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# Best LIFE Nature Projects 2010

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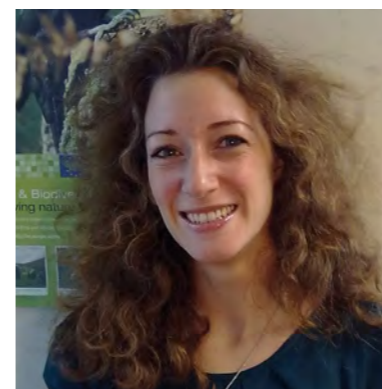
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**Anne-Laure Barberousse**

LIFE Nature "Best of the Best" coordinator 2010  
French Ministry of Ecology, Sustainable Development,  
Transport and Housing

This is the third year of the LIFE Nature Best Awards, the LIFE Unit's means of acknowledging those projects that have proven to be exemplary in their area of work.

As in previous years, following an initial review carried out by its external monitoring team, the European Commission selected the most outstanding LIFE Nature projects completed by the end of 2010. The Member States and external monitoring team then reviewed this initial selection of 18 'Best' projects, drawn from a total of 11 Member States (see p. 4) and awarded the most exemplary projects the status of 'Best of the Best' (BoB).

As the LIFE National Focal Point for France, I was responsible for coordinating the selection process. This was no easy task, in fact, such was the high standard of the projects this year, that six were awarded BoB status, as opposed to five in earlier years. These six projects can provide a shining example of what a successful, well-designed and well-executed LIFE Nature project looks like.

The BoB projects have targeted a broad range of endangered species and habitats across several Member States – a fitting tribute to the diverse and wide-ranging work of LIFE Nature to improve the conservation status of endangered species and natural habitats, and to support the implementation of the Birds and Habitats Directives and the Natura 2000 network.

I would like to thank the project beneficiaries and their partners for their excellent work in favour of nature conservation and biodiversity. I would also like to thank the other National Focal Points and members of the monitoring team who helped evaluate the contenders for the awards.

The higher profile that the best projects receive through the LIFE Nature Awards, which are presented during Green Week each year, ensures that more people know about the LIFE+ programme and the projects it sponsors. I sincerely hope that they continue to grow in stature and range in the coming years, illustrating the value of LIFE as a well-managed programme, converting its funding as efficiently as possible into meaningful projects.







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## The “Best of” initiative

The EU Member States represented on the LIFE Committee and the European Commission’s LIFE Nature Unit have announced the Best LIFE Nature Projects 2010. The 18 projects selected represent the most successful of the recently completed LIFE Nature projects, in terms of best practices and/or demonstration actions on nature conservation and the implementation of the Habitats and Birds Directives



The winners gather at the LIFE Nature Best Awards ceremony, held at the European Commission in Brussels during Green Week 2011

The LIFE Nature component of the LIFE programme co-funded a total of 1 256 projects between 1992 and 2010, with a total budget of more than €2 billion. For the LIFE+ funding period, 2007-2013, More than 280 LIFE+ Nature & Biodiversity projects have been approved so far. This represents a total investment of some €800 million.

To help improve the dissemination of LIFE Nature project results, the LIFE Unit

decided to identify and reward those best practice projects with the greatest long term impact. This, the third Best LIFE Nature Projects exercise, is the product of an identification and evaluation process based on a set of criteria developed by the LIFE external monitoring team in collaboration with the European Commission.

A total of 18 projects were selected as ‘best’ projects, with six awarded the title, ‘Best of the Best’. The projects selected were drawn from across the

EU-27 (see table) and contribute to LIFE Nature’s main objectives: supporting the implementation of the EU’s Habitats and Birds directives and the establishment and management of the Natura 2000 network of protected sites.

“The work you’ve done shows how well you’ve spent your money and our money,” said Simon Goss, Communication Coordinator, LIFE Units, DG ENV, at the LIFE Nature Awards ceremony in Brussels in May 2011.





LIFE Nature head of unit, Angelo Salsi (right) and Stefan Leiner (Head of Nature unit), congratulates representatives of the Romanian Best project

### HOW WERE THE BEST PROJECTS SELECTED?

Scoring of completed LIFE Nature projects was initially launched in the summer of 2006. Since then, projects are technically assessed by the LIFE Unit's external monitoring team, provided by the Astrale consortium. For the current best projects exercise, the monitors ranked all the projects that had ended by December 2010 to produce a first list. The final selection was then undertaken by the Member States, under the coordination of Anne-Laure Barberousse of the French Ministry of Ecology, Sustainable Development, Transport and Housing, the LIFE+ National Contact Point for France. Projects were marked out of 100, with scores awarded according to the following criteria:

- Short-term improvement in conservation status (max. 30 points);
- Short-term leverage effect (additional resources mobilised) (max. 10 points);
- Long-term sustainability of improved conservation status (max. 30 points);
- Long-term leverage effect (max. 20 points);
- Long-term regional / national / international impact (max. 10 points).

The actions of the selected projects range from the targeting of individual species listed in the Habitats or Birds

directives to Natura 2000-site-based projects (on a single or multiple sites) with actions targeting several species and habitats.

Species targeted by the Best Projects 2010 included mammals such as the Iberian lynx, bird species including the

bearded vulture, aquatic warbler, and Dalmatian pelican, endangered fish species, such as the Rhône streber, as well as several grasslands, forest, wetland and river habitats. Actions to promote biodiversity were an important part of a number of the successful projects.

## The Best LIFE Nature projects 2010

### Best of the Best LIFE Nature projects 2010

BASSES - Management and conservation of temporary ponds in Minorca	Spain
Farming for conservation in the Burren	Ireland
Lince Moura/Barrancos - Recovery of Iberian lynx habitat in Moura/Barrancos site	Portugal
Lippe-Aue - Optimisation of the pSCI "Lippe floodplain between Hamm and Hangfort"	Germany
RPWHI - Restoring Priority Woodland Habitats in Ireland	Ireland
STREAM - River Avon cSAC: demonstrating strategic restoration and management	United Kingdom

### Best LIFE Nature projects 2010

Donauwälder - Alluvial forests and slope forests of the Upper Danube Valley	Austria
Preliminary actions and reintroduction of the bearded vulture	Spain
LIFE TBFPA - Headwater streams and faunistic Heritage associated	France
Programme for the conservation of the Rhône-Apron (Zingel asper) and its habitats	France
Acrocephalus Bretagne - Conservation of the Aquatic Warbler in Brittany	France
EPU (HNP) Grassland restoration and marsh protection in Egyek-Pusztakócs	Hungary
Askoviken - Improvement of habitats for wetland birds in Askö-Tidö	Sweden
Life plateau de Montselgues - Preservation of the heathlands, peatlands and bats of Montselgues	France
Pelecanus crispus Romania - Saving Pelecanus crispus in the Danube Delta	Romania
Natural meadows and pastures of Östergötland - restoration and maintenance	Sweden
REMAB - Restoration of Meadow Bird Habitats	Denmark
Canal de Castilla - Wetland restoration and management: Canal de Castilla Special Protection Area	Spain



# Best of the Best LIFE Nature projects 2010





## Spain: Conserving temporary ponds on Minorca

The LIFE BASSES project demonstrated effective measures for preserving an important and uncommon pond habitat; the knowledge and experience acquired has become a reference source for the conservation of this type of habitat.

Temporary Mediterranean ponds are home to a wide range of flora and fauna. These freshwater ponds are generally small and are formed in cavities or shallow depressions. Species that rely on these ponds have adapted to the extreme conditions of droughts and flooding periods, and many are thus exclusive to temporary ponds.

On Minorca, temporary ponds support several species endemic to the Balearic Islands, such as *Romulea assumptionis*, from the iris family, and *Polygonum romanum* subsp. *balearicum*, from the knotweed family. They are also vital to

the island's rich biodiversity. Examples of temporary ponds are found in south and northwest Minorca on the island's calcareous rocky plateau, as well as on the northern siliceous soils.

The presence of too much shrub vegetation around a temporary pond can create excessive shade, whilst an excessive input of organic material can lead to eutrophication of the water. The presence of cattle around these habitats helps to regulate the vegetation around them in a natural way. However, the abandonment of livestock farming activities favours excessive growth of

shrubs. Led by the island's local authority, the LIFE BASSES project (LIFE05 NAT/E/000058) took actions to clear shrubs and then reintroduce livestock grazing as part of a long-term conservation programme for the priority habitat.

It achieved this task by designing an integrated management model for the most important temporary ponds on the island; improving knowledge about the dynamics of the temporary ponds habitat; restoring degraded temporary ponds; and raising public awareness about the importance of conserving this habitat.

### INVENTORIES, MANAGEMENT AND MONITORING

At the start of the project, the research team was aware of just 26 ponds on the island; by its conclusion, an inventory of some 76 temporary ponds' habitats had been made, including the mapping of their biological and cartographic characteristics. The project team is still discovering new ponds: there are now believed to be 82. As a result of the project's dissemination activities, farmers have contacted the local authority to determine whether they have a pond on their land, says Eva Cardona of the Island Council of Minorca.

This inventory helped develop management actions and led to the inclusion of all of the project's target sites in the Natura 2000 network, thus providing legal protection. The management actions also improved the conservation status of many of the ponds in the short term and highlighted the effectiveness of habitat restoration. The project typically removed invasive species, cleared vegetation, controlled road access and restored traditional drainage systems and stone walls. Many of these actions have been included in an agri-environmental scheme for the Biosphere Reserve Agricultural Contract (CARB), which will help ensure the long-term continuity of pond conservation actions.

Target species that will benefit from the project include the European pond turtle (*Emys orbicularis*), Hermann's tortoise (*Testudo hermanni*) and the water fern, *Marsilea strigosa*. However, the LIFE BASSES team decided not to reintroduce endemic species. Pere



Excavation of an experimental temporary pond for educational purposes in Santa Eularieta

Fraga i Arguimbau of the local government says that they wanted to encourage a "natural colonisation" of the habitats. Monitoring of the project areas is continuing after-LIFE and new species continue to be discovered on a regular basis, including aquatic birds and some rare crustaceans. One such species, a fairy shrimp, *Branchinecta ferox*, was found at the Torrellafuda site for the first time in the 1970s.

The beneficiary partnered with experts from several institutions for the monitoring side of the project. The University of Girona carried out a study of the macro-crustaceans found at 14 ponds, which allowed assessments to be made on the impact of management programmes on the conservation sta-

tus of species. The project also worked with the Balearic University to study algae, as well as institutes in Valencia and Madrid for the study of bryophytes and dragonflies respectively. Minorca's ornithological association was enlisted to help research the bird species that depend on the ponds.

Studies carried out for the LIFE project also showed that the Mediterranean tree frog (*Hyla meridionalis*) and the Balearic green toad (*Bufo balearicus*) – species of European Community interest listed in Annex IV of the Habitats Directive – are compatible and don't suffer from inhabiting the same pond. The population of the toad is decreasing in Minorca, however, and "conservation of the ponds is very important for

The LIFE project implemented management plans for the Natura 2000 sites with temporary pond habitats





this species," says project leader, Irene Estaún.

### POSITIVE OUTCOMES

Rebuilding the dry-stone walls at many of the ponds – the government employed a specialist company to carry out this work – had the advantage of allowing farmers to control cattle grazing. For example, at Es Mal Lloc (which means "the insane place") cattle control the invasive plant species, *Paspalum paspaloides*. Keeping down this plant has led to the expansion of the water surface and enabled native species to flourish.

Actions were taken to restore and expand a relatively large pond on a site in the military compound at Binis-sermenya. One of the main problems at this site was the use of tracks that cut through a corner of the pond area for exercise and training purposes. An agreement was reached with the military, however, to block off these tracks. "Verbally, it was easy to get an agreement, and they were very responsive to our recommendations," recalls Ms. Estaún.

The project also encouraged good environmental practice to prevent pollution. This resulted in 14 farms agreeing to carry out measures to benefit the ponds.

Another important piece of awareness-raising was targeted at local school-children, with the creation of a pond on publicly-owned land for teaching purposes. "Every year the schools take a tour of the pond," says Ms. Estaún, who explains that it was necessary to create an artificial pond because of the fragile nature of the naturally occurring ones: "It is not a good idea that everyone uses them."

