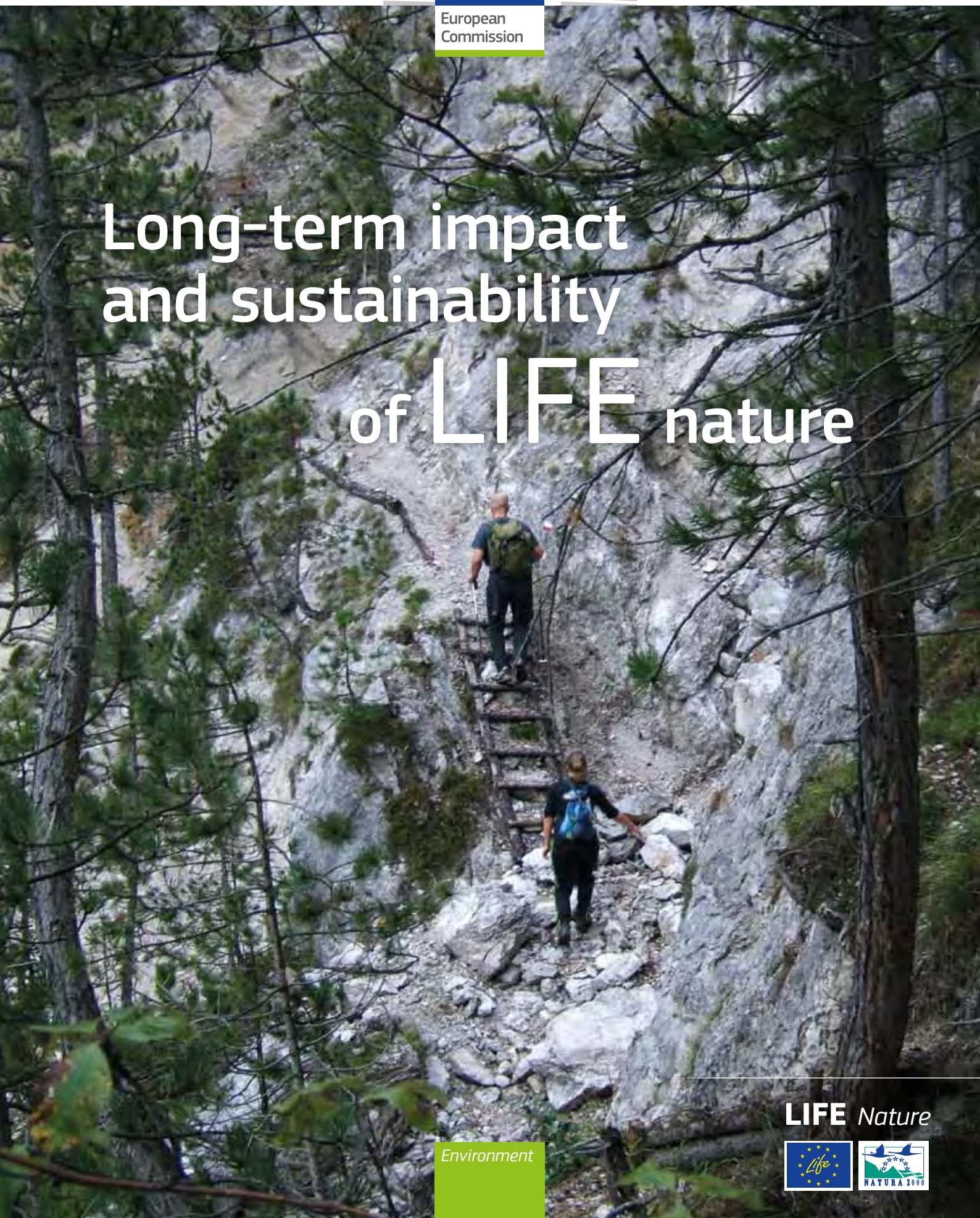
European Commission

# Long-term impact and sustainability of LIFE nature



LIFE *Nature*

*Environment*

EUROPEAN COMMISSION
ENVIRONMENT DIRECTORATE-GENERAL

**LIFE** ("*The Financial Instrument for the Environment*") is a programme launched by the European Commission and coordinated by the Environment Directorate-General (LIFE Units - E.3. and E.4.).

The contents of the publication "Long-term impact and sustainability of LIFE Nature" do not necessarily reflect the opinions of the institutions of the European Union.

**Authors**: João Pedro Silva (Nature and Biodiversity Senior Expert) and John Houston (ASTRALE GEIE-HT-SPE UK), Justin Toland (Editor), Wendy Jones, Jon Eldridge, Ed Thorpe, Simona Bacchereti, Christophe Thévignot (ASTRALE GEIE-AEIDL, Communications Team Coordinator) **Managing Editors**: Angelo Salsi (Head of unit LIFE E.3, Environment DG, European Commission) **LIFE Focus series coordination**: Simon Goss (LIFE Communications Coordinator), Valerie O'Brien (DG Environment Communications Coordinator). **Technical assistance**: Ainhoa Darquistade, Aixa Sopeña, Alberto Cozzi, Anne Simang, Audrey Thénard, Bent Jepsen, Camilla Strandberg, Christina Marouli, Claudia Pfirrmann, Cornelia Schmitz, Darline Velghe, Donald Lunan, Emmanuelle Brunet, Georgia Valaoras, Iñigo Ortiz de Urbina, Isabel Silva, Iva Rossi, Ivan Norscia, Jan Silva, Jean-Paul Herremans, João Salgado, Jorg Böhringer, Katerina Raftopolou, Ľuboš Halada, Luule Sinnisov, Lynne Barratt, Mariateresa Calabrese, Maud Latruberce, Michele Lischi, Neil Wilkie, Peter Gajdos, Rolands Ratfelders, Ruth Brauner, Thomas Mayer, and Eric Evrard (Astrale GEIE). **The following people also worked on this issue**: Maja Mikosińska (Environment DG, LIFE Nature Unit) **Production**: Monique Braem (ASTRALE GEIE-AEIDL). **Graphic design**: Daniel Renders and Anita Cortés (ASTRALE GEIE-AEIDL). **Photos database**: Sophie Brynart (ASTRALE GEIE-AEIDL). **Acknowledgements**: Thanks to all LIFE project beneficiaries who contributed comments, photos and other useful material for this report. Photos: Unless otherwise specified; photos are from the respective projects. Cover photo: LIFE04 NAT/IT/000190

HOW TO OBTAIN EU PUBLICATIONS

**Free publications:**
- via EU Bookshop (http://bookshop.europa.eu);
- at the European Commission's representations or delegations. You can obtain their contact details on the Internet (http://ec.europa.eu) or by sending a fax to +352 2929-42758.

**Priced publications:**
- via EU Bookshop (http://bookshop.europa.eu).

**Priced subscriptions (e.g. annual series of the Official Journal of the European Union and reports of cases before the Court of Justice of the European Union):**
- via one of the sales agents of the Publications Office of the European Union (http://publications.europa.eu/others/agents/index_en.htm).

Europe Direct is a service to help you find answers to your questions about the European Union.
Freephone number (*): 00 800 6 7 8 9 10 11

(*) Certain mobile telephone operators do not allow access to 00 800 numbers or these calls may be billed.

More information on the European Union is available on the Internet (http://europa.eu).
Cataloguing data can be found at the end of this publication.

Luxembourg: Publications Office of the European Union, 2014

ISBN 978-92-79-34698-9
ISSN 2314-9329
doi:10.2779/65091



*Printed in Luxembourg*

Printed on recycled paper that has been awarded the EU Ecolabel (http://ec.europa.eu/ecolabel/)

# Foreword

**Angelo Salsi**
*Head of LIFE Nature Unit*
*Directorate-General*
*Environment*
*European Commission*

The end of the EU's Multiannual Financial Framework for 2007-2013 seems like an appropriate moment to take stock of the achievements of the LIFE programme to date.

Assessing the long-term impact of LIFE Nature projects and the programme's wider impact on nature conservation, implementation of the EU Birds and Habitats directives and the establishment and functioning of the Natura 2000 network is no easy task. Over 1 400 such projects have taken place since 1992 and available resources limit our ability to conduct an in-depth follow-up of every single project after LIFE.

Ex-post reports by nature conservation experts provide the best means of getting an idea of the bigger picture, however incomplete. To date more than 90 ex-post missions have been carried out by the LIFE programme's external monitoring team. Following the advice of the EU Court of Auditors - which itself has visited over 30 LIFE Nature projects - missions are typically conducted at random, giving an unbiased snapshot of the programme's impact as a whole.

And what the available evidence illustrates is that LIFE does have a positive impact: most beneficiaries continue to pursue project actions and aims after LIFE funding ends and the majority of LIFE Nature projects assessed have been shown to be sustainable.

Much of this is the result of good project design and the work of LIFE projects in promoting dialogue and creating lasting stakeholder partnerships. LIFE also has helped to build conservation capacity across Europe – especially important in newer Member States as our case studies from Romania and Slovenia illustrate (see pp. 33-37). In addition, projects have an incentive value in attracting additional funding through the EU Rural Development Programme, INTERREG and so on.

This latter achievement is set to be strengthened in the next Multiannual Financial Framework, with the adoption by the European Parliament and European Council of a regulation that establishes the Environment and Climate Action sub-programmes of the LIFE programme for 2014-2020, with a total budget of €3.4 billion. Significantly, this includes financial support for a new category of jointly-funded 'Integrated Projects' that will operate on a large territorial scale and, through their actions, integrate the aims of environmental and climate policy into other policy areas. With nature and biodiversity confirmed as one of the priority areas of the Environment strand of the new LIFE, it is clear that lessons learned from ex-post evaluations of LIFE Nature projects to date have been taken on board to ensure that the LIFE programme will be stronger, more relevant and hopefully even more successful from 2014-2020.

# Table of contents

INTRODUCTION

# LIFE's not over at project's end

**Nature conservation is a long-term task, yet most LIFE Nature projects only run for a few years. In spite of their short duration (in nature terms) a series of follow up or 'ex-post' studies of projects shows that their impact continues well beyond closure.**

Photo: LIFE09 NAT/PL/000254/Olimpiusz WERNHRYNOWICZ

Since 1992, and up to the end of 2012, the European Union has supported 1 424 LIFE Nature projects with a total budget of €2.75 billion.

The LIFE Nature programme was established to assist with the implementation of EU nature conservation and biodiversity policy and, in particular, the establishment, protection and management of the Natura 2000 network. From the start, LIFE Nature projects were intended to be intensive interventions to address particular problems or threats; and to have an impact beyond the project period either through incentives, or transfer of good practice. Thus, projects were designed to give impetus to nature conservation programmes and improve their long-term success.

LIFE Nature projects generally run for three-to-five years and are usually designed to meet an 'overall objective' - normally an EU-wide goal - by improving the conservation status of targeted species, habitats and Natura 2000 network sites (as foreseen in the Habitats and Birds directives). The project then sets its own objectives, actions and expected results. It also outlines how it will disseminate the results achieved.

Project beneficiaries are not obliged to sustain the project activity after its end. Nevertheless, projects are obliged to prepare 'After-LIFE' plans, which were introduced in the LIFE III programme (2000-2006) to encourage projects to address sustainability (see box on p.4). These oblige beneficiaries to set out how they will continue to develop and promote the project after completion and they form part of the final report. These reports include sections on sustainability and continuation of activities and identification of long-term monitoring indicators that

## LIFE Nature projects after LIFE requirements and follow-up (as of 2005)

- Obligation on all LIFE Nature projects to produce After-LIFE conservation plans and include these in final reports (although there is no obligation to deliver the proposed activities).
- Requirement to maintain project websites for five years after closure (although there is no obligation to add to the information, so many just go into 'hibernation'). Older projects had no obligation to maintain the website beyond the end of the project.
- Requirement for beneficiaries to evaluate the success of their own project in their final report (following guidelines provided by European Commission).
- Evaluation of the final report by the external monitoring team (including expected long-term impacts).
- Introduction of limited (randomly selected) ex-post project visits missions (currently 20 Nature project visits per year).
- Results published in LIFE web summary – publicly available via the LIFE project database (However, results are not updated following ex-post visits).


highlight elements of importance to be checked to make a realistic assessment of the project's likely sustainability, as well as its impact.

However, the success of a LIFE Nature project can only really be evaluated by going back some years after its end (ex-post) to look at its long-lasting impact, particularly as there is no obligation to implement after-LIFE plans. Ex-post evaluation is the best means of assessing the extent to which the plans have been put into action.

### Previous studies

In 2001, the publication 'Life after LIFE'[1] was the first in-depth look at the sustainability of nine LIFE Nature projects funded under LIFE I (1992-1995). It shows that LIFE was designed to be a catalyst, to be introduced beyond the stage of basic research and study but still at an early stage before large-scale investments would be used.

*1 http://ec.europa.eu/environment/life/publications/lifepublications/generalpublications/documents/lifeafterlife.pdf*

The report summarised the programme aims as:

- **Pump-priming** initial investment costs that make long-term conservation more affordable;
- **Promoting dialogue** with other land users to find ways to conserve an area to the mutual benefit of all, or at least not to the detriment of one or the other;
- Providing high-profile **demonstration models** of how conservation objectives for particular habitats and species can be achieved in practice; and
- Developing **best-practice** methods that can initiate larger-scale and longer-term programmes.

