the bank and clay vegetation, soil compaction and clay pond erosion. These effects have resulted in alterations and the reduction of food, shelter and breeding of the European pond turtle of the Centa plain (*Emys orbicularis ingauna*), a species listed in Annex II of the Habitats Directive. Other threats to the target species are uncontrolled small-scale game fishing activities and the introduction of non-native invasive animal species.

Project objectives

The project's main objectives are as follows:

- To eradicate invasive, non-native freshwater terrapin and turtle species in two areas, including the most significant wetland habitats of Liguria: the plain of Centa river and the basins of the Magra and Vara rivers;
- To implement ex-situ breeding with the aim of restocking the population of the European pond turtle of the Centa plain;
- To restock with captive bred juveniles the Centa plain wetland habitat areas favoured by the European pond turtles. (This action will also aim at the removal of all alien invasive freshwater turtle and terrapin species);
- To improve the wetland habitat quality for the targeted pond turtle species, in particular concerning its important basking and breeding areas;
- To draw up a 'pathology risk assessment' (before, during and after the restocking) for both the released and the wild turtle species; and
- To increase public awareness of the vulnerability of wetland ecosystems and, consequently, of the need to avoid any further releases of invasive, non-native freshwater species into the wild.

Expected results

- The eradication of invasive non-native freshwater terrapin and turtle species within the Centa plain freshwater sites and a considerable reduction within Magra and Vara river basin areas. (It is estimated that the total number of individuals might reach 200 in the former and 400 in the latter areas);
- The production of at least 80 captive-bred European pond turtle hatchlings per year;
- The annual release into the ponds of at least 50 individuals aged 3-5 years;
- An 80% survival rate of juveniles four months after their release in the wild;
- Significant improvements in the targeted breeding and basking sites;
- A DRA (Disease Risk Assessment) for pond turtle reintroduction/restocking actions; and
- An estimated 1 million visitors to the turtle facility at Genoa aquarium.
Protection of the largest population of *Puffinus yelkouan* on Earth and containment and eradication of invasive alien species

**Project background**

Predation by the black rat (*Rattus rattus*) is threatening the world’s largest population of Mediterranean Shearwaters (*Puffinus yelkouan*) – 9,991 to 13,424 pairs out of a global population of 15,337 to 30,519 pairs. On Tavolara, Shearwaters can only successfully reproduce at a reduced number of nests, located in caves in rat-free high cliffs. The same threats also affect other bird species. The presence of alien plant species (in particular *Carpobrotus edulis* and *C. acinaciformis*) on the island also threatens the conservation of habitats and species, as does the presence of a colony of wild goats. Tackling these biological threats is made more difficult by a lack of awareness among the local population of the importance of the threatened species, and of the risks associated with the introduction of alien species.

**Project objectives**

The project’s objectives are:

- Eradication of *R. rattus* and house mice (*Mus musculus*) from Tavolara and three smaller islets using rodenticide baits, which will be distributed from the air, except along the coast and in the few inhabited areas of Tavolara. The adopted method will not pose risks of environmental pollution;
- Preparatory scientific actions (monitoring of rodents, non-target species at risk, *P. yelkouan* and other target species) and communication with the local community (meetings, educational activities, volunteer involvement), as well as to a wider audience (website, webcam in *P. yelkouan* nests, publication in journals);
- Preliminary investigations will be carried out to assemble data, which can be provided to the competent authorities and used to inform the public. Careful monitoring will assess in detail the benefits of the project, and weigh them against any adverse effects. The eradication project will also be submitted to peer review;
- During the eradication phase, biosecurity measures, to reduce the risk of subsequent re-invasion, will be implemented;
- Eradication of *Carpobrotus* from Tavolara by manual uprooting. At present, the plant is not widespread, but it has huge potential for expansion. In order to involve the local community directly in the project, volunteers will be recruited. The project will also assess the risk of invasion by other alien plants, and will carry out eradication work if necessary; and
- Control of wild goats on Tavolara by capture and free conveyance to breeders, and the drafting of action plans for post-project management of the goat population.

**Expected results**

- Eradication of rodents from Tavolara and three smaller islets;
- Young *Puffinus yelkouan* fledged will increase by 5,000-8,000 each year;
- Restoration of suitable conditions for storm petrels (*Hydrobates pelagicus melitensis*), which are now nesting only in caves inaccessible to rats;
- Eradication of *Carpobrotus* from Tavolara;
- Establishment of bio-security measures that will be maintained after the end of the project and will reduce the risk of re-invasion to within acceptable limits; and
- Reduction by at least 40% of the wild goat population on Tavolara, reducing their impact on flora and habitats.
Techniques to reduce the impact of ghost fishing gear and to improve biodiversity in North Adriatic coastal areas

Project background

The increasing frequency of abandoned, lost or otherwise discarded fishing gear (ALDFG) at sea is having an increasing impact on coastal habitats (UNEP/FAO 2009). Nevertheless, estimates of the impact on biodiversity and the economy are scarce and very little has been done to reduce this problem. Concrete measures are necessary to recover and improve biodiversity, especially in habitats affected by fishing activities (e.g. trawling). The rocky habitats of the northern Adriatic are rich in biodiversity, making them an appropriate area for demonstrating restoration measures.

Project objectives

The general aims of the project include:
- Promoting concrete measures to restore and preserve the ecological status of the rocky habitats located in the northern Adriatic Sea;
- Assessing the impact of ALDFG on biodiversity in the rocky habitats along the coast of Veneto Region; and
- Estimating the economic value of the ecosystem benefits resulting from the removal and/or reduction of ALDFG.

The project’s specific aims are:
- Improving biodiversity in the rocky habitats ecosystem by removing ALDFG and transplanting the ‘noble pen shell’, a large saltwater clam (Pinna nobilis), thus demonstrating that these procedures can be applied to similar Mediterranean habitats;
- Testing and demonstrating the efficacy of methods to map, reduce and make safe lost fishing gear and to propose a plan for the disposal/recycling of recovered nets; and
- Producing an effective protocol for ALDFG management in coastal areas, detailing implemented technical procedures and containing a proposal for an EU regulation.

Expected results

- The enhancement of local biodiversity through the total removal of ALDFG from 20 areas (eliminating so-called “ghost fishing”) and the restoration of natural habitat functions; and by the transplanting of 50 noble pen shell clams and the encrusting community on their shells to two receptor sites;
- A regulation proposal establishing preventive management measures, as the first step towards the adoption of a specific legislative tool, at least at regional level;
- A database containing all the available information on the biological communities of the rocky habitats located in Veneto Region;
- A report on the economic value of ecosystem services that provides useful insights for identifying and quantifying the economic benefits of removing ALDFG;
- A cost-benefit analysis to calculate whether to undertake retrieval operations or use other management options; and
- A technical protocol for the management of ALDFG in coastal marine areas, defining tools, equipment, procedures and guidelines for recovering different materials.
Wolf in the alps: implementation of coordinated wolf conservation actions in core areas and beyond

Project background

After their eradication in the Alps in the first half of the 20th Century, wolves have started returning again, following the protection measures and the improvement of ecological conditions in Western Europe that have occurred in recent decades. Currently, the natural expansion of wolves in the Alps presents wildlife managers with the challenge of minimising conflict between wolves and human activities. Management must take into consideration high human densities and high levels of habitat fragmentation in certain areas. The lack of any form of coordinated management of the Alpine region represents a major challenge. Conservation measures are also needed to ensure the long-term survival of the wolf population.

Project objectives

The objective of the project is to implement and coordinate trans-boundary wolf conservation actions in the Alps (France, Italy and Slovenia), spanning westwards and eastwards, to enhance the re-colonisation process.

The project aims to:
• Decrease poisoning and poaching episodes;
• Decrease the wolf’s negative impact on livestock;
• Increase knowledge and acceptance of wolf conservation issues amongst hunters, shepherds, local communities, students and citizens;
• Control the loss of reproductive sites;
• Detect and control wolf-dog hybridisation; and
• Achieve long-term wolf genetic viability.

Expected results

The main expected results are:
• Increased detection of poisoning events by at least 50%;
• Development of a long-term strategy against the illegal use of poison at the Italian and Slovenian Alpine scale;
• At least a 30% reduction in wolf deaths caused by poisoning in target areas;
• A 30% reduction in wolf-induced livestock damage;
• At least 50% of the farmers involved in the project to use prevention measures to protect livestock;
• The development of wolf eco-tourism, with at least 10 wolf-friendly products and at least 60 events for tourists (with a minimum of 15 tourists participating in each event);
• An increase in knowledge about and positive attitudes towards wolves (of at least 10%) amongst farmers and the general public in the target areas;
• The development of common methodologies and criteria to enable efficient trans-boundary wolf monitoring and management;
• An increase in the skills of wardens and technical staff at public administrations concerning wolf monitoring methodologies and techniques, anti-poaching techniques, livestock damage assessment and prevention;
• The removal of hybrids detected in the pilot areas;
• The drafting of guidelines on long-term management strategies that will be shared on an interregional scale; and
• Increased awareness of wolf-human conflicts amongst all stakeholders.
Semi-natural dry-grassland conservation and restoration in Valle Susa through grazing

Project background

The Natura 2000 site, “Oasi xerotermiche della Val di Susa - Orrido di Chianocco e Foresto”, is important for its “seminatural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (important orchid sites)” habitat, which is listed as a conservation priority in Annex I of the Habitats Directive. The site is extremely significant due to the extent and richness of orchids and steno-Mediterranean rare species. However, in recent decades, land abandonment has led to a marked change in the composition of its flora, with substantial encroachment by shrubs and trees.

Project objectives

The project aims to conserve and restore the dry grasslands with orchids priority habitat within a representative area of the “Oasi xerotermiche della Val di Susa - Orrido di Chianocco e Foresto” Natura 2000 site. The project will define a restoration methodology (guidelines) and will implement actions that will lead to the conservation and restoration of significant portions of this habitat.

As a result, the project will be able to produce technical guidance that could be applied in the Cottian Alps (Alpi Cozie) Natural Park (and other SCIs) in order to ensure sustainable and long-term management of the habitat. In particular, the project aims to:

• Restore shrub and tree-encroached areas (about 20 hectares of 6210*) through mechanical clearing and cutting;
• Define a methodology and guidance for sustainable grazing and apply these to about 83 hectares of dry grasslands (e.g. by buying domestic animals and arranging grazing structures); and
• Develop the tourist potential of the area and encourage participation and thus greater awareness of issues related to the use of natural resources.

Expected results

The project will:

• Improve the conservation status of the 6210* habitat within the site;
• Draw up guidelines for the management of the habitat;
• Restore about 20 ha of the 6210* habitat through selective shrub-clearing and tree cutting;
• Prepare about 83 ha of the habitat for sustainable grazing, for example by installing mobile electric fences, permanent electric fences, water and salt points;

• Buy a “service flock” of 150 sheep to graze the conservation area;
• Regulate and restore access to the grazed areas to improve the protection of the habitat;
• Apply management guidelines to about 83 ha of the target habitat, including a farm, in order to manage the flock and demonstrate sustainable land use;
• Increase community awareness about the value of the SCI and the 6210* habitat through meetings and the involvement of students; and
• Promote the habitat management guidance developed by the project to other beneficiaries/managers of Natura 2000 sites.
Reduction of sea turtle mortality in commercial fisheries

Project background

The conservation of the sea turtle (*Caretta caretta*) – an EU priority species, listed in annexes II and IV of the Habitats Directive, and protected under various international conventions – is of strategic importance for the whole Mediterranean basin. Fishing represents the main threat to the species’ survival.

Researchers (Casale, 2011) estimate that around 130,000 turtles are accidentally caught in fishing nets every year in the Mediterranean: approximately 70,000 in open sea longlines, 40,000 by bottom trawling and 23,000 in fixed nets. This results in over 40,000 deaths annually. However, these estimates do not include all fishing boats, and probably also underestimates the number of smaller vessels. A more realistic number, therefore, is thought to be around 200,000, with a proportionally higher number of deaths also.

The negative impacts of fishing occur mainly in seven of the 21 Mediterranean countries, which are collectively responsible for 83% of the total number of turtle by-catches: with the Italian fishing fleet responsible for 18% of the total, thus presenting the biggest threat in the Mediterranean. These figures, together with accounts from fishermen, and the increasing number of interventions by Italian sea turtle rescue centres, highlight the urgent need for action.

Project objectives

The project, which involves 15 Italian regions on the Mediterranean, aims to reduce the mortality of the sea turtles by two main actions:
1. Reducing turtle by-catches caused by the use of open sea longline, bottom trawl and fixed nets by:
   - Encouraging the use of circle hooks (which are less damaging to fish) and turtle excluder devices, or TEDs (special devices that allow a captured sea turtle to escape if caught in a fisherman’s net);
   - Testing a new sea turtle acoustic repellent, or STAR, and a new type of gill net.
2. Reducing post-capture turtle deaths by training and raising awareness among fishermen, and by strengthening the rescue/first aid centres for the sea turtles.

Expected results

- The use of 18 circle hooks by c. 250 boats and 1,500 fishermen and training on using circle hooks for c. 500-700 fishermen (15 regions);
- The use of 10 new TEDs by c. 38 boats and 200 fishermen, and training on the use of TEDs for 300-450 fishermen (eight regions);
- Testing of STAR and the new type of gill net by six boats covering 120 fishing activities over 10 areas;
- Training of 500-750 fishermen on reducing post-capture sea turtle deaths (15 regions);
- Strengthening of seven sea turtle rescue centres, re-training of c. 200-250 staff, a new first aid centre (Lampedusa) and 15 first aid points (Emilia Romagna/Marche);
- The creation of eight information desks and 15 contact points (technical assistance) to support fishermen in requesting funds to replace traditional fishing gear with low-impact equipment (15 regions);
- Participation of c. 350-400 fishermen in information days (15 regions); and
- Increased awareness among people on the need to protect the marine environment and on the conservation and sustainable management of marine resources.
Trout population RecOvery in central ITAly

Project background

The macrostigma trout (Salmo trutta macrostigma) [named Salmo macrostigma in Annex II of the Habitats Directive], is the endemic salmonid of the Mediterranean area and the only original trout of central/southern Italy. It is classified as a vulnerable species in Europe and critically endangered in Italy. The main threats for the species are: water abstraction and stocking of non-native trout (resulting in hybridisation and competition).

The Atlantic brown trout (Salmo trutta) has been used for restocking purposes for many years, affecting the genetic integrity of most original macrostigma trout populations. However, a few residual macrostigma trout populations have recently been detected – through specific nuclear and gene markers – in some mainland areas of Italy. These relict populations were mainly found in places that are very difficult to reach. It therefore seems likely that more such populations may be present in other, difficult to access, watercourses.

Project objectives

The project’s main objective is the recovery and the conservation of existing macrostigma trout populations in four main watercourses in central Italy (Ambro-Tenna, Nera, Chienti and Metauro), where small populations (i.e., less than 5% of the salmonid populations in the area) have been identified. Given that the macrostigma trout has been almost completely replaced in central/southern Italy by the Atlantic brown trout (with the exception of a few populations in Sicily and Sardinia), the populations targeted by the project represent as much as 30-35% of the total known populations in Italy.