At this educational site, the children can learn about the ponds' natural cycles and about the frogs and crustaceans that can be found in this habitat. Display panels have been erected and many visitors to the information centre also view a short video on the importance of conservation. As well as the educational pond, the project reached



Photo: Alva Soppella

Specimen of *Triops cancrivorus*, a living fossil found in the 'Bassa verde' lagoon in Minorca

out to the island's community through a travelling exhibition, which toured six municipalities in 2008 and 2009, attracting more than 3 000 visitors.

### LONG-TERM IMPACT

One of the key outcomes of the project was the development of a management plan for Minorca's temporary ponds. This sets out several regulations and an action plan to ensure the good conservation status of the ponds, as required by the Habitats Directive, and to prevent further deterioration of their ecological status, following the Water Framework Directive's guidelines for aquatic ecosystems.

Specific objectives of the management plan include: maintenance of the territorial surrounding landscape and the existing land use structure; maintenance of the natural hydrogeomorphology of the ponds; conservation of the natural dynamics of the pond's hydro-period; maintenance of the physico-chemical profile of the water; maintenance of the trophic state of the water; conservation of the biodiversity of species and genetics; maintenance of the ponds' ecosystems and associated habitat diversity; and maintenance of the function of temporary ponds.

To improve the effectiveness of the different areas of expertise, the LIFE pro-

ject set up a multidisciplinary technical committee. It also improved operational systems for environment management within local government departments.

Furthermore, the project can be considered as a reference for management of Mediterranean temporary ponds. The LIFE monitoring team believes that many of the actions taken by the project are of great interest for managers of similar habitats.



SPAIN

**Project number:** LIFE05 NAT/E/000058

**Title:** BASSES - Management and conservation of temporary ponds in Minorca

**Beneficiary:** The Island Council of Minorca

**Contact:** Irene Estaún

**Email:** iec.cime@silme.es

**Website:** <http://www.cime.es/lifebasses/en/index.php>

**Period:** Sept-2005 to Aug-2009

**Total budget:** €1 014 000

**LIFE contribution:** €608 000



## Ireland: **Balancing agriculture and nature in the Burren**

The Burren LIFE Project (BLP) successfully piloted a conservation farming scheme to boost the high nature value of important limestone habitats in the west of Ireland. It laid the foundations for a large scale environmental farming initiative, for the whole region, which is now underway..

Located along Ireland's western Atlantic coastline, the Burren is one of Europe's most remarkable limestone areas. Extending over more than 60 000 hectares, the dramatic karst landscape supports a variety of priority habitats for conservation included in the Habitats Directive, including limestone pavement, limestone heaths, orchid-rich dry calcareous grasslands and almost unique, disappearing lakes known as turloughs.

Farming is an integral part of this landscape, and many generations have successfully farmed the region. The extensive, low input farming systems practiced by the farmers (mainly with cattle, but also sheep and goats) have helped preserve the Burren's natural heritage, particularly from the threat of scrub encroachment (primarily hazel and blackthorn). In addition, Burren farming practices, notably the reverse

'transhumance' tradition of winter grazing livestock on the upland grasslands, have proven to be key to the survival of the diversity of plant and insect life in the region.

### LIVELIHOODS THREATENED

Despite the long agricultural tradition, recent decades have seen a disruption of the balance between farming and



the Burren region. This has resulted in a number of threats. In particular, agricultural intensification has impacted on water quality, whilst a reduction in winter grazing has resulted in extensive scrub encroachment. Livelihoods in the farming and the tourism sector are also threatened.

### BLUEPRINT FOR SUSTAINABLE FARMING

The project's overall objective was to develop a blueprint for sustainable agricultural management of the Burren's priority habitats. The project was run by the National Parks and Wildlife Service (NPWS), the project beneficiary, and had the support of the Burren Irish Farmers Association and Teagasc (the Irish Agriculture and Food Development Agency), as well as local communities.

A pilot project of this nature requires a considerable amount of preparation and monitoring in order to ensure that the pilot mechanisms would be transferable to the whole Burren farmland region. These preparations, covering the first three years of the project, included: (i) talking to the local farmers and generating support for the scheme; (ii) selection of the pilot farms; and (iii) the drawing up farm management plans for each of the selected sites.



Limestone heaths are common in the Burren, where they contain a wonderful mixture of acid-loving and lime-loving plants

Visits to other important limestone areas in Europe were conducted to compare notes on site-selection. Studies addressing the impact of the land use stipulations on habitat quality, soils and water quality were also carried out and matched with data on the condition of livestock and the costs of management.

### FARMER-LED

According to Sharon Parr, project scientific coordinator, a key aspect of the

project is that it was "farmer-led" and that support was very strong from the Burren farming community right from the off. This was reflected in the 80 or so 'expressions of interest' from farmers who attended the public meetings held in 2004-2005 to inform them of the project.

Project manager, Brendan Dunford, agrees, noting that securing the support and trust of farmers and recognising their expertise is also crucial to the future continued management of the region. He says an important lesson learnt under LIFE – and now transferred to the new Burren Farming for Conservation Programme (BFCP), funded by the Irish Rural Development Programme – is that a 'top-down' approach won't work nearly as well as "asking the farmers what they feel needs to be done" to maintain the priority habitats on their farms. Another tip learnt under LIFE, and now applied under the new programme, is to deal in practicalities and, importantly, "keep it simple".

Meanwhile, at the start of the BLP in 2004, a rigorous process was used to select the 20 pilot farms representative of the diversity inherent in the Burren – from 40 ha to over 400 ha – and ranging in conservation status from "favourable" to "very unfavourable", with some farms almost completely overgrown with scrub.



Nineteen of the original BLP farmers are now participating in the new programme

Individually tailored management plans were drawn up for each of the farms, following the collection of baseline agricultural and environmental data, and extensive consultation between the project team and the farmer. The priority tasks identified in these plans were translated into the detailed project actions that were carried out on the project farms each year. The plans were reviewed regularly by the project team and the farmer and updated accordingly.

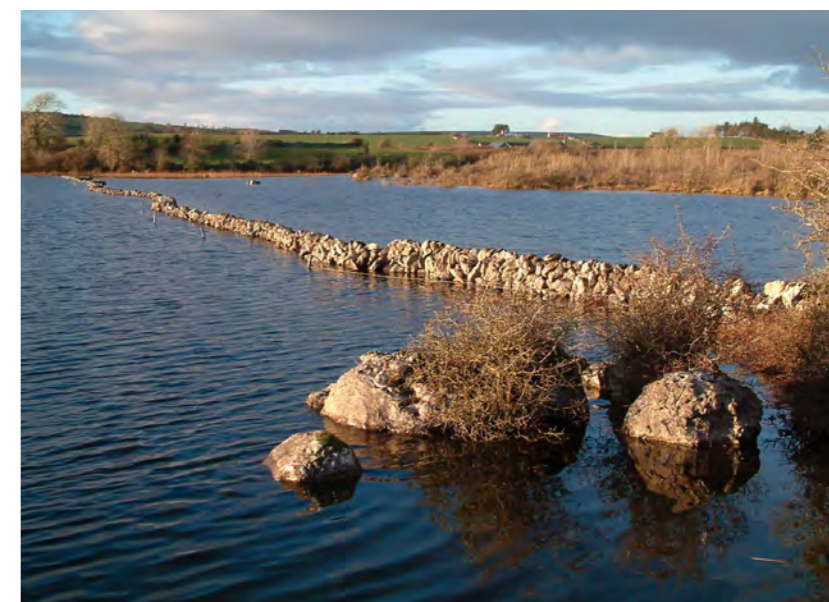
### BLP SOLUTIONS

The project provided solutions to a number of key issues:

- For the issue of undergrazing of winterages, the project extended the winter grazing season by 25% using a range of measures;
- In a bid to encourage farmers to cut down on the use of silage, a special supplementary feed, the BLP ration, was formulated, tailored to suit the area and to animals' mineral and nutritional requirements. This led to a decrease of 61% in silage use and consequent point source pollution;
- The karst nature of the Burren means that water is often in short supply, as most of the water flows underground and in a very unpredictable manner. The limited water availability restricts grazing levels and impacts animal welfare. The project improved water facilities by installing nose pumps and tanks on 18 farms including 26 new troughs and pumps;
- Poor farm infrastructure makes husbandry difficult and less effective. Therefore, the project restored 15 km of internal stone walls using local labour;
- Restricted access affects the winter grazing areas and stock herding: the project created access through clearing scrub from 55 km of paths and 5 km of trackways (for vehicles); and
- Scrub encroachment on priority habitats reduces biodiversity. To address this, scrub was cleared from 100 ha of priority habitats.

### ONLY WAY FORWARD

The project monitored the outcome of its actions on priority habitats, water



Turloughs are disappearing lakes, formed where a limestone depression is intermittently flooded, generally in winter. They are normally filled through underground springs and holes

quality, animal health and farmer income. All indicators showed that arguably the only way the Burren priority habitats can be conserved is through the adoption of the measures promoted by the LIFE project. Concerning the priority habitats, there was a 25% increase of overall grazing levels on project farm winterages. This led to a 32% increase (677.2 ha) in the amount of land classed as "well-grazed". Where grazing levels increased, there was a decrease in the amount of dead vegetation that suppresses the growth of flowers – resulting in an increase in the famed Burren flora.

### MAINSTREAMING THE PILOT

Importantly, the success of this LIFE project has resulted in its continuation and mainstreaming under the (2010-12) Burren Farming for Conservation Programme (BFCP). Under the programme, €1 million each year for three years has been allocated by the Department of Agriculture and Food to support high environmental value farming, with tourism spin-offs in the Burren. The programme is managed by the NPWS, working from the former project offices. It contains some real innovations, learnt under LIFE, such as a simple, one-page farm plan and a payment for the production of species-rich grasslands. Massively oversubscribed, 117 farmers are already involved (a figure set to rise

to around 145), managing more than 13 000 ha of Annex I habitats.

"LIFE allowed us to develop a blueprint for environmental farming in the Burren, to test and cost it on the pilot farms and to gain the support of the farmers," says Mr. Dunford. In his view, the new programme would not have been launched without the initial, targeted experience: "LIFE was a hugely important process," he believes.



### IRELAND

**Project number:** LIFE04 NAT/IE/000125  
**Title:** Farming for conservation in the Burren  
**Beneficiary:** National Parks and Wildlife Service (NPWS)  
**Contact:** Brendan Dunford  
**Email:** info@burrenlife.com  
**Website:** www.burrenlife.com  
**Period:** Aug-2004 to Jan-2010  
**Total budget:** €2 230 000  
**LIFE contribution:** €1 673 000



Through community engagement and habitat restoration, a LIFE Nature project in Portugal has played an important role in efforts to preserve the critically endangered Iberian lynx.

## Portugal: **Creating suitable conditions for Iberian lynx conservation**

Once found throughout the Iberian Peninsula, numbers of Iberian lynx (*Lynx pardinus*) have dwindled significantly in recent decades. Factors contributing to the alarming decline of the lynx population include the destruction of its preferred habitat, Mediterranean woodland; the growing scarcity of its main prey, wild rabbit (*Oryctolagus cuniculus*); and the impact of poaching.

Numbers have fallen to such an extent that the species is today listed as 'critically endangered' (CR) in the IUCN "Red List" and as a priority for conservation in Annex II of the Habitats Direc-

tive. It is both the most threatened carnivore in Europe and the world's most threatened feline.

The LIFE programme has supported and continues to support actions across the Iberian Peninsula aimed at conserving this highly endangered species. In 2006, the Lince Moura/Barrancos project (LIFE06 NAT/P/000191) was established to restore and maintain key areas of Iberian lynx habitat and the connective corridors between them in the Moura/Barrancos Natura 2000 site in south-east Portugal. Once widespread throughout Portugal, the

Iberian lynx population had fallen just to 50 individuals by 1980; the last confirmed presence of the species in the country was in 2001.