In the 'Life after LIFE' study, projects' success was judged by an assessment of the context in which they had to operate, the threats they were addressing, and the follow up actions after LIFE funding stopped. Success of a project was measured in terms of:

- **Conservation benefit**: Whether the site was in better condition than it was at the start, whether the threats had been contained, whether the habitat/species showed signs of recovery, whether there were better protection and management systems in place etc.;

- **Demonstration value**: Whether the project developed an innovative technique that could be applied elsewhere, whether the project encouraged others to develop similar projects etc.;
- **Incentive value**: Whether the project succeeded in attracting additional funding, whether it kick-started long-term management programmes (e.g. under agri-environment schemes), whether it led to the integration of conservation with other policy sectors etc.; and
- **Socio-economic influence**: whether the project had an influence on the local community and stakeholders, whether these groups were more aware of the conservation needs, whether they were more sympathetic, whether they had benefited from the results etc.

The study distinguished between common denominators and elements of success. Common denominators were i) the initial motivation behind the project and ii) the continuation of project activity beyond the EU co-funding period; elements of success were grouped under the categories of project design, capacity building, relations with local community and interest groups, long-term funding and networking.

In 2003, a mid-term evaluation of the LIFE III programme was carried out[2]. One of the recommendations was that: "LIFE Projects should be systematically followed up several years after completion to facilitate evaluation of sustainability and how much replication was possible."

As a result, the LIFE external monitoring team assessed a second set of 24 projects in 2007 and 2008. This highlighted the value of systematic 'ex-post' studies. And in 2009, the European Commission, responding to a report carried out by the European Court of Auditors on the sustainability and management of LIFE Nature projects (see box), confirmed that 'ex-post' evaluation would become normal practice.

## Developing a methodology

Ex-post monitoring has both a project and a programme dimension. The project dimension assesses whether design and implementation was right and whether the habitats and species targeted are in a better state than at the start. The programme element finds common elements of success, or of difficulty, across a sample of projects, with the projects themselves providing case studies.

A questionnaire-based methodology was piloted for the ex-post evaluation of 24 projects from 2006-2008 and in some cases the answers were provided directly by the beneficiary. The assessments included information on dissemination, replication of project results, capacity building, impact and sustainability.

*2 AEA Technology (2003) http://ec.europa.eu/environment/life/funding/life3/background/documents/lifemidtermevaluation_en.pdf*

Photo: LIFE00 NAT/EE/007083

*Fieldwork during the EE Coastal Meadows project in Estonia, one of more than 120 LIFE Nature projects to have received an ex-post visit*

| Table 1 - **The effects of LIFE Nature projects** | | | | | |
|---|---|---|---|---|---|
| | | | **Short-term** | **Medium-term** | **Long-term** |
| **Inputs** | **Activities** | **Outputs** | **Results** | **Outcomes** | **Impacts** |
| Funds / resources available to support planned activities | Things you do- activities you plan to conduct to achieve desired outcomes | Count of products and / or services delivered, e.g. workshops, publications, demonstrations | Change in:<br>Knowledge<br>Skills<br>Awareness<br>Attitude<br>Motivation | Change in:<br>Behaviours<br>Practices<br>Policies<br>Procedures | Change in:<br>Situation<br>Environment<br>Economic conditions<br>Social conditions |

In response to the Court of Auditors' report, the Commission - with the assistance of the Astrale external monitoring team - developed a revised ex-post monitoring methodology in 2009. The depth of study was increased by making contact with stakeholders and seeking different perspectives on project success. As well as the ad-hoc selection of projects a number of thematic studies were carried out.

## The Court of Auditors' report

The sustainability of LIFE projects is a concern of the EU Court of Auditors. In 2007*, the Court of Auditors evaluated 35 projects in terms of issues concerning selection procedure, implementation, dissemination and long-term management. The report concluded that, "Although significant progress has been made since the introduction of LIFE in 1992, there is still room for improvement in the Commission's management and control systems to obtain an assurance that the conservation measures financed by the EU better meet their objectives and are sustained after the project EU financing."


With regard to long-term management of the project results, the report stated that, "Since in most cases the results (outcomes) of the projects financed can only be perceived after final payment on the projects and there is no ex-post follow-up procedure established for assessing the effectiveness of the actions financed, the Commission has little information in this respect. Accordingly, there is a need to establish a set of appropriate indicators for evaluating the results achieved."

Therefore, under the LIFE+ programme funding period (2007-2013) the Commission introduced project 'output indicators' to collect this information. These are proposed by project applicants and the final outputs are used as a measure of overall success. Although an ex-post visit can re-check project outputs, its main focus is on outcomes and impacts.

** The sustainability and the Commission's management of the LIFE Nature projects' (Special Report No 11/2009)*

These thematic studies looked at the impact of projects in Spain concerned with the Spanish Imperial eagle (see pp. 16-19), the value of supporting several projects with one beneficiary, the contribution of LIFE projects on large carnivores to EU conservation objectives and case studies of projects addressing endangered plant species.

Since 2009, ex-post evaluations seek to measure the success of projects in six main categories: relevance of design, quality of design, efficiency, effectiveness, impact to date and sustainability to date.

Whilst the focus of the ex-post monitoring is primarily directed at aspects of sustainability, it also looks at short-term results, intermediate outcomes and longer-term impacts. These can be grouped under the definition of 'effects'[3] (see Table 1).

This current ex-post monitoring methodology includes sections on:

- **Relevance and design**: The appropriateness of project objectives to the problems, and to the physical and policy environment within which it operated;
- **Efficiency**: The fact that project results have been achieved at reasonable cost, i.e. how well inputs/means have been converted into activities, in terms of quality, quantity and time, and the quality of the results achieved;
- **Effectiveness**: The contribution made by results to achievement of the project purpose, and how assumptions have affected project achievements;
- **Impact**: The effect of the project on its wider environment, and its contribution to the wider policy or sector objectives (as summarised in the project's Overall Objective); and
- **Sustainability:** The likelihood of benefits produced by the project continuing to flow after external funding has ended, with particular

*3 'Study on the establishment of indicators to assist the monitoring of measures financed by LIFE+' (EPEC & GHK Consulting 2007).*

Figure 1. **How ex-post monitoring works**

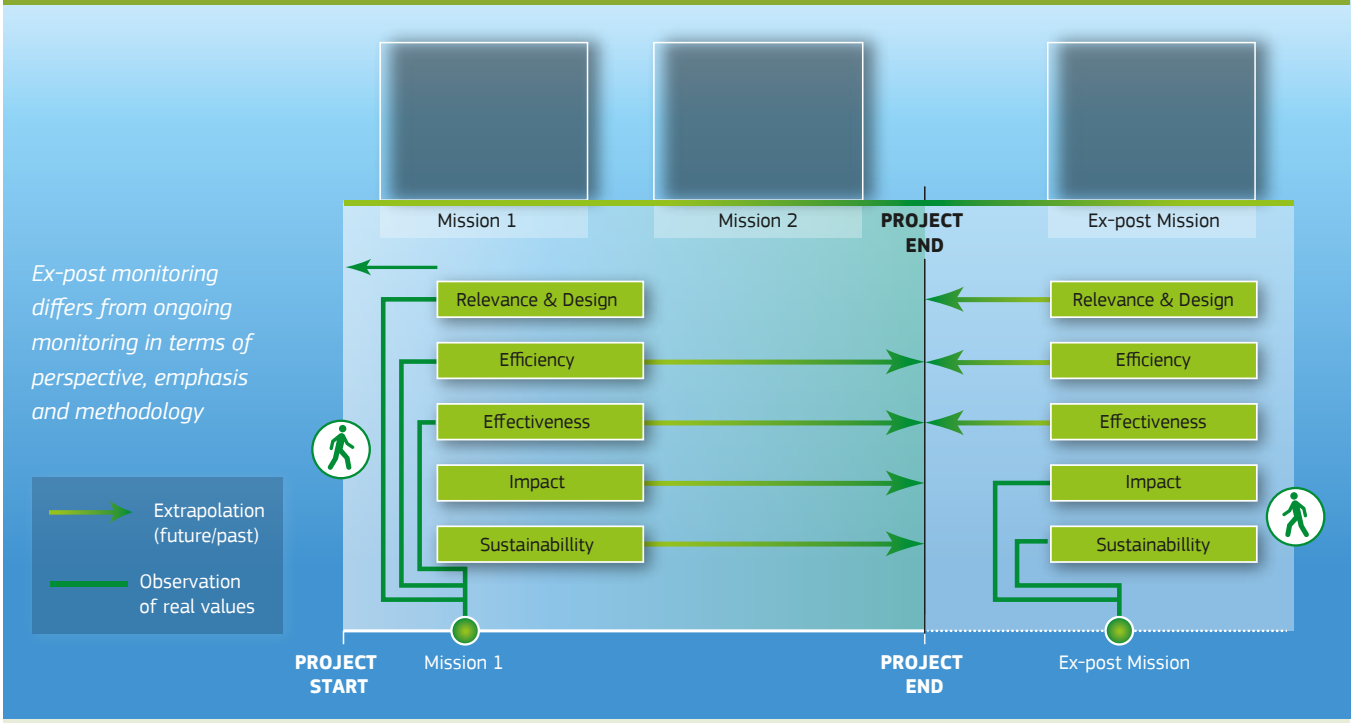



Figure 1 shows the changes of perspective from Mission 1 where the initial situation can be seen (i.e. raised bogs damaged by drainage and afforestation), Mission 2 where work is underway and actions can be assessed (i.e. removal of conifers and ditch blocking) and the ex-post visit where the success of the longer term objectives can be assessed (i.e. reactivation of bog-forming processes).

In an active project, whilst the criteria of relevance, efficiency and effectiveness can be assessed, the criteria of impact and sustainability are generally not yet evident. Consequently, any assessment from this point of view is based on opinion rather than on observation.

An ex-post monitor faces a different situation in terms of the quantity and quality of information available. Where the visit is several years after project completion the monitor can, for the first time, assess the impact and sustainability of the project. At that stage, efficiency and effectiveness are no longer measureable as real values, but can be assessed retrospectively.

The change in perspective between ongoing and ex-post monitoring also allows the quality of the design to be assessed with the benefit of hindsight as a measure of the project's overall success. Contact with project stakeholders is an important aspect of an ex-post visit as it helps build a more comprehensive picture of sustainability and impact.

reference to factors of ownership by the beneficiary and partners, policy support and other concerned stakeholders, economic and financial factors and institutional and management capacity.

The ex-post studies assessed the extent to which benefits continued after the project with reference to the sustainability of outputs and results (to what extent were the results of the project still current, relevant or used), specific objective and overall objective, environmental sustainability (e.g. green jobs), project sustainability (maintenance of project structure or way of working) and dissemination. Sustainability includes the project 'legacy': to what extent have relevant bodies continued to support the project, whether sufficient capacity (technical and financial) was developed to continue the work and whether stakeholders still benefit from the project results.

## 'Highly relevant'

The overall conclusion from the most recent (2009-2013) ex-post exercise is that the LIFE Nature programme is proven to be highly relevant in supporting EU nature policies, projects are generally effective and that their impact and sustainability is high.

An ongoing study[4] re-confirms a number of common elements and success factors already identi-

4 *'Synthesis of ex-post evaluations of LIFE projects 2009-2013' ( Astrale Internal Report to EC)*


Photo: LIFE00 NAT/A/007055/Klaus Krainer

*This series of three photos shows the results of water engineering measures to create a meadow pond at one of the sites of the LIFE Schütt-Dobratsch project in Austria: the first image (February 2003) shows the work in progress; the second photo shows the site four months later when work is completed; the third photo shows the situation eight years later – habitat recovery*

fied in previous reviews of LIFE projects. The initial motivation for preparing a project remains high and objectives are well described. In many examples LIFE is much more than simply a co-financing instrument. LIFE projects have been used to meet urgent threats to habitats and species, to develop the capacity of NGOs and field staff, to act as a catalyst for conservation action, to communicate with local communities, to gain acceptance for nature conservation and as a means to develop best practice guidance.

Successful LIFE Nature projects engage people, raise awareness about European nature values and form partnerships built on trust between different sectors. The LIFE programme has supported the implementation of the Habitats and Birds directives and has helped to demonstrate in practice that the Natura 2000 network does not unduly restrict sustainable land use activity. However, awareness about Natura 2000 remains low in most project areas and the LIFE programme on its own has not been able to disseminate its experience as far as it could or to support lasting networks. Public opinion in many areas is accepting rather than supporting nature.

## What can be learnt from ex-post evaluations?

Most conservation programmes are long-term investments in effort. LIFE projects can give a significant boost to already-established objectives. However, at the end of the EU-funding stage the results will only just be beginning to show and, in most cases, the medium to long-term outcomes and impacts will not be known.

Therefore, the ex-post assessment may be the first time to focus on results, outcomes and impacts. The results of the project can be described in terms of changes in knowledge, skills, awareness, attitudes and motivation. Some examples from ex-post reports are shown in Table 2.

This new situation can in turn lead to desirable outcomes where there is a real change in behaviour, practices, policies and procedures (see Table 3).

Ex-post monitoring should be able to identify such short-term results and medium-term outcomes whilst looking for long-term impacts where the

| Table 2 – Results of LIFE projects | | |
|---|---|---|
| | **Examples** | **Projects** |
| Knowledge | Learning about the special habitats and species of the Natura 2000 area | • WWF-Greece developed an understanding of the habitat requirements of raptor species in the forest wetlands of the Dadia National Park<br>• Information, for the first time, on the distribution of the Pygmy cormorant in Greece<br>• Projects in Madeira increased the knowledge on several species and even provided evidence for a new species, Bugio's petrel<br>• All projects on large carnivores have provided useful information on populations, ecology and behaviour. |
| Skills | Developing good practice techniques | • Developing (and disseminating) best practices for the restoration of blanket bog habitat in Scotland<br>• Demonstrating river restoration techniques in Austria |
| Awareness | Local stakeholders becoming aware of the importance of local nature | • Awareness of large carnivores in all countries with projects addressing wolf, bear and lynx<br>• Increasing support for the conservation of blanket bog in Scotland shown in repeat surveys<br>• Awareness of endemic species in Madeira |
| Attitude | Local stakeholders changing from hostility to benign indifference to positive support for nature conservation | • Local communities in Finnish Lapland accepting Natura 2000 as a non-threatening, even positive, development<br>• Hunters supporting conservation programmes in Spain and Romania<br>• The presence of bears in Italy helps support new eco-tourism businesses |
| Motivation | Landowners being inspired to carry out conservation work | • Farmers encouraged to return to traditional management practices to maintain Baltic coastal meadows and local cultural traditions<br>• Farmers in Denmark opting in to a voluntary agri-environment scheme |

sum of changes in attitudes and practices leads to an improvement in the conservation status of the habitats or species targeted by the project.