Expected results

• Identification of natural populations of macrostigma trout present in the area (32 sites) and their protection through specific changes in existing regulation;
• Production of “genetically certified” wild populations of the trout for restocking by establishing an aquaculture facility specifically adapted to manage wild native brood-stock (collection of trout from 10 selected sites);
• Removal of alien trout species from six stretches of river and their subsequent restocking with pure juvenile trout through different strategies of re-introduction and supportive-breeding. The removal of non-native trout species will also widen the habitat available to macrostigma trout; and
• Involvement of the local sports fishing community to increase its awareness about the problem and to facilitate acceptance of more restrictive fishery/management rules.

Beneficiary:

Type of beneficiary
Local authority

Name of beneficiary
Amministrazione Provinciale di Pesaro e Urbino

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Name of contact person
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Duration of project:
51 months (01/11/2013 - 31/01/2018)

Total budget in euro:
1,557,187.00

EC contribution in euro with %:
778,592.00 (50.00%)

Theme: Species: Fish
Project background

The little bustard (Tetrax tetrax), is a flagship species associated with semi-natural steppe habitats and traditional, low-input agricultural systems. With its overall distribution in rapid decline, the species is considered as globally threatened by BirdLife International (2004) and is also listed in the EU Birds Directive. The promontory of Gargano, the project SPA site, is home to the last remaining breeding site for the species on the Italian peninsula. With an estimated population of just 10-50 individuals, it is therefore an important site for conservation actions targeting the species.

Project objectives

The project’s overall objective is the preservation of a vital population of little bustards. Specific objectives are:

• To conserve former pastureland, a habitat favoured by the birds, which had been converted to agricultural land;
• To prevent the dramatic decline of the little bustard population at the site;
• To reduce the presence of predators (rats, stray dogs and cats) in the target areas;
• To reduce the impact on the birds from human activities, notably from the loss of low-input extensive farming; and
• To increase knowledge of the species at a regional level.

Expected results

The project expects to achieve the following:

• An increase of the little bustard population in the area by up to 100 individuals; and
• The restoration of some 280 ha of the priority habitat ‘Pseudosteppe with grasses and annuals of the Thero-Brachypodietea’.

Conservation of the last Italian peninsula population of Tetrax tetrax
An integrated approach to the conservation of intertidal salt marshes in the Venice lagoon

Project background
Erosion from human and natural causes is intensely impacting the whole Venice lagoon. A progressive deterioration of boundaries, elevations, bottoms and vegetated surfaces is impacting all tidal landforms, and the surface of salt marshes has markedly decreased over recent decades. Even the most inner, best-conserved salt marshes are highly affected and these unique ecosystems providing key eco-services are disappearing.

The causes of erosion are linked to the current models of development and lifestyles, such as waves caused by motorboats and the altered lagoon hydrodynamics resulting from the excavation of deep channels for large ships. Since it is not feasible to act upon these factors in the short term to stop erosion, effective actions to protect the salt marshes are urgently needed, taking into consideration also that current methods to combat coastal erosion cannot be applied in the interior salt marshes.

Project objectives
The project aims to demonstrate an integrated approach to the conservation of interior salt marshes based on prevention through regular and spatially-diffuse actions of monitoring and maintenance, as opposed to one-off protection actions.

The regular identification and repair of the small, numerous eroded spots on salt marsh boundaries will be carried out to stop erosion before it becomes irreversible, using low-impact soil bioengineering works (e.g. fascines) and manual labour. This cost-effective method will be merged with participatory processes to involve stakeholders in conservation works, increase environmental awareness and promote sustainable local economic activities based on salt marsh services. Eventually, the demand for salt marsh conservation will emerge naturally from local communities given the key benefits that they will derive from salt marsh services and from conservation activities (employment), thus addressing also the socio-economic drivers of erosion.

Expected results
Among the main expected results are:
- Creation of a permanent working group including project beneficiaries, subcontractors, local institutions and stakeholders, led by a participation expert, to manage all the participatory processes during the project;
- Removal of accumulated waste from lagoon sites selected to perform plantation and reforestation activities and creation of a short supply chain of wooden material;
- Protection from erosion of the most interior, ecologically-valuable salt marshes, using diffuse low-impact soil bioengineering works (total protected surface of some 270,000 m², whose external boundaries cover some 7,500 m);
- Integration of soil bioengineering works with other experimental protections (100 m of groynes, 500 m of wind barriers) contrasting the current trend of flattening the lagoon beds, to favour the development of ecological niches and increase the local abundance of valuable fishing resources; and
- Continuous surveillance and maintenance over the project lifetime of the salt marshes in the project area.
Land-And-Sea Actions for Conservation of Caretta Caretta in its most important Italian Nesting Ground (Ionian Calabria)

Project background

Some 95% of the nesting sites of the loggerhead turtle (Caretta caretta) in the Mediterranean Sea are concentrated on Greek, Turkish, Cypriot and Libyan coasts. The nesting of the species in southern Italy is considered to have been quite sporadic and irregular in the past few decades, even though quantitative data are limited. Recently, it was estimated that some 100 nesting sites are present in southern Italy, of which 71 are in Calabria. However, coordinated plans and actions to preserve loggerhead turtle populations through habitat restoration, proper management of beaches, fishing and bycatch impact reduction are currently missing.

Project objectives

The main objectives of the project are to:
• Conserve and restore four key loggerhead nesting areas in coastal habitats (dune series) identified by the studies conducted since 2000 by the Department of Ecology at the University Of Calabria;
• Eliminate and/or mitigate the main threats and risk factors for the reproductive success of the turtle in the area;
• Reduce the impact of fishing activities (by the Calabrian and Sicilian fishing fleets) on the populations of loggerhead turtle in the marine area off the nesting beaches;
• Introduce integrated dynamic coastal zone management for the protection of Natura 2000 habitats (dune series) and of loggerhead turtle habitats under high anthropogenic pressure;
• Produce guidelines for the management of coastal habitats;
• Ensure that the coastal municipalities adopt a shared Action Plan for the prompt implementation of conservation actions along the Ionian coast of Calabria;
• Disseminate best practices on the use of coastal areas where the turtle nests to local administrators and residents; and
• Update management plans for Natura 2000 sites in the project area.

Expected results

• Restoration of the dune habitats in the four coastal sectors where loggerhead turtle nesting occurs. An improvement (by up to 80%) of the composition and structure of dune vegetation and habitats. An increase of the beach area under protection against coastal erosion;
• A 50% reduction in the need for direct conservation actions in loggerhead turtle nesting areas (in-situ relocation, nest protection, etc.) and the consequent increase of their natural hatching success;
• Reduction of light pollution along the coast, enabling a 50% reduction in the use of shading fences for turtle conservation;
• Reduction of loggerhead sea turtle bycatch and a consequent decrease in the mortality of juveniles and adults (possible stabilisation/increase in the number of nesting females);
• Raised public awareness of the importance of the turtle’s conservation, including its economic value as a possible tourist attraction;
• Increased awareness amongst fishermen of sea turtle conservation issues and their relationship with the marine environment; and
• More information on the importance of correct beach and tourism management as opposed to unsustainable development.
Restoration of Bittern habitats in two coastal lakes in Latvia

Project background

Latvia’s Engure and Pape nature parks are feeding and breeding grounds for the bittern (*Botaurus stellaris*). Lake Engure is the most important Natura 2000 site for the bittern in Latvia, with 30-50 breeding pairs, while Lake Pape is the second most important site, with 25-30 breeding pairs. Between them, these sites are estimated to host between 2% and 15% of the country’s total bittern population. In both lakes, there is sufficient coverage of reed beds, but because of reed-stand spread, overgrowing and drying up, their quality is deteriorating and they are becoming unsuitable for the bittern. To maintain the bittern population, it is necessary to maintain the mosaic of open water and wet reed swamps with shallow waters.

Project objectives

The long-term objective of the project is to improve the conservation status of the bittern in Latvia, according to the framework for species conservation set out in the EU Species Action Plan.

The short term objectives of the project are:

- To improve the conservation status of the bittern and to improve ecosystem functions in the two most important coastal lakes for the species – Lake Engure and Lake Pape;
- To reduce the impact of direct and indirect threats to the bittern population by securing sustainable lake habitat management, including the restoration of currently degraded breeding and feeding sites;
- To monitor and evaluate the effects of the lake habitat restoration measures on the species during the project and to feed this information into future site management plans and species management recommendations;
- To establish a demonstration area for species conservation at Lake Engure, in order to eliminate gaps in knowledge about the habitat requirements of the bittern, and to establish widely applicable and regionally-tested habitat restoration methods, thus laying the foundations for further bittern conservation work in Latvia and the Boreal region; and
- To enhance public understanding of the ecological, economic and social values of coastal wetlands.

Expected results

- Conservation of 300 ha of bittern habitat in a demonstration area at Lake Engure;
Improving of the conservation status of specially protected bird species in Natura 2000 site “Adazi”

Project background

Latvia’s Adazi Natura 2000 site has been largely shaped by military activities. However, a decline in the intensity of military activities has led to overgrowth of open habitats, most notably dry sand heaths with heather (Calluna) and crowberry (Empetrum nigrum), which are nesting, foraging and/or mating sites for the black grouse (Tetrao tetrix), European nightjar (Caprimulgus europaeus), European roller (Coracias garrulus), woodlark (Lullula arborea), tawny pipit (Anthus campestris) and other bird species.

The reduced activity at the site will eventually lead to the formation of scrubland/tree cover, which will have little conservation value and will lead to a significant or total loss of both the qualifying habitat types and the listed bird species at the site. The habitats for birds breeding and foraging in open landscapes need to be restored through controlled burning and cutting of trees and bushes, mowing and sod cutting.

Drainage within the territory has also had a negative impact on several habitat types: rivers, floodplain meadows, wet forests, and most notably, raised bog (Rampa Bog), which has been degraded to the point where natural raised bog vegetation has been replaced by vegetation not characteristic for this habitat, including trees and bushes, with potential loss of bog function. This has had a negative impact on the bird species breeding in the bog, though a small breeding population of wood sandpiper (Tringa glareola) and a larger population of crane (Grus grus) remains.

Project objectives

The project’s objectives are:

• To restore in the Natura 2000 site, the breeding and/or foraging habitats of Birds Directive Annex I bird species and Habitats Directive-listed heathland and bog habitat types;
• To enhance conditions for the long-term sustainability of the valuable features within the site through comprehensive conservation and management planning, taking into account the needs and capacity of landowners and managers, and including awareness raising programmes; and
• To promote cooperation and international networking with other managers of military Natura 2000 sites and institutions working with similar species and habitats.

Expected results

• The restoration of 1 100 ha of dry sand heaths, 500 ha of degraded bogs and 20 ha of Western taiga;
• Stable or increasing populations of targeted birds such as black grouse and red-backed shrike (Lanius collurio) breeding and/or foraging in habitat 2320, and of species including black grouse and European nightjar in the bog habitat;
• The erection of 60 nestboxes and 200 perching poles for the European roller. A webcam will also be set up at one nest of a specially protected bird species each year;
• A management plan for the project area will be developed and approved by statutory authorities;
• A study of the impact of military activity on species and habitats will be completed, to help inform future planning of military sites; and
• An educational cycling trail (8 km) will be built and various information and dissemination activities organised.

Beneficiary:

Type of beneficiary
National authority

Name of beneficiary
State Centre for Defence Military Objects and Procurement (SCDMOP)

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Duration of project:
48 months (01/11/2013 – 31/10/2017)

Total budget in euro:
1,537,988.00

EC contribution in euro with %:
768,994.00 (50.00%)
Alternative use of biomass for maintenance of grassland biodiversity and ecosystem services

Project background

Grasslands, and in particular natural grasslands with high biodiversity, are complex ecosystems that provide a variety of different ecosystem functions and services, which are essential for the maintenance of biodiversity, as well as for human well-being. The main threats to grassland biodiversity are related to the intensification of agriculture, urbanisation, climate change, invasive species and the abandonment of agricultural land, which leads to the overgrowing of fields by forest and to a loss of the ecological value of grasslands and the related farmland biodiversity. In order to target the problem of declining grassland biodiversity and related ecosystem services, two pilot areas (Sigulda and Ludza municipalities) have been selected for the project activities. Both areas have large expanses of unused agricultural land and are rich in biodiversity.

Project objectives

The project aims to ensure the maintenance of valuable grasslands by introducing ecological assessment, restoration and/or management of grassland ecosystems and by enhancing the use of grassland biomass in economically-sustainable management models. Through the management of grassland habitats, and by promoting alternative options for the use of biomass (e.g. the production of biofuel), the project will also prevent the distribution of invasive grassland plant species and contribute to increasing the share of renewable energy sources in the energy mix.

Specific objectives are to:
- Assess the biological and economic value of grassland ecosystems and services in the two project pilot areas;
- Assess the potential the grassland biomass in the project pilot areas and develop area-specific technological solutions for grassland management and the utilisation of biomass in an economically sustainable way;
- Inform local stakeholders about the ecosystem services provided by grasslands and about alternative options for the use of grassland biomass;
- Establish contacts and cooperation networks between landowners and entrepreneurs engaged in the production of energy and other goods from grassland biomass; and
- Demonstrate alternative technological solutions for biomass processing to a wide range of interested stakeholders.

Expected results
- Reports and documentation on the implementation of project activities, including:
  - A report on grassland ecosystem services at the two pilot areas;
  - A report on technical solutions for the use and processing of biomass and the cost-effectiveness of the proposed measures; and
  - An action plan on the management of grassland habitats in the two pilot areas;
- Agreements with local landowners on the collection of grassland biomass for the project activities;
- At least 150 ha of grassland habitats restored in the two project pilot areas;
- Grassland biomass collected for the demonstration activities on an area of at least 300 ha;
- Demonstration actions on biomass processing at the two project pilot areas;
- An international seminar on solutions to sustainable grassland management; and
- Four information seminars on project activities for local stakeholders.
Restoration of raised bog of Aukštumala in Nemunas Delta Regional Park

Project background

The project actions will focus on the Nemunas Delta Regional Park (Natura 2000 site), which is situated in the Šilutė district, in western Lithuania. The Aukštumala raised bog is found in the interstream area, between the rivers Nemunas and Minija. The Nemunas delta, including the Aukštumala raised bog, is also a Ramsar (Convention on Wetlands of International Importance) site.

At the beginning of the Twentieth Century, the whole wetland was trenched by shallow drainage ditches for peat excavation purposes. The dense network of ditches in the eastern part, and the less intensive network in other parts of the reserve, are still active today, and because of the ongoing drainage, the typical raised bog habitats are being displaced by forests of birch (Betula pubescens) and Scots pine (Pinus sylvestris). At present, around half of the raised bog is excavated for peat. The excavated areas border and are damaging to the still untouched high moor, due to the drainage of living raised bog.