### RESTORING A META-POPULATION

The project site is one of the most likely places in Portugal where isolated individuals might be found, as a result of its proximity to Andalusia, Spain (where the two remaining Iberian lynx populations are located). The site contains areas of habitat suitable for lynx or areas that might be improved in order

*Project location in the Contenda special hunting zone, inside the Moura-Barrancos Natura 2000 site*



to ensure the recovery or reintroduction of the species in the medium-to-long-term.

The specific goals of the LIFE project were to link core areas of lynx habitat to allow the species to expand its habitat range, create good shelter and increase the populations of lynx prey species, especially rabbit, numbers of which had fallen sharply as a result of the impact of myxomatosis and rabbit haemorrhagic disease, as well as the abandonment of traditional agricultural activities.

Management measures were implemented across an area of 7 694 ha using an innovative approach that did not require compensatory payments to be made to landowners and managers. Seven management agreements were signed, each of which included a site management plan, drawn up in collaboration with the landowner/manager. Project manager Eduardo Santos from LPN believes that an important element of the project was the fact that the management plans were designed to integrate the conservation of the site's natural values with the continuation of 'traditional' economic activities, with special regard to promoting sustainable rural development on the sites. "Almost all conservation projects regarding large predators face distrust from people. This distrust is often to do with nature conservation methods, not the species – in general people regard the lynx as a beautiful species, as part of their land, their culture. The distrust is because the lynx has been used as a flagship to stop some projects that people regarded as 'development'," he notes.

Actions were taken to create better conditions for the rabbit population, including the sowing of 60 ha of pastures to improve feeding conditions and the installation of 100 rabbit shelters, 72 water suppliers, 15 watering points and 120 feeders. The project team also created areas of natural refuge by planting and seeding more than 3 000 plants of typical native species (holm oak, cork trees, strawberry trees, Italian buckthorn and oleaster) and by protecting



*Rabbit "nest" protection site built by the project*

some 650 existing specimens of such native species. Monitoring of rabbit droppings suggests that these actions have had a positive effect on rabbit abundance.

Significant work was also undertaken to recover riparian habitats to act as natural corridors for the Iberian lynx (fencing 10 km of rivulets to keep grazing livestock away from the riverbanks, planting 500 trees and 200 bushes), but much of this was destroyed by flash floods in 2009. "We tried to recover what we could, but unfortunately half of it was lost," says Mr. Santos. Ironically, the effects of the flood "showed that these kinds of actions are needed because one of the functions of gallery forests is exactly to prevent erosion and prevent washing away during heavy rains," Mr. Santos explains.

### WINNING THE TRUST OF LOCAL COMMUNITIES

Perhaps the biggest challenge the project faced was to gain the support of local people for its actions. "We had to get people to know us and start to trust us," says Mr. Santos. To this end, the beneficiary implemented a public participation programme, holding four meetings involving residents from the municipalities of Moura and Barrancos, as well as a workshop on management of natural resources.

"Our goal with public participation was not only to reach people but also to listen to people - to know what were their concerns; what were their thoughts and feelings about conservation; about the Natura 2000 network; about lynx conservation; about these kinds of issues," says Mr. Santos.

*The project team planted more than 60 ha of leguminous and grass pastures*







Fences were erected to restore riparian vegetation by keeping grazing livestock away from the banks of streams

Looking back, he considers the public participation aspect (which also included such dissemination activities as posters, leaflets, a website, guided field visits and lectures at fairs, universities and schools) as a major achievement in a region often adverse to nature conservation issues and Natura 2000. "It was a very important tool - It was one of the most important actions of the project with some of the best results," believes Mr. Santos. "It's something we are still trying to do right now... being able to work with people - landowners, hunters and farmers - and having their trust and being able to develop partnership agreements with them. To show that it is possible to work together with the common goal of conserving the habitats of species such as the Iberian lynx."

#### FOLLOWING UP WITH LIFE+

LPN is continuing its Iberian lynx conservation work through a second project, co-funded by LIFE+. The goal of the Habitat Lince Abutre project (LIFE08 NAT/P/000227) is to enhance habitat for the Iberian lynx and another endangered species, the black vulture (*Aegypius monachus*), across a wider swathe of south-east Portugal and with more partners: "hunting associations, agricultural associations, other NGOs, state institutions," explains Mr. Santos.

He believes that LIFE has had a very important role to play in lynx conservation. In the case of his own project he says, "what the LIFE programme enabled was for us to implement a bigger project than we would otherwise have been able to do and to maintain it for several years." In addition, Mr. Santos says that the groundwork laid by Lince Moura/Barrancos is feeding in to the ongoing, larger-scale LIFE+ project: "The previous LIFE project enabled us to have the necessary knowledge, connections and contacts to afterwards prepare and ask for this new LIFE project. It was important."

It is not only the results that have been important, the very existence of the LIFE project had an impact on people's attitudes, he believes: "Having the support of the Commission shows people that we are serious about this. And that other people in Europe think of this as a real problem and a serious problem."

#### FIRST SIGHTING

The work of LPN and its partners, together with LIFE co-funded conservation projects in Spain has given the critically endangered Iberian lynx a fighting chance of survival. The Portuguese beneficiary was given a boost at the beginning of 2010 when a GPS-tagged lynx

from Spain was twice spotted in south-east Portugal. "The ecological result for the species wasn't much - it was just a vagrant animal that was in and out of the country," says Mr. Santos. "But it showed that the region can be reached by dispersing animals, lynxes - that it is suitable for that. Lynxes that can disperse to the region can settle and can start creating a population and, who knows, maybe in the future breeding."



#### PORTUGAL

**Project number:** LIFE06 NAT/P/000191

**Title:** Lince Moura/Barrancos – Recovery of Iberian lynx habitat in Moura/Barrancos site

**Beneficiary:** Liga para a Protecção da Natureza (LPN)

**Contact:** Eduardo Santos

**Email:** programa.lince@lpn.pt

**Website:** <http://projectos.lpn.pt/lifelince>

**Period:** Oct-2006 to Dec-2009

**Total budget:** €493 000

**LIFE contribution:** €370 000

## Germany: Human factors enable successful floodplain habitat conservation

Stakeholder participation is a vital tool for sustainable nature conservation actions and good practice approaches to involving farmers and citizens have been demonstrated by a LIFE project in north-west Germany focused on restoring protected riverside habitats.



Europe's river floodplains are well known for their rich biodiversity. Floodplains also provide important flood prevention functions and are the source of raw materials for economic activity. Their landscape features are valued by visitors and local residents alike, so looking after our floodplains makes a lot of long-term environmental and socio-economic sense.

LIFE co-funding has been applied with good effect on a number of inter-linked fronts in Europe's floodplain areas:

helping land users identify appropriate management approaches; improving the functionality of riparian habitats; and supporting Member States' commitments to environmental regulations.

The LIFE programme's experience shows that human inputs remain absolutely fundamental for effective nature conservation work in floodplain areas (as well as elsewhere). The participation of the right people at the right time with the right objectives is essential, and a LIFE Nature project from the river Lippe

(a tributary of the Rhine) in north western Germany (LIFE05 NAT/D/000057) reveals how this can be achieved in practice.

#### CONSERVATION CHALLENGES

The Lippe floodplain is home to a number of species listed in the annexes of the Birds and Habitats directives, including the marsh harrier (*Circus aeruginosus*), corncrake (*Crex crex*) and kingfisher (*Alcedo atthis*), bullhead (*Cottus gobio*), Atlantic salmon (*Salmo*



salar), river lamprey (*Lampetra fluviatilis*) and asp (*Aspius aspius*).

However, as LIFE project co-ordinator Oliver Schmidt-Formann explains, “changes that occurred in the river system during the last century had badly affected the conservation status of our floodplain habitats and the species that depended on them. Intensive agriculture was producing nutrification problems for water quality and drainage ditches had lowered ground water levels in wetland areas. Pond habitats were either filled in or even lost in places to make way for livestock and crops. Heavy farm machinery had disturbed nesting areas for birds and recreation pressures from the public were also causing a strain on sensitive parts of the river system. These issues were all compounded by a programme of engineering works that disconnected sections of the river and altered natural flow patterns in an attempt to control flood risks.”

To counteract these threats to the ecological integrity of the floodplain nature reserve, Hamm City municipality started preparing a plan to restore the river Lippe floodplain to its former condition. “It was essential that we got partners on board from the local water authority (Lippeverband) and our neighbouring local authority (Kreis Warendorf),” notes Mr Schmidt-Formann. “We also received a great deal of useful assistance from NGO partners at the environmental group ABU Biologische Station. After securing this core partnership, our next step involved reaching out to speak to the people who would be most affected by any changes to the river: farmers and the citizens of Hamm.”

A series of consultation meetings and sessions were organised with these vital stakeholders. Agenda topics included discussing options for reinstating former wetland areas, converting intensive farmland into meadows, reconnecting river sections and improving recreation facilities.

Discussions were held with individual farmers, the Chamber of Agriculture and a farmer's association to kick-start dialogue about what actions might be

included in a proposal for a LIFE project application. Similar consultations were carried out with other members of the local community at public meetings. Conclusions from this preparatory work resulted in the design of a LIFE project proposal that already enjoyed a considerable amount of support and sense of ownership from the people involved. Mr Schmidt-Formann believes that this early involvement of the main stakeholders was possibly the most important success factor of the project. “Because the public and farmers were already aware about what was being planned, and because they themselves had helped shape the plans, we could start work straight away on our restoration plans once we got the green light for the LIFE funds.”

### LAND LEASING

Land acquisition was the first priority for the LIFE project and some 100 ha of riverside fields were bought, covering five batches of land. These “action blocks” linked up with existing farmland owned by the municipality to create a mosaic of 180 ha that the LIFE team now controlled in full. Special purchasing arrangements had been agreed in advance with farmers during the early consultation period which meant that they could continue to work their land using a lease procedure that excluded any use of intensive agricultural practices.

Local fishing groups were involved in monitoring the LIFE project



Photo: Burzelt-Drucke

The beneficiary was able to offer the land leases to farmers at zero cost and to swap their riverside land for fields of equivalent size and productivity outside the floodplain area. The principles of this approach were explained to farmers before the application for LIFE support was submitted.

It was agreed that a study would be undertaken after 12 months of the project to determine the effects of habitat restoration work on the farmland. The study, published in February 2006, quantified the potential loss of productivity in fields following an increase in ground water levels and more frequent prolonged periods of natural flooding. This provided a tool for the LIFE team to calculate how much land different farmers would be offered during the land swap. Farmers working in the areas most affected by the floodplain restoration were offered leases for more of the compensatory land located outside the floodplain zone.

In addition, the LIFE team worked closely with farmers to ensure that they properly understood the changes that were being proposed to their business operations. One of the farmers, Heinrich Freisfeld, remarks that he had some reservations about the project at the start. “I wanted to know what type of extensive agriculture I was being asked to take on and I needed to know how this would affect my business. I had ques-



Photo: Tim Hudson

Farmers now use extensive methods to raise livestock along the river bank

tions about practical matters like how many cows I could graze in different fields, what type of fertilisers I could or could not use and what would this mean for the amount of fodder I could grow for the cows. The LIFE project gave me the answers to these questions and that helped me decide to get involved. Another point that influenced my decision was the security and flexibility that a longer-term lease gave me.”

### RESTORATION OUTCOMES

LIFE co-financed a wide range of habitat conservation actions. These included the removal of obstacles to natural flood channels and excavation of six new flood channels to help water flow faster into riverside meadows, and remain there longer. Ponds of standing water were dug and allowed to colonise naturally with native plant species. Existing ponds were deepened and the creation of new standing water features provided a patchwork of temporary and permanent pond habitats for populations of dragonflies and amphibians, which in turn have attracted bird species including the first pair of white storks (*Ciconia ciconia*) to breed in the nature reserve.

Dykes have been removed and river sections reconnected. A new 500 m fish pass channel was built as a near-natural stream in the water meadows to overcome a weir. LIFE enlisted the help of local angling clubs to monitor the success of this fish pass and 10 000 fish of 33 species - including the rare spined loach (*Cobitis taenia*) and

bullhead - were counted in a 12 month period. New habitat features such as a shallow bed oxbow and sandy river bank zones were also established. As a result, the sand martin (*Riparia riparia*) has now returned to the project site in significant numbers.