The long-term effect of a project - its impact - should be measureable by a change in environmental, economic or social conditions. For nature projects this generally implies a significant improvement in the conservation status of a habitat or species with the aim of securing favourable conservation status.

The conservation status of Habitats Directive habitats and species is reported every six years through 'Article 17' reports prepared by Member States at the level of biogeographical regions. Whilst some reports acknowledge the impact of LIFE projects in improving the overall status of habitats or species, it is recognised that, in most cases, more overall investment is required to improve the conservation status of a species or a habitat at EU level than the LIFE programme alone can provide.

| Table 3 – Outcomes of LIFE projects | | |
|---|---|---|
| | **Examples** | **Projects** |
| Behaviour | Visitors avoiding damage/disturbance to nature (using paths etc) | • Tourists respecting dune restoration works at Laida Dunes, northern Spain<br>• Tourists respecting sanctuary areas for large carnivores |
| Practices | Changing management practices (e.g. forestry) to accommodate nature interests | • Working with private hunting estates in Spain to support the conservation of the Spanish imperial eagle<br>• Shepherds using electric fences to protect livestock and specially bred guard dogs in areas with large carnivores. |
| Policy | Adopting new local/regional/national legislation to protect habitats or species | • Developing national plans for large carnivores in Romania<br>• Developing Species Action Plans for endangered species in Madeira |
| Procedure | Delivering a policy for land purchase to protect nature | • Ongoing budget for land purchase in the Trento region of Italy<br>• Land purchase policies in Madeira to create a continuum of forest habitat |

Photo: LIFE00 NAT/FIN/007059

*Clearing bushes from a mire in Finland to enable habitat recovery*

All the projects assessed in ex-post studies show a degree of impact. However, it would be unrealistic to expect a single LIFE Nature project to address all the threats to all of any one habitat type or species. Some projects are one-off restoration actions (some mire restoration projects, for example) whereas others may require several phases or national/international programmes.

Some examples of impacts include:

- The support for rural employment in Finnish Lapland;
- The measured increase in the population of the Spanish imperial eagle in Spain (pp. 16-19);
- Increase in populations of endemic seabirds in the Madeira Archipelago (see pp. 38-41);
- Re-establishment of traditional, and sustainable, land management, including grazing, on Stora Alvaret in Sweden (see pp. 20-21); and
- Re-establishment of traditional farming practices in the meadows of the Varde Estuary in Denmark.

Nature does not always respond as planned and the ex-post evaluations give several examples where expected population increases have not happened or where restored habitats have not been used by target species. This reinforces the need for continued monitoring at project sites so that, if necessary, new approaches can be tried.

In terms of ongoing management, the ex-post assessments look to see whether monitoring continued, whether Natura 2000 areas were enlarged as a result of the project, what was done to ensure the continuity of project activity and whether the project had any other positive results.

*The Nebrodensis project took important actions to help preserve the critically endangered Sicilian fir (Abies nebrodensis)*

Photo: LIFE00 NAT/IT/007228

## Conclusions

In summary, a total of 93 projects have been 'ex-posted' across 17 countries and covering a number of different themes. Projects targeting large carnivores (bear, wolf and lynx) and bird species represent approximately half of those to receive an ex-post visit. Spain, Italy and France have been the most visited Member States; other Member States, such as Poland and Cyprus, are yet to receive an ex-post visit.

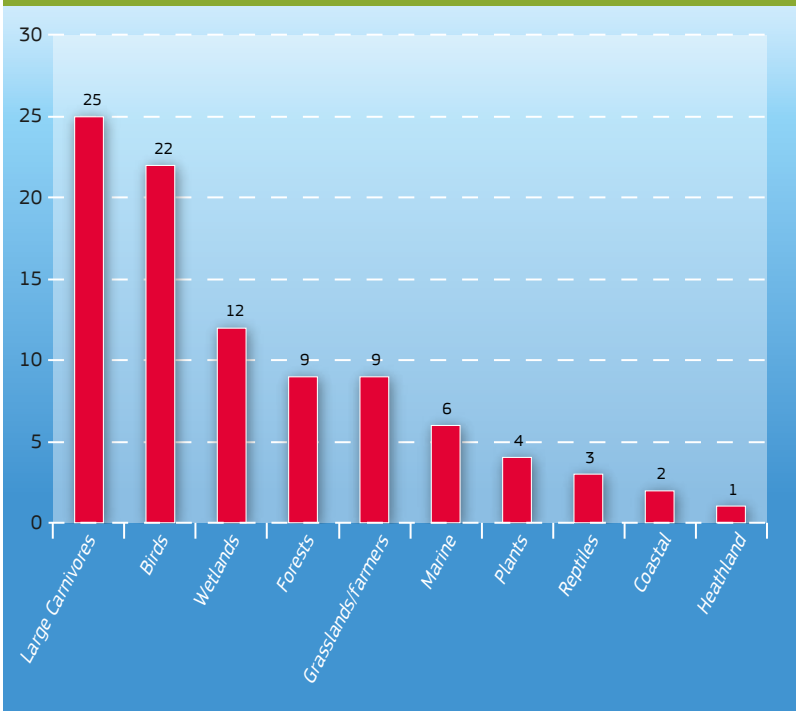
With a further 35 projects having been evaluated by the Court of Auditors, that means a total of 128 projects have been subject to follow-up. This represents some 9% of the total number of LIFE Nature projects.

The overall conclusion of the ex-posts is that the LIFE Nature programme has been proven to be highly relevant in supporting EU nature conservation policy, in particular the implementation of the Birds and Habitats directives and the Natura 2000 network. Nature projects actions are generally effective and their impact and sustainability is high.

Ex-post monitoring visits show that most project partners voluntarily continue to disseminate lessons learnt and detailed technical information. This continued drive and motivation beyond the project is to LIFE's credit.

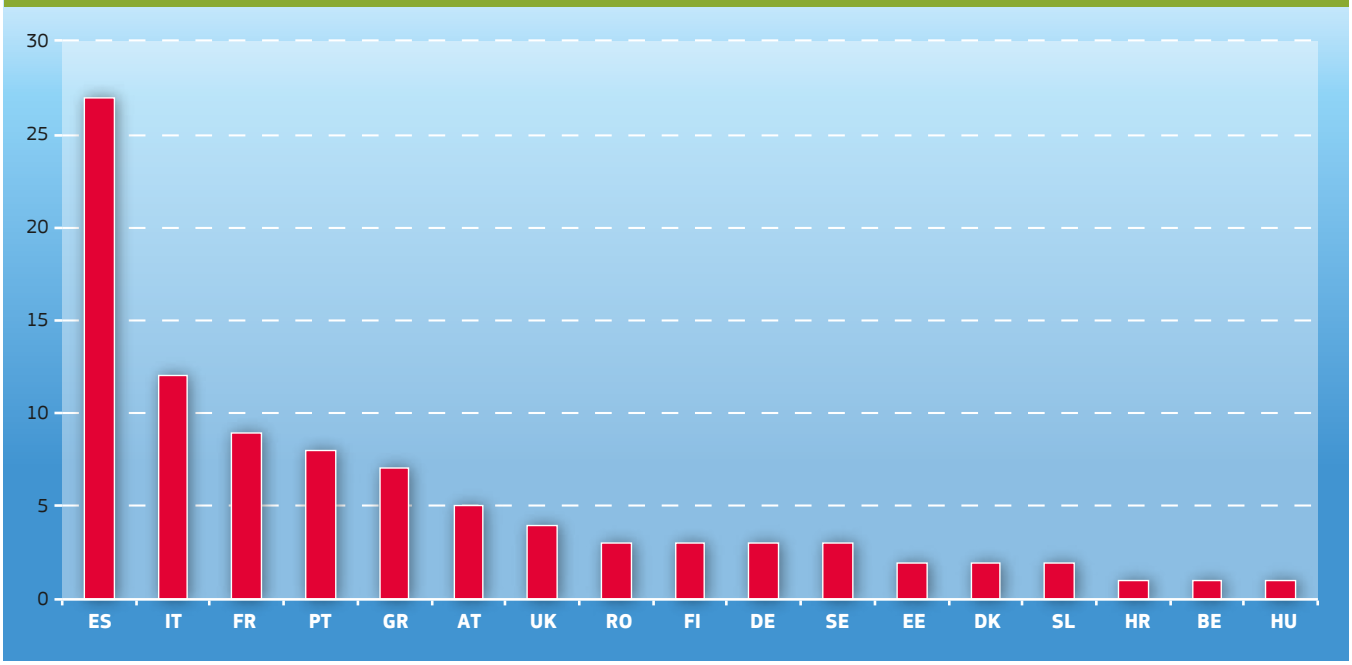
The aim of this publication is to summarise and compile the findings of the ex-post evaluations, and to highlight the long-term impact and sustainability of LIFE Nature project actions, including through new interviews with selected stakeholders from a number of Member States (Cyprus, Finland, Italy, Romania, Slovenia, Spain and the UK). Lessons learned and recommendations will be taken into account by the new LIFE programme for the Environment and Climate Action (2014-2020).

Figure 2. **Ex-post visits by project type (2006-2012)**




*Note: out of 22 birds projects visited, 15 targeted the Spanish imperial eagle*

Figure 3. **Ex-post missions by Member State**



IMPACT ON HABITATS AND SPECIES

# Analysing **LIFE's long-term impact on habitats and species**

**Ex-post evaluations demonstrate that the positive effects on species and habitat conservation can resonate well beyond the timeframe of an individual project. They also show the limitations of LIFE and indicate possible improvements for the future.**

In ex-post evaluations, most projects report a good impact on targeted habitats or species. However, many also make the comment that recovery takes time and it may take years - and further projects - before the project can declare itself a total success. There can also be problems in sustaining the level of resources deployed during the project period.

There are some habitats where a single large conservation action may be all that is required. In some mire restoration projects it is possible to block drainage ditches to recover natural hydrology then leave nature to provide the slow recovery process. But such projects (e.g. aapa mires, blanket bogs) also need a good scientific follow up with permanent vegetation sampling points so that in 10, 20 or 50 years time the success can be re-evaluated.

The broad follow up monitoring of most habitat and species projects can be incorporated into the general work of the national authority through Habitats Directive Article 17 habitats and species conservations status assessments. But LIFE projects can often gather additional vital knowledge on the processes of habitat restoration or species recovery. More detailed monitoring schemes, established by

*The Corpo Forestale project removed marsh vegetation to restore the natural functioning of Lesina Lake in Italy*

Photo: ASTRALE EEIG/Alberto Cozzi

projects, can contribute to ecological applied science.

In Finland, for example, the first LIFE peatlands projects started in the 1990s. Now, with the experience of over 20 projects, a best practice guide for habitat restoration is being produced. So, the cumulative experience of several LIFE projects in one country or one biogeographical region can set out, with some confidence, the best practice that others should follow. Finland has also published a guide to ecological restoration and management of the Boreal forests[5] drawing upon the experience of LIFE projects.

These examples show that whilst LIFE projects make a significant contribution to knowledge and best practice this cannot always be delivered in the framework of a single project. Ex-post visits can assess the wider impact of project activity over a longer period.

## Habitat restoration

Many natural and semi-natural habitats in Europe have suffered significant damage and loss since the mid-20th Century. Natural habitats have often been damaged by drainage, afforestation and conversion to intensive agricultural use whilst semi-natural habitats have frequently suffered from abandonment and neglect, leading to the loss of species-rich grasslands and woodlands.

LIFE projects are designed to address these threats by restoring the physical and biological processes that underpin natural habitats and by re-establishing sustainable forms of land management that maintain semi-natural habitats. For success, it is important to set out the overall (i.e. EU) objective and a project objective. Project design has to identify the reasons for the problem to be addressed and, having set objectives, to decide what measures will be appropriate and how progress will be monitored. Once these steps of project design have been thoroughly assessed then the actual delivery of project actions is likely to be more successful.

By the end of a project it is sometimes possible to conclude that the habitat is recovering or at least the conditions have been established for recovery. It is therefore only by revisiting the project that the rate of recovery and the quality of restored habitat can be assessed. Examples from grassland, wetland and forest habitat restoration are given on pages 20-25.

*5 http://julkaisut.metsa.fi/julkaisut/show/1111*

Photo: LIFE99 NAT/DK/006454/Amphi Consult/Niels Damm

*The continuation of actions initiated by LIFE has helped to conserve the fire-bellied toad (Bombina bombina) in Denmark*

## The link to agriculture

Projects that require the establishment of new land management practices always run the risk that these will not be supported in the medium-to-long-term. The best result that can be achieved by a project is to establish new land management schemes and to have these supported by 5-10 year incentives. Very few projects could hope to achieve a longer guarantee of continuity.

So, when revisiting areas a measure of success will be the continuity of land management practice established by the projects. Despite the uncertainties of changes in payment rates and prescriptions in successive agri-environment schemes and the relatively poor economic returns from conservation management there are good examples of successful projects, such as the Stora Alvaret project in Sweden (see pp. 20-21).