Project objectives

The project’s main objective is to restore and maintain the favourable conservation status of the “7110 Active Raised bog” habitat within the Aukštumales Telmological Reserve. This will be done by damming old drainage ditches within the high moor, thus raising the water table within the project area and increasing sphagnum growth. Large-scale removal of invading bushes and trees from overgrown high moor areas will complement the damming action. The foreseen conservation actions will also support other Annex II habitat types (“3160 natural dystrophic lakes”) and species (e.g. black grouse (Tetrao tetrix) and wood sandpiper (Tringa glareola)).

Secondary project objectives are:
- To establish an international board of experts dedicated to the protection of Aukštumala;
- To train local nature guides;
- To disseminate the project’s experiences and raise awareness about the importance of high moor protection in Lithuania; and
- To restore and develop an existing educational path and observation tower.

Expected results
- Approximately 70 km of small ditches that drain the high moor will be blocked;
- Approximately 10 km of main ditches that drain the high moor will be blocked;
- Approximately 100 ha of overgrown high moor will be cleared;
- An international high moor expert group will be established, two workshops will be held, two study tours will be carried out, and other meetings will be held;
- Twenty nature guides will be trained on wetland conservation and eight excursions will organised;
- A film about Aukštumala will be produced, an educational trail will be renovated and improved, the oldest wetland scientific monograph will be printed in Lithuanian, and other promotional and exhibition materials will be produced, including a project website; and
- Two scientific publications about the project will be written.
Demonstrative restoration of
the Tyruliai bog as a part of the
re-wetting of Lithuanian peatlands

Project background

Peat-bog ecosystems are very important for European biodiversity. Even bogs that were once used for peat excavation can, after natural or human-initiated recovery, become valuable wetlands, containing a wide range of specific ecosystems. In Lithuania, the natural re-flooding of former peat extraction sites and the growth of patches of sedge-grass attract breeding spotted crake and migratory common crane. However, overgrowth with bushes and reeds disrupts the water regime and has a negative impact on the condition of the habitat.

Project objectives

The main objective of the Tyruliai - LIFE project is to ensure the favourable conservation status of the bittern (Botaurus stellaris) – listed in Annex I of the Birds Directive – and the breeding bird species, spotted crake (Porzana porzana) and migratory common crane (Grus grus). The target area is the Tyruliai bog, a state nature zoological-botanical reserve and a Natura 2000 site.

The conservation of these species will be achieved by:
• Improving the condition of their habitats and increasing their capacity;
• Restoring the hydrological regime in some areas of the Natura 2000 site;
• Supporting natural succession of the sedge-grass communities;
• Reducing disturbance to birds;
• Maintaining an existing fire prevention scheme; and
• Raising public awareness about the benefits of bog restoration.

Expected results

The main excepted result is an increase in the breeding population of bittern, by at least 20 pairs, spotted crake, by up to 30 males, and staging cranes, by more than 1 000 individuals. These results will be accompanied by the following habitat management measures:
• Re-wetting of more than 500 ha of dry peat;
• Improved capacity of at least 200 ha of former open sedge-grass areas and more than 100 ha of dense reed stands overgrowing wet peatland areas;
• Improved capacity of more than 200 ha of reed stands growing in the flooded ponds, by the removal of reeds on at least 20 ha;
• Elimination of car traffic from a large part (1 000 ha) of the reserve through the closure of local roads.

The same time, the quality of these roads will be improved to ensure effective fire prevention; and
• Greater public awareness about the project actions and the benefits of bog restoration.
Soil stabilisation to protect Annex I habitats in Buskett-Girgenti N2000 site

Project background

Wied il-Luq is one of the tributary ‘wadis’ or valleys feeding the Wied il-Kbir system, which is the largest such ‘wied’ system in Malta. It now only carries water during the wet season, draining runoff from the higher ground and from the land surrounding its course. Over the past 200 years, gardens and woodlands were planted and game enclosures, irrigation works, fountains and fish tanks were constructed along the river banks. Wied il-Luq was extensively modified in the process, and its banks were reinforced with dry stone walls and ashlar walls. As a result, it became an artificial channel along most of its course through Buskett. Sections of the dry stone retaining walls have now collapsed and other parts contain breaches and damage due to erosion, overexploitation and poor upkeep. Moreover, invasive alien species planted many years ago are now spreading across the areas targeted by the project.

Project objectives

The objectives of the project are to:

• Protect the watercourse and its banks supporting the Annex I-listed priority habitat Arborescent matorral with Laurus nobilis and Annex I-listed species, Salix Alba and Populus alba galleries, and other trees characteristic of riparian woodland, such as Fraxinus angustifolia and Ulmus sp, through (i) the restoration of retaining walls that define the watercourse and (ii) a reduction in the run-off of soil and debris from the valley, which cause sedimentation in the watercourse;

• Protect the stability of the substratum on the valley sides supporting the following Annex I-listed habitats: Arborescent matorral with Laurus nobilis, Mediterranean pine forests with endemic Mesogeian pines, Olea and Ceratonia forests, and Quercus ilex and Quercus rotundifolia forests;

• Remove invasive alien species that compete with the targeted habitats and plant new trees characteristic of the targeted habitats.

Expected results

The project’s results include the following:

• Restoration of 176m of dry stone ashlar wall along the watercourse;

• Rebuilding 176m of dry stone rubble wall along the watercourse;

• Rebuilding 49 arched buttresses along the watercourse;

• Safeguarding (as a result of the above-mentioned actions) of 2 971m² of Arborescent Laurel matorral habitat and 12 629 m² of willow and poplar rivers gallery forests;

• Restoration of 6 297 m of dry stone rubble walls along the watercourse and further up the valley sides;

• Restoration of 1 020 m of dry stone ashlar walls along the watercourse and higher up the valley sides;

• Silt/boulder clearance along 1 208 m of the watercourse;

• Removal of the identified invasive species (Ailanthus altissima, Vitis sp, Agave spp and Ricinus communis) from the whole area targeted by the project (241 742 m²); and

• Planting of 3 300 trees that are characteristic of the targeted habitats.
Project background

Marine habitats are becoming increasingly vulnerable, largely due to the impact of human activities. Some are listed in Annex I of the Habitats Directive and, following a Natura 2000 marine biogeographic seminar in 2010, as well as various discussions with the European Commission, Malta is required to protect certain marine habitats. However, there is a lack of information on marine habitats and no central database. Currently, marine Natura 2000 (N2000) sites are restricted to coastal waters and have only been designated on the basis of the presence of the priority habitat, Posidonia oceanica meadows. Other priority marine habitats also need to be surveyed, mapped and included in the N2000 network.

Project objectives

The project aims to:
- Address the dearth of marine habitat data – specifically location, range, conservation status – by collecting existing information, surveying marine areas and analysing the data collected. This will help the Maltese authorities to establish the distribution of marine habitats listed in Annex I of the Habitats Directive, namely sandbanks, reefs, and submerged and partially submerged sea caves. This in turn, is intended to extend existing sites and identifying new sites to be included in the marine N2000 network;
- Enable and promote the active participation of all stakeholders in the project, as well as in ongoing activities after the project has ended;
- Establish conservation objectives for marine N2000 sites, based on the data collected, as well as stakeholder input. This will provide a platform to guide the management of sites; and
- Enhance stakeholder understanding of the conservation and management of marine resources and of the N2000 network.

Expected results

The project’s expected results will include:
- Creation of a broad habitat map of Malta’s marine area;
- Production of three scientific reports, containing a detailed analysis of the data collected;
- Production of maps of protected habitats;
- Prioritisation of identified habitats, in accordance with the Habitats Directive;
- Identification and designation of SCIs, including the possible extensions of existing sites;
- Creation of marine Natura 2000 biotope maps and N2000 standard data forms for each designated site;
- Improvement of protected area designation, thus fulfilling Malta’s obligations as set out by EU directives and other international agreements;
- Assessment of the current conservation status of the habitats surveyed;
- Drawing up of a management framework for the designated sites; and
- Increased awareness and participation through several scientific committee meetings, stakeholder seminars, public meetings and dissemination to local media.
Carrying out necessary conservation work on Szachownica Cave designated within Natura 2000

Project background

The Szachownica cave is one of the longest cave systems in the Jura Krakowsko-Wieluńska (southern Poland). It is the country’s second largest hibernation site for bats, with more than 2,000 bats of 10 different species hibernating there every year. These include four species listed in Annex II of the Habitats Directive: Barbastelle (Barbastella barbastellus), Bechstein’s bat (Myotis bechsteinii), the pond bat (Myotis dasycneme) and the greater mouse-eared bat (Myotis myotis). Other bat species at the site are: Serotine bat, Brandt’s bat, Daubenton’s bat, whiskered bat, Natterer’s bat and the brown long-eared bat.

Human intrusion into the rock formation has disturbed the massif equilibrium. Very intense processes of disintegration of geotectonic structure are intensified by natural processes of frost cracking and karst phenomena. Furthermore, some recent rock slides and ceiling deflection have occurred in the artificial halls. It is also thought that a partial cave collapse is inevitable and would result in loss of hibernation space and decreased bat swarms.

Project objectives

The project’s overall objective is to provide proper protection of the habitats of the bat populations of the Szachownica cave, a Natura 2000 site. Specifically, the aim is to stop the breakdown of the roof of the cave and provide optimal conditions for the bats that hibernate there. In order to stop the disintegration of the cave, conservation work must include maintenance and ceiling reinforcement. The work will be carried out in two stages:

Stage I – Temporary ceiling reinforcement, using timber props to prevent the collapse of the most unsafe parts until permanent reinforcement is ready for installation. When the maintenance is finished, the props will be removed and the cave returned to its natural shape; and

Stage II – Final ceiling reinforcement through a combination of i) a reinforcing-sealing injection into the cave roof i.e., this involves squeezing a bonding agent into holes drilled into the roof. Polyurethane resins will be used as an injection agent. The agent is also a filler providing good binding for any cracks; and ii) reinforcing the rock formation with anchor plates (poles) on the surface by using ground anchor plates. During binding, a gluing agent will boost its volume, penetrate slots and bond the cracked rocks. This system will also be used to stabilise the excavation, with the anchor plates taking on the tensile stress in the cave ceiling. Precise analysis of the cave will allow the project team to determine the required number of anchors and injection holes, as well as their location and length, thereby ensuring the long-term preservation of the cave.

Expected results

The project expects to achieve the following results:
• Make safe 1,000 m² of the rock roof in the Szachownica cave;
• Make safe other parts of the rock roof and side walls;
• Maintain the existing number of chambers and the structures favoured by the bats;
• Maintain the shape of the cave entrance; and
• Ensure proper ventilation of the cave.
The conservation of non-forest natural habitat on a military area, Natura 2000 site

Project background

The Pustynia Błędowska Natura 2000 site (a former military area of the Błędowska Desert) in southern Poland, hosts the country’s largest complex of two types of non-forest sandy habitat: Xeric sand calcareous grasslands; and inland dunes with grasslands. The national report on the state of conservation of these rare habitat types, prepared by the Ministry of Environment in 2007, showed that the conservation status of both habitats is poor. The project location, Pustynia Błędowska (a former military area) provides 6.3% of total Polish coverage of priority sand grasslands and 3.9% of the country’s inland dunes. It is the most well-known and spectacular example in Poland of “desert-like” landscape and is an important biodiversity enclave in the highly urbanised landscape of the Silesian upland.

Project objectives

The project’s overall objectives are to test, implement and disseminate active conservation measures for the two non-forest sandy habitats of the Pustynia Błędowska, a disused military area within the EU’s Natura 2000 network of protected areas: priority Xeric sand calcareous grasslands and inland dunes with open Corynephorus and Agrostis grasslands. Specifically, the project is aiming to restore the target sand habitats to their conservation status, as recorded in 1958.

Planned actions to achieve these goals include:

• Conducting a detailed inspection of the area to check for any remaining military problems and in particular, to ensure the site is safe from any possibility of unexploded ordnance (Pustynia Błędowska was used for military field training during World War II and after);
• Removal of trees and scrub (mainly Pinus sylvestris, Betula verrucosa, Salix acutifolia and Salix arenaria) overgrowing the project area;
• Workshops examining nature conservation in military zones for representatives of different army units operating within Natura 2000 sites; and
• The development and dissemination of good practices for conservation of natural habitats within military zones.

Expected results

The project expects to improve the conservation status of the natural habitats of the Pustynia Błędowska through the following actions:

• The clearance of unexploded ordnance from 375 ha of land;
• Removal of trees and scrub on 288 ha of land;
• Education and dissemination activities – including the organisation of mobile exhibitions for military personnel (located close to the entrance to the military zone); and
• The publication of a guidebook in Polish (1 000 copies) and English (500 copies) on the conservation of natural habitats in military zones; two international conferences and a series of (10) training workshops; and preparation of scientific datasets and inventories.
Improvement of fish living conditions in River Drwęca and its tributaries

Project background

The Drwęca river has a rich mosaic of habitats that are characteristic of a river valley and create favourable conditions for numerous species of fish, including the Atlantic salmon (Salmo salar), as well as water birds and other animals.

Following the construction of a dam in Wloclawek, which has poorly functioning structures to facilitate fish migration (fish ladders), the spawning grounds of the salmon population in the upper part of the Vistula basin were cut off. Therefore, the restoration of ecosystem elements benefitting salmon (and other fish species) is needed.

Project objectives

Project goals focus on improving habitat conditions for Atlantic salmon through: biological restoration of the Drwęca river and its tributary (river Wel), including habitat conditions in the area of the Drwęca Valley; improving the hydrology of the river by constructing fish ladders that will allow free migration of the species; limiting negative anthropogenic impacts in the Drwęca Basin by managing visitor pressures on relevant parts of the waterway; and raising local community awareness about protection within Natura 2000 areas, including the moderate use of the Drwęca river.

Expected results

Anticipated outcomes of the project include a significant increase in the Atlantic salmon population in the whole basin. This will also have a positive impact on other fish, including: European weatherfish (Misgurnus fossilis), European river lamprey (Lampetra fluviatilis) and European brook lamprey (Lampetra planeri).

Other expected results include the creation of 11 new areas where public access will be restricted. This will reduce tourist pressure on the Natura 2000 site (PLH280001) and help to maintain the natural richness of this region, especially of marsh and water habitats, which are the main natural refuge for fish and amphibians.
Project background

The Pieniny National Park is unique in its diversity of habitat conditions, which has resulted in an exceptional mosaic of habitats. As a result of traditional and sustainable farming practices, rich and often unique non-forest communities have developed: mountain Trietum meadows Polygono-Trisetion, communities of fresh meadows of Arrhenatherion elatioris and thermophilous rock grasslands Festuco-Brometea. The greatest threat to these communities is that the light-requiring species become shaded out by trees or taller plants and bushes. The species associated with thermophilous rock grasslands is the Pieniny treacle-mustard (Erysimum pieninicum), an endemic plant which prefers the mosaic of grasslands and shrubs. Maintenance of grasslands generally depends on activities such as extensive mowing, however much of the area covered by the park is in private hands, which has made it more difficult to carry out conservation actions than in the publicly-owned parts. Invasive alien species such as Sakhalin knotweed (Reynoutria sachalinensis) and Japanese knotweed (R. japonica) present a serious threat to native species in the project area. Uncontrolled tourism is another threat to protected species and habitats, especially when visitors stray from trails.