As well as this coordinated hydro-engineering activity, LIFE provided finance to cover the costs of establishing new species-rich alluvial woodlands and a network of visitor facilities (information panels and viewing towers). “The visitor facilities have been carefully located to direct people towards sites with higher ‘carrying capacities’ and away from parts of the floodplain that are more sensitive to disturbance,” notes Holger Ruhmann from the LIFE project team.

### PUBLIC INVOLVEMENT AND ACCOLADES

The project also realised the importance of raising public awareness of its work: “What people don't know, they don't want to protect.” A programme of public events took place based on ideas that emerged during the preparatory consultations. These included public excursions through the water meadows and two festivals celebrating the habitat restoration work. Public feedback from these events such as, “I never knew that we could help wildlife in this way” highlights how LIFE's public relations investments paid off in gaining local support for the nature conservation work.

Restoration work on the Lippe floodplain is now being developed further by a new

LIFE+ project (LIFE08 NAT/D/000010), which is extending the coverage of “action blocks” and building on its predecessor's core principles of stakeholder participation. As former Minister for the Environment and Conservation, Agriculture and Consumer Protection of the State of North Rhine-Westphalia, Eckhard Uhlenberg observes, “The LIFE project ‘Lippe Floodplain’ is a good example of how rivers can be restored in such a way that that economic, social and ecological demands are made compatible. This only became possible as a consequence of the early forging of co-operative ties between users and owners of the affected areas.”



### GERMANY

**Project number:** LIFE05 NAT/D/000057

**Title:** Lippe-Aue - Optimisation of the pSCI “Lippe floodplain between Hamm and Hangfort”

**Beneficiary:** Stadt Hamm, Umweltamt

**Contact:** Oliver Schmidt-Formann

**Email:** schmidtformann@stadt.hamm.de

**Website:** www.life-lippeaue.de

**Period:** Jan-2005 to Jul-2010

**Total budget:** €5 515 000

**LIFE contribution:** €2 757 000







## Ireland: Restoring critically rare natural woodlands

This large scale project, run by Coillte Teoranta targeted the restoration of more than 550 hectares of Ireland's priority natural woodland habitats on nine Natura 2000 sites. Significant improvements in habitat quality were achieved on all sites and these improvements are expected to endure.

The LIFE Nature RPHWI project (LIFE05 NAT/IRL/000182) targeted four native woodland habitat types found in the Republic of Ireland – alluvial, bog, ash/hazel woodland associated with limestone pavement, and yew woodland. These habitat types are restricted in their distribution, not only in Ireland, but across Europe. As such they are recognised as priority for conservation under the EU Habitats Directive. These are woodlands of extremely high nature conservation value providing habitat, shelter and food for many endemic plant and animal species.

### UNDER THREAT

Natural woodlands once covered most of Ireland, but over time and with the impact of human activities, only a small proportion still remains. Ireland's priority woodland habitats are threatened by issues such as past afforestation with non-native tree species; the spread of invasive exotic trees and shrubs; drainage of alluvial areas and bog woodland; overgrazing and animal trespass; as well as a general lack of appreciation of their value.

The nine restoration sites from across Ireland were carefully selected from ecological surveys, carried out prior to the commencement of the LIFE project by the beneficiary, Coillte Teoranta – the Irish forestry board, an organisation responsible for Ireland's publicly-owned commercial forests. "These were very special sites: picked because of their priority status, their rarity, and because they all offered clear potential for restoration," explains project manager, Sean Quealy. The overall aim was to put in place the right con-

ditions to allow the native woodlands to "re-emerge and to regenerate" in future years. Principal objectives were to remove non-native trees and to control invasive non-native species, and to reinstate natural water regimes at the wet habitats. Other goals were to control grazing and animal trespass; to carry out the manual planting of yew; and to raise public awareness of these special woodland habitats.

Three of the sites served as 'LIFE demonstration sites', where work also involved public awareness and education. They were selected because of their unique ecological characteristics and proximity to population centres:

- Clonbur (292 ha) on the Co. Galway/Co. Mayo border – an ash/hazel woodland associated with limestone pavement;
- Hazelwood (24 ha) in County Sligo – an alluvial (river) woodland where the hydrology remained relatively intact, offering good prospects for restoration despite the invasion of non-native species; and
- A site in Cahir Park (9 ha) in County Tipperary – an example of a rare woodland type in Ireland, yew woodland.

Site map – Ireland Priority Woodland Locations



Ash/ hazel natural woodland associated with limestone pavement at the Clonbur 'demonstration site' on the Galway / Mayo border

### RESTORATION TECHNIQUES

A number of different restoration approaches were used; some of these were standard restoration techniques, whilst others were more innovative. One of the main restoration actions involved removal of non-native trees. Very often this meant felling non-native conifers, such as Norway spruce, larch, Sitka spruce and broadleaves such as beech, sycamore and horse chestnut. Where machinery was used, sensitive extraction methods were incorporated e.g. running on brush mats made of the tree branches and tops, to avoid soil compaction or damage to sensitive limestone pavement. At most sites, the habitat was too sensitive to allow machine access and so many trees were felled manually. In some cases, old non-native trees (e.g. Spanish chestnut, large silver fir, horse chestnut, lime and poplar) were retained for their biodiversity value.

### NATURAL REGENERATION

Natural regeneration was the preferred restoration method, which was achieved by allowing native trees to seed and grow naturally on site, with-

out intervention in the form of planting. Ash was particularly successful, reaching average heights of 150 cm after only three years.

Another main action targeted the control of invasive non-native shrubs, notably rhododendron, once planted for amenity. Shrub removal was carried out using chainsaws and, in order to prevent regeneration, herbicides were applied to the freshly cut stumps. These sites were re-visited to remove unwanted seedlings and re-growth.

Some of the woodlands restored are bordered by non-forested land. Some adjacent areas contain populations of deer and feral goats. Uncontrolled grazing threatens natural regeneration of woodlands. Therefore the sites were protected by fencing (including deer fencing) and repairs to existing walls. An innovative river gate was also designed and installed to prevent browsers entering the restored woodland.

Another restoration technique was the use of 'coffer dams' at one of the wet woodland sites. These were used to block manmade drains. Care was taken to ensure that the restoration works did



not negatively impact on neighbouring lands, or inundate woodland areas not usually flooded. Some 330 dams made manually on site from untreated larch were installed, and according to monitoring, are showing very good results.

The project successfully achieved its target of restoring 550 ha of some of the most important woodlands in Ireland: The areas are already beginning to show signs of recovery with a return to natural woodlands. Targets for removal of non-native conifers and broadleaves were exceeded and targets were also achieved for the removal of exotic invasive shrubs.

#### YEW SUCCESS

A notable success of the project was its restoration of yew woodland, since the yew (*Taxus baccata*) is especially scarce in Ireland. Originally the aim was to add 33.5 ha, but restoration works resulted in 55 ha being added to the national inventory of yew woodland. To supplement natural regeneration of the yew, planting was carried out using cuttings taken from locally-grown specimens – grown at Coillte's tree research improvement nursery – and planted back at their original woodland site. Tree guards and tree mats were used to protect them from grazing or competing vegetation.

*Yew plants were grown from cuttings taken from mature specimens of local provenance*



Sean Quealy (right), project manager, next to the LIFE information board at the entrance to Bishop's Wood (alluvial woodland) near Durrow in County Laois

#### CONTINUING TO EXCEL

The project excelled at dissemination. Under the guidance of Breda Lyons, project administrator and PR manager, strong links were developed at local and national level, which endure after-LIFE. The project continues to inform people about its actions, mainly through its website; and the demonstration sites are open to the public. All Coillte woodlands have an open access forest policy.

Importantly, the project sites will continue to be managed as part of Coillte's nature conservation programme (whereby 15% of the Coillte forest estate is managed primarily for biodiversity). "The entire area has been returned to native priority woodland and will improve and endure," says Mr. Quealy. He credits in particular, "all those closely involved in managing the habitats", notably the ability of the forest managers to embrace the project ethos and adopt the project restoration techniques and objectives. "They dealt with sites very sensitively, showing great understanding of all aspects of woodland management."

As well as being among the Best of the Best LIFE project winners, Coillte was also awarded an Energy Globe Award

in 2010, in recognition of this important work. "Funding through the LIFE instrument was vital, as the project would not have taken place without it," believes Philip Murphy, responsible for EU affairs at the forestry board. "The support and guidance we received from the monitoring team, desk officers and the LIFE Unit and other strong network connections were invaluable to the project success."



#### IRELAND

**Project number:** LIFE05 NAT/IRL/000182

**Title:** RPWHI – Restoring Priority Woodland Habitats in Ireland

**Beneficiary:** Coillte Teoranta (The Irish Forestry Board)

**Contact:** Sean Quealy

**Email:** sean.quealy@coillte.ie

**Website:** www.woodlandrestoration.ie

**Period:** Jan-2006 to Dec-2009

**Total budget:** €2 595 000

**LIFE contribution:** €1 305 000

## United Kingdom: **Aiding biodiversity through a chalk river restoration**

This LIFE project demonstrated how pilot interventions can recreate a more naturalistic chalk river, offering significant biodiversity benefits, including to target species. The project is a great example of how important working with stakeholders can be to the long-term success of habitat restoration efforts.



Chalk stream habitats are characterised by stable water flows and temperatures, since porous chalk acts as an aquifer, absorbing rain and regulating the speed at which water enters the streams. The River Avon in southern England (also known as the Salisbury Avon or Hampshire Avon to distinguish it from other English rivers of the same name) is one of the most important chalk streams in the UK and Europe. For hundreds of years, moderate human intervention had generated

channels and bank sides that offered a perfect habitat for a number of fish and other flora and fauna species.

As a healthy river, the River Avon was an important breeding site for wild salmonid fish species that require gravel beds, such as the brown trout (*Salmo trutta*), Atlantic salmon (*Salmo salar*) and grayling (*Thymallus thymallus*). It was also home to fish such as the brook lamprey (*Lampetra planeri*) and sea lamprey (*Petromyzon marinus*),

which require fine sediment for breeding, and to the bullhead (*Cottus gobio*). The river was typified by flowing water vegetation, particularly water-crowfoot (*Ranunculus*). Its river banks and vegetation provided habitat for a wealth of biodiversity, including water voles (*Arvicola amphibius*), Desmoulin's whorl snail (*Vertigo moulinsiana*) and many bird and insect species.

Human intervention in the river had significantly increased since the Second World



War. In the name of flood defence, the river was dredged substantially and obstacles removed from the watercourse to enable the water to flow faster. To manage floodplains for more intensive agricultural use, channels were dug to increase the speed of drainage. Jenny Wheeldon, STREAM project manager, highlights the extent of the human intervention: "There are hundreds of man-made structures – known as hatches – along the river, diverting water to different uses, including fish farms and gardens."

These interventions had a significantly negative effect on biodiversity. Dredging the river for flood events meant that for large periods of the year, only a small amount of water was travelling slowly down the bottom of the oversized riverbed. The removal of obstacles from the water meant that the diversity of riverbed habitat was significantly decreased. The reduction in wetland meadow habitat and changes to riverbanks saw numbers of insects and birds drop, as well as the Habitats Directive annex II-listed Desmoulin's whorl snail and vertebrates such as the water vole and otter (*Lutra lutra*).

Typical water *Ranunculus* habitats found in the River Avon system



Photo: Jenny Wheeldon

Surveying the fish species of the Salisbury Avon

### UNDERSTANDING THE RIVER'S NEEDS

The international importance of the rare habitats and species in the river and its major tributaries is recognised by its designation as a Special Area of Conservation (SAC). In the same area, the Avon Valley Special Protection Area (SPA) seeks to protect the wintering grounds of internationally important bird species such as Bewick's swan (*Cygnus columbianus bewickii*) and gadwall (*Anas strepera*) on the river's floodplains. Biodiversity Action Plans have been developed for a number of nationally important populations of waterfowl, rare plants and invertebrates in the area.