The challenge in working with farmers, however, is how to restore semi-natural habitats that may be the result of centuries of land management using a series of short-term incentive schemes. Perhaps as a consequence, land purchase by conservation bodies is an attractive option, since it enables full control over land management to allow slow and steady habitat restoration.

A particular success of LIFE Nature projects across Europe is the restoration of mires and fens, with almost 300 projects funded since 1992. This represents a huge investment in effort and yet, even the earliest projects are still at the recovery stage. Monitoring, however, is showing that many of these habitats are responding well to restoration work (see pp. 22-23).

## Giant lizard recovery

The giant lizard of El Hierro (*Gallotia simonyi*), thought to be extinct, was rediscovered in 1974 with a population of some 1 000 individuals. After further losses, two LIFE projects have helped stabilise the population, controlling predators and competitors and establishing a successful captive-breeding centre to rear up to 100 lizards per year. The projects were supported by the Canarian Government and searches were extended to other islands. In 1999, to the surprise of scientists and managers, a new species (*Gallotia bravoana*) was found on La Gomera. The species had a population of only about 20 individuals and was highly threatened. Recovery plans have been supported by two further LIFE projects. The beneficiary also established a captive-breeding programme in a centre built with other EU funds (EAGGF). Together with the centre on El Hierro, these 'lagartarios' are the only single species lizard-breeding centres in Europe. On both islands the populations have stabilised thanks to the help of the LIFE projects, with the conservation programmes continuing through the breeding centres - IUCN estimates the current population of the giant lizard of El Hierro at 300-400 individuals, whilst the La Gomera giant lizard numbers some 90 individuals. The giant lizards are iconic species and the conservation work attracts interest from locals and tourists.

*Gallotia bravoana*

Photo: LIFE02 NAT/E/008614/Miguel Ángel Rodríguez Domínguez

Projects concerning forests also have to consider long time frames. Will planted trees provide a viable second generation of self-sown trees? Only time will tell. The forest projects also have to work with forest practice and timescales so long term plans and monitoring are again important (see pp. 25-26).

### Species recovery

Projects targeting species recovery have to be extremely well planned to look not just at how to improve breeding success but also to ensure that the habitat is right and that threats such as predators can be controlled.

LIFE projects have brought several species back from the brink and helped many more to establish viable populations. It is also quite normal for species projects to have at least two stages, the first being to stabilise a very precarious situation and the second to begin to recover populations.

A good example would be the projects that have undoubtedly saved two species of giant lizard in the Canary Islands (see box).

### LIFE and birds

A number of Annex I bird species are a priority for LIFE funding. Examples addressed by projects across Europe include the Spanish imperial eagle (*Aquila adalberti* - see pp. 16-19), the bittern (*Botaurus stellaris*) and the corncrake (*Crex crex*).

In Slovenia the corncrake population was in decline but it has now stabilised thanks to LIFE project actions (**LIFE03 NAT/SLO/000077**). According to Julijana Lebez-Lozej, the National Contact Point for LIFE in Slovenia, LIFE funding was a catalyst for supporting corncrake habitat management through agri-environment schemes. "The area now covered by management agreements is more than three times larger than during the project," she notes.

In the UK, the RSPB has delivered two projects focused on providing suitable breeding and feeding habitat for the bittern. As the head of the NGO's International funding unit, Nick Folkard, points out, the second project in particular (**LIFE02 NAT/UK/008527**) helped to reverse a decline in breeding numbers from a low point of 11 booming males in the mid-1990s to current levels of over 100 booming males. "There has been a tenfold increase in that very rare species and a lot of it is due to that [LIFE] project," he says.

### The importance of monitoring

The scale of a project may have some influence on its impact and sustainability. This is particularly an issue with river projects where causes of threats may be better addressed at a sub-catchment scale. It is

*Continuous habitat management actions after LIFE have improved populations of protected bird species, such as the bittern (Botaurus stellaris)*

Photo: LIFE07 NAT/IT/000507/Matteo Caldarella

Photo: LIFE97 NAT/E/004165/Elizabeth Ojeda Land

*LIFE was crucial in saving from extinction critically endangered Canary Islands flora such as the plant Dorycnium spectabile*

clearly difficult to monitor the impact of river restoration work on fish species unless this is done for the whole system. River habitat restoration therefore requires a strategic approach.

Species conservation projects often show a dramatic recovery during the project phase but some lack follow-up monitoring. Also, there is a tendency in conservation work to invest in short-term species recovery actions before moving on to other species on the 'at risk' register. This was the case in the project 'flora conservation in the Canary islands' (**LIFE97 NAT/E/004165**), which focused on five rare endemic species. Although the project was successful in increasing the populations of the targeted species, the Canary Islands hosts 141 species of plants and animals considered in some way threatened, and it is understandable that conservation efforts then move on to other species on the red lists. It is likely that there will always be limited resources for conservation.

Whilst LIFE projects can be important for mapping and surveying the distribution of habitats and the location and populations of species, it is quite common to find that the costs for follow-up surveys or monitoring are not provided after the end of the project. This is a weakness identified in several evaluations.

It is perhaps less critical for habitat monitoring where the periods between surveys do not have to follow a fixed timetable but for species recovery projects, valuable information can be lost. However, it is important not to lose the investment in baseline studies carried out by projects. These include inventories, maps and permanent recording points. Projects should not invest in expensive monitoring programmes unless they are of direct value to an ongoing project or that the resources to maintain the programmes are guaranteed.

In Finland, for example, the Aapa & Avi project (**LIFE00 NAT/FIN/007060**) mapped habitats and key species on 47 000 ha of land, but without resources for follow-up monitoring there could be no evidence of a positive impact on populations of wild geese.

However, there are also examples of projects with excellent monitoring built in from the start that have added to scientific knowledge and provided the basis for habitat and species management advice. The restoration of lichen and coastal heaths on the island of Anholt in Denmark (**LIFE94 NAT/DK/000492**) allowed the knowledge gained to be applied to a much larger project to restore dune habitats along the Danish west coast (**LIFE02 NAT/DK/008584**).

IMPACT ON HABITATS AND SPECIES

# The case of **the Spanish imperial eagle**

**A coordinated set of LIFE projects from 1992-2000 helped establish a formal National Conservation Strategy for the Spanish imperial eagle. The species has since gone from strength to strength. Further LIFE projects have also been able to address specific additional threats.**

Photo: LIFE03 NAT/E/000050

*Typical habitat favoured by the Spanish imperial eagle*

The Spanish imperial eagle (*Aquila adalberti*) is an endangered species included in Annex I of the Birds Directive. Almost all of its breeding population is in Spain, with the rest in Portugal. In 1995 in Spain there were just 147 nesting pairs across five autonomous regions: Castilla La Mancha, Castilla y León, Extremadura, Madrid, and Andalusia.

The success of the species is closely linked to rural habitats, created and maintained by people over centuries through traditional management techniques. Given the right environment, the productivity of the Spanish imperial eagle is relatively high when compared with that of other large eagles. Its preferred habitat is Mediterranean woodland of evergreen oak and cork oak alternating with pasture land where rabbits are abundant.

However, land-use changes over the past century have destroyed a considerable part of its preferred habitats. Habitat changes that have significantly reduced the availability of its key prey, the rabbit,

have impacted dramatically on the bird's breeding success. Further specific threats to the bird have included additional human disturbances in breeding areas, infrastructure development and associated habitat loss, electrocution from power lines and use of poisoned baits to control predation.

## Coordinating conservation through LIFE

In the early 1990s, the five Regional Governments of the Spanish imperial eagle's population area came together with the Directorate-General for Nature Conservation of the National Environment Ministry to agree a Coordinated Recovery Plan for the species. They developed a set of linked LIFE projects in three stages across the five regions. The first set of projects started in 1992, with the third stages all finishing by 2000 at the latest. "LIFE projects enabled us to bring together the different autonomous communities where species were present, along with, for example, NGOs and other stakeholders, which gave momentum to the development of [a national strategy]," explains Maria Jesus Palacios, Head of Service of Nature Conservation projects in Extremadura, Spain.

In each of the five regions, the LIFE projects aimed to develop a joined-up approach to: a) reduce the non-natural mortality rate of the species; b) improve the feeding habitat; and c) increase the breeding success. However, there was a strong emphasis on coordination and information sharing across the projects. To this end, the different Regional Authorities and national government departments established a LIFE programme Steering Committee. From 1997, the group became known as the Imperial Eagle Task Force.

Each region wrote its own recovery plan for the species. However, one of the most obvious successes to come from the joint work was the agreement of a National Conservation Strategy, which was formally approved in July 2001. The ex-post evaluation finds that the status and protection of the species seems much more strongly ensured through this strategy, which has been evaluated by Spain's Environment Ministry as "an unprecedented success".

## Improving knowledge and awareness

One of the most important contributions of the LIFE projects was to generate improved understanding and awareness of the target species and its threats. This work covered monitoring of several inter-related elements, including bird numbers, species population dynamics and causes of mortality. This information was essential for planning the strategies and interventions that followed.

Photo: LIFE07 NAT/E/000742

*Spanish imperial eagle (Aquila adalberti)*

Awareness-raising actions also targeted landowners and electricity companies to prevent activities that could threaten the species. Stakeholder engagement led to several agreements to recognise the interests of the eagles within planning, electricity and infrastructure procedures and processes in the different regions.

In Extremadura, the ex-post evaluation found that one of the most remarkable achievements of three connected LIFE projects was to change the perception of the species amongst the predominantly rural population from being a pest to being a national 'icon' that needs to be protected. "LIFE projects give you the opportunity to do a lot of work on awareness raising and education. Thanks to this I believe there has been a change in attitudes and behaviour in society in general towards certain species, such as the Spanish imperial eagle, that before, if people saw, they killed," says Ms Palacios. As a result of all the region's LIFE projects (not just those targeting eagle conservation), Extremadura's education service created an environmental education department that today employs five people for LIFE-related communications, plus a further 22 people working on the Natura 2000 network.

Photo: ASTRALE EEIG/Aka Sopeña

*The CBD 2003 project created artificial burrows in the traditional manner to boost rabbit stocks, an important source of prey for the threatened eagle*

It must nevertheless be observed that above and beyond communications efforts, attitudes to the Spanish imperial eagle have been improved because of the increase in the number of permanent jobs created for the protection of the species, the employment generated by the increase of tourism in the area, and the compensatory measures for damage to livestock.

## Land management and habitat restoration

The LIFE projects had to address the fact that most of the territory of the Spanish imperial eagle was on privately owned or privately managed land. Some LIFE projects, including one focusing on Cabaneros National Park (**LIFE99 NAT/E/006327**) saw the purchase of land for conservation purposes. However, evaluation suggests that – in this particular context – reaching land stewardship agreements with landowners should be preferred to land purchase. It is both cheaper and a better means of engaging local stakeholders.

In 2010, the Regional Government of Madrid offered compensation to landowners with eagle nests on the basis of €10 000 for the first nest and €2 500 for each additional nest. However, there is growing consensus that public administrations should use more sustainable systems of incentives to achieve conservation objectives. These could include tax benefits, new sources of revenues, enhancement of local products or the creation of new commercial networks.

Several projects developed successful land management agreements. However, habitat restoration efforts focused on increasing rabbit populations were not always very successful. Approaches tried included the creation of ex-situ breeding centres, restocking, construction of artificial warrens, use of enclosures, scrub clearance, and provision of feedlots and water troughs. The projects found that none of these actions could sustainably restore rabbit numbers on their own, but need to be combined effectively through an overall strategic approach.

The projects highlighted the importance of working closely with small hunting estates where the eagles feed – particularly given the increasing prevalence of poisoned bait in hunting areas. Finally, regions such as Castilla y Leon had some success with the use of feeding stations. However, it is largely agreed that this approach should be limited to urgent situations in the short-to-medium-term only.

*Releasing rabbits: Increasing the population of this prey species in the target area was essential to the long-term sustainability of the eagle population*

Photo: LIFE02 NAT/E/008602

## Reducing mortality from power lines

The initial LIFE projects starting in 1992 carried out a lot of monitoring work to survey power lines and their impact on bird mortality. This work informed interventions to reduce the threat posed to birds. It also contributed directly to the establishment in 1997 of a dedicated Power Lines Task Force.

The impact of this work has been significant. In most regions, the LIFE projects led to agreements with public electricity companies on amending power lines to reduce their threat to birds. Furthermore, by 2008, a Spanish Royal Decree was published governing technical regulations for high tension power lines to protect birdlife.

The best available techniques were found to be the modification of dangerous lines and the installation of supports for birds – which were more cost-effective and sustainable in the longer run than cable insulation. However, given the expense of intervention, it is essential that it be based on an accurate inventory of power lines and their relative threat to birds.

The success of modifying dangerous cables was used to leverage some €12 million from the National Government and Community funds such as the ERDF to fund further modification of power lines, 2004-2007. This has had a positive short, medium and long-term impact. Nevertheless, the LIFE projects still identified the need for further research into even better solutions.

The success of interventions and the direct impact realised through legal instruments that ensure new installations pose much less danger to birds provides an excellent example for the rest of Europe. Countries such as Romania and Bulgaria – which have similar problems with large raptors – can benefit significantly from the experience gained through the LIFE projects in Spain.

Nevertheless, electrocution is still the biggest cause of mortality and many - particularly private - pylons still require urgent measures. Along with research into new techniques, additional training of technicians is important. A more recent LIFE project, Priorimancha (**LIFE07/NAT/E/000742**), has developed a Geographic Information System (GIS) to improve information about cases of death by electrocution or collision with power lines.