Project objectives

The main objectives of the project focus on improving the conservation status of rare species and valuable habitats in the Pieniny Natura 2000 network site. This will be achieved by means of a coordinated programme of nature conservation actions including:

• Dedicated actions for bats and amphibians;
• Land purchase;
• Tree and shrub clearance;
• Removal of invasive species;
• Mowing;
• Managing visitor pressures; and
• Stakeholder communication activities.

Expected results

The project expects to achieve the following results:

• Enhanced nature conservation results covering approximately 24 ha of meadows and 16 ha of restored commercial forest area (via the purchase of 40 ha of land);
• Balancing of grazing pressures at five sites in the area of Majerz glade to reduce threats and create favourable breeding conditions for three amphibian species (Triturus montandoni, Triturus alpestris and Bombina variegata);
• Habitat improvements to facilitate favourable conditions for further development of the breeding colony of the lesser horseshoe bat (Rhinolophus hipposideros) - located in the attic of the PPN head office;
• Better management of visitor pressures along 1.26 km of footpath trails;
• Active management of some 8 ha of xerothermic rock grasslands to prevent the threat of overgrowth by trees and/or shrubs;
• Safeguarding of the conservation status of the Pieniny treacle-mustard and habitat conditions for species reliant on the mosaic of grasslands and shrubs on the project site’s castle hill area (0.5 ha); and
• Removal of invasive riparian species from a 10 km stretch of the Dunajec River. This work will pay special attention to reducing the presence of Sakhalin knotweed and Japanese knotweed by 50-80%.
Project background

The Miechowska Upland is situated in the northern part of Małopolska, covering an area of some 960 km². It is almost totally covered with sediments and is mostly an agricultural area (79% farmlands and 12% forests). The upland is also home to the protected habitat ‘xerothermic grasslands, warm forests and shrubs’. The project area contains a total of 54 species, mainly plants.

Project objectives

The project aims to restore the xerothermic grasslands and species that they host in 12 Natura 2000 sites located in the Miechowska Upland. It also aims to bring about a return to the extensive use of land, encourage sheep pasturage, strengthen local populations of endangered species and engage local communities. Those activities will ensure the sustainable development of the Miechowska Upland and the conservation of priority habitats.

The specific objectives of the project include:
- Drawing up management plans for each of the 12 Natura 2000 network sites;
- Protecting the xerothermic habitats by cutting trees and shrubs, mowing and removing alien species and rubbish;
- Purchasing sheep for grazing;
- Land purchase to ensure appropriate management of six Natura 2000 network sites;
- Developing a tourism infrastructure;
- Monitoring the project’s protection activities; and
- Promoting the aims of the project through meetings, conferences and publications.

Expected results

The project expects to achieve the following:
- Protection and restoration of 77 ha of xerothermic grasslands and species;
- Creation of 12 local management plans for Natura 2000 sites;
- Restoration of extensive land use;
- Sheep grazing on xerothermic habitats;
- Tourism infrastructure (educational trails, information boards etc);
- Purchase of six valuable Natura 2000 sites; and
- The engagement of local communities in the project.
Protection of the Lesser Horseshoe bat and other bat species in southern Poland (Lesser Horseshoe +)

Project background

Bat populations have declined in many parts of the EU and the loss of bat habitats in southern Poland is considered to be a threat to the region’s bat species. There is particular concern in relation to the loss of summer and winter roosts within buildings. Remedial action is therefore required to redress bat habitat threats, which includes improving understanding among residents about the relevance of bat conservation work.

Project objectives

The project will focus on 29 Natura 2000 sites in southern Poland, with the main objective being to improve the conservation status and population sizes of bat species that are classified as being threatened in Poland, namely the lesser horseshoe bat, Geoffroy’s bat and the greater mouse-eared bat. This will be achieved by carrying out specific actions to improve the quality and quantity of habitats for the target species. Attention will be paid to strengthening the overall integrity of bat habitats by reducing threats, both around roosts and also along corridors that connect different parts of the bat habitats. Efforts will be made to ensure a positive long-term impact by using self-sustaining and/or low maintenance habitat management techniques.

Communication campaigns will promote a positive image of bats, tackle misconceptions, explain the consequences of biodiversity decline, and highlight the potential economic opportunities that can be gained from nature conservation activities.

Expected results

Some 66 bat roosts in southern Poland will benefit from the project. These include nine roosts in buildings that will benefit from the refurbishment of woodwork and roofing. Long-term conditions for another six existing roosts in buildings will be improved by erecting guano platforms. In at least 40 roosts the conditions for bats and their safety will be improved by targeted measures including improvements to surroundings that result in structuring of localised vegetation and modifying illumination.

It is expected that by the end of the project, most residents from the target area will have developed a positive attitude towards bats. The number of people visiting the project website (target – no less than 10 000 per year) and the number of tourists involved in bat counts (no less than 100 people per year) will serve as indices of the popularity of the project.

Beneficiary:

**Type of beneficiary**

NGO-Foundation

**Name of beneficiary**

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**Name of contact person**

Rafal SZKUDLAREK

**Duration of project:**

60 months (01/07/2013 – 30/06/2018)

**Total budget in euro:**

3,429,042.00

**EC contribution in euro with %:**

1,714,521.00 (50.00%)

**Theme:**

Species: Amphibians

counts (no less than 100 people per year) will serve as indices of the popularity of the project.
Amphibians protection on the Natura 2000 areas in north-eastern Poland

Project background
The Wigierski National Park is important for the many species of plants and animals it hosts, as well as for certain habitats. A large number of wetland areas, especially around lakes, river valleys and small water bodies, provide good environments for amphibians. However, amphibian populations in the park remain under threat from human activities and are considered to be have a high risk of extinction in the project area.

Project objectives
The project’s strategic objective focuses on supporting the conservation status of key amphibian populations in Natura 2000 areas in north-eastern Poland. Specific objectives include: decreasing amphibian mortality during seasonal migrations, and year-round, from human activity; increasing the number of amphibian breeding grounds; managing forested areas and open areas in order to create optimal living conditions for amphibians; and organising a monitoring network of amphibian threats near transport routes.

Expected results
Expected project results include:
- Reducing amphibian mortality rates (by 80% or more) during seasonal migrations of the local populations in the Natura 2000 sites at Ostoja Wigierska, Ostoja Suwalki, Narew Marshes, and Forest Romincka;
- The establishment of four small water reservoirs to increase the availability of amphibian breeding places;
- Improving living conditions in an area of approximately 200 ha for the two local amphibian populations at Ostoja Wigierski and Romincka Forest;
- An increase in knowledge about technical solutions that protect amphibians against threats arising from the presence of humans in the area, and the production of a guidance manual on this topic;
- An increase in the amount of data available on amphibian threats near transport routes in north-eastern Poland;
- The creation of an amphibian monitoring network based around selected schools and educational centers; and
- Two new publications on amphibian conservation.
Protection of non-forest habitats in the Beskid Landscape Parks

Project background

The Natura 2000 network sites Beskid Śląski and Beskid Żywiecki host a high nature value mixture of meadows and pastures which emerged as a result of longstanding farming activity. The botanical composition comprises mainly native plant species, usually light-loving. Recent changes in land use practices, however, have started to pose a risk to the conservation status of priority species that rely on the farm habitats. Hence, a need exists to establish long-term sustainable solutions to eradicate threats to important habitats and their species in these Natura 2000 network sites.

Project objectives

This LIFE Nature project aims to carry out actions that establish the right type of conditions for maintaining biodiversity by restoring and enhancing the quality of the Natura 2000 network sites. This will be achieved by project actions involving grazing, the removal of self-germinating trees and shrubs, and mowing, with the removal of the biomass.

Habitat types listed in Annex I of the Habitats Directive (southern Carpathian Nardetalia grassland and extensively used fresh mountain grasslands) will be the project’s main target for remedial action. This work aims to benefit plant species listed in Annex II of the Habitats Directive (Campanula serrata subsp. serrata and Aconitum firmum subsp. Moravicum) as well as animal species listed in Annex II to the Habitats Directive (Canis lupus, Ursus arctos, Microtus arvalis, Carabus variolosus). Bird species benefitting from the project will include those mentioned in Annex I to the Birds Directive (Aquila pomarina, Aquila chrysaetos, Bubo bubo, Tetrao urogallus).

The sustainability of the project actions will be assured by promoting the provision of long-term funding arrangements for habitat conservation within agri-environmental programmes. A communication campaign will also help to encourage long-term support for the project’s objectives and promote good management practices in Natura 2000 sites.

Expected results

Expected results from the project include halting secondary succession and preserving 52 ha of land hosting Campanula serrata subsp. serrata and Aconitum firmum subsp. Moravicum. Mowing and grazing across 442 ha will help to restore and maintain valuable habitat types. Rehabilitation work will also take place on three hectares of southern Carpathian Nardetalia grassland.

Tourism services will be introduced, visitor pressures will be managed, and livestock infrastructure will be provided to facilitate traditional land use patterns.

Outcomes of these activities will help to improve the conservation status of Canis lupus, Ursus arctos, Microtus arvalis, Carabus variolosus, Aquila pomarina, Aquila chrysaetos, Bubo bubo and Tetrao urogallus.
Wetlands conservation and restoration in “Puszcza Kampinoska” Natura 2000 site

Project background

Rare wetland habitats and associated species are present within the Natura 2000 network site, Puszcza Kampinoska. The site’s integrity has however been compromised by excavation works associated with the Łasica Channel and several other minor channels, which has contributed to the gradual drying of the wetlands.

Challenges remain in restoring the target sites to a state where they are capable of achieving their full potential as environmental assets. Research has identified the type of remedial habitat actions that needs to be taken to overcome such nature conservation challenges.

Project objectives

The main objective of the project is to implement the actions that have been identified as needed for properly restoring and maintaining wetland habitats at Puszcza Kampinoska. The following project actions are planned:

- Permanently increasing moisture content around the most valuable fragments of Puszcza Kampinoska wetland habitats;
- Halting secondary succession in wet meadows (Molin-ion and Arrhenatherion type meadows);
- Reducing conflicts between the interests of local communities and those of nature conservation; and
- Collating the project experiences to produce benchmark solutions for water management on naturally-valuable areas (including workable options that facilitate the coexistence of wildlife and human economic activity).

Expected results

The project expects to achieve the following:

- Rehabilitation of 125 ha of land in the Natura 2000 network site via land purchases from private owners;
- Increase the water content in soil on some 6,000 ha;
- Slowing of water drainage of water from the project area, enabling the groundwater table to rise to 0-20 cm below the ground in late summer time (in the vicinity of watercourses);
- Construction of 40 weirs and a 6.6 km dyke with 21 gates, and removal of 3.3 km of old drainage ditches;
- Establishment of mowing regimes on the purchased meadows and drafting of management guidelines covering beaver populations, weirs, and other hydrological factors for Łasica.

Results are anticipated to improve the conservation status and range of habitat types listed in Annex I of the Habitats Directive (Riparian forests, Tilio-Carpinetum forests, fresh meadows of Arrhenatherion type and Molinion type meadows). Protected bird species benefiting from the project will include the Eurasian bittern (Botaurus stellaris), corncrake (Crex crex) and lesser spotted eagle (Aquila pomarina).

Education and awareness-raising measures co-funded by the project will help to foster greater support and capacity for nature conservation work in the project area in particular and the Natura 2000 network in general.
Ecological Restoration and Conservation of Praia da Vitória Coastal Wet Green Infrastructure

Project background

About 500 years ago, before any human intervention, the bay of Praia da Vitória was a sandy, crescent-shaped area a few kilometres long. It was connected to a network of coastal wetlands of brackish water; the dynamics and stability of which was guaranteed by the dynamics of the coastal dunes. Human settlement, however, led to disturbances such as the drying and filling of the wetlands.

Wetlands targeted by the project, LIFE CWR, have been reduced to a few square metres in size, threatening the dynamics and future existence of the ecosystem. The project proposes to ensure the continuation of a network of wetlands that form a green infrastructure of such areas, with shoreline characteristics and functions similar to the original ecosystem. This will be achieved through the restoration and redevelopment of three key wetlands: Paúl da Praia da Vitória, Paul do Belo Jardim and Paul da Pedreira. This type of integrated network of wetlands has characteristics associated with a range of American and European birds species.

Project objectives

The main objectives of the project are to:

- Recover and restore a network of wetlands in the coastal area of Praia da Vitória;
- Provide a larger and more suitable sheltered area for migratory birds in the likely scenario of increased frequency of storms at these latitudes;
- Increase the socio-economic sustainability of Praia da Vitória by increasing the ecological services of wet green infrastructure and its value to the local economy; and
- Demonstrate the potential co-existence of highly populated areas and ecosystems rich in biodiversity, such as wetlands.

Expected results

Ecology level:

- Increased biodiversity in the coastal area of Praia da Vitória;
- Establishment of a network of wetlands that integrates three areas with very different characteristics:
  - Paúl da Praia da Vitória: intersection zone of the base aquifer and sea water without dynamic (moving) dune;
  - Paul do Belo Jardim: possibility of recovering a wetland with dynamic dune; and
  - Paul da Pedreira: wet areas with rocky substrate permeable to the rising tide and influenced by the surface micro-basin that comprises it;
- A larger wetland area with improved ecological conditions for supporting migratory birds in the North Atlantic;
- Restoration of populated wet areas;
- Increased visitation of migratory bird species;
- Increased numbers of species and individuals per resident species;
- Increased knowledge of the ecological functioning of coastal systems in this humid biogeographic region; and
- Possible discovery of new species, resulting from the monitoring of communities of lesser known species such as arthropods or bryophytes.

Socio-economic level:

- Greater socio-economic sustainability;
- Development of an economic system based on the ecological services produced by the wet green infrastructure, including bird watching;
- Creation of a team specialised in the restoration of wetlands; and
- Increased number and duration of visits by international birdwatchers.
Recovery of the species and land habitats of the Natura 2000 sites Ponta de São Lourenço and Desertas Islands

Project background

The Natura 2000 sites Desertas Islands (located in Desertas Grande and Ilhéu Chão) and Ponta de São Lourenço on the Madeira archipelago are home to unique habitats listed in Annex I of the Habitats Directive: vegetated sea cliffs with endemic flora of the Macaronesian coasts and low formations of euphorbia close to cliffs.

These areas consist of a large number of species (218) and subspecies that are endemic to the Macaronesian biogeographical region, Madeira and the Natura 2000 sites themselves. Seabirds, terrestrial molluscs, arthropods and plants are of greatest concern to conservationists. The flora and fauna of these islands have been threatened by numerous factors since their discovery, especially the introduction of invasive alien species. The implementation of appropriate management measures to control or eradicate these threats can help restore the area’s natural biodiversity.