A LIFE in UK Rivers project (**LIFE99 NAT/UK/006088**) led by English Nature in co-operation with other UK environmental bodies increased understanding of the ecological requirements of seven of the UK's SAC rivers and how to develop related conservation strategies. At the same time, a locally driven Wessex Chalk Stream Project provided seed funding for habitat restoration and river management actions on the River Avon. It started to build important relationships between local authorities, conservationists, landowners and key stakeholders, particularly fishing clubs.

In co-operation with a PhD student who was investigating how the beneficiary

could engage people better in developing conservation strategies, events were organised to bring stakeholders together to identify the main threats to the river habitat. By taking on a facilitation role, the university project helped identify the right stakeholders to engage with. Dialogue was seen to improve because English Nature was seen as an equal partner in the process rather than the leader.

The LIFE STREAM project (**LIFE05 NAT/UK/000143**) emerged in 2005 as a follow-up project. Led by English Nature – which became Natural England – the project aimed to demonstrate a range of innovative river restoration techniques appropriate to chalk rivers and thus restore the watercourse habitat for associated species. It also sought to integrate the management of the river SAC with the adjacent Avon Valley SPA.

Dagmar Junghanns, team leader for River Avon projects, recalls the importance of this enhanced stakeholder dialogue: "We were not drafting a strategy and then seeking consultation and approval on that basis. People approved of the approach because they were involved in creating it." Together, the stakeholders agreed a list of the major conservation gaps and challenges, including: invasive alien species; public awareness; protecting endangered species; enhancing wider biodiversity; the private ownership of key land; and the

need for a more strategic approach to river restoration.

Two simultaneous projects were developed working on different aspects of these challenges. Alongside the LIFE project, the stakeholders put together a successful application to the UK Heritage Lottery Fund for a project focusing on community engagement, dealing with invasive species, improving biodiversity and raising public awareness. One of the major advantages of this was that media actions, awareness events and information boards could be jointly organised, reinforcing each other.

The LIFE project pooled existing data from all the available sources and set about studying the River Avon to identify the degraded sites. "We knew the river was in a bad state, but we found that over 60% of the river qualified as significantly degraded," remembers Ms. Wheeldon. From these stretches, a panel of river restoration experts selected six demonstration sites for restoration actions, based on practical feasibility and likelihood of success.

### PILOT RESTORATION ACTIONS

One management technique implemented involved establishing islands

and flow deflectors in the water. Wooden posts were driven into the riverbed in specific shapes and filled with woody material. These structures collected sediment and developed often significant plant life, providing shelter and habitat for numerous species. At other sites, whole trees were fixed in place in the watercourse. Other approaches tried at different sites included fixing trees in the watercourse, adding stones and gravel at strategic locations along the edge of the river and even pushing raised riverbanks back into the river course.

These actions changed the horizontal and vertical profile of the river, creating obstacles that the water has to flow around and areas of different depths. This generated areas of quicker and slower movement, which helped clean the gravel bed in some areas and deposit fine sediment in others. "The varied water speed creates a varied river bed, which restores the mix of conditions needed by different species of plant and fish to prosper," explains Ms. Junghanns.

One of the major successes of the project was that it was able to engage stakeholders effectively. As well as a lot of effort on public information and awareness-raising, the project worked to reassure different stakeholders that their needs would also be met. Key tools in this were modelling technology to predict and assess the impact of interventions on flood risk and specific hatch operating protocols for the opening and closing of hatches to ensure that the needs of both local landowners and the river ecosystem were met. These protocols are now being used nationally.

Perhaps the key stakeholder was the local anglers association. The rich invertebrate life and characteristic transparent shallow water make chalk rivers particularly suited to fly fishing. Fishing is an important source of income to landowners along the river system and generates local employment. Initially some fishing clubs were sceptical about the effect of river 'restoration' works on fish or fishing quality. But, says Ms. Wheeldon, "By working closely with the anglers associations we were able to jointly achieve

improvements to the river, and to the quality of fishing."

Looking back at the project sites more than a year after the project's end, the project workers have noticed other benefits. Recreating more naturalistic rivers seems to have encouraged landowners to leave a much more naturalistic look to the bankside areas, with only selected areas cut back for public access. This offers a much better habitat for water voles, the endangered Desmoulin's whorl snail and other biodiversity than the previously more intensive management.

LIFE STREAM successfully demonstrated that targeted forms of one-off intervention could restore more naturalistic river dynamics, enabling the river to recreate varied habitats through natural processes. It was also able to show the advantages of more natural rivers to stakeholders ranging from anglers associations to river and water authorities. This work has played a key role in the development and implementation of the current and ongoing Strategic Framework for the Restoration of the River Avon, which plans to restore the whole river and valley in a coherent way.



### UNITED KINGDOM

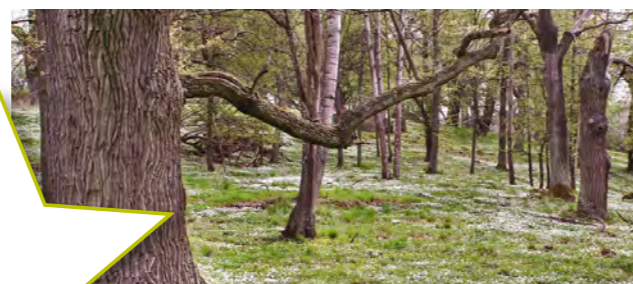
**Project number:** LIFE05 NAT/UK/000143  
**Title:** STREAM – River Avon cSAC: demonstrating strategic restoration and management  
**Beneficiary:** Natural England (formerly English Nature)  
**Contact:** Jenny Wheeldon  
**Email:** jenny.wheeldon@naturalengland.org.uk  
**Website:** <http://www.streamlife.org.uk>  
**Period:** Aug-2005 to Sept-2009  
**Total budget:** €1 570 000  
**LIFE contribution:** €628 000



Panels from a project exhibition







# Best LIFE Nature projects 2010

## Austria: **Protecting natural forests of the Upper Danube**

Natural forests have become a rare habitat type in Central and Eastern Europe, as modern technology has extended forestry areas hitherto inaccessible to machines. A LIFE project in the Upper Danube valley in Austria showed a large forest area, home to a wide range of important species, can be safeguarded against exploitation.

The 'Alluvial and slope forests of the Upper Danube Valley' project (LIFE04 NAT/AT/000003) secured the long-term protection of 440 ha of mature forests through land purchase and the signing of special compensation agreements with landowners in exchange for the ending of timber production.

In total, the project purchased some 170 ha of semi-natural forest areas, which can now become natural forests, and safeguarded an additional 260 ha from forestry activities for the next 150 years. Together with already-existing nature conservation and natural forest areas, these newly protected zones form the ecological heart of the Upper Danube Valley.

Rising timber prices failed to hamper the project, which was also able to purchase a further 224 distinctive and ecologically important old trees outside its core areas.

*Clear-cutting of non-native species was an important part of the project*



### RETURN TO A NATURAL STATE

Some of the forested areas targeted by the LIFE project were covered by non-native spruce trees as a result of previous plantation forestry practices. Thus, an important aspect of the project was the signing of contracts with landowners for the clear-cutting of allochthonous trees followed by replanting with appropriate native species after the project end.

The project beneficiary, the regional government of the Upper Danube, hopes that returning the forest to a more 'natural' condition and reintroducing traditional low-key forestry practices will benefit many species endemic to the area. Natural forest is an important habitat for many endangered animal and plant species, such as the yellow-bellied toad (*Bombina variegata*) and the black stork (*Ciconia nigra*).

Another aim of the project was to improve the breeding situation for stag beetles (*Lucanus cervus*) by providing more dead wood. The creation of artificial stag beetle habitats, the beneficiary believes, has demonstration value and results can be transferred to other areas.

Actions were also carried out around forest margins, including the restoration of natural boundaries, the conversion of intensive grassland to hay meadow and the digging of 22 new ponds to host Annex II-listed amphibians. Monitoring indicated the presence of two of those

target amphibians, the yellow-bellied toad and the great crested newt (*Triturus cristatus*) at the end of the project.

The project team carried out extensive public relations activities, including press trips by boat, excursions for locals and stakeholders, and a travelling exhibition on the project and its objectives. In addition, to these and other initiatives, such as a project website with games for children, the beneficiary also created a 'visitor path' in the forest to inform visitors about natural habitat types and species found in the project area.



### AUSTRIA

**Project number:** LIFE04 NAT/AT/000003  
**Title:** Donauwaulder - Alluvial forests and slope forests of the Upper Danube Valley  
**Beneficiary:** Land Oberösterreich  
**Contact:** Anita Matzinger  
**Email:** n.post@ooe.gv.at  
**Website:** www.donauleiten.com  
**Period:** Oct-2004 to Sept-2009  
**Total budget:** €3 750 000  
**LIFE contribution:** €1 500 000





## Spain: LIFE helps reintroduce bearded vultures to Andalusia

LIFE support has helped fund a programme to return the majestic bearded vulture (*Gypaetus barbatus*) to the skies of southern Spain. Winning the acceptance of the local community and interest groups has been crucial to the success of the project.

Once-common in Andalusia, the bearded vulture became extinct in the region in 1986. Efforts to create the conditions for the reintroduction of this large raptor species began immediately, leading to the establishment of a vulture breeding centre in the Sierra de Cazorla in 1996. The NGO, Fundación Gypaetus, which established and runs the centre, successfully applied for LIFE funding following the birth of its first captive-bred chicks in 2002.

The goal of the LIFE project (LIFE04 NAT/ES/000056) was to take action to ensure the viability of the future reintroduced population (i.e. to ensure the released vultures would be capable of surviving and breeding independently). As well as enabling the beneficiary to add extra staff at the vulture breeding centre, LIFE funding was also used to provide technical support for preparatory actions, releases and monitoring, including interaction with other bearded vulture reintroduction programmes (e.g. LIFE03 NAT/F/000100).

The first reintroductions of vultures born in the Cazorla captive breeding centre took place in 2006. By 2011, some 19 birds had been released, of which 11 were still alive, a better ratio than most species reintroduction programmes.

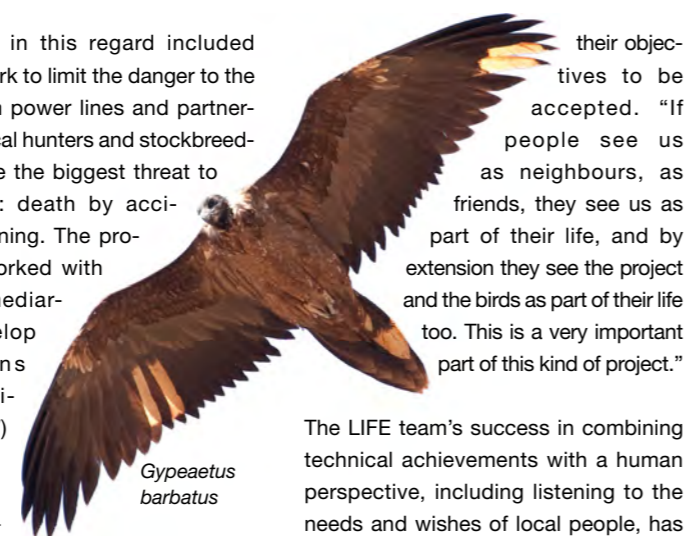
### THREAT MANAGEMENT

Equally importantly, LIFE support enabled the identification and control of present and emerging threats in the reintroduction areas, and awareness-raising activities among the local population, tourists and wider Andalusian society.

Key actions in this regard included advocacy work to limit the danger to the vultures from power lines and partnerships with local hunters and stockbreeders to negate the biggest threat to the species: death by accidental poisoning. The project team worked with local intermediaries to develop the 'Towns Against Poison' (RMCV) network. As a result, 31 towns – covering 519 899 ha – and managers of 32 225 ha of land used for hunting have signed stewardship agreements banning the use of poisoned bait and lead ammunition. The network has also supported the prosecution and conviction of people caught poisoning illegally.

Although four of the 19 bearded vultures reintroduced to the wild by the beneficiary have been killed by poison, "The balance is certainly positive," says Fundación Gypaetus. "We have shown that with the active participation of rural groups, that is, the real managers of the land, threats linked to bad practice in the exploitation of natural resources can be controlled."