## Conclusions/Sustainability

LIFE projects have been fundamental in delivering a sustainable improvement in the conservation status of the Spanish imperial eagle. The population across the five regions more than doubled in the 10 years following the completion of the main projects – from 130 in 2000 to 280 individuals by 2010.

The ex-post evaluation identified the National Conservation Strategy as an important component of the sustainability of these projects. The projects also appear to have had a significant catalytic role on public administrations. For example, the Spanish Ministry of Environment has gone on to co-fund a Guide for the Conservation of the Spanish imperial eagle on private estates. In Extremadura, Ms Palacios points out that a budget line for sustainable development that started with LIFE projects on eagles and vultures, is now being financed by the EAFRD programme, which provides funding of up to €30 000 for landowners for the protection of priority species: "To be eligible at least 50% of your land has to be inside the Natura 2000 network...So we're starting to see small steps by landowners or even whole municipalities who want to be inside the Natura 2000 network."

Photo: LIFE04 NAT/E/000054

*LIFE has had an important impact on Spanish policy on power lines, one of the main causes of eagle mortality*

Despite the positives, the situation of the Spanish imperial eagle is still critical and active conservation measures continue to be necessary. Whilst much has been done to tackle electrocution from power lines, even greater cooperation with electricity companies is desirable. The use of poisoned baits for predator control remains a particularly significant problem for this eagle and other priority species.

Interestingly, the relative success of eagle conservation measures is expanding its range outside Natura 2000 network sites protected under the Birds Directive.

Most participants in the ex-post evaluation felt that expanding the network to cover all the relevant territories would be impractical. A more appropriate focus should be on improving management plans for the existing Natura 2000 sites and establishing agreements with landowners, hunters and electricity companies to protect the species both within and outside the network.

IMPACT ON HABITATS AND SPECIES

# Laying foundations for **sustainable grassland management**

**Building trust and developing partnerships with stakeholders, notably farmers, is an essential part of successful grassland restoration and this work – highlighted under ex-post farming projects – needs to continue well beyond LIFE co-funding.**

Farmers remain some of the most important stakeholders in implementing nature conservation actions in Europe. LIFE Nature has been instrumental in developing partnerships with farmers and in providing valuable information and experience on how agri-environment schemes can be deployed and adapted to nature conservation. Once demonstrated by LIFE projects, these innovations can then be rolled out on a more comprehensive basis by mainstream Rural Development Programme (RDP) support measures.

## Building trust

A common theme among the several ex-post projects involving farmers is the vital need to develop trust and to build robust partnerships. Good examples from the reports include Baltic coastal meadows (important for the natterjack toad – *Epidalea calamita*), the management of dry grasslands in Italy in an agricultural area and the Swedish alvars (see box).

## Traditional management of Baltic coastal meadows

A second example of LIFE partnership work with farmers sowing the seeds for the re-establishment of traditional management comes from Estonia. Some 80% of the country's coastal grassland was lost in the second half of the twentieth century,

## Protecting and restoring parts of Stora Alvaret

Located on the Baltic island of Öland, Stora Alvaret is a 25 000 ha open alvar grassland on a limestone plateau.

Where soils are shallow the open landscape is largely the result of natural factors regulating plant cover, but where soil is deeper humans and their grazing animals have been the most important influencing factors over the last thousand years. Until recently, the spread of scrub and woodland was kept in check by the constant grazing activities of cattle, sheep and horses, as well as by cutting for firewood. However, in the late twentieth century, faced with competition from intensive farming, many of Öland's small-scale farmers abandoned these practices. When the agri-environment regulation entered into force in Sweden, there was an opportunity for Öland's farmers to regain part of their livelihoods while preserving this unique habitat. However, the invading scrub first had to be removed.

Supported by LIFE co-finance (**LIFE96 NAT/S/003185**), the County of Kalmar restored sites of high conservation potential to a level where they were attractive for grazing and eligible for agri-environment support. To do this, the project cleared 1 500 ha of scrub (using local labour as part of a job creation scheme), established conservation grazing and provided information to raise awareness amongst locals and visitors.

The LIFE project was the turning point for this cultural landscape. The actions were taken at the landscape scale and over 3 000 ha was incorporated into agri-environment schemes. The impetus of the project also contributed to the alvar receiving UNESCO World Heritage Site status.

Photo: Allie Caulfield, under Creative Commons License

Photo: LIFE00 NAT/EE/007083/Voldemar Rannap

*Highland cattle on a coastal meadow. The support of farmers has been essential to the long-term continuity of project actions after LIFE*

largely as a result of the abandonment of agricultural practices such as mowing, reed cutting and extensive grazing. The LIFE Nature Silma project (**LIFE03 NAT/EE/000181**) worked with farmers to re-establish livestock grazing on 1 000 ha of wet meadows in the Silma nature reserve and Osmussaar and Vormsi landscape reserves.

Livestock and machinery were purchased to help farmers reinstate mowing and grazing funded through an annual management fee with co-financing from the Ministry of the Environment. Interest in restoring and managing coastal meadows was high, partly for a return to former conditions and partly to take up opportunities for agri-environment support. Several local NGOs and landowners signed five-year framework contracts (2006-2011) for the restoration of the habitats.

The ex-post mission found that the local farmers involved from the beginning were still maintaining the restored semi-natural habitats. In addition, some new farmers had joined the scheme. The work is being supported by EU agri-environment schemes and to a higher value than during the project, giving additional motivation to the farmers to continue habitat management. The management of the coastal habitats is effective and the state of the habitats is improving. The project was used as an example of good practice in the development the Rural Development Plan for Estonia for the period 2007-2013.

## Incentivising farmers

This and other examples illustrate that LIFE can play a key role in establishing an integrated, long-term approach to the restoration of Europe's protected grasslands. However, as shown by the success of the farmer-led Wadden Sea project (**LIFE99 NAT/DK/006456**), the economics must be in place. This Danish project signed up more than 250 farmers to 20-year management agreements to maintain the internal hydrological processes of 2 488 ha of restored habitats. Linking the project to a rural land consolidation process added an important economic incentive that helped persuade the farmers to participate by restoring extensive mowing and grazing on the freshwater and brackish meadows in the estuary of the Varde River.

LIFE projects can only succeed in the long term if the agricultural activities (and relevant subsidies) are sustained. Changes to the Common Agricultural Policy (CAP) are a risk to projects that seek to establish ongoing management over many years.

*Monitoring the water levels in a well during the Wadden Sea project in Denmark*

Photo: LIFE99 NAT/DK/006456

IMPACT ON HABITATS AND SPECIES

# The after-LIFE **impact on wetlands**

**From bogs to salt marshes, the diversity of wetland habitats addressed by LIFE projects across the EU is impressive: since 1992, more than 600 projects have focused directly, or indirectly, on wetlands. Of these, 12 targeting wetlands were visited and evaluated after closure.**

The majority of the wetland ex-post reports concern projects that targeted rare or threatened bird species requiring conservation under the EU Birds Directive. Such projects - for example, the 2002 bittern project in the UK, or 1997 corncrake project in Germany - aimed at both improving the wetlands habitats and reducing threats to the species concerned.

Their main actions involved improving water management, mostly of water levels and quality. In order to achieve these, the projects typically carried out restoration works, such as the construction of dykes and re-wetting of dried-out areas as well as the re-naturalisation of other wetlands. Active management measures ranged from mowing and /or grazing of reed beds to the control and elimination of invasive non-native plants.

The sustainability of many of these actions is highly dependent on their degree of continuity after the end of the project. Moreover, in order to measure

*Flooded meadows around Žuvintas Lake, Lithuania*

Photo: LIFE07 NAT/LT/000536/Ardrunas Stankevicius

their real impact, monitoring - for example of water quality or of vegetation to assess habitat changes - should be a part of the after-LIFE activities. It is important also to bear in mind that mires and bogs take a long time to recover after restoration actions have been carried out: sphagnum mosses, a main 'bog-builder', take decades to recover and enable a bog to attain a favourable conservation status. In such cases long-term monitoring is vital in order to fully appreciate the impact and sustainability of project actions.

Several wetland projects had a major impact on the designation (and subsequent management) of Natura 2000 network sites. These projects successfully devised and approved management plans for the sites and also helped raise awareness locally about the EU's Natura 2000 network.

## Gains and losses

As one example, the NEMOS project (**LIFE00 NAT/IT/007281**) helped to consolidate and enlarge a series of Natura 2000 southern Alpine wetland sites found within the Italian province of Trento – with new sites approved after the end of the project. Disappointingly, however, the after-LIFE monitoring has not shown any increase in the populations of the species linked with water found there (fish, amphibians and birds). Closer analysis reveals that even though the water quality is improving across the rivers, streams and drainage channels of the wetlands (thanks to the LIFE measures) there has been a general increase in pollution in the region, so specific threats to the species remain.

In other areas of the NEMOS project, however, the after-LIFE monitoring has highlighted some very positive results. These include an increased acceptance of the Natura 2000 sites by local people – as evidenced by the fact that there is no longer a problem of vandalism and poaching has decreased. The tourism infrastructure constructed as part of the project has increased visitor numbers, both of tourists and the local community. Moreover, on the wet meadowlands, farmers have adopted more bird-friendly farm practices, with the support of EU agri-environmental incentives (at least until the end of 2013). Encouragingly, nature protection continues today in the province, supported by regional funding for land-purchase and also for recurring management. Other long-term threats remain however, as the area also faces development pressures.

## Mires contribution

Concerning the conservation of mires in Europe, as early as 1998 it was possible to make an assessment of the positive contribution of the LIFE programme; and the work continues with several LIFE projects featuring in the IUCN programme report "UK peatland restoration-demonstrating success". In Finland alone, some 20 000 ha of peatlands have been restored, 14 000 ha of which have been completed with LIFE funding for a number of projects there targeting the restoration of the rare and threatened habitats (see box).

## LIFE improving aapa mires in Finland

The 2000 Finnish 'Aapa & Avi' project (**LIFE00 NAT/FIN/007060**) targeted a significant area of the priority aapa mires habitat found in some 90% of the project area (in central Lapland); and also addressed the main threats to avifauna. It followed two earlier projects and paved the way for another, as part of a series of projects in Finland to demonstrate how damaged mires can be restored.

The project's design was realistic and manageable and involved two partners who had already worked closely together. It was successful in combining several EU and national funds to widen the project scope to include tourism infrastructure (structural funds) and agricultural buildings (national funds).

The project also helped to swing public opinion in favour of conservation and highlighted the opportunities for combining nature conservation with ecotourism. Specifically, the project created five jobs and these were still in place in 2010 i.e. five years after the project ended. More generally, it also helped to generate employment in construction in the region; and, albeit from a small base, has also encouraged some nature tourism.

The initial LIFE investment (of just under €1.6 million) in the region, together with some €3.2 million of state co-financing appears to have triggered increased interest from the public sector in investment in the region, which today is 10 times higher than it was when the project began. Thus, it is possible to conclude that the LIFE programme has contributed to this 'gearing-up' effect across the region.

Photo: LIFE00 NAT/FIN/007060

IMPACT ON HABITATS AND SPECIES

# LIFE and **forest restoration**

**Since 1992, LIFE Nature projects have been targeting the 71 forest habitats that are included in Annex I of the Habitats Directive. To date, more than 500 projects have focused directly or indirectly on Annex I-listed forest habitats.**

One of the issues that projects face is the dependency of forest restoration on forest life span/cycles. The recovery period is always much longer than the duration of the LIFE project. Often it will take years for the beneficiaries to know for sure that their projects have been a success.

*LIFE has played an important role in establishing the Natura 2000 network in new Member States, such as Romania*

Photo: LIFE05 NAT/RO/000176/Tudor Stanciolu

LIFE ex-post visits to forest projects are therefore essential to assess the recovery of forest habitats after the implementation of the project actions and to confirm any improvement in conservation status of the targeted habitats and Natura 2000 sites.

Out of the 93 projects visited by the Astrale LIFE monitoring team, seven projects targeted mainly forest habitats. These projects focused on rare habitat forest types, such as Crete's Vai palm forests (see box) and habitat types of exclusive forest species (e.g. *Taxus baccata*). These forest types have been damaged by such silvicultural practices as the planting of non-native species and the favouring of one species over another (e.g. in monocultural forestry plantations). In the case of Vai, the palm groves also face intense tourism pressure and are threatened further by the slow recovery rates of the native species.

Alluvial forest has been targeted by more LIFE projects than any other forest habitat, however only two of these projects have received an ex-post follow-up.

## Forest management

Many LIFE projects involving trees and forests have focused on the restoration of the natural processes responsible for the habitat's development. Thus, projects have addressed the rewetting of alluvial forests, the use of controlled fire to regenerate boreal forests, the creation of deadwood and structural diversity for forest biodiversity and the recovery of rare and isolated forest types. In general, LIFE forest projects emphasise the need to work with forest management plans for the targeted forest habitats and, in a broader sense, for the entire Natura 2000 site. These plans foresee long-term management actions and, in some cases, they establish the source of funding for management as well as monitoring plans.

Forest projects often influence wider forestry practice by providing, for example, micro-habitats for saproxylic invertebrates in Italy (the Bosco Fontana project – **LIFE99 NAT/IT/006245**). Nevertheless, it remains important to have 'research centres' to follow good practice and monitor conservation status. For example, the French project, Conservation of endangered grouse species in the forests of the Jura (**LIFE92 NAT/F/012700**) helped draw up guidelines for forestry adapted to the needs of the capercaillie (*Tetrao urogallus*).

## Stakeholder involvement

Forestry projects have to win support from the forest-based industries for them to succeed. LIFE has championed the conservation of non-commercial, marginal, rare and endemic forest types in Europe and generally has done so in a way the attracts the support of the forestry sector.