Project objectives

The long-term objective of this project is to ensure the ecosystems of the targeted Natura 2000 network sites reach a stable, ‘favourable’ and self-sustaining conservation status. This objective will be reached by creating the conditions for the recovery of the habitats and species present in these areas, namely through the eradication and control of introduced vertebrates, invertebrates and plants.

Specific objectives include:

- The creation of an exclusion zone free of invasive alien vertebrates on Ponta de São Lourenço via the eradication of rabbit, rats and mice populations; a significant reduction in the goat population; a significant reduction of the populations of invasive plants; and the control and stabilisation of yellow-legged gulls populations;
- Control of the populations of Argentine ants;
- Removal of an overhead power line in Ponta de São Lourenço;
- Draft and have approved action plans for those species listed in the Habitats or Birds directives whose conservation status is not favourable; and
- Foster strong public support for the conservation of these Natura 2000 sites, not only by improving the conditions for visitors to the areas, but also through a large-scale information campaign.

Expected results

The project's expected results include:

- Elimination or significant reduction of those agents contributing to poor ecosystem functioning;
- Approval of species action plans and revised management plans;
- Evaluation of population densities and distribution of goats, rabbits, rats, mice, invasive and endemic plants, gulls, terrestrial molluscs and insects;
- Evaluation of the impact of the Argentine ant;
- Evaluation of the feasibility of removing an overhead power line in Ponta de São Lourenço;
- Eradication or significant reduction of the populations of goats, rabbits, rats, mice and invasive plants;
- Creation of an exclusion zone free of alien vertebrates;
- Creation of conditions for the recovery of endemic plants, terrestrial molluscs and bats;
- A reduction in problems caused by seagulls;
- A reduction in seabird mortality; and
- Improved taxonomic knowledge of the sites’ terrestrial molluscs.
Conservation of Macaronesian Sparrowhawk and Laurissilva habitat in Madeira Island

Project background

The distribution area of the Macaronesian sparrowhawk (*Accipiter nisus granti*) is restricted to the island of Madeira and to some islands of the Canary archipelago. It is a bird of prey that favours forest environments, especially low-growing shrub areas. However, the species can still be seen near agricultural fields, open spaces or urban areas, which it uses as hunting grounds.

Although there are no accurate data on its actual population on the island of Madeira, it is estimated at between 1 000 and 2 500 individuals, whereas in the Canary Islands it is thought that the population is between 250 and 1 000 pairs. The species is faithful to its territory, building a new nest each year in a location close to the previous one. Considering recent changes in its habitat, particularly due to the expansion of invasive exotic plants, which have significantly reduced the potential nesting area, the recovery of areas of laurel forest habitat is essential in order not to compromise the reproductive capacity of the species, and thus its conservation.

Project objectives

The project is targeting the conservation of the Macaronesian sparrowhawk and its habitat, the Madeira Macaronesian laurel forest. Specific objectives include:

- Controlling the invasive alien plant populations in the laurel forest;
- The recovery of a significant area of burnt laurel forest, including the production of native vegetation in nurseries, and the creation of suitable conditions for its natural re-establishment;
- The training and establishment of a team, specialised in controlling invasive alien species;
- The implementation of conservation measures for the laurel forest, which contribute to the conservation of the Macaronesian sparrowhawk and other biodiversity;
- Improving knowledge about population trends of the Macaronesian sparrowhawk on Madeira and the Canary islands, providing essential information about its ecology; and
- The creation of executive and scientific commissions to follow up on the management of the Laurissilva habitat and the Macaronesian sparrowhawk, in the framework of a long-term strategy.

Expected results

In general terms, the expected results include: the recovery of a significant area of laurel forest habitat (76.20 ha), as a result of the eradication of invasive alien plants (re-establishment of 14.6 ha in Ginjas and 21.6 ha in Assumadores), the plantation of 40 000 native plants and the reforestation of 20 ha (distributed by 40 ha) of burned areas in Terra Chã with 22 000 native plants.

Also expected is the generation of increased knowledge about the distribution, ecology and population trends of the Macaronesian sparrowhawk on Madeira and the Canary islands; the establishment of adequate conservation measures for this priority sub-species, cited in the Birds Directive; and greater awareness about the species and ecosystems in question among the general public, local farmers and stakeholders.
Active protection of Azores bullfinch and its habitats and sustainable management of Pico da Vara/Ribeira do Guilherme SPA’s

Project background

The “Pico da Vara /Ribeira do Guilherme” Natura 2000 site is a major hotspot for biodiversity within the EU and the Macaronesia biogeographical region. It is home to one of Europe’s most endangered birds - the Azores bullfinch (*Pyrrhula murina*). Listed as a priority species for conservation in the EU Birds Directive, it is severely threatened by the growth of invasive alien plant species (IAS), which are destroying the native forests, heaths and shrubs, including the priority, Habitats Directive-listed, Macaronesian laurel forests – which provide a vital food source. The control of IAS, particularly on islands, is one of the priorities of biodiversity conservation in the EU.

The conservation of the Azores bullfinch was the target of a previous LIFE Nature project at this site, “PRIolo” (LIFE03 NAT/P/000013). Selected as a ‘Best of the Best’ LIFE project, it resulted in new techniques of IAS control, habitat restoration and the improvement of economic benefits to local communities. However, some significant gaps still need to be filled in order to complete this work and secure the site’s priority species and valuable habitats.

Project objectives

The project’s main objective is to implement sustainable management measures for the conservation of the priority Azores bullfinch and the preservation of rare and endangered habitats.

Specific project aims are to:

- Improve habitat quality and access to food sources throughout the year for the target bird species;
- Connect recovered areas of priority laurel forest, by recovering sensitive and sloping areas between the habitats;
- Assure the long-term stability of bird populations and reduce the impact of alien predators;
- Raise awareness among stakeholders and local people and involve them in the conservation of the site;
- Promote coordinated management of the site – including developing sustainable public use and increased revenues for local people and for the São Miguel Island nature park, through the promotion of sustainable tourism.

Expected results

Some of the project’s many expected outputs are:

- Recovery of 78.4 ha of habitat on the islands’ higher and steeper slopes;
- Recovery of 24 ha of habitat on slopes of between 300 m and 900 m, including areas completely taken over by IAS;
- Recovery of 4 ha of water line areas;
- Ecological recovery of 6.3 ha of landslide areas;
- The creation of 9.6 km of access trails for visitor use;
- The planting of 200 000 plant specimens from more than 25 native species grown in nurseries;
- Guidelines for the production of native plants;
- Best practices in the ecological recovery of slopes;
- Methodologies for the control of IAS on sloping areas of *Pittosporum undulatum*, *Sphaeropteris cooperi* and *Dicksonia Antarctica*;
- Strategies for combating IAS;
- A socio-economic impact report;
- Detailed mapping of site vegetation; and
- A similar-type mapping of the site’s natural habitats.
**Project background**

Yew thickets are sciophilous formations, common to river banks in encased mountain valleys. They are mainly of a scarce and relict nature, dominated by the common yew but include to varying degrees several other species, such as the common holly, the white birch, the English oak, the Pyrenean oak and the European mountain ash.

The dominant species in this habitat, the common yew, is a dioic species, the reproductive structures being unisexual, with the feminine and the masculine structures present on different individuals. It has a long lifespan and is found in Portugal only in two Natura 2000 sites: in ‘Peneda-Gerês’ (Atlantic and Mediterranean biogeographic regions) and in ‘Serra da Estrela’ (Mediterranean biogeographic region). The main threats to its habitat have been identified as forest fires, direct cutting, grazing and invasion by exotic species.

**Project objectives**

This project aims to contribute to the restoration of rare Mediterranean yew habitat listed as priority for conservation in Annex I of the Habitats Directive. It will thus maintain the diversity of the forest mosaic by enhancing the existing species and increasing its occupation area in the targeted Natura 2000 sites. It will also raise awareness of the urgent need to preserve a very rare forest habitat that is extremely vulnerable to climate change. Actions will take place in the ‘Peneda-Gerês’ Natura 2000 site, focused on improving the habitat’s conservation status, and in the ‘Serra da Estrela’ Natura 2000 site, where in addition to improving the habitat’s conservation status, the project will also aim to extend the area occupied by yew thickets.

**Expected results**

The project will produce a total of 25 000 plants (10 000 yew plants and 15 000 trees and shrubs existing in the habitat). Some 18 000 of these will be used to increase the habitat area by 15 hectares in ‘Serra da Estrela’ and the remaining 7 000 will be used to ensure the continuation of the project’s goals after it ends.

Active management of 50 ha in ‘Peneda-Gerês’ and 10 ha in the ‘Serra da Estrela’ will focus on improving the habitat conservation status and ensuring that in the future, the area will only be subjected to natural disturbances.

The project’s results will directly reach 30 000 people through the “Quercus Ambiente” newspaper (which has a bimonthly circulation of 10 000). The project will also target 10 000 junior and high school students and teachers. Dissemination materials will include:

- 10 000 flyers;
- 1 500 brochures;
- 5 000 posters;
- An interpretative exhibition, a pedagogic exploration guide, and an educational game about the species, for students in local schools;
- Three promotion spots (one minute each) and a documentary (20–25 minutes); and
- 15 000 vouchers for the support of the yew thickets for the post-LIFE period.

**Beneficiary:**

**Type of beneficiary**

NGO-Foundation

**Name of beneficiary**

Quercus – Associação Nacional de Conservação da Natureza

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**Name of contact person**

José Paulo MARTINS

**Duration of project:**

42 months (01/07/2013 - 31/12/2016)

**Total budget in euro:**

376,820.00

**EC contribution in euro with %:**

282,615.00 (75.00%)

**Theme:**

Habitats: Forests
Conservation of Temporary Ponds in the Southwest Coast of Portugal

Project background

Mediterranean temporary ponds (CTMs) are seasonal wetland habitats, subjected to extreme and unstable ecological conditions. Due to their uniqueness and scientific value, they are listed as a priority habitat for conservation in Annex I of the EU Habitats Directive. The coastal plain of southwest Portugal is a Natura 2000 (N2000) site (Costa Sudoeste) and hosts a large number of such temporary ponds, as a consequence of climatic and edaphic (soil-related) characteristics.

However, over the last two decades, modern industrialised agriculture and tourism have caused a steep decline in the condition of this habitat in the N2000 site. Traditionally seen as non-productive areas, CTMs are nowadays subjected to strong anthropogenic pressures, such as deep soil turning, accelerated drainage, flattening of the surface topography or transformation into permanent reservoirs for irrigation. Therefore, urgent action is needed in order to halt this downward trend and assure their long-term protection.

Project objectives

The project’s overall aim is to enhance the conservation status in south-west Portugal of CTMs. Specific aims are to:

• Compile, in a coherent and homogeneous database, the available biological information and updated cartography;
• Promote the reduction and elimination of known threats, halting the destruction of this habitat type;
• Demonstrate management and restoration techniques that will improve and enhance the conservation status of the temporary ponds;
• Create and establish a seed bank, primarily as a tool for conservation and restoration actions, and also for safeguarding biodiversity;
• Promote locally the dissemination of knowledge about the ecology and function of temporary ponds, through demonstrations of sustainable management practices; and
• Contribute to the long-term protection of temporary ponds, engaging landowners, farmers and decision makers.

Expected results

The project’s main expected result is to halt the loss of temporary ponds in the Costa do Sudoeste N2000 site, reversing the declining trend observed in the past few years. Conservation and demonstration actions are planned for at least 16 temporary ponds, and in some of the ponds more than one type of conservation action will be applied simultaneously. The following outputs are expected:

• Updated cartography of temporary ponds in the Costa do Sudoeste site and a database assembling all available biological information;
• Improved knowledge of the hydrological functioning of the ponds;
• A CTM conservation status assessment index;
• Management guidelines for the conservation of each temporary pond or complex;
• Preservation in the long-term of at least 80% of the plant species in the ponds;
• Demonstration of the sustainability of extensive grazing at a minimum of three ponds; and
• Promotion of pond connectivity to decrease habitat fragmentation at a minimum of two pond complexes.
Project background

The habitats of important EU Birds Directive species found in three Natura 2000 network wetland sites (Parížske močiare, Žitavský luh and Dolné Pohronie) are under threat as a result of negative water management actions and changes in landscape and land use. Unsuitable water management in wetland areas causes eutrophication and sedimentation processes leading to overgrowing with reeds and a decrease in the extent of open water.

In the case of sand walls, a favoured habitat of the European bee-eater (Merops apiaster), the absence of floods means the walls are not being renewed. This in turn, leads to landslides and overgrowth of nesting walls and reduced nesting possibilities for the bird species. Another problem is that although two of the three project sites are nature reserves, there is a lack of management within the protected areas.

Project objectives

The main objective of this project is to tackle the lack of water management in the targeted sites and to reduce the negative impacts of land-use changes on the conservation status and habitats of populations of target bird species.

Expected results

The project expects to achieve the following results:
- An improved water regime on 530 ha of wetlands through the repair of five floodgates and one sluice;
- The restoration of formerly-drained wetlands on an area of 2 ha and a 1 km-length section of a branch of a river through excavation of sediment and decayed biomass;
- Restoration of a river branch in Žitavský luh by reconnecting the main river basin and the former river meander (separated by a dam);
- Restoration of 250 ha of wetland vegetation by limiting the growth of ruderal and invasive plants;
- Renewal of a 200 m section of nesting walls;
- The purchase of a total of 30 ha of land; and
- The elimination of disturbance and control of visitors in the protected areas and the construction of small tourism infrastructure for educational purposes will lead to raised environmental awareness amongst local people about the Natura 2000 network sites.
Restoration of nesting and feeding habitats of Sand Martin, Kingfisher and European Bee-eater in Danube-Morava region

Project background

Massive changes have been made to the water and wetland habitats of the Danube-Morava region in the last 200 years. These interventions were designed to improve navigation and flood protection, intensify agriculture and forestry, and reclaim land for development (through drainage, etc.). Once-continuous large inundation areas on the region’s rivers have been divided by flood protection dykes and reduced. As a consequence, formerly flowing river branches have stagnant water for most of the year, no new branches are being created and, because of natural sedimentation, the number and area of river branches is slowly decreasing.

The deterioration of the habitats has also led to a lack of nesting habitats for the sand martin (Riparia riparia) and kingfisher (Alcedo atthis), two birds that favour steep river banks formed and maintained by natural river dynamics. Embankment with heavy stones for water management purposes and overgrowing by vegetation are two of the factors that have led to the destruction of many of these steep natural banks. Nesting sites of the European bee-eater (Merops apiaster) and sand martin in suitable man-made structures (e.g. gravel or sand extraction pits) are often destroyed by material extraction during the nesting season. Feeding habitats of target species have been decreasing alongside the reduction of natural water habitats, abandonment of traditional land use (grazing, mowing), and inappropriate usage of insecticides in farming.

Project objectives

The project’s main objective is to improve the conservation status and population characteristics of target bird species by restoring their habitats. The conservation actions, including suitable restoration management, will lead to active nature protection and promotion of natural values in the region. The project actions will be implemented in six Natura 2000 network sites in the Danube-Morava region, five in Slovakia and one in Hungary.