To this end, the LIFE project also promoted three other threat management networks: Veterinarians Against Poison, Hunters Against Poison and Stockbreeders Against Poison. For Fundación Gypaetus, it is essential that conservation teams link with the local community in order for



*Gypaetus barbatus*

their objectives to be accepted. "If people see us as neighbours, as friends, they see us as part of their life, and by extension they see the project and the birds as part of their life too. This is a very important part of this kind of project."

The LIFE team's success in combining technical achievements with a human perspective, including listening to the needs and wishes of local people, has sown the seeds for the long-term success of the bearded vulture reintroduction programme in Andalusia.



### SPAIN

**Project number:** LIFE04 NAT/ES/000056  
**Title:** Preliminary actions and reintroduction of the bearded vulture  
**Beneficiary:** Fundación Gypaetus  
**Contact:** Don Jesus Charco  
**Email:** fundacion@gypaetus.org  
**Website:** www.gypaetus.org  
**Period:** Nov-2004 to Oct-2009  
**Total budget:** €1 649 000  
**LIFE contribution:** €1 237 000

## France: Restoring the functionality of river habitats

Important aquatic species have benefitted from LIFE support for coordinated actions to improve habitat functions on more than 50 km of headwaters at 13 sites in eastern France.

Habitat functionality is a fundamental factor for sustainable ecosystems. Gaps in functionality can lead to a breakdown in essential features of a habitat. These in turn can lead to the spread of further habitat degradation and result in the long-term malfunction or even total loss of an overall habitat.

Knowing these basic nature conservation facts, staff from France's Regional Natural Park of Morvan had been concerned about the long-term condition of headwater streams in the Bourgogne and Franche-Comté regions. These headwaters have a major knock-on effect on the downstream functions of river systems within the natural park. In addition, protected species such as the white-clawed crayfish (*Austropotamobius pallipes*), freshwater pearl mussel (*Margaritifera margaritifera*), brook lamprey (*Lampetra planeri*) and bullhead (*Cottus gobio*) relied heavily on the quality of headwater habitats.

To address these issues, a LIFE Nature project (LIFE04 NAT/FR/000082) was initiated to help build and mainstream local capacity in headwater management skills. The goal of the project was to help regional authorities implement wildlife conservation legislation stemming from the EU Habitats Directive. In addition, work on the project has also contributed to requirements in the Water Framework Directive regarding the realisation of River Basin Management Plans.

### HEADWATER HABITATS

Much of the LIFE project's co-finance was invested in testing and demonstrating new techniques for restoring the headwater



Inventories of habitat condition and species status provided a crucial baseline for project actions

habitats. Priority actions focused on finding sustainable ways to boost the physical integrity and ecological continuity of water courses in order to strengthen the conservation status of protected species in the park. Inventories of habitat condition and species status provided a crucial baseline to start the work, and against which to measure progress. This essential groundwork identified opportunities to improve the connectivity of rivers and streams by removing obstacles and restoring natural flow patterns.

Agreements were established to remove six ponds and two others were by-passed. Positive results from this technique included the return of brook lamprey and bullhead into streams. Other techniques – such as introducing a fish ladder, re-establishing the natural course of waterways and restoring riparian zones – led to improvements in the densities of bullhead and river trout (which provide 'host' fish functions for pearl mussel larvae). Enhancing habitat connectivity also proved productive for the long-term survival of white-clawed crayfish populations.

Water quality was a key target for the LIFE project. As a result, a network of perma-

nent crossing points was set up to protect streams from machinery crossing during farming or forestry activities; livestock fences were added along river banks and water holes; and foresters were helped to find ways of reducing their contact with water sources during felling and harvesting. All these actions fed into a strategy developed with LIFE support to purify and improve water quality in the park's headwaters.

The combination of these core outcomes from LIFE's co-finance period has significantly strengthened the beneficiary's ability to carry out its nature conservation obligations, and so safeguard a vital mix of fully functional habitat features in its headwaters.



### FRANCE

**Project number:** LIFE04 NAT/FR/000082  
**Title:** LIFE TBFP - Headwater streams and faunistic Heritage associated  
**Beneficiary:** Parc Naturel régional du Morvan, France  
**Contact:** Laurent Paris  
**Email:** laurent.paris@parcdumorvan.org  
**Website:** www.liferuisseaux.org  
**Period:** Oct-2004 to Sept-2009  
**Total budget:** €13 224 000  
**LIFE contribution:** €1 612 000



## France: Better long-term prospects for Rhône streber

A French LIFE Nature project targeting a critically endangered fish species, the Rhône streber, has made a significant contribution towards its long-term conservation.

The Rhône streber (*Zingel asper*), also known as Rhône-Apron, is a fish of the perch family, only found in the Rhône river catchment. It is in critical danger of extinction. Its population declined seriously during the 20th century, falling from an estimated presence along 2 200 km of rivers to 380 km today. The main cause of this decline has been hydraulic engineering works such as dams that have created barriers and thus isolated sub-populations of the species from each other. River pollution and flow changes resulting from water abstraction for agricultural purposes have also led to a severe degradation of the fish's habitat.



Rhône streber (*Zingel asper*)

A first LIFE project targeting the Rhône streber (LIFE98/NAT/F/005208) considerably improved knowledge about its ecological requirements. It also conducted a feasibility study for *in vitro* rearing for reintroduction purposes; and published guidelines for a long-term conservation strategy.

The overall goal of this second project was to implement the various conservation measures proposed by the initial project. Specific objectives included:

1. Improving genetic exchange and increasing population size through the construction of fish passes at impassable dams; and
2. Determining the feasibility of reintroducing the species through trials in several test sites, using both hatchery and wild fish.

An important achievement concerned the construction of five fish passes to allow intra-population mixing and population increases between favourable hab-

itats. The construction of these passes, and removal of other small obstructions to fish circulation, was only completed in the final months of the project. As a result, it is too early to assess their effectiveness in halting the overall decline of the species, but the first monitoring results are very encouraging.

### CAPTIVE BREEDING

Another key result was the project's captive breeding and trial release programme. In collaboration with project partner Besançon Natural History Museum, in 2005 tests started on the reproduction of the fish in captivity. This led to the hatching of thousands of fry and confirmed, for the first time, the feasibility of this *ex-situ* methodology for conserving the species. Trials were then carried out in 2006, 2008 and 2009 releasing individuals, bred in captivity, into the river Drôme. In total, some 1 700 individuals were released. The early results of these pilot reintroductions are very encouraging: monitoring has confirmed their survival after two years.

To conclude, although the Rhône streber remains critically endangered, the measures implemented during the LIFE project have gone a long way towards securing its future conservation. The continuation of the project seems assured: 10 additional weirs will be equipped with suitable fish passes over the next few years, completing the work already done to reconnect the different sub-populations and to open-up a much larger part of the river basin to natural re-colonisation. Finally a National Action Plan for the species is almost finalised and is expected to confirm the continuation of the work started under LIFE.



FRANCE

**Project number:** LIFE04 NAT/FR/000083

**Title:** Programme for the conservation of the Rhône-Apron (*Zingel asper*) and its habitats

**Beneficiary:** Conservatoire Rhône-Alpes des Espaces Naturels (CREN)

**Contact:** Marianne Georget

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**Website:** www.aprondurhone.fr

**Period:** Apr-2004 to Mar-2010

**Total budget:** €3 508 000

**LIFE contribution:** €1 579 000

## France: Conserving the endangered aquatic warbler

Improvements to the coastal marshes of Brittany have increased the amount of favourable habitat on the stopover route for migrating aquatic warblers, the rarest European warbler species.

The aquatic warbler (*Acrocephalus paludicola*) has an estimated breeding population of 12 500-20 000 individuals, mainly found in Poland and Belarus. The species's main stopover places en route to its wintering habitats in tropical western Africa are in the coastal marshes of north-western France. In recent decades, these marsh habitats have suffered from a lack of adequate management. Changes to the wetland zones, such as drainage, water pollution and landscaping have reduced their ecological value as a resting and feeding habitat for the aquatic warbler.

To address this issue, the "Acrocephalus Bretagne" project (LIFE04 NAT/FR/000086) set out to maintain or improve the ecological status of three important stopover marshes in Brittany and to disseminate the know-how gained to other coastal marsh restoration efforts. Knowledge of the species would be improved through radio-tracking and by carrying out an inventory of additional spring migratory stopover sites.

Cutting of invasive plant species



### ACTIONS BRING RESULTS

In order to ensure the long-term management of the coastal habitats in a manner favourable to the aquatic warbler, the project used LIFE funding to purchase 39.5 ha of marshes and signed management agreements with the owners of two sites.

Significant restoration actions were carried out by the project team: hydraulic works (e.g. digging of ditches) and the installation of floodgates will allow the controlled flooding of 270 ha across the three project sites; 47 ha of reed beds were cut back and invasive plant species (including Pampas grass and Japanese knotweed) removed from a 30 ha area. The project team also erected 2.8 km of fencing to enable grazing of the cleared areas. These actions will not only contribute to the conservation of the aquatic warbler, they will benefit other species such as the European otter, great bittern, water vole and nesting bird species.

Radio-tracking and ringing of the warblers enabled the beneficiary to assess the relative importance of sites to the species and, subsequently, to develop a regional strategy for its conservation. The LIFE project's monitoring efforts also led to the discovery of an aquatic warbler wintering site in Senegal.

The project produced a widely distributed technical guide to aquatic warbler conservation measures for use by site managers. This can be applied both to the 200 stopover sites identified in France, as well as to those in other countries.

Other awareness-raising activities targeted at local residents, schoolchildren and other stakeholders included publications, activities and events, as well as a feature film that won an award at the 23<sup>rd</sup> Bird Film Festival in Ménigoute, France.

Finally, the LIFE beneficiary not only contributed to the development of action plans for the three targeted Natura 2000 sites, but as a direct result of the LIFE project it has also been asked to produce a National Action Plan for the aquatic warbler for 2010-2014 by the French Ministry of Ecology. This will help ensure the measures implemented during the course of the project are widely disseminated and replicated to the long-term benefit of the aquatic warbler.



FRANCE

**Project number:** LIFE04 NAT/FR/000086

**Title:** Acrocephalus Bretagne - Conservation of the Aquatic Warbler in Brittany

**Beneficiary:** Bretagne Vivante - SEPNB

**Contact:** Bertrand Rivoal

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**Website:** <http://www.life-sterne-dougall.org/anglphragmite.php>

**Period:** Jan-2004 to Apr-2009

**Total budget:** €965 000

**LIFE contribution:** €724 000



## Hungary: Egyek-Pusztakócs restores valuable grassland habitat

This project in Hungary improved the conservation status of natural and semi-natural grassland habitats amongst the marshes of the Hortobágy National Park and established a system of long-term management through extensive grazing.

The Egyek-Pusztakócs marsh system is a mosaic of dry and wet grasslands, astatic and permanent marshes, and arable land in Hortobágy national park in Eastern Hungary. Drainage for intensive agricultural practices had dried up and fragmented much of the area, contributing to eutrophication, acidification, the spread of invasive or generalist species and reduced biodiversity.

Construction of a water system covering a total area of 5 000 ha began in 1976. This has preserved the flora and fauna of alkaline marshes that have largely disappeared elsewhere in Europe and Hungary. However, it had not been possible to restore the valuable grassland habitats, leading to LIFE's intervention.

### RESTORING THE GRASSLANDS

The LIFE EPU project (LIFE04 NAT/HU/000119) worked to restore pan-

Egyek pusztá - traditional use of reeds



Photo: Jan Silva

nonic loess grasslands and pannonic salt steppes. Seeds of three species of native grass were harvested or purchased and the soil of lands previously used as alfalfa, grain or sunflower fields prepared through deep ploughing and disk harrowing. The sowing of either an alkali mixture or a mixture of loess seeds - on low-lying and higher plateau areas respectively - was conducted in the autumn.

The spring saw mowing to prevent the spread of weeds, which nevertheless protected the young grass shoots from the sun. Further management took the form of either mowing or grazing, with extensive grazing the preferred technique for maximising the diversity of grassland plants and animals. A grazing scheme covering almost 2 600 ha was established with the participation of 18 farmers or farming companies on long-term rental contracts.