For example, the steering committee set up under the Jura forests project, continues to meet regularly and is still called 'Comité de Pilotage LIFE' ("LIFE steering committee"). Moreover, it has acquired new members, such as the cross-country skiing sector and several hunters' associations. As a result of these additions to the committee, the LIFE Nature forestry guidelines were formally adopted in March 2001 and were distributed amongst public and private sector forestry partners. The guidelines restrict forestry work in sites where target bird species within the Natura 2000 site reproduce and nest.

Economically-viable alternatives to harmful forestry practices are a prerequisite of stakeholder buy-in to LIFE project actions. Ex-post evaluations highlight that pristine forests - for example the Vai palms of Greece - can support more recreation and tourism, providing an alternative income stream to forestry businesses and landowners that adopt more sustainable management approaches.

## Springboard to further action

As with other habitat types, one of the important impacts of LIFE funding for forest projects has been to initiate actions that are then taken further through other funding streams. For example, thanks to the visibility given to the results of the Bosco Fontana project, the technicians of Italy's CNBF (National Centre for Forest Biodiversity) became involved in regional projects (e.g. 'Land use conversion in the Foresta della Carpineta di Bigarello –Mantova') and in other projects co-financed by the European Commission. The latter included Interreg Italy-Slovenia III: Conosci il Carso, as well as a further LIFE project (**LIFE04 NAT/IT/000190**). These projects allowed the CNBF team to test methodologies for creating Coarse Woody Debris (CWD) and to implement insect monitoring protocols developed during the Bosco Fontana project in sites with different ecological conditions.

## Boosting Vai palm forest after LIFE

In 2006, an ex-post visit was made to the Vai 31/12/2002 project (**LIFE98 NAT/GR/005264**), which ran from 1999-2002. It revealed that the actions started by the LIFE project were continuing at both local and national level and were having a positive impact on the conservation status of the palm forest. Furthermore, the Goulandris Natural History Museum, the project beneficiary, had retained its interest in the conservation of the area.

The main actions undertaken by the beneficiary since the project have included monitoring developments in the area, consulting with other stakeholders, seeking financing for conservation actions and raising public awareness. It has maintained its presence in the project area through a local coordinator, Nikos Kifonidis, who is based permanently in Sitia. Moreover, since the end of the project, the beneficiary has restored a further 13.4 ha of palm forest.

The Forestry Directorate of Lasithi, which manages the forest, is continuing to remove competing species and dead biomass for the benefit of the existing and the extended forest, a task carried out by seasonal workers each summer. The directorate also employs two permanent guards to avert forest fires and other threats. In summer, voluntary organisations and other services provide wardens for additional protection, while the municipality of Itanos, which manages visitor access, has brought all parties together to draw up an action plan on the issue.

The project's land exchange activities have also continued – in partnership with the Holy Monastery of Toplou, the landowner of the wider area. These had extended the forested area by 0.5 ha at the time of the ex-post, with further exchanges expected. Another positive ongoing outcome has been to help control tourist development; local stakeholders and visitors are now much more aware of the ecological and aesthetic value of the forest. Indeed, in 2003 the Greek ministry for the environment funded a project to monitor the forest, prevent fires and map the competing species, oleander (*Nerium oleander*).

Photo: LIFE98 NAT/GR/005264

LONG-TERM IMPACT OF LARGE-SCALE INVESTMENTS

# LIFE's **large investments pay off**

**LIFE co-funding has helped beneficiaries make important investments in land, specialist machinery, captive breeding centres and conservation and visitor infrastructure. Such targeted purchases can kickstart conservation actions and multiply their impact.**

Ex-post evaluations have shown that, for some projects, LIFE provides the initial large-scale investments without which the conservation objectives cannot be achieved. In other projects, although the contribution from EU funds can be significant, the investments often complement similar levels of support from national or regional funds as part of a wider programme. The ability to provide large one-off costs to support nature conservation projects is one of the special features of LIFE. Indeed, 100% of the costs of investments in nature conservation that will be used beyond the project period are considered to be eligible for EU funding support.

## Land purchase

The largest category of investment across the programme is in land purchase where, in some cases, control over land is the only feasible way to protect species or restore habitats in the long term.

Land purchase, however, should always be justified and should be used only where alternative arrangements such as management agreements have been ruled out. For example, in the case of the Spanish imperial eagle (see pp.16-19) the preferred solution was to work with private landowners to engender a sense of ownership of the conservation programme.

## Conservation of western taiga in Sweden

Although 65% of the land surface of Sweden is covered in forests only about 5% of this is 'natural forest'. In the 1990s there were insufficient national funds for the urgent protection of the western taiga priority habitat (of which only 3% remained in Sweden and Finland) and so the government turned to the LIFE Programme for support. Between 1995 and 1998, a series of 12 LIFE projects to protect natural forests and mires from commercial forestry and other activities were launched in Sweden with land purchase and legal protection as the main project actions.

The results of these projects were straightforward and sustainable with little management intervention required. For example, the project 'Protection of western taiga in Svealand and Götaland' (**LIFE98 NAT/S/005369**) purchased 1 262 ha of forest. The ex-post mission in 2012, 10 years after the end of the project, found that the areas remained protected within the Natura 2000 network, that management plans were in place and that a new 600 ha nature reserve was being established. The mission also noted that today there are much larger national funds in Sweden to protect nature areas and, thus, no need to apply to the LIFE programme for land purchase. However LIFE funding was well used in the 1990s when the threat was high but the government did not have the full resources to address it. In total the Swedish Environment Protection Agency (SEPA) received €11.8 million for 12 projects in the LIFE II programme. The added value represented an additional contribution of 14% to the national budget for land acquisition overall and 24% in 1998 when four projects were supported. The conclusion is that LIFE support was requested at a critical period by the Swedish government and was used well to target immediate threats.

Photo: LIFE97 NAT/S/004200

However, in other cases, such as the large expanses of blanket bog in Scotland and Wales or aapa mire in Finland, land purchase was a solution that allowed the project beneficiaries to deliver their own restoration plans.

The first RSPB project for the conservation of active blanket bog in Scotland (**LIFE94 NAT/UK/000802**) combined over 8 300 ha of land purchase with management agreements on some 93 500 ha, bringing 62% of the area of high nature conservation value under some form of management. A second project (**LIFE00 NAT/UK/007075**) focused on extensive restoration activity and the drafting of long-term plans for the area. The ex-post mission reported that there was general acknowledgment from stakeholders that the LIFE I project was a pivotal moment in the protection and conservation of the peatlands of the Flow Country in Scotland.

Where habitats and species are under severe risk, as in the case of the Madeira laurel forest (see pp. 38-41) or the western taiga in Sweden, a strategic programme of land purchase can help create core zones of protected habitat to strengthen the Natura 2000 network. As all land purchased using EU funding is added to the Natura 2000 network its protected status in ensured.

Work is underway to create a Land Purchase Database to digitise all the land parcels purchased through the LIFE programme since 1992 and to make the information publicly-available through an online tool. Once completed, this will be an important piece of evidence of the impact and sustainability of the land purchase actions in LIFE projects.


Photo: LIFE00 NAT/UK/007075

*LIFE co-funded land purchase was vital to the conservation of Scotland's blanket bogs*

## Conservation infrastructure

LIFE projects have made significant investments in large-scale infrastructure, including permanent structures such as fish passes, dams, realigned river banks, seawalls and bridges. Although individual structures are expensive they are usually part of a strategic project that draws in investment from other sources. Additionally the provision of infrastructure through LIFE Nature can stimulate further investment in site management.

Large costs in projects also include actions such as the removal of artificial river banks, dams and other obstructions to fish passage. Conservation programmes for several Annex I bird species focus on the creation and manipulation of suitable feeding and breeding habitats, such as the creation of reedbeds, management of lagoons and salt pans, construction of sluices to control water levels and so on. The scale can be large, as in the 2002 UK bittern project, which created 280 ha of new reedbed habitat and improved a similar area across 20 sites.

Investments in infrastructure in Natura 2000 sites can have spins-offs for recreation, tourism and other economic activity (see box, Sečovlje salt pans). In coastal situations the protection of habitats from flooding can give sites the protection which makes further investment possible. Managed realignment works on coastal Natura 2000 sites, such as promoted through the 'living with the sea' project (**LIFE99 NAT/UK/006081**) have indirectly led to the development of visitor centres, such as at Cley on the North Norfolk coast.

Sometimes the investment does not work - as in the case of a bridge for brown bears built by the Austrian project Schütt-Dobratsch (**LIFE02 NAT/A/008519**) and little used by the target species - but such instances are rather rare.

Photo: ASTRALE EEIG/Aixa Sopeña

*Giant lizard captive-breeding centre, Canary Islands, Spain*

## Visitor infrastructure

Nick Folkard, Head of the RSPB's International Funding Unit, points out that, "The investment in the construction of a new (€1 million) seawall to protect freshwater habitat from tidal flooding for at least 50 years led to the construction of a magnificent new visitor hide supported by INTERREG funding. These investments help secure Titchwell [nature reserve]'s role in the local economy."

The provision of standard visitor infrastructure in the form of nature trails, hides and interpretation is a feature of many LIFE projects. Across several projects, however, this can be a large-scale investment. In Finland, for example, Mikko Tiira, Development Manager with Metsähallitus, Finland's Natural Heritage Service, estimates that LIFE has contributed to 1 000 bird-watching towers and 7 000 km of trails across all projects. This is a significant investment and it is not always clear in project plans how this will be maintained after the end of the project.

## Specialist machinery

For large-scale habitat restoration projects there can be a need for investment in specialised machinery, the creation of access tracks and provision of grazing infrastructure. These costs can be substantial and could not have been secured without the LIFE Programme. LIFE projects can, therefore, provide the necessary infrastructure to establish sustainable management operations.

The experimental nature of some projects does include a certain risk that the technique may not be successful or may not be cost-effective. Generally it can be seen, through successive projects, e.g. on mire restoration, that there is a natural evolution of techniques from relatively expensive artificial dams using timber or plastic to peat dams that require only the use of machinery. Networking and sharing of best practice is driven by a need to find the most effective techniques at a reasonable cost so that the restoration programmes can be applied over larger areas.

## Breeding centres

Species recovery projects may also require support and investment from captive-breeding centres or plant nurseries. For example, LIFE projects have helped to establish fish hatcheries for the Adriatic sturgeon (*Acipenser naccarii*) in the Po delta of Italy, breeding centres for two species of giant lizard in the Canary Islands, threatened vipers in Hungary, pearl mussels in Luxembourg and the bearded vulture (*Gypaetus barbatus*) in Andalusia, as well as a nursery in Sicily to raise seedlings of the threatened Sicilian fir (*Abies nebrodensis*). One issue concerning

such investments is the ability to secure continued funding once the LIFE pipeline is switched off. Cristina Barbieri, Director of Italy's Instituto Delta notes that in the case of the Adriatic sturgeon, one of the breeding centres improved with the help of the LIFE COBICE project (**LIFE04 NAT/IT/000126**) now faces "economic difficulties" mainly as a result of less public funding being available.

## Issues with investments

There are other potential pitfalls of making large-scale investments for nature conservation. The response of habitats and species to restoration programmes cannot always be predicted and several projects give examples where the hoped for recovery has not yet been confirmed and even situations where the conservation status has deteriorated. Sometimes it is the case that by addressing one problem, another more complicated problem becomes evident.

For example, a study on the effectiveness of 15 years (1996-2009) of nature conservation projects in the March-Thaya floodplain in Austria[6] concluded that, despite continuous efforts by NGOs and some €9 million invested from mainly public bodies, the results are not very satisfying with a decline in the conservation status of several species and habitat types. The assessment, however, concluded that a LIFE project included in this effort[7] had a positive effect on the target habitats and species but in the end could not stop the continuous deterioration. The lesson from this example is that LIFE is a relatively small fund that cannot be expected to address all the problems affecting a large river catchment unless it is part of a long-term strategic approach. The introduction of Integrated Projects in the 2014-2020 LIFE Programme will be an opportunity to develop strategic approaches.

*6 In ex-post report of LIFE98 NAT/A/005413 quoted as Kelemen-Finan et al 2011. More info from Ruth Brauner*
*7 LIFE98 NAT/A/005413 Water World March-Thaya-Auen*

## Slovenia's Sečovlje salt pans

Barbara Sovinc is the project manager of two Slovenian LIFE projects targeting the Sečovlje salt pans. The projects - one of which is ongoing - have had a twofold impact: helping to restore an area of very rare EU habitat, a breeding site for valuable bird species; and creating a significant number of jobs, thanks to the re-establishment of salt extraction and associated tourism.

"During the first project, [which ran from 2003 to 2006] salt extraction and production was resumed after more than 40 years," says Ms Sovinc proudly. She explains that a main action was the restoration of a system of dykes and embankments where, due to lack of funds, maintenance had not been carried out for decades. Moreover, nesting islands were created, as additional breeding areas for birds.

The project beneficiary, SOLINE Pridelava soli, is a privately-owned salt company, which is also responsible for managing the state-designated protected area from which it draws its salt (a park and Natura 2000 site). When the extraction started there were almost no jobs associated with the activity, says Ms Sovinc, adding that nowadays the company employs 96 people with 49 working on nature conservation actions. Its high-quality Piran salt (Sečovlje - www.soline.si) is sold worldwide.

The second, substantial investment in the salt pans - of more than €7 million, including some €3.4 million from LIFE - is the 2009-2015 MANSALT project. It involves the construction of sea walls to protect the habitats and salt pans from sea surges (especially during storms), as well as targeted awareness-raising activities. "An important lesson learned from the first project was that the park [i.e. the salt-company] needed to invest more on communication and awareness," says Ms Sovinc. "This was foreseen under the second LIFE project and is already proving a great success. The park had around 8 000 visits in 2003, and now it has more than 45 000 visitors annually," she notes.