Expected results

- Restoration of steep nesting sites (river banks, terrestrial walls) over at least 1 790 m;
- Protection of steep nesting sites (river banks, terrestrial walls) at a minimum of 15 localities through the removal of illegal landfills, fencing etc, as well as regulation of seasonal sand and gravel;
- Restoration of water and wetland habitats on a minimum of eight areas (three river branches - 3 600 m in total - and five wetlands over an area of 13.2 ha);
- Restoration of forest habitats in a minimum of 30 localities (by planting 20 000 native trees and marking for protection from logging of at least 1 500 old and valuable trees);
- Restoration of grasslands by the introduction of grazing on at least five localities covering a total area of 95 ha; and
- Maintenance of restored grasslands as meadows by mowing on at least three localities covering a total of 25 ha.
Conservation of birds in the SPA

Ostrovné lúky

Project background

The target species are steppe and forest steppe birds that adapt well to agricultural areas. However, these species require a mosaic of habitats including extensively used land patches. As a result of favourable agricultural conditions, the majority of meadows and pastures in the Natura 2000 site ‘Ostrovné lúky’ have been converted into cultivated arable land and traditional methods of animal husbandry have been replaced by factory farming since the 1950s. Moreover, intense agricultural practices, such as the use of chemicals, planting of monocultural fields of fast-growing crops (e.g. sunflowers or cornfields) and large-scale mowing, often applied at inappropriate times, have had a dramatic impact on bird populations over the last 60 years.

The Ostrovné lúky network is one of the three most important nesting areas of the red-footed falcon (*Falco vespertinus*) in Slovakia as well as an important breeding area for the tawny pipit (*Anthus campestris*) and lesser grey shrike (*Lanius minor*). The loss of numerous small-scale habitats, which were valuable feeding and nesting sites for the target species, has resulted in a dramatic decline in populations. According to recent estimates, the Ostrovné Lúky site is home to an annual average of five breeding pairs of tawny pipit, 5-10 pairs of lesser grey shrike and 4-14 pairs of red-footed falcon.

Project objectives

The project aims to contribute to habitat restoration for three Annex I species of the Birds Directive – the lesser grey shrike, the tawny pipit and the red-footed falcon – in ‘Ostrovné lúky’ by establishing a suitable management model for agricultural land and restoring feeding and nesting habitats. Specific objectives include:

- Restoration of feeding and nesting habitats by reintroducing traditional land management, such as grazing or haymaking;
- Restoration of wetlands, pollard willows stands, herbaceous and flower lawns with high diversity of insects as the primary food source of all target species;
- Restoration of nesting and perching sites;
- Restoration of a bio-corridors network that, in addition to its primary migratory function, provides feeding and nesting opportunities for the target species;
- Land lease or purchase with a view to creating land use patterns of feeding and nesting habitats and the introduction of appropriate management for the target species; and
- An increase of overall landscape and species diversity to support the habitat and food requirements of target species.

Expected results

- The publication of studies on the restoration of meadows, pastures and a network of bio-corridors;
- Acquisition of 90 ha of land for nature protection;
- Creation and management of 100 ha of grasslands and 60 ha of pastures;
- Creation of 17 km of bio-corridors;
- Management of 500 old pollarded willow stands and planting of 500 willow tree saplings; and
- Creation of 50 wetlands and 50 perching sites, as well as the installation of 300 wooden perching poles, 300 bird boxes and 200 nest perches.
Monitoring network for plant species and habitats of Community interest in Aragón

Project background

Article 11 of the EU’s Habitats Directive states that the Member States are responsible for monitoring the conservation status of species and habitats, especially those considered priority. In addition, article 17 of the directive states that the conservation statuses should be assessed every six years. To this end, it is necessary to monitor species and habitats. However, the surveillance of plant species and habitats of Community interest in the very diverse territory of Aragon is highly complex, because of the sheer number of items to be considered.

Project objectives

The objective of this project is to accomplish the goals set out in articles 11 and 17 of the Habitats Directive.

Concerning plant species of Community interest (EIC), the objective will be to estimate population trends, using individual counts or other abundance measures, in permanent plots. Only habitats of Community interest (HIC) items that are not effectively surveyed by remote sensing will be included, and the project will try to detect changes in the diversity of these communities as temporal variations in the abundance of species in permanent transects and in the populations of target plant species. Changes will be linked with in situ environmental changes (quantified via micro-climate, monitored with mini-loggers, and land use change, measured by comparing aerial pictures).

A key project priority will be the establishment of a user-friendly system to obtain all the information, based on electronic data-collection devices.

The project will also seek to demonstrate that the coordination of a diverse set of monitoring teams (rangers, volunteers, scientists, freelance specialists, and technicians) can facilitate a robust and self-sustaining monitoring network programme able to continue on its own after the project (and to be replicable in other regions).

Expected results

- Publication of a methodological manual and a demonstration video describing protocols to be used in the field, and minor adaptations to monitor plants with differing life histories and habitats;
- Development of electronic software and information tools to specifically obtain, store, and manage data gathered in the EIC and HIC units;
- In-person training of non-professional individuals and collectives on how to collect information in the field, so that they become independent in the long run;
- Improving the quality of the mandatory six-yearly reports that the competent authorities have to submit, in order to comply with article 17 of the Habitats Directive;
- Analysis of the links between temporal changes in ecological diversity or population trends, and different drivers of global change acting in the selected EIC and HIC items that are monitored;
- Dissemination of information about the monitoring network among key social agents for nature conservation, in order to promote their interest and participation.
Project background

This project is a natural extension of an earlier LIFE project, ‘Corridors for Cantabrian Brown Bear Conservation’ (LIFE07 NAT/E/000735), which was carried out by FOP between 2009 and 2011. That project created a favourable environment for eliminating risks and raising awareness about the importance of the presence of the brown bear in the inter-population corridor. These efforts will now be complemented by direct intervention in the habitat in the southern part of the corridor. The aim is to contribute to its defragmentation and consolidate favourable habitat passages along the corridor.

Project objectives

The goal of this project is to ensure the long-term viability of the Cantabrian brown bear population by defragmenting the Cantabrian inter-population corridor and consolidating the genetic and demographic interchange between the two sub-populations.

Specific objectives of the project are to:
• Favour the movement and dispersal of the bears between the Cantabrian sub-populations, improving coverage and food availability in the main habitat passages of the inter-population corridor, and eliminating detected gaps;
• Ensure that both sub-populations are connected through defragmentation work carried out around infrastructure currently in place;
• Contribute to the demographic and genetic recovery of the eastern Cantabrian sub-population, using individuals dispersing from the western sub-population to foster the recovery;
• Contribute to the progressive consolidation of the inter-population corridor as an area with a permanent brown bear presence and as a future breeding ground; and
• Increase awareness and knowledge among local stakeholders and professional groups about the importance of connectivity and brown bear conservation.

These objectives are in line with those established in the Strategy for the Conservation of the Cantabrian Brown Bear in Spain.

Expected results

The main outcome of the project will be a significant improvement in the connectivity of the preferred habitat passages along the southern part of the inter-population corridor. Connectivity will be achieved by eliminating gaps, reducing infrastructure-crossing black spots and improving habitats. The final result will be easier and more effective communication between the two Cantabrian bear sub-populations and a genetic and demographic recovery of the threatened eastern population.

The main quantifiable results will include:
• A network of 212 small woods (66,250 trees), dispersed along the inter-population corridor, bringing about an improvement in the connectivity among the preferred habitat passages on the south side of the corridor;
• The acquisition by the FOP of 20 ha of abandoned livestock grazing pastures in order to plant connectivity forests;
• The management, under the territory guardianship regime, of 86 ha of abandoned livestock grazing pastures and public forests; and
• The restoration of 16 ha of habitats of Community interest or singular habitats of importance for the brown bear.
Recovery of native forests with Juniperus spp, and its flora and fauna, in the Special Nature Reserve Güigüí

Project background
Mountains within the Güigüí Special Natural Reserve in Gran Canaria were previously covered by forests dominated by junipers and cedars, as well as by pine forests in the higher areas. A growing human population and associated industrial development led to significant felling of these forests, such that now, only isolated trees are found in inaccessible areas, such as around mountain cliffs. Grazing pressures from livestock, and more recently feral goats, have prevented natural recovery of the forests and endemic flora in other areas of the island’s former forest.

Project objectives
The project’s main objective is to improve long-term prospects for three priority habitats: 9560 *(Forest endemic Juniperus spp.)*, 4050 *(endemic Macaronesian heaths)* and 9550 *(Canarian endemic pine forests)*.

To improve the present state of conservation of the threatened flora and fauna species, the project will:
• Carry out studies to determine the evolution of the targeted habitats and their management requirements;
• Work to remove the main threats that affect the Güigüí Special Nature Reserve;
• Take steps to recover important habitat and ecological processes; and
• Increase awareness amongst the local population about the importance of the Güigüí Special Nature Reserve as one of the nuclei of the Gran Canaria Biosphere Reserve.

Expected results
The project is expected to achieve the following results:
• The removal of feral goats from inside the Güigüí Special Nature Reserve, thereby reducing grazing pressure from herbivores;
• Improvement in the conservation status of the threatened species living in the target area;
• New knowledge about the evolution of the species and habitats affected inside the Güigüí Special Nature Reserve, as a basic tool for the correct management of the reserve; and
• Development of public awareness techniques focused on the restoration of Juniperus spp habitats.
Conservation of the bearded vulture and its contribution to eco-system services

Project background

The bearded vulture (Gypaetus barbatus) is listed in Annex I of the Birds Directive, and is catalogued as ‘In Danger of Extinction’ in the Spanish Catalogue of Endangered Species. The conservation actions contained in this project will take place in the national parks of Picos de Europa and Ordesa y Monte Perdido, both of which are part of the EU Natura 2000 network.

The short and mid term survival of the bearded vulture in Spain is affected by three factors: firstly, its low population (fewer than 600 specimens); secondly, its highly restricted geographical distribution (the original population is limited to the Pyrenees, although bearded vultures are also being reintroduced to parts of Andalusia); and thirdly, its difficulty in successfully colonising new territory. These factors result in the Pyrenean population being vulnerable to demographic and other unpredictable phenomena.

FCQ has been working in the project’s target areas for 21 years, and has formed strong ties with local authorities and the population at large.

Project objectives

The project’s main goals focus on:
- Establishing a set of good practices in order to encourage the recuperation of a critically-endangered population, in line with work carried out over recent years;
- Reinforcing the idea that the conservation of a species is linked to local development and the maintenance of biodiversity and ecosystem services;
- Highlighting the inter-territorial links and common work objectives of public administration and civil society within national parks in order to achieve the recuperation and conservation of an endangered species; and
- Demonstrating that the technique of behavioural learning by natural imprinting can be an efficient tool, thereby complementing other tried and tested techniques, as well as using ecotourism as a powerful means of support and participation in biodiversity conservation projects.

Expected results

Anticipated outcomes from this work include the following:
- Identification of 15 bearded vulture reproduction areas;
- A 30% improvement in adult reproduction and survival rates;
- Recovery of 3-6 bearded vulture individuals per year from nests with low rates of reproduction;
- Application of natural imprinting behavioural learning techniques and the creation of guidelines for applying these techniques;
- Release of 3-6 bearded vulture specimens per year;
- Adaption of areas for carcass removal by the vultures, providing 4 500 kg of carrion per year;
- Creation of one anti-poison patrol to reduce the presence of poison in the target area;
- Education and training of 250 people within the area whose activity is directly related to the conservation of the species;
- Creation of one new ecotourism product based on the content, results and facilities of the project, attracting at least 2 000 visitors.
Reintroduction of endemic pigeon
*Columba junoniae*, white-tailed laurel pigeon, on the island of Gran Canaria

**Project background**

Following the conquest of Gran Canaria in the 15th century, the forests in the northern part of the island started to be destroyed, a process that was completed in the late 19th and early 20th centuries. In recent decades, however, local authorities have implemented policies aimed at the recovery of forests on the island. The north of Gran Canaria, where the laurel forests and the thermophilous forest develop, has only very recently been the focus of recovery efforts. Progress has been slow, however, firstly, because much of the land is in private hands, and secondly because of the significant amount of agricultural and livestock activity occurring in this area.

At the end of the 20th century, the efforts of the Cabildo of Gran Canaria to acquire farms for environmental restoration and the progressive abandonment of agricultural activity allowed the recovery of an important area of the laurel forests and thermophilous forests, laying the foundation for the recovery of the ecosystems destroyed two centuries ago.

Continued recovery of the forests is vital along with the recovery of bird species associated with these forests. Such recovery is more challenging when the species are endemic to the Canary Islands, such as the laurel pigeon (*Columba junoniae*). The recovery of the distribution areas of this species, however, will significantly help its preservation and long-term viability. Other species present on the island that are in a poor conservation status, include the carabids (*Asaphidion delatorrei*, *Dicrodonitus alluaudi*, *Pseudomyas dorasensis* and *Paradromius tamaranus*).

**Project objectives**

The overall objective of this project is to reintroduce the white-tailed laurel pigeon to the island of Gran Canaria, thus ensuring the survival of this endemic species. Specific objectives include:

- Creation of a viable white-tailed laurel pigeon population in its natural environment on Gran Canaria;
- Restoration, expansion and improvement of the island’s laurel forests habitat; and
- Promotion among the local population of the ecological and socio-economic recovery and expansion of the island’s laurel forests, flora and fauna.

**Expected results**

The project expects to achieve the following results:

- Captive breeding and release on Gran Canaria of 15-30 white-tailed laurel pigeons per year;
- The creation of a viable population (75-100 pairs) of white-tailed laurel pigeons on Gran Canaria through the project’s captive breeding and release programme; and
- Restoration of a total of 1,049 ha. of potential white-tailed laurel pigeon habitat in the area of Monteverde; and
- Raised awareness amongst local people of the laurel forests and the need for their conservation through initiatives in local schools and municipalities.
Landowners Club for the conservation of Western Spain

Project background

This LIFE project could be considered as a continuation of the LIFE project (LIFE07 NAT/E/000762) which carried out a series of actions aimed at improving the populations of the black vulture and black stork, and their habitats – temporary ponds, the dehesas with evergreen Quercus spp., gallery forests, etc. However, despite its success, much work remains to be done to protect the valuable species and habitats that can be found in this western part of the Iberian Peninsula.

Project objectives

This transnational project, which will be implemented in Spain and Portugal, has the overall aim of improving the conservation status and population trends of the main habitats and species (mainly birds) of the Western Iberian Peninsula. It will carry out actions in a total of 10 Natura 2000 sites. The specific objectives are to:

• Raise awareness at local, regional and national levels about the Western Iberian territory as a transnational ecological unit of enormous value for the conservation of biodiversity in Europe;
• Improve the conservation status of seven habitats listed in Annex I of the Habitats Directive (two of which are priority habitat types). These include freshwater habitats, forests of temperate Europe and Mediterranean deciduous forests, and dehesas (a type of grassland formation);
• Improve food resources for the Spanish imperial eagle, golden eagle and owl eagle; and
• Increase the populations of the black vulture, Egyptian vulture, Bonelli’s eagle, black stork and lesser kestrel.