A specific grazing effort - including the purchase of Hungarian grey cattle - was allocated to marsh edges to open up homogenised reedbeds. An additional measure was the successful burning of 120 ha of reedbed in the dry year of 2007. This reduced the reed cover in sample plots from about 67% to 41%, with eight plant species re-appearing.

The project purchased 55 ha of cropland near the three most threatened marshes and converted it to grassland to create ecological corridors and several buffer zones that eliminate the runoff and infiltration of chemicals from remaining croplands. It also purchased 306 ha of grasslands near two goose-farms to remove geese from the area.

Arable land over 150 ha was converted into 100 m-wide strips of 10 different crops, half of which were left standing throughout the winter. This extensive agriculture provided excellent food and shelter for small mammals (numbers up to 10 times greater than in intensively farmed areas). The number of birds of prey using the croplands for feeding was seen to increase.

The project's results suggest that the restoration process can quickly lead to conditions approaching those of target alkali steppes. Indeed, the diversity of flora on the restored loess grasslands resembled an 11-year-old naturally revegetating site.



HUNGARY

**Project number:** LIFE04 NAT/HU/000119  
**Title:** EPU (HNP) Grassland restoration and marsh protection in Egyek-Pusztakócs  
**Beneficiary:** Hortobágy National Park Directorate  
**Contact:** Szabolcs Lengyel  
**Email:** szabolcs.lengyel@yahoo.com  
**Website:** <http://www.life2004.hnp.hu/>  
**Period:** Sept-2004 to Dec-2008  
**Total budget:** €1 040 000  
**LIFE contribution:** €700 000

## Sweden: Wetland restoration boosts bird species

Restoration of wetland conditions around Lake Mälaren will boost the populations of important breeding bird species in the area. A LIFE project helped implement a wide-ranging management plan for the valuable natural site.

Located along the northern shore of Lake Mälaren, Sweden, the Asköviken area hosts a rich variety of breeding bird species included in the EU Birds Directive, such as the bittern (*Botaurus stellaris*), black tern (*Chlidonias niger*), spotted crake (*Porzana porzana*) and marsh harrier (*Circus aeruginosus*). Bean geese (*Anser fabalis*) are regular visitors and in recent years small numbers of lesser white-fronted geese (*Anser erythropus*) have also been observed.



Machine used to manage reed beds in order to boost wet meadows habitats

Threats to these bird populations, however, have emerged in recent years. The lake's wetland catchment areas have been affected by changing agricultural practices and an overgrowth of vegetation has occurred as a result of high nutrient loading and a general lack of grazing. As a result, a LIFE project (LIFE04 NAT/SE/000230) was carried out to implement a comprehensive management plan for the 379 ha target area and ensure the long-term survival of the valuable habitats and species present.

### MANAGING THE HABITAT RESTORATION

Actions focused on the restoration and long-term management of two habitats (Natural eutrophic lakes with Magnopotamion- or Hydrocharition-type vegetation and Molinia meadows on calcareous, peaty or clayey-silt-laden soils - *Molinia caeruleae*). The restoration activities improved both foraging and breeding possibilities for the targeted species.

The project team took actions to reduce reed beds across 31 ha of wet meadows. Shallow water areas within the reed beds were increased and two new channels

were created. An older passage for small boats was also restored and a total of 6 ha of channels and lagoons were created.

The border zone between the reed bed and open water was effectively doubled from some 4 km to 8 km. Furthermore, a shallow water area/blue fringe was established between the wet meadows and the reed bed. This covered a 20-200 m wide strip along 4.5 km of shoreline. Such areas are rich in water insects and aquatic plants, and are thus good feeding areas for waders and ducks.

Furthermore, as a direct result of the project, mowing and grazing is now possible on 35 ha of wet meadows at Asköviken.

### INVOLVING KEY STAKEHOLDERS

Local farmers played a significant role in the project's conservation activities, especially concerning the enhancement and management of public access in keeping with area's status as a Natura 2000 and Ramsar site, as well as a Special Protection Area (SPA) and proposed Site of Community Interest (pSCI). As part of this focus on improving access, a new bird watching hide and 850 m of

new footpaths suitable for use by disabled visitors were created.

Finally, another major achievement of the project was the agreement of a complex system of compensation payments for the loss of hunting rights.



SWEDEN

**Project number:** LIFE04 NAT/SE/000230  
**Title:** Asköviken - Improvement of habitats for wetland birds in Askö-Tidö  
**Beneficiary:** Världsnaturfonden WWF  
**Contact:** Niclas Bergius  
**Email:** niclas.bergius@u.lst.se  
**Website:** [www.wwf.se/flodparlmussla](http://www.wwf.se/flodparlmussla)  
**Period:** Jan-2004 to Jun-2008  
**Total budget:** €1 094 000  
**LIFE contribution:** €547 000



## France: Bats and bogs benefit from LIFE in the Rhône-Alpes

LIFE projects can help Member States generate multiple benefits for habitats and species in protected areas. This is demonstrated well by a multi-pronged project from southern France.

Many of Europe's peat bogs have been drained to improve their economic potential for grazing or timber planting. Such practices can adversely affect bog biodiversity as well as lead to the loss of carbon greenhouse gases when soils dry out and erode. Numerous LIFE projects are co-financing efforts to reverse these habitat degradation trends. An excellent example of this work can be found in southern France on the Plateau de Montselgues in Ardèche.

Forming part of the Rhône Alpes region, this plateau hosts an important "active raised bog" habitat that is protected by the EU Habitat's Directive. Other valuable nature conservation features in the surrounding area include dry heathland habitats, whilst populations of four bat species rely on the plateau's abandoned mining sites for roosting and breeding. The LIFE Plateau de Montselgues project set out to establish a co-ordinated continuous programme of habitat support work in order to secure a sustainable future for the plateau's wildlife.

### BOG AND BAT CONSERVATION

The project began by drawing up a management plan for a package of habitat improvement measures over 300 ha of peatland. These measures involved re-wetting the raised bog and removing patches of forest and scrubland to prevent trees and shrubs soaking up water. In other parts of the plateau, trees were removed more selectively and thinned to reconnect and enhance the functionality of wetland habitats. Seven different wildlife corridors were created using this

method which resulted in the restoration of 13.5 ha of peatland.

Local land managers played crucial roles in realising the LIFE plans and farmers in particular took an active interest in the conservation work. Four agricultural businesses plus the regional Chamber of Agriculture and Conservation worked closely with the LIFE project team to identify practical agri-environmental solutions for sustainable land use on the plateau. Various techniques were tested to determine options that provided both income earning opportunities for farmers and nature conservation benefits for wildlife.

The full impact of experiments in different mowing, burning and grazing systems are still being assessed by the LIFE project partners and initial results indicated that the techniques used can be replicated in similar environments elsewhere. Technical guidelines and reference sheets were produced for this purpose, and are available to help farmers choose adequate management techniques in heath and peatland areas.

Other transferable best practice gained by the LIFE project relates to its work with the plateau's bat populations. These

Monitoring the recovery of dry heathland vegetation



Photo: CREN Pascault B.

were threatened by plans to close mining sites that supported, among others, the region's largest hibernation colony of lesser horseshoe bats (*Rhinolophus hipposideros*). Intensive negotiations with mine owners and public safety authorities led to an innovative agreement that has made the mine caves inaccessible to people but still suitable for bats.

Experiences from these win-win wildlife outcomes for the plateau bogs and bats have helped inform the development of biodiversity policy at national level, and the project's Best award has in part been attributed to this type of LIFE legacy.



**Project number:** LIFE05 NAT/F/000135

**Title:** Life plateau de Montselgues - Preservation of the heathlands, peatlands and bats of Montselgues

**Beneficiary:** Conservatoire Rhône-Alpes des Espaces Naturels - Antenne Drôme-Ardèche

**Contact:** Laurence Jullian

**Email:** laurence.jullian@espaces-naturels.fr

**Website:** www.life-montselgues.eu/spip.php?rubrique1

**Period:** Oct-2005 to May-2010

**Total budget:** €465 000

**LIFE contribution:** €232 000

## Romania: Helping increase Dalmatian pelican numbers

A significant population of the endangered Dalmatian pelican is found in the Danube Delta. A LIFE project has contributed to a large increase in numbers of breeding pairs as well as to the long-term survival of the species in Europe.

Within its entire geographical range, from the Balkans to Mongolia, the Dalmatian pelican (*Pelecanus crispus*) is classified as vulnerable on the IUCN Red List. Romania is home to one of the last remaining strongholds of the species; the Danube Delta population, which was targeted by the LIFE *Pelecanus crispus* Romania project (LIFE05 NAT/RO/000169), represented around one-third of the European population outside the former Soviet Union.

The Dalmatian pelican breeds in five colonies, all located within the Danube Delta Biosphere Reserve. The LIFE project was established to help protect and increase the number of breeding pairs by tackling disturbances and mortalities caused by anglers and hunters, as well as habitat degradation. Greater breeding success would also be achieved by increasing areas for breeding; consolidating islands; and managing reeds to ensure larger habitat areas (i.e. through prevention of access to colonies, permanent patrolling and monitoring).

### MORE BREEDING PAIRS FOUND

The project team installed artificial structures (an underwater wood protection wall, mobile platforms and a 350 m<sup>2</sup> fixed platform) to create 47 additional pelican breeding units. A total of 150 markers on electric lines are now limiting the number of fatalities caused by collisions; the installation of six information boards, 12 warning signs and marker buoys close to the pelican colonies is minimising human disturbance; and a fence has been constructed at one site (Biseriçuța) to reduce

predation by wild boars. Moreover, the knowledge of wardens and the general public was improved through awareness activities and the production of comprehensive dissemination materials. More than 140 stories about the project appeared in the local and national media.

Extensive monitoring activities (including the use of a microlight plane to survey inaccessible islands in the delta) revealed that the project actions have helped stabilise the breeding populations of three sites, and increase the population of two sites (Rosca-Buhaiova and Ceaplace island). In 2009, a 10-year high in the number of breeding pairs was recorded on Ceaplace, with a 28% increase on the Dalmatian pelican population before the LIFE project.

One important aspect of the awareness-raising activities was the involvement of hunters, fish-farmers and fishery managers, who attended a meeting in November 2006 on the most favourable management techniques for biodiversity in general and the Dalmatian pelican in particular. This know-how was also included in a brochure targeted at the fish-farming industry.

Another positive outcome of the project was the designation of all six breeding sites covered as Natura 2000 network Special Protection Areas (SPAs). However, the approval of the main strategic documents for future conservation management – a management plan, designation of the sites as core areas within the Danube Delta and a national action plan – is still pending.



Pelican colony sign and wardens



**Project number:** LIFE05 NAT/RO/000169

**Title:** Pelecanus crispus Romania - Saving Pelecanus crispus in the Danube Delta

**Beneficiary:** Danube Delta Biosphere Reserve Authority

**Contact:** Grigore Baboianu

**Email:** arbdd@ddbra.ro

**Website:** www.dalmatianpelican.ro

**Period:** Nov-2005 to Sept-2009

**Total budget:** €657 000

**LIFE contribution:** €493 000



## Sweden: Back to nature for Östergötland's agricultural landscape

Thanks to LIFE Nature, 41 Natura 2000 sites tied to the agricultural landscape of the county of Östergötland have been successfully restored and managed.

The county of Östergötland in the south of Sweden holds a considerable proportion of the country's natural hay meadows and grazed pastures. It is also an important region for many species connected with old oaks. These old, often hollow, trees host a myriad of insects, lichen and moss species. For example, the largest populations of the rare and endangered hermit beetle (*Osmoderma eremita*) - listed as a priority species for conservation in the annexes of the Habitats Directive - are in Östergötland (the species is found in eight of the 41 targeted sites).

The LIFE ROSORIS project focused on sites in Östergötland with habitats that, for various reasons, did not satisfy the "good conservation status" requirement of the EU Habitats Directive when the project started in 2005. In most cases, traditional grazing and haymaking had decreased or entirely ceased. There was an urgent need for conservation measures in these areas as, without traditional use, such fields are soon taken over by

*Tilia* trees pollarded by the project

scrub and invasive grasses and sedges. Before long, the once rich enclosed pastures turn to forest.