Importantly, this large-scale investment to restore the salt pans and habitats is starting to pay dividends and the beneficiary predicts that in the near future its salt revenues will cover the restoration and management actions of the Natura 2000 site. Thus, the long-term ecological and economic sustainability looks assured.


Photo: LIFE00 NAT/SLO/007226

CAPACITY BUILDING

# LIFE the catalyst for **action on many levels**

**Capacity building has been one of the most significant achievements of the LIFE Programme over the last 21 years.**

Amongst the most widely noted and widely praised of LIFE's achievements has been its impact in terms of building capacity for conservation action across the EU and beyond. Particularly in the early years of the LIFE programme co-financing was used to support a burst of conservation activity. For countries such as Finland and Sweden their first LIFE projects from 1995 were significant in helping to establish the Natura 2000 concept and projects such as those on Stora Alvaret and for the Western Taiga started before the Habitats Directive had been transposed into Swedish law.

More recent entrants to the EU – such as Romania (see pp. 33-34) and Slovenia (pp. 35-37) have experienced similar benefits from LIFE co-funding on conservation actions both before and after accession.

For reasons that are well-documented, there is often a lack of institutional capacity and resources to dedicate to nature conservation objectives. LIFE Nature can provide the impetus required to begin coordinated conservation efforts or to make existing efforts more strategic. In Greece, for instance,

*Raised bog restoration in Ireland*

Photo: ASTRALE EEIG/Evelina Dunleux

the wolf was heading for extinction until a LIFE Nature project in 1997, run by the NGO ARCTUROS, established a solid scientific basis for the presence of the species in the country and promoted preventative measures to reduce attacks on sheep. The project led to the establishment of a wolf sanctuary, a breeding centre for shepherd dogs, and an education centre to raise awareness about the species.

## From individuals to communities

LIFE has helped build capacity at individual, team, organisational and community levels.

An example of individual capacity-building is provided by Cristina Barbieri, President of Italy's Instituto Delta and coordinator of two LIFE projects. "Over the years the LIFE experience taught me the importance of a holistic point of view," says Ms Barbieri. "Ecosystems are an equilibrium of biotic and abiotic factors, so it is necessary to balance the actions and consider possible reactions of other elements of the ecosystem. Sometimes it is necessary also to consider possible reaction outside the area of the project's implementation. This is something that should be integrated in all LIFE projects," she adds.

Highlighting LIFE's capacity for team-building are the large carnivore projects of Spain's Cantabrian Mountains, where members of bear patrol teams, created as part of a 1990s project, continue to work with the project beneficiary on further actions to protect endangered brown bears (see the LIFE Focus publication *LIFE and human existence with large carnivores*).

Ex-post evaluations repeatedly demonstrate that many organisations, and especially smaller NGOs, have used LIFE co-financing to build up their land holding, staffing, skills, knowledge and influence.

Larger, well-established NGOs have also reaped the benefits, as the RSPB's Nick Folkard highlights: "Certainly in project management terms, LIFE projects have probably been at the forefront [of RSPB capacity building]. We've tended to use a fairly formal project planning process based around LogFrames and so on which was recommended years and years ago for LIFE... Recently the RSPB has tried to put in place a standardised approach to project planning/management across the whole organisation. And while that's not quite LogFrame based, there are similarities about being very clear what your project purpose is and what your outputs are – [LIFE] has kind of led the way in that sense."

Photo: LIFE03 NAT/SLO/000077/Peter Buchner

*Corncrake (Crex crex)*

Mr Folkard provides a second illustration of how the RSPB has boosted its capacity through LIFE: "In terms of conservation, it's allowed us to do things that we were dabbling with previously and really roll them out on a big scale. For the blanket bog in Scotland, the scale of it was vast; we had a rough idea what we wanted to do, but we used the first LIFE project to try out a range of techniques, work out which is the most effective technique, and then the second project to really roll out the best technique on a huge basis. LIFE allowed us to trial things, see what works and then roll it out."

One notable example of how LIFE has helped an organisation build up its land holding comes from Slovenia, where the Crex Slovenia project (**LIFE03 NAT/SLO/000077**) bought an area of more than 260 ha, that now is managed by hay-mowing supported by Rural Development Programme agri-environmental measures. The change in approach triggered by the project since has led to further land purchases.

A clear indication of how LIFE has helped an organisation build up its staffing levels is provided by Maria Jesus Palacios, head of service of nature conservation projects in Extremadura, Spain: "In 1990 there were two of us working in nature conservation in Extremadura. Today the nature conservation service is one that employs more than 100 people, of which 12 are directly contracted by LIFE projects."

Ms Palacios also highlights the capacity of LIFE to influence policy-makers: "Thanks to the DESMANIA

project (**LIFE11 NAT/ES/000691**) we managed to achieve a national strategy for the conservation of the Iberian desman. At the presentation of this national strategy to conserve this 'ugly' animal were the Secretary-general and various director-generals of the regional government." Such a high-level political presence had not been seen at the launch of previous national conservation strategies (such as for the bear or the lynx). "The politicians hadn't seen the importance of getting involved. The presence of the Secretary-general shows the importance now attached to this issue," she explains.

Cyprus provides an excellent example of what can be achieved through LIFE at community level. "The LIFE projects and the Natura 2000 concept have brought about a new era in Cyprus in nature conservation. If we hadn't had the LIFE projects, I don't think that we would have done anything [in terms of conservation]," says Takis Tsintides, Chief Conservator of the Department of Forests. "With this chance [LIFE], because [senior civil servants] see that Europe gives money for nature conservation, this has an influence on them and their decisions, and the way that they see things. Even the politicians have changed their views," he believes.

## Lasting effects

LIFE projects can also help to stimulate 'sister-projects' and other LIFE actions. Cristina Barbieri cites the example of LIFE Comacchio, a project which ran from 2001 to 2006 (**LIFE00 NAT/IT/007215**) and "attracted the attention of other site managers in Italy and also in other European countries. It led to the implementation of another project, LIFE MC-SALT (**LIFE10 NAT/IT/000256**), which aims to improve the conservation status of coastal and dune habitats and breeding bird species by sharing experiences, technologies and knowledge among Italy, France and Bulgaria over nine different Natura 2000 sites."

*Iberian desman (Galemys pyrenaicus)*

Photo: David Perez, under Creative Commons License

The transnational benefits of projects have also been noted by Jesus Maria Palacios, who believes that "LIFE gives a good stimulus to cross-border cooperation." She cites the example of INVASEP (**LIFE10 NAT/ES/000582**), a project led by the regional government of Extremadura with partners from Portugal and the Spanish national government. The project has created a working group that led to a Royal Decree on invasive species. "[The decree] provides a catalogue of invasive species and requires you to have management plans to eradicate them. It also means that there has to be a risk analysis of any new species that anybody wants to introduce into the country... This LIFE project was the first time that two countries of the European Union joined with the common aim of fighting against an invasive species - through the working group and through the creation of the regulations, but also through common actions," she explains.

A number of the earlier LIFE projects developed best practice methodologies that could be passed on to those working in similar situations. The Finnish experience is instructive in this regard. There, says Mikko Tiira of Metsähallitus, "LIFE has been a big, big learning process, especially with the two large projects on the restoration of boreal forests (**LIFE03 NAT/FIN/000034**) and peatland (**LIFE00 NAT/FIN/007060**). This is why we are now producing best practice guidelines." In any field of conservation LIFE projects will only be a contribution to the overall conservation objective, but their influence can be significant, helped by dedicated resources for dissemination and networking.

Even well-established NGOs have benefitted from the networking element that is built into LIFE, as Nick Folkard observes: "Historically RSPB has always been quite a UK-focused organisation, so the encouragement to talk to people in Hungary, the Netherlands and Sweden or wherever has been good. That has broadened our horizons a bit."

Highlighting the full extent of LIFE's capacity to build capacity is the case of the Vrancea Environmental Protection Agency in Romania, as the interview on the following pages illustrates.

CAPACITY BUILDING

# LIFE boosts **conservation capacity for Romania's large carnivores**

**Two Romanian experts in large carnivore conservation highlight the positive impact that the LIFE programme has had in their country, both before and after EU accession.**

*Silviu Chiriac is Adviser to the Vrancea County Environmental Protection Agency in Romania. He is currently coordinating his third LIFE project, LIFEURSUS (**LIFE08 NAT/RO/000500**), following on from **LIFE02 NAT/RO/008576** and **LIFE05 NAT/RO/000170**. Ioan Mihai Pop is a member of the Association for the Conservation of Biological Diversity, and is the coordinator of LIFEURSUS activities focused on human-bear conflicts. He has also developed guidelines for monitoring populations of brown bear. The two experts explain how LIFE funding has helped build capacity for large carnivore conservation in Romania:*

"In 2001, with the support of the Vrancea County Environmental Protection Agency, which had almost no resources, we drafted a LIFE project proposal (on an old Soviet typewriter) to target the large carnivores of the Vrancea mountains (i.e. brown bears, wolves and lynxes). The project was approved in 2002. We started with three people and now more than 25 of us are working on large carnivore nature conservation issues, either for the current LIFE project (ending December 2013) or other projects running in parallel.

## Defining and expanding the network

When we started there were no protected areas for large carnivores in Romania. The first LIFE project - pre-accession - proposed the creation of a local ecological network of protected areas for large carnivores within the Vrancea Mountains, which was approved by the Romanian government. It also put forward the eight sites for possible inclusion in the Natura 2000 network.

In 2007, during the second project, these eight areas - around 40 000 ha in total - were officially approved as part of the Natura 2000 network by the Romanian Environment Ministry. This second project also proposed management plans for the Natura 2000 sites. We have expanded our capacity again with the latest LIFE project: it now covers 15 Natura 2000 sites across three counties (Vrancea, Covasna and Harghita) where the bear is present.

## Developing expertise

The major benefit of the first LIFE project was to create a core group of experts and managers that is independent from the state. We started at local level with large carnivore issues, and now we support those issues at national level. Thanks to LIFE and the expertise gathered over the course of the three projects, we are now able to advise the Romanian Environment Ministry on large carnivore issues.

The three LIFE projects, along with rest of our activities, have supported the implementation of large carnivore policy and large carnivore conservation in Romania. We are helping the Romanian authorities with the implementation of the Habitats Directive for the bear, wolf and lynx. For example, we are monitoring one-third of the area of Romania for large and small carnivores. The data produced go to the ministry and are used in the assessment of the conservation status of the species for Article 17 of the Habitats Directive (reporting of the status of listed species).

We have been monitoring the numbers of bears in Vrancea County since 2002. At that time there were 240 bears; in 2012, we recorded 300 bears. We also monitor numbers of wolf and lynx and record the incidence of illegal trapping and shooting of all our large carnivores.

*Silviu Chiriac*

*Ioan Mihai Pop*

Since 2002, we have noted a drastic reduction in illegal kills. For instance, 24 bears were shot in 2002, but only one in 2012. This trend is definitely thanks to LIFE and its actions. We have recorded a similar trend for wolves and lynxes in Vrancea County.

We have also been recording new threats to large carnivores that are outside the scope of our LIFE project actions, such as the impact of stray dogs and a decline in the availability of prey.

## LIFE after LIFE

After the latest project ends, conservation activities will continue. We have the know-how and the capacity is now installed. For instance, one of the partners of the 2002 project was a local NGO - Asociatia Pentru Conservarea Diversitatii Biologice (APCDB) - which is still managed by the same core team of experts. APCDB has since managed six projects funded by different sources (from National Geographic to European Environment Agency grants – more than €2 million investment in total), drawing on the initial capacity-building impact of LIFE. These additional projects have run in parallel with and complemented the work of the LIFE projects.

For example, one project, supported by EU Regional Funds, is helping with the Romanian government's Article 17 monitoring and reporting. Another ongoing project involves cross-border monitoring and collaboration between Ukraine and Romania. This is managed by WWF and funded by the EU through the Hungary-Slovakia-Romania-Ukraine Cross-border Cooperation Programme 2007-2013. Thus, LIFE has helped create the basis for further projects from LIFE and from other sources.

Photo: LIFE05 NAT/RO/000170/Emilian Burdusel

*This rehabilitation centre for large carnivores, established with LIFE's support, is still in operation today*

## Socio-economic impact

One of the major and direct results of LIFE actions has been a significant reduction in the amount of attacks and damage inflicted by large carnivores. This has had a major local impact both socially and economically, since the main sources of income in the area are livestock and forestry activities.

The establishment of the National Park as a result of the 2002 LIFE project has directly created 15 jobs and has boosted tourism: the area had fewer than 1 000 visitors per year, and now it has more than six times as many. The LIFE projects have also boosted the production of local goods, such as cheese and honey. In parallel with the LIFEURSUS project we have developed a tourist agency to coordinate tourism and increase local products' visibility. Such products are identified with a 'bear-friendly' label, giving added value and improving the image of the species and protected areas amongst local communities.

The use of local contractors by the three projects means that the LIFE 'brand' is widely-known locally. LIFE has become a sort of symbol for local people. For example, with the second LIFE project we installed electric fences, and now there are private companies using both Rural Development Programme and private-sector funding to continue installing fences, building on the know-how that we acquired through LIFE."