Expected results

• Creation of an international association for the coordinated sustainable management of an area of 10 000 ha in Natura 2000 sites;
• Improved phytosanitary and conservation status of at least 1 100 ha;
• Restoration of at least 100 ha of dehesas of Quercus sp pastures;
• All riparian forests in the area improved and managed by the association, and at least a 5 km stretch restored;
• Improvement of all wetlands present on farms, with at least 34 new wetlands created (10 in Faia Brava);
• Creation of at least 2 km (about 8 ha, 20 m deep on both sides) and improvement of about 6 km of habitat 91E0* Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in Campo de Argañán, El Rebollar, Malcata, Sierra de Gata, Rio Erjas;
• Creating 1 km (about 4 ha, 20 m deep on both sides) and improvement of approximately 3 km (24 ha) of habitat 92D0, Southern riparian galleries and thickets (Nerio-Tamaricetea and Securinegion tinctoriae), in Rio Erjas and Cedillo and Tajo Internacional;
• Creation of independent breeding populations of prey species in at least 70% of farms where agreements have been established with the owners;
• Increase of 10% of the breeding pairs of scavengers and productivity of Bonelli’s eagle and black stork in the SPAs where these species are present and the securing at least two new pairs of each species and establishment of a new colony of lesser kestrel; and
• Detailed knowledge of the degree of habitat connectivity within each Natura 2000 site and between different Natura 2000 sites.
Development and demonstration of an anti-bird strike tubular screen for High Speed Rail lines

Project background

The problem of bird collisions on high speed lines (HSL) has increased significantly in recent years. Along with hazards related to rail infrastructure, high speed trains also pose an additional risk to birds. Both common and more sensitive species are at risk, and as a result of bird collisions on HSL, the populations of certain bird species are decreasing and becoming increasingly isolated. This includes some birds of prey, and birds linked to water bodies or to open and steppic environments, all of which are included in Annex I of the Birds Directive.

An Infrastructure and Transport Strategic Plan, drawn up by the ministry of public works, proposes the introduction of more than 7,000 km of new high-performance lines during the period 2005-2020. This has important consequence for several Natura 2000 sites. Specifically, it is estimated that more than 1,000 km of the planned routes (more than 14.3% of the total length) will run through Natura 2000 sites potentially affecting more than 192 protected areas (56 SPAs and 188 SCIs).

Project objectives

The main objectives of this project are to:

- Develop a proposed methodology for the determination of optimum measures for protecting birds in new HSL areas, as well as a series of recommendations for the development of environmental monitoring programmes during the construction of new lines, and mitigation measures for lines under operation;
- Demonstrate the effectiveness of a new HSL design, which includes protection measures for birds. This design is based on the concept of equally spaced tubular screens (PTE);
- Improve knowledge about the interaction between railway infrastructure and birds, with the aim of safeguarding biodiversity; and
- Reduce the impact of existing and proposed HSL in the project area and on established bird populations in protected areas.

Expected results

- A section in the Spanish HSL network selected as a test site for a new anti-bird screen prototype;
- An in-situ study over a complete biological period of the impact of HSL on birds; and
- The design and construction of a new type of anti-bird strike screen based on PTE, with its effectiveness measured along a section of HSL.
Integral Recovery of Bonelli’s eagle population in Spain

Project background

For the first time, a specific programme of conservation measures for diverse core populations of the Bonelli’s eagle (Hieraaetus fasciatus or Aquila fasciata) has been developed. The programme considers the north-western Mediterranean ‘metapopulation’ in Spain and the south of France as one and studies the relationships between the different populations. Spain is home to more than 65% of the European population, and for this reason the consolidation of the species here will impact greatly on its maintenance at European level.

Project objectives

The LIFE BONELLI project aims to bring about the recovery of the Spanish population of Bonelli’s eagle, which is listed in Annex I of the Birds Directive. It will carry out a range of protection measures at European, national and regional level.

The project will focus on the implementation of the recovery programme developed for the Iberian Peninsula and Baleares. It will carry out actions to enhance populations in Madrid, Alava and Navarra, and to facilitate a reintroduction in Mallorca.

The project will be supported by local teams that will help to exchange individuals and share experiences, including on recovery opportunities. To improve such connections, a balanced consortium has been established, consisting of the main species recovery stakeholders.

Public administrations from the four regions (Navarra, Baleares, Alava and Madrid), will work together with the two international breeding centres for Bonelli’s eagle (GREFA & LPO). The consortium also includes Andalucía, one of the main reserves for the species at a European level.

Expected results

- Re-introduction of a minimum of two chicks per year of Bonelli’s eagle in selected areas in Navarra, Alava and Madrid, and four birds per year in Mallorca;
- Selection of sites for the installation of hatching platforms and the carrying out of measures to improve populations of the target species’ prey;
- Establishment of a captive breeding methodology for the species;
- Feasibility study carried out on the state of the Andalusian population;
- Dispersion and movement model established for populations and individuals;
- Stock of specimens in captivity, built up in order to guide future conservation efforts;
- Agreements signed with different entities and associations involved in the project;
- Local pasture plans covering at least 800 hectares of managed land (Mediterranean scrub over at least 150 ha);
- Two-to-four pigeon refuges and 9-12 refuges for rabbits;
- Habitat improvement over 20 ha by seeding with grasses and legumes; and
- Adaptation of 100 electricity pylons every year in reintroduction and dispersal areas.

The long-term expected outcome is an increase in the spawning population of Bonelli’s eagle in the project areas.
Improving connectivity of Natura 2000 network in mountain areas

Project background

Alto Campoo lies at the top of the valley formed by the Cordel and Hijar mountain ranges, and crowned by the Tres Mares peak (2 200 m), in northern Spain. This high mountain area contains a wide diversity of ecosystems and priority habitats and includes two Special Areas of Conservation (SAC) and one Special Protection Area (SPA).

The development of a ski resort has resulted in a general degradation of the area and has reduced species diversity through the destruction of vegetation and the loss and compaction of soil, which prevents recolonisation by native vegetation.

The decline in habitat quality for wildlife due to landscape fragmentation and the colonisation of opportunistic species has also reduced wildlife populations.

Variations in livestock grazing pressure have resulted in soil loss and harm to peat lands, while in other areas, overgrowth of heather has reduced the breeding habitat of such bird species as partridge and hen harrier.

Project objectives

The main objective of this project is to improve connectivity between two SACs and a SPA in a high mountain area through management, habitat restoration and the improvement of soil permeability at a ski resort. The restoration process focuses on the regeneration of vegetation through seeding, transplantation, improving soil permeability, and water retention. Features such as cattle fences will also be removed or visibly identified.

The specific objectives are to:
• Strengthen the eastern extreme population of the grey partridge (*Perdix perdix*) in Cantabria;
• Guarantee the quality of habitats of the hen harrier (*Circus cyaneus*);
• Reduce erosion by improving moorlands, pastures and riparian habitats;
• Improve soil permeability in the Alto Campoo ski station;
• Develop tourism and livestock management models that are compatible with the Natura 2000 network;
• Raise awareness among users of the fragility and vulnerability of high mountain habitats.

Expected results

Some of the many expected results include:

- Eradication of the causes and practices responsible for the degradation of habitats, water quality and the dynamics of wildlife populations;
- Recovery of 11.5 ha of heathland (4330, 4090 and 4060);
- Recovery of 180 ha of mountain pastures (6140 and 6160);
- Improvement in the quality and transparency of the waters of the Rio Hijar throughout the year;
- Improvement of riparian habitats (6430, 91EO* and 6230*) along 10% of the riverbanks of the river Hijar (46 000 m²);
- Conservation of existing bogs (7110) in an extension of about 6 ha;
- A biodiversity management plan for the ski resort that improves the conservation status of habitats and species in the two SACs and one SPA; and
- A livestock grazing management plan drawn up with local farmers, which is in line with the maintenance of heathland habitats and related species.
Project background

According to the Millennium Ecosystem Assessment (an international study on the state of the Earth’s ecosystems, published in 2005), European ecosystems have been fragmented by human activities at a greater rate than those of any other continent. Ecosystems can play a vital role in mitigating climate change, but the capacity of ecosystems and species to respond to the challenges posed by climate change will largely depend on the degree to which they are protected and the extent to which they can be restored.

Project objectives

The objective of this project, a follow-up to the ‘EcoQuarry’ LIFE project, is to develop a management protocol for mining areas, using innovative solutions for environmental protection. It will promote the reconstruction of ecosystems on the basis of reconstructing landforms that mimic the ‘natural’ conditions of the surroundings, thereby helping to boost biodiversity in the restored lands.

The specific aims are to:

• Design, build and monitor reconstructed landforms, which replicate the natural landscapes surrounding mining pits, using the GeoFluv method. This method creates a new hydrologic network that is functionally and aesthetically integrated into the existing system of wetlands (which already occupy the bottom of the pits);
• Create a soil mosaic by re-using the remains of the mining operation, which will reproduce the physical, chemical and biological characteristics of the natural soils of the surrounding environment;
• Establish vegetal elements that allow for the development of communities and habitats of surrounding vegetation, including the highest possible number of native species;
• Promote an increase in the number and variety of bird populations in the ‘minescapes’ and their surroundings, paying special attention to those species included in the Birds Directive;
• Provide an environmental solution to an existing problem of severe flash flooding at the project site; and
• Promote greater specialisation and awareness among the technicians and workers involved.

Expected results

The main result will be the development of know-how, as it is expected that this approach to mining restora-
Project background

The project aims to ensure the management of the species listed in the Habitat Directive present in the Natura 2000 (N2000) network sites located in the target areas. It will focus on 13 species of aquatic fauna, whose populations are decreasing in size and for which there are no specific conservation actions at local, regional, national or European level. For five of these species - the exception is the white-clawed crayfish (Austropotamobius pallipes) - there is no conservation plan at regional or national level.

Project objectives

The project’s main objectives are:

- Direct recovery of the main populations of thick-shelled river mussel (Unio elongatulus) and white-clawed crayfish in a N2000 site in the basins of the rivers Ter, Fluvià and Muga via population reinforcements with individuals bred in captivity in recovery centres;
- Direct recovery of the population of the European pond turtle (Emys orbicularis) in the Riberes del Baix Ter via population reinforcements with individuals bred in captivity in recovery centres;
- Expansion and consolidation of the populations of the Desmoulin’s whorl snail (Vertigo mouliniana) and the narrow-mouthed whorl snail (V. angustior) in the Estany de Banyoles via translocations within the site;
- Strengthening of the populations of Mediterranean barbel (Barbus meridionalis) in the N2000 sites in the basins of the rivers Ter, Fluvià and Muga via intra-basin translocations;
- Strengthening of the fluvial populations of herptiles (M. leprosa, T. marmoratus, A. obstetricans, P. cultripes, B. calamita and H. merdionalis) in the Riberes del Baix Ter via the creation of micro-wetlands;
- Protection against the crayfish plague, Aphanomyces astaci, in the main white-clawed crayfish populations;
- Local control of exotic terrapins and crayfish to minimise their impact on native species, including the eradication of the recently-established exotic spinycheek crayfish (Orconectes limosus);
- Large-scale control of exotic fish species in Lake Banyoles; and
- Minimisation of the risk of penetration by the zebra mussel into the basin of the River Ter via the installation of a boat disinfecting station.

Expected results

Some of the project’s expected results are:

- In the SCIs still occupied by U. elongatulus, consolidation of at least eight population nuclei and the establishment of at least 15 new nuclei to reinforce the meta-population structures in each basin;
- Reduction in the current rate of disappearance of the nuclei of white-clawed crayfish in the area and the establishment of at least 15 new population nuclei to reinforce the meta-population structures in each basin;
- Recovery of the extinction-threatened European pond turtle population in the River Ter;
- An increase in the production of juvenile white-clawed crayfish (at least 500%) and European pond turtles (at least 100%) in the captive breeding centre; and
- At least a 10% increase in the area occupied by V. mouliniana and at least a 25% increase in the area occupied by V. angustior in the Banyoles wetland.
Beneficiary:
Type of beneficiary
Local authority

Name of beneficiary
County Administrative Board of Östergötland

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Duration of project:
72 months (01/09/2013 – 31/08/2019)

Total budget in euro:
9,671,976.00

EC contribution in euro with %:
4,835,987.00 (50.00%)

Theme: Habitats: Coastal

Expected results
• Improved habitat quality for 1 411.9 ha of the following habitats: 1150, 1620, 1630*, 4030, 5130, 6270*, 6410, 6510, 6530*, 7140, 7230, 8230, 9010*, 9020*, 9070, 9080, 9160, 9190, 91D0. The measures will also target 117.4 ha of other areas of grassland and 434.3 ha of wooded habitat, likely to become valuable after restoration and over time;
• Habitat restoration benefits on 179.6 ha for Philomachus pugnax, Limosa lapponica and Tringa glareola through improved nesting and resting sites;
• Improvements to 4.3 ha of Botrychium simplex habitats; and
• Improvements to more than 50 ha of habitats favoured by Lucanus cervus, Anthrenochernes stellae and Osmoderma eremita.

Restoration of ancient agricultural landscape, natural forests and wetlands at the Baltic coast

Project background

The majority of the project areas are protected as nature reserves, or bird sanctuaries, as well as being Natura 2000 network sites. In recent years, the habitats have begun to deteriorate because of a lack of management. The grassland habitats and grazed forests have become overgrown with bushes and trees, following the ending of grazing and hay-making activities. The overgrowth has had a serious negative impact on the birdlife, plants, animals and fungi dependant on old semi-natural grasslands. Forestry plantations have created uniform forests with insufficient clearings and decaying wood – necessary for biodiversity. Exotic tree species used in surrounding forestry areas have invaded the natural forest habitats. Species connected to the old, sun exposed Scots pine (Pinus sylvestris) trees, or deciduous trees, forest fires and coarse woody debris are now rare and threatened in the project area, as elsewhere in Sweden. Drainage of wetlands is another problem, dramatically changing the habitats and resulting in loss of biodiversity.

Project objectives

The project’s overall aim is to improve the conservation status and habitats of the Natura 2000 network sites of the Western Baltic Archipelago. The main focus is the species and habitats favoured by traditional agricultural management, natural structures and disturbance regimes in forests and in shallow waters.

Specific objectives are (in order of importance):
• To restore to a favourable conservation status the habitats and species of overgrown grassland habitats and grazed forests. This includes birds, plant, fungi and insects associated with grazed meadows, grassland bushes and forest edges, as well as wood-swelling beetles, fungi and lichens connected with wide-crowned old trees. The lifespan of pollarded and old trees will be prolonged through management;
• To reduce predation of bird colonies by the invasive American mink (Mustela vison);
• To carry out actions targeting commercial monoculture forest plantations to ensure they become more varied and to secure a more favourable status with more clearings and coarse woody debris. Species connected with the old, sun exposed trees should benefit and numbers of invasive tree species will be reduced; and
• To restore wetland habitats and associated flora and fauna.
Restoration of breeding sites and habitats in Lake Vänern archipelago and coastland

Project background

Lake Vänern is the largest freshwater lake in the European Union, covering an area of 5 650 km². The project area includes the EU’s largest freshwater archipelago with 22 000 islands, islets and skerries (small rocky reefs). The lake is home to a large population of seabirds and waterfowl, and is an important staging site for migrating birds in the spring and autumn. The white-tailed eagle, or sea-eagle (Haliaeetus albicilla) and osprey (Pandion haliaetus) breed on the islands of the archipelago. The rich birdlife is dependent on open nesting environments for colony nesting species such as terns and gulls. Changes in land use and water management during the 20th Century, however, have caused a severe decline in habitat quality.