### BREAKING THE CHAIN

Provided that such 'overgrowth' has not gone too far, it is possible to break the negative development. Detailed, individual working plans were first drawn up by Östergötland's county administrative board (the beneficiary) for each of the 41 sites. Various measures addressing the natural meadows, wooded pastures and shore meadows typical of extensive agricultural landscapes were then implemented, depending on the situation at each site.

For example, many old worn-out fences to enclose pastureland were removed and replaced with new fencing on 80 km. Bushes and trees were cleared away for grazing and haymaking on 425 ha. And, after discussions with landowners and livestock owners, grazing by horses and cattle was resumed on 392 ha. Natural hay meadows were also restored on 6 ha and shore/littoral meadows over 252 ha. This was only just over half the area originally foreseen by the project because some meadows were actually in better condition than expected and specific interventions were not required.

To encourage wildlife, pollarding of old deciduous trees, including 15 old lime trees (*Tilia*) and two ash trees (*Fraxinus*), was resumed at two sites. Some 160 young oak trees, of around 3m in height, were also planted in three strategic areas to provide old trees in the future. A group of experts from the UK assisted

with some of the pollarding activities and contributed to techniques and best practices.

Importantly, much of the project area has been successfully entered into Sweden's agri-environmental support scheme. As of 2010, 30 of the project sites were covered by the system, which will support and ensure the continued traditional use of these sites. Money for the remaining 11 sites is also assured from funding for the management of valuable habitats.

Finally, all the sites have now either already achieved favourable conservation status or are expected to achieve it naturally as the flora and fauna develop over time.



SWEDEN

**Project number:** LIFE05 NAT/S/000108  
**Title:** Natural meadows and pastures of Östergötland - restoration and maintenance  
**Beneficiary:** Länsstyrelsen Östergötland  
**Contact:** Dan Nilsson  
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**Website:** www.lansstyrelsen.se/ostergotland/amnen/naturvard/aktuellaoprojekt/rosoris.htm  
**Period:** Jan-2005 to Dec-2009  
**Total budget:** €2 159 000  
**LIFE contribution:** €1 079 000



Photo: Leif Lindgren

## Denmark: Measures to protect meadow bird habitats

Habitat loss is a major threat to meadow birds, whose populations have declined across Europe in recent decades. This Danish project demonstrated effective habitat restoration measures.

Many meadow bird species have suffered a serious decline in numbers in Denmark since the 1970s. This has primarily been caused by the loss of suitable breeding sites: Only 25% of breeding sites for dunlin (*Calidris alpina schinzii*) and 15% of breeding sites for ruff (*Philomachus pugnax*) remain from that time. The Danish Ministry of Environment has adopted a national action plan for meadow birds covering 25 Special Protection Areas (SPAs).

As part of the proposed implementation of the action plan, the LIFE REMAB project (LIFE06 NAT/DK/000158) was set up to restore or enhance the conservation status of four key sites for dunlin and ruff. This also meant restoring to favourable conservation status associated habitat types listed in the Habitats Directive: Atlantic salt meadows; hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.; as well as improving habitats for the great bittern (*Botaurus stellaris*), black tern (*Chlidonias niger*) and spotted crane (*Porzana porzana*).

Specific actions would set out to make the hydrological conditions in the project areas more suitable for meadow birds; reduce the threat of predation, especially from foxes; restore habitats through tree, scrub and reed removal; and improve and facilitate meadow bird-friendly management of the target sites.

### WIDE-RANGING BENEFITS

The project was highly successful in achieving these objectives. Improvements in the hydrological conditions of

the targeted habitats for the meadow birds were achieved at all four sites, covering a total area of some 1 900 ha. Trees and reeds were cleared from 220 ha of wet grasslands and 18 ha of Atlantic salt meadows.

Actions were taken to reduce eutrophication and thus improve water quality on 975 ha of the water bodies supporting algae *Chara* spp. This action targeting water vegetation also helped to improve the breeding and feeding habitats for other meadow bird species, notably for the bittern and black tern at the Vestlige Vejler project site.

Another significant result of the project was the introduction of appropriate grazing regimes on some 900 ha of preferred habitat. To control predators at the Nyord and Vestmager sites, 25 artificial fox dens were created and a fox-blocking gate installed on a bridge.

Public access for birdwatching was improved through the construction of a 5 km footpath and an observation platform at Vestmager. In addition, more than 60 nature managers from Finland, Germany, Greece, Norway, Sweden and the UK attended a seminar to share experiences on improving conditions for meadow birds.

Although the various actions taken have not yet successfully stopped the decline in numbers of breeding meadow birds at the four project sites, it is hoped that there will be a notable positive long-term effect. Funding for the installations established during the REMAB project will continue at



Ruff - one of the bird species helped by this project

national level after LIFE and actions plans for all four sites are set to be drafted in 2011 for implementation in 2012.



DENMARK

**Project number:** LIFE06 NAT/DK/000158  
**Title:** REMAB - Restoration of Meadow Bird Habitats  
**Beneficiary:** Skov- og Naturstyrelsen  
**Contact:** Henning Fjord Aaser  
**Email:** henfa@sns.dk  
**Website:** www.skovognatur.dk/Naturprojekter/Projekter/Vestjylland/Engfugle/  
**Period:** Jan-2006 to Dec-2009  
**Total budget:** €1 429 000  
**LIFE contribution:** €714 000



# Spain: LIFE restores important wetlands by a historic canal

The drainage and disturbance of wetlands alongside the Castile Canal ("Canal de Castilla") in northern Spain has put these important habitats and their protected bird species under threat. This LIFE project has carried out restoration works and implemented a management plan to guarantee the continuing conservation of both species and habitats.

The Canal de Castilla is a 207 km-long canal built in the 18<sup>th</sup> century to connect the Castilian plains with the sea. In the 20<sup>th</sup> century the canal fell into disuse and became a haven for wildlife: the area covered by the canal includes La Nava-Campos Norte and La Nava-Campos Sur: two special protected areas (SPAs) that are of great importance for the steppe birds of Palencia province.



The conservation status of the wetlands has been improved thanks to the actions of this LIFE Nature project

The canal is also connected to a series of 35 ponds on its banks. These wetlands, which include three SPAs and one SCI, are of particular importance for the conservation of the bittern (*Botaurus stellaris*) and aquatic warbler (*Acrocephalus paludicola*), as well as other species listed in Annex I of the EU Birds Directive.

However, in recent decades the wetlands have come under threat of destruction or serious alteration from drainage and water extraction projects, the burning of marsh vegetation, illegal hunting and fishing, the presence of invasive alien species such as the American mink (*Mustela vison*) and general ignorance and neglect.

## LIFE FUNDS RECOVERY

The aim of the Canal de Castilla project (LIFE06 NAT/E/000213) was to implement a programme for the recovery, management, and monitoring of the 35 small wetlands connected to the Canal de Castilla. Results show that the project has had a positive effect on the wetlands' conservation condition. Hydrological restoration of drained wetlands (e.g. by building inlets) has improved the water level of 13 ponds.

Reforestation of the banks of 30 wetlands with typical tree species such as willow (*Salix sp.*) and the management (mowing) and diversification of marsh vegetation on 14.1 ha have improved the habitat for target bird species of priority conservation. Invasive flora and fauna species were identified by the project team and 220 American mink were captured, giving native species such as the European polecat (*Mustela putorius*) a chance to recover.

Annual monitoring revealed the importance of the project areas as a breeding and feeding site for the purple heron (*Ardea purpurea*) and marsh harrier (*Circus aeruginosus*) and as a stopover point for the bittern. Radio tracking of marsh harriers and purple heron provided crucial information about how the two species use the wetland habitats and the threats they face. Furthermore, ringing and monitoring of marsh passerine species, particularly the aquatic warbler, showed the importance of ensuring wetlands have correct water levels and appropriate vegetation.

To ensure the long-term conservation of the Canal de Castilla's wetlands, the project engaged in extensive dissemination

activities targeting tourists and the local community, especially its schoolchildren.

Perhaps most importantly, the project drew up the Canal de Castilla Wetlands Management Plan to establish proactive and preventive actions needed ensure the habitats, species and ecological processes have a favourable conservation status. The plan, which covers a six-year period, will be implemented by all the public administrations involved in the LIFE project. Together with the participation of private entities such as the Global Nature Fund, this will guarantee the continuity of the management actions that began with LIFE.



**Project number:** LIFE06 NAT/E/000213  
**Title:** Canal de Castilla - Wetland restoration and management: Canal de Castilla Special Protection Area  
**Beneficiary:** Fundación 2001 Global Nature  
**Contact:** Fernando Jubete Tazo  
**Email:** fjubete@fundacionglobalnature.org  
**Website:** <http://www.lifecanaldecastilla.org/lifecanal/>  
**Period:** Oct-2006 to Sept-2010  
**Total budget:** €1 593 000  
**LIFE contribution:** €637 000



## Available LIFE Nature publications

### LIFE Focus Nature brochures

**LIFE preventing species extinction: Safeguarding endangered flora and fauna through ex-situ conservation** (2011 - 60 pp. - ISBN 978-92-79-20026-7)

**LIFE and European Mammals: Improving their conservation status** (2011 - 60 pp. - ISBN 978-92-79-19266-1)

**LIFE building up Europe's green infrastructure** (2010 - 60 pp. - ISBN 978-92-79-15719-6)

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### Other publications

**Nature & Biodiversity Projects 2010 compilation** (2011, 71pp. - ISBN 978-92-79-20031-1)

**Nature & Biodiversity Projects 2009 compilation** (2010, 91pp. - ISBN 978-92-79-16139-1)

**Best LIFE Nature Projects 2009** (2010 - 44pp. - ISBN 978-92-79-16826-0)

**Nature & Biodiversity Projects 2008 compilation** (2009, 87pp. - ISBN 978-92-79-13426-5)

**Best LIFE Nature Projects 2007-2008** (2009 - 48 pp. - ISBN 978-92-79-13746-4)

**Nature & Biodiversity Projects 2007 compilation** (2009, 67 pp. - ISBN 978-92-79-12257-6)

**Learning from LIFE: Nature conservation best practices** (2008 - 68 pp. - ISBN 978-92-79-11635-3)

A number of LIFE publications are available on the LIFE website: <http://ec.europa.eu/environment/life/publications/lifepublications/index.htm>

A number of printed copies of certain LIFE publications are available and can be ordered free-of-charge at: <http://ec.europa.eu/environment/life/publications/order.htm>





**LIFE+** “L’Instrument Financier pour l’Environnement” / The financial instrument for the environment

**Period covered (LIFE+)** 2007-2013.

**EU funding available** approximately EUR 2 143 million

**Type of intervention** at least 78% of the budget is for co-financing actions in favour of the environment (LIFE+ projects) in the Member States of the European Union and in certain non-EU countries.

#### LIFE+ projects

- > **LIFE Nature projects** improve the conservation status of endangered species and natural habitats. They support the implementation of the Birds and Habitats Directives and the Natura 2000 network.
- > **LIFE+ Biodiversity projects** improve biodiversity in the EU. They contribute to the implementation of the objectives of the Commission Communication, “*Halting the loss of Biodiversity by 2010 – and beyond*” (COM (2006) 216 final).
- > **LIFE+ Environment Policy and Governance projects** contribute to the development and demonstration of innovative policy approaches, technologies, methods and instruments in support of European environmental policy and legislation.
- > **LIFE+ Information and Communication projects** are communication and awareness raising campaigns related to the implementation, updating and development of European environmental policy and legislation, including the prevention of forest fires and training for forest fire agents.

**Further information** further information on LIFE and LIFE+ is available at <http://ec.europa.eu/life>.

**How to apply for LIFE+ funding** The European Commission organises annual calls for proposals. Full details are available at <http://ec.europa.eu/environment/life/funding/lifeplus.htm>

#### Contact

European Commission – Directorate-General for the Environment  
LIFE Unit – BU-9 02/1 – B-1049 Brussels – Internet: <http://ec.europa.eu/life>

#### LIFE Publication / Best LIFE Nature Projects 2010

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