*Actions to protect flocks of sheep have reduced incidence of conflict between large carnivores and the local community*

Photo: LIFE05 NAT/RO/000170

CAPACITY BUILDING

# Capacity building in Slovenia

**LIFE Nature has had a significant impact on Slovenia's ability to carry out conservation actions, both before and after EU accession. An integrated approach with socio-economic benefits is helping to ensure long-term sustainability of results.**

With 37% of its territory inside the Natura 2000 network, Slovenia has the highest density of coverage of any EU Member State. There have been 19 Slovenian LIFE Nature projects since 2000 (following on from a 1994 LIFE-TCY project on karst nature conservation issues). These have mostly targeted wetland habitats and species.

Julijana Lebez-Lozej, the National Contact Point for LIFE in Slovenia, highlights the important capacity-building role that the programme has played in her country: "The first [LIFE Nature] project was in the Triglav National Park. It was a small project with very important actions: forestry guidelines, tourism regulations and a peat bogs site management plan that are still in use today."

She explains that the management plan was the first of its kind in Slovenia and served as a template for later Natura 2000 site management plans. "It included short and long term goals and set guidelines for the management of species and habitats of EU importance present within the site together with other species present in the area." Moreover, she emphasises, the bog habitats targeted by the project are recovering well – and this recovery is monitored by the National Park (NP) staff as part of the project's and the wider Natura 2000 management plan initiatives.

## Stakeholders come together

She attributes the success of several of the Slovenian projects, including the one in Triglav, to the

Photo: LIFE00 NAT/SLO/007226

*Grazing horses, a management measure at the Skocjanski Zatok Nature Reserve introduced through LIFE*

*Julijana Lebez-Lozej, the National Contact Point for LIFE in Slovenia*

fact that they were able to get all the stakeholders around the table together – from foresters to owners and managers of ski resorts: "LIFE was very important in getting everyone talking and working together in order to solve problems", she says, noting that many stakeholders still have regular meetings. One example is the Natura 2000 in Slovenia project, which created a start-up platform for stakeholder discussions, in particular involving farmers, about Natura 2000 areas. Although the project closed in 2007, the national platform remains very active, confirms Ms Lebez-Lozej.

Another notable example is the 2004 AQUALUTRA project where the project team worked with more than 20 small municipalities in implementing its conservation actions for the Eurasian otter *(Lutra lutra*). This was key to the project's success and long-term sustainability, she says, adding that without the support of the mayors of the towns and villages concerned, these actions could never have been implemented.

## Monitoring and management after LIFE

Whilst some sites and areas continue to be monitored after a project's end by the coordinating beneficiary, Ms Lebez-Lozej says this is not always the case. Sometimes the task is assumed by another body, such as a project partner. In other cases, the responsibility for continued after-LIFE monitoring of specific habitats and species falls to the environment ministry, as part of its conservation obligations under the EU nature directives. But, she is quick to emphasise, the NCP and ministry do not monitor all former LIFE project areas and once the relevant information is collated from across the country a call for tender (with national funds) is launched. Additionally, a number of national NGOs are working on follow-on monitoring of species. For example, DOPPS/ Birdlife Slovenia, the NGO and former beneficiary of the 2003 Crex Slovenia project is continuing the monitoring of corncrake (*Crex crex*).

Similarly, there are various sources of funding for after LIFE management actions. "LIFE being a dedicated fund for the Natura 2000 network has a very important pump-priming effect on the use of other funds in Slovenia, namely RDP funds and Regional funds," observes Ms Lebez-Lozej. Unfortunately, for some projects there is no follow on activity, she concedes. This was the case for the Karst park project, which has not been followed up with further actions or monitoring of the targeted semi-natural dry grasslands since it closed in 2005. Despite this, she reports that the habitats are "doing okay on their own", because traditional agricultural activities (e.g. animal grazing and hay-mowing) are still being carried out in the area.

## Impact on species

Finally, Ms Lebez-Lozej believes the LIFE Nature programme has had a "major impact" on the improvement of the conservation status of emblematic

*LIFE had a pump-priming effect in Slovenia on the use of other sources of funding for managing habitats, such as the use of RDP funds to mow meadow habitats for the corncrake*

Photo: LIFE03 NAT/SLO/000077/Andrej Medved

species such as the corncrake and the brown bear (*Ursus arctos*). For instance, overall numbers of corncrake are no longer decreasing and appear to have stabilised in the country thanks to LIFE's actions. In particular, LIFE has had a "pump-priming effect" on the use of RDP funds by farmers for managing the grassland areas in a manner that is favourable to the birds.

A similar effect has also been observed in the conservation of bears and wolves. Monitoring measures introduced by the 2002 LIFE project, Ursus Slovenia, are still in place today: "We don´t have problems (conflicts) with bears and the monitoring is carried out in collaboration with the hunting associations and the local population," she explains.

## Instigating change in the Koper wetlands

Nataša Šalaja was project manager of the DOPPS project (**LIFE00 NAT/SLO/007226**), which ran from 2001 to 2007 (i.e. before and after Slovenia's EU accession). The project aimed to restore habitats and conserve birdlife in the Skocjanski Zatok Nature Reserve, the only brackish water site in the country. It was part of a larger restoration and management programme for the whole Koper coastal wetlands area.

The project improved the lagoon area's water circulation through the removal of sediments, the creation of a new marsh, flooding of land previously used for agriculture and the installation of equipment to control and regulate the inflow and outflow of water.

Its conservation actions have had a "remarkable impact" on the targeted wetlands and water bird species found there, says Ms Šalaja, who notes that it managed to almost double - from 130 to 240 - the number of bird species recorded in the newly-created areas of mudflats and islets.

Moreover, she emphasises, the lessons learnt under LIFE have also improved the capacity and knowledge of the project beneficiary, DOPPS/ BirdLife Slovenia. For example, she says, with the help of the NGO's Italian partners, this was the first project to propose a Natura 2000 site management plan in Slovenia. The experience gathered on this first project was then transferred to other projects. "Without LIFE's initial investments the recovery and long-term maintenance of the salt marsh habitats and species wouldn´t have been possible."

Another positive is that in the period after LIFE the continued monitoring of water levels and of habitats and species and the management of the site has been assured until 2019, under a state concession awarded to the NGO: "It's the same project team that's been working in the area since 2000," she affirms.

More recently, the Natura 2000 site, which is regularly frequented by inhabitants of the city of Koper, received a large investment co-funded by the European Regional Development Fund (ERDF) to build paths, observation areas and a visitor centre.

Figure 3. **Increase of some new breeding species after LIFE (in pairs): 2007-2013**

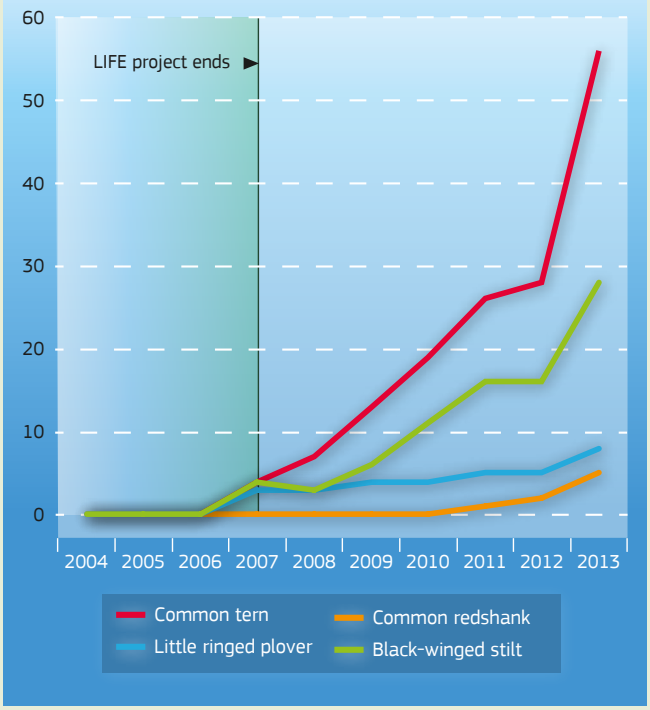
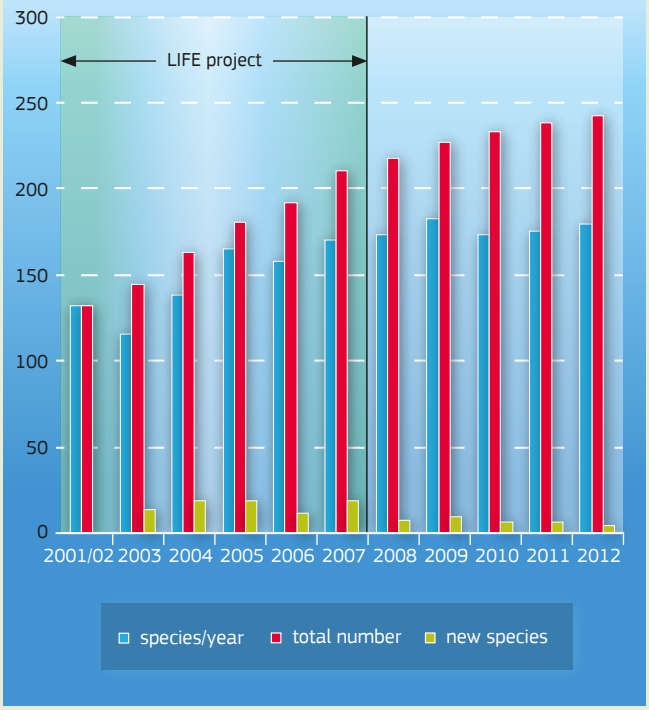



Figure 4. **Increase of bird species 2001-2012 in Skocjanski Zatok Nature Reserve**



CAPACITY BUILDING

# LIFE's **long-term impact on Madeira**

**A study of multiple conservation projects that have been carried out by a single beneficiary in Madeira confirms the 'added value' of LIFE Nature funding. It shows an organisation's increasing capacity to manage nature and growing public awareness of endangered habitats and species.**

Photo: LIFE00 NAT/P/007097/Dilia Menezes

*Accessing the breeding area for Zino's petrel required specialist mountaineering skills*

In 2012, the long-term impact of a series of LIFE Nature projects completed in one region, the Portuguese islands of Madeira, was assessed in a single ex-post report. The main goal of the visit was to get an overview of the collective impact that LIFE investments have had on the Madeira Archipelago - in the management measures taken in the field but also on a move towards conservation-friendly behaviour from stakeholders and on the application of the environmental policy necessary to tackle the threats identified in the LIFE projects.

As Madeira is a peripheral region with a reduced budget for nature conservation, the regional nature conservation authority – the Serviço do Parque Natural da Madeira (SPNM) – identified in LIFE the opportunity to apply for funds for pump priming the recovery of the most emblematic and endangered habitats and species of the region.

## Project overview

Since 1992 SPNM has completed the seven projects analysed in the Madeira report (see box) and is running a further three projects. These 10 projects (total investment: €8.56 million) have targeted the islands' unique habitats and species from the top mountain areas [breeding habitats of Zino's petrel (*Pterodroma Madeira*) and Fea's petrel (*Pterodroma feae*)], to the Macaronesian habitats of laurel forests [with the presence of the Madeira laurel pigeon (*Columba trocaz*)] and marine habitats focusing on the monk seal (*Monachus monachus*).

**LIFE Nature Madeira projects 1992-2006**

| | |
|---|---|
| LIFE92 NAT/P/014200 | LIFE98 NAT/P/005236 |
| LIFE94 NAT/P/001052 | LIFE00 NAT/P/007097 |
| LIFE95 NAT/P/000125 | LIFE06 NAT/P/000184 |
| LIFE97 NAT/P/004082 | |

Photo: LIFE09 INF/PT/000045/Carlos Viveiros

*Monk seal in the Desertas Islands Natura 2000 site*

The priority habitat for conservation Macaronesian laurel forests (*Laurus, Ocotea*) was targeted by five LIFE projects between 1992 and 2000. Common actions to safeguard this endangered habitat included land purchase, exclusion of livestock grazing, removal of invasive and exotic species and actions to protect the endemic Madeira laurel pigeon.

Two projects targeted the critically-endangered Mediterranean monk seal (in its most westerly population) and the endangered endemic Zino's petrel (world population estimated at 30 pairs); and two projects had Fea's petrel as the only target species.

More recently, for one of its 2009 projects (**LIFE09 NAT/PT/000041**), SNPM is compiling comprehensive information about endemic species in the Porto Santo islets in order to develop action plans for endangered seabirds, plants and land snails. These will be used to ensure the appropriate habitat management for the long-term biodiversity of this part of the archipelago.

Collectively, the projects have addressed a range of threats, including illegal tree felling, conversion to agriculture and livestock grazing affecting the laurel forest by reducing its range and the spread in the forest of invasive ginger lily (*Hedichium gardnerianum*). Other threats were the presence of a large population of rats in the forest preying on birds, so reducing the natural spread of forest seeds; the presence of introduced mammals (goats, rabbits, rats and cats) on smaller islands (especially Deserta Grande) leading to erosion; and damage to the breeding sites of the rare endemic birds such as Fea's petrel. In addition, uncontrolled tourism is a threat to some species. The 2011 project (**LIFE11 NAT/PT/000327**) is a direct response to a wildfire that destroyed 2 800 ha of the Maciço Montanhoso Central Natura 2000 site; the goal is to regenerate this fragile ecosystem in the Madeiran Central Massif, including 13 species listed in the Birds or Habitats Directive and three priority habitats for conservation (endemic Macaronesian heaths, endemic forests with Juniperus spp. and European yew (*Taxus baccata*) woods.

## Relevant and efficient

The monitoring team carrying out the ex-post survey noted a "very good" efficiency of project implementation, with some 90% of proposed actions carried out successfully.

Each consecutive project showed an improvement in design and efficiency, which can probably be attributed to the cumulative experience gained by the beneficiary. Key aspects of project design were knowledge of the problems, discussions with stakeholders and the fact that the beneficiary