The skerries and shores, which were once bare, are today under threat from intense overgrowth of bushes and trees. This is also threatening the region's flora and fauna, particularly on islands where management is more difficult than on the mainland. Small-scale restoration work has been carried out in parts of the archipelago. But a coordinated effort is needed in order to make a noticeable improvement in both the area and quality of breeding sites and habitats.

Project objectives

The project’s main objectives are: to restore important breeding and staging sites for birds listed in Annex I of the Birds Directive; to restore to a ‘favourable’ conservation status several habitats listed in Annex I of the Habitats Directive; and to facilitate continuing management after the project ends.

Specific aims include:
• Improving the conservation status for 11 species listed in Annex I of the Birds Directive;
• Reducing the disturbance on breeding sites through information and sensitive channelling of visitors, as well as through the building of nest platforms for two target bird species (Haliaeetus albicilla and Pandion haliaetus) on strategic sites;
• Improving the conservation status and/or creating suitable habitats for a total of seven habitat types listed in Annex I of the Habitats Directive; and
• Benefitting nationally-listed (i.e. Swedish Red-listed) species, in particular the ruddy turnstone (Arenaria interpres), a wading bird.

Expected results

• Scrub and tree clearance on 209 important breeding sites on skerries and shores, covering a total area of 97 ha and resulting in improved habitat conditions for at least 1 700 breeding pairs of targeted birds;
• An improved conservation status on 79.7 ha of the habitat type, “Siliceous rock with pioneer vegetation”;
• The restoration of 103.5 ha of grassland and open areas habitats;
• Controlled burning of 26.6 ha of Western taiga habitat, improving its conservation status;
• The creation of 21 nest platforms, 16 for ospreys and five for sea eagles;
• The creation of a 0.3 ha breeding area on Inre Kilsviken; and
• The organisation of at least 20 information meetings for local stakeholders.
Saving wooded Natura 2000 habitats from invasive alien fungi species on the Island of Gotland, Sweden

Project background

The biodiversity associated with broadleaved woodlands, wooded pastures and wooded meadows has long been under serious threat from the intensification of agriculture, abandonment of grazing or conversion to conifer plantations. In the last few years however, the threats from the invasive fungi Dutch Elm Disease in combination with Ash Dieback, which cannot currently be eradicated, pose an even more serious threat to the several listed Annex I Habitats Directive Fennoscandian wooded meadows, Fennoscandian old broad-leaved deciduous forests and Fennoscandian wooded meadows.

Elm (*Ulmus spp.*) and ash (*Fraxinus excelsior*), makes up almost 70% of the old growth tree layer on Gotland and is significant even in a national context, given that 17% of the Swedish population of old elms and 24% of the old ash are on Gotland. If no action is taken, and taken soon, there is a substantial risk that the majority of the veteran ash and elm trees on Gotland will be dead within a decade, which will have a significant impact on the associated biodiversity.

Project objectives

The project has four main objectives: firstly, it aims to eradicate Dutch Elm Disease from Gotland; secondly, it aims to ensure the ‘favourable’ conservation status and sustainability of the wooded Annex I habitats affected by Dutch Elm Disease and Ash Dieback by implementing complementary management actions to make the habitats more robust (Towards an EU strategy on Invasive Alien Species) and securing a sustainable population of old trees for the future; thirdly, it will prepare a contingency plan in the event of the short-term failure of Dutch Elm Disease eradication. This will provide an insurance policy for the island’s Natura 2000 sites; fourthly, it will implement a communications programme to increase knowledge and understanding of the problems related to invasive alien species and their impact on biodiversity.

Expected results

Eradication of Dutch Elm Disease from Gotland by the end of the project, thereby protecting 6774 ha of Annex I-listed habitat;

- Mapping of all elms on Gotland and felling and destruction of all trees infected with Dutch Elm Disease. The project team will study the ecology of the elm bark beetle (*Scolytus multistriatus* - vector of the disease) and establish the DNA provenance of the Dutch Disease pathogen on Gotland. A control programme for the import of timber will be established and implemented;

- A database and site seed bank with 100 apparently disease-resistant ash genotypes for replacement planting will be produced; and

- The production of 25 restoration plans. By the end of the project 30 ha of Annex I habitats will have been restored, 2500 trees planted, 200 trees veteranised, 400 trees pollarded, 500 trees cleared around and 500 trees protected from grazing animals. 800 trees will have been vaccinated and the outcome of this action evaluated;

- The project will monitor the mortality rates of the veteran trees and their replacements as well as the health of the trees subject to the treatments.
Booming business: wetland restoration in the marshes of Natura 2000 Alde Feanen

Project background

The Alde Feanen is a Natura 2000 site and a national park located in the northern part of the Netherlands. This 2,140 ha area is one of the most extensive fenland areas in the Netherlands (and Western Europe). ‘Booming business’, the title of this project, refers to the booming sound of the Bittern (*Botaurus stellaris*), which occurs in a number of vulnerable wetlands in the area. It also refers to the excellent opportunities for sustainable conservation actions to restore the wetland’s key processes, thus protecting and regenerating the large biodiversity of the Alde Feanen. This biodiversity is currently threatened by the following:

- Strong decline in water reed beds, caused by the disappearance of water level dynamics;
- Strong decline in submerged water plants, due to high levels of phosphates;
- Decline of floating fens, caused by ongoing ageing and scrub encroachment; and
- Decline of fen meadows, caused by ongoing acidification.

Project objectives

The project’s main objective is to improve the functionality and long-term nature prospects for Alde Feanen. Specifically, the project aims to:

- Restore a large area of water reed beds: in parts of the area, water level dynamics will be restored, albeit not to natural water dynamics, due to the many conflicting interests. However, there is a unique opportunity to restore water reed beds on a considerable scale, by the flooding of polders combined with the protection of pond banks;
- Restore a large area of submerged water plants: growing conditions for submerged water plants in small isolated peat ponds can be greatly improved by a combination of dredging of phosphate rich sediment, the removal of fish stocks that feed on the organisms living in the pond bed (which causes extra turbidity and as a consequence the release of phosphates), flushing the ponds with less phosphate rich water in summer, and local reintroduction of disappeared water plant species;
- Restore and regenerate floating fens: transition mires and reed lands with encroachment of scrubs and/or tall herbaceous species will be rejuvenated by topsoil removal, and by improvement of the local hydrology; and
- Preserve an important area of fen meadows: in the western part of the Alde Feanen, a large area of *Molinia* fen meadows is flooded annually. To facilitate this, an existing but currently poorly functioning filter (which filters out excess nutrients) will be restored and extended, and will be used to reduce nutrient loading of the water used for flooding.

Expected results

- Water reed beds: Restoring a sustainable water reed surface of 55 ha;
- Water plants: Strong, long-term expansion of submerged water vegetation;
- Floating fens: Topsoil removal from 25 ha of transition mires and reed lands that have become overgrown, combined with hydrological improvements, will lead to the formation of new habitat type 7140 Transition mires and quaking bogs; and
- Fen meadows: Restoration and extension of an existing filter will allow for the supply of good quality water for flooding.
Project background

The Dutch lowland fen areas belong to the most important wetland ecosystems in Western Europe. These wetlands have been modified by activities such as mowing, grazing and peat extraction, which have enriched their biodiversity through the maintenance of different succession phases, from open water to acidic bogs and forests. Following land abandonment, natural succession and eutrophication occur.

At present, the seven different lowland fen areas that are the focus of this LIFE project include a large area of well-developed valuable habitat. Nevertheless, the surface area and quality of this habitat has declined in the past few decades. To maintain the habitat, continuous management measures are needed.

Project objectives

The main objective of the project is to restore, improve and/or enlarge the area of fen habitats, with an emphasis on the early successional fen stages.

The main actions include:

- Sod-cutting in degraded/acidified transition mires and quaking bogs to restore fen habitats;
- Digging ditches in transition mires and quaking bogs to improve the supply of base-rich surface or seepage water and to prevent acidification;
- Removal of topsoil of land formerly used for agriculture to create Molinia meadows;
- Digging new peat holes to create water-submerged habitats and develop young succession stages;
- Dredging eutrophic peat lakes to improve water quality for water habitats;
- Altering ditches and optimally using the flow of surface water fed by seepage water to improve the hydrological conditions of quaking bogs and other habitats;
- Creating new marshes and removing land from leasehold agreements to create habitat for marshland birds such as the bittern, purple heron and great reed warbler;
- Removing shrub, young trees and felling young marsh forest to improve water habitats and young succession fen stages; and
- Construction of float lands (helophytes and other water plants) on three sites in the Oostelijke Vechtplassen area, preceding applied research on succession of young fen habitats.

Expected results

The measures aim to reduce the area of older succession stages and increase the area of young succession stages.

Quality improvement is expected on:

- Some 140 ha of habitats 3140 and 3150;
- 0.5 ha of wet heath with Erica tetralix (H4010);
- 0.5 ha of Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) (H6410) as well as enlargement by 36 ha;
- 5 km of Calcareous fens with Cladium mariscus and species of the Caricion davallianae (H7210*); and
- Some 170 ha of transition mires and quaking bogs (H7140). This habitat type will also be enlarged by 110 ha.

Other expected results include:

- Creation or restoration of 3.61 km of ditches;
- Removal of 2.97 km of wood along ditches (benefiting several target habitats);
- Creation of a new, 7.5 ha marsh;
- Enlargement of areas of wood coppicing by 0.7 ha; and
- Enlargement of 10 ha of other habitats (e.g. land strips in peat bogs).
Improving the conservation status of the little tern in the UK through targeted action at the most important colonies

Project background

The decline in the population of the little tern (*Sterna albifrons*) in the UK since the 1990s is a cause for concern. The principal threat to this shore nesting species is from human disturbance, as well as predation, habitat change and high tides linked to summer storms. There has been a reduction in the number of colonies, a loss of range in the west of the UK and, in general, there are poor levels of productivity. Sea-level rise also poses a threat to a number of current colonies. The total UK population is estimated to be fewer than 2,000 breeding pairs. The project will be the first nationally coordinated programme of action for the species, working with 29 colonies (about 65% of the total population) in 15 Special Protection Areas (SPAs) of the Natura 2000 network.

Project objectives

The overall aim of the project is to lay the foundations for the long-term recovery of the little tern in the UK, by securing robust breeding populations at key sites throughout the country. This will be achieved by:

• Increasing the total population of little terns across the project sites (SPAs) and at national level, through enhanced management of existing breeding sites and restoration and creation of new sites. The main focus will be on the implementation of intensive, targeted management actions, including the control of public access and predation at 20 of the most important sites in the UK;

• Securing commitment from statutory agencies and local authorities to support little tern conservation in the longer term and to align proposed conservation actions with wider and longer-term policy and legislative frameworks, such as ‘Shoreline Management Plans’ for flood risk management, and

• Ensuring that the general public is sympathetic to the project and supports the long-term protection of the project sites. Signs will be erected at key sites and information materials disseminated. Most little tern breeding sites experience heavy visitor pressure, and management of recreational users is key to the long-term viability of the colonies at these sites. Where access is to be restricted in the breeding season it will be important to secure public support.

Expected results

• Management of the key sites enhanced to address issues of predation, disturbance, habitat change and high tides, supported by enhanced wardening;

• Habitat suitable for new breeding colonies created or restored at four of the targeted sites;

• A programme of site monitoring;

• A colour ringing programme to allow for the development of a robust population model to inform the species recovery strategy and longer-term plans;

• A little tern species recovery strategy for the UK;

• Longer-term plans agreed with statutory agencies and local authorities for targeted SPAs, to secure continued improvement in the conservation status of little terns after the project;

• Public support increased by the end of the project, as demonstrated by public attitude surveys;

• Two peer-reviewed papers prepared by the end of the project, along with a best practice document for other site managers; and

• An end-of-project conference.

Together, these actions will lead to an increase in the breeding population of little terns across the project sites, from the current figure of 1,241 breeding pairs, the mean breeding productivity across targeted sites will be at least 0.75 chicks per pair per year and sites for sustainable colonies will be identified where current colonies are threatened.
Enhancing landscape connectivity for brown bear and wolf through a regional network of NATURA 2000 sites in Romania

Project background

The Carpathian Mountains are an important biodiversity reservoir for the brown bear (*Ursos arctos*) and wolf (*Canis lupus*). However, an assessment of environmental suitability for large carnivores (LCIE, 2008) identified the isolation of the Apuseni Mountains (Western Carpathians) from the Southern Carpathians in Romania as a pressing connectivity issue. Passing through a network of 17 Natura 2000 sites, the Apuseni Link is fragmented, but is the only key route through which bears, wolves and other wildlife can move between the Western and Southern Carpathians. It is therefore crucial to ensure that the bears and wolves in the Apuseni Mountains do not become demographically, genetically or ecologically isolated and thus to advance the process to achieve and maintain the favourable conservation status of both the bear and wolf in this region.

Project objectives

The project focuses on the landscape corridor, the Apuseni Link, which is critically important for the conservation of the target species.

The specific project objectives are:

- To increase functional connectivity through the securing and restoring of critical habitat and landscape features and the promotion of sympathetic land management in the wider area;
- To address the direct threats – namely human-wildlife conflict and the poaching of bears and wolves as well as associated prey species within the corridor – and build up local knowledge to allow the coexistence of humans and large carnivores; and
- To promote integrated conservation of the landscape by developing the information base and capacity of responsible agencies and developing Regional Species Action Plans.

Expected results

Enhancing functional connectivity:

- Enhanced capacity of statutory agencies to appreciate and practice landscape-scale conservation for bear and wolf;
- Agreement achieved with key stakeholder organisations for their collaboration in restoring the functional connectivity of the Apuseni Link; and
- Functional connectivity of the Apuseni Link enhanced through the purchase and restoration of 280 ha of land to create eight connectivity corridors.

Reducing human-wildlife-conflict:

- A reduction in bear and wolf damage through proactively installing and demonstrating prevention control methods to farmers;
- Rapid resolution of human-wildlife conflict incidents by a response team demonstrating conflict prevention; and
- A reduction in the poaching of target species and their prey.

Promoting long-term planning and action for bear and wolf conservation:

- Establishment of the current conservation status of the bear and wolf in the project area;
- Assessment of the impacts of forestry and hunting sector plans;
- Confirmation of priority areas and preferred habitats of the target species and their prey by GIS modelling; and
- Completion of Regional Species Action Plans.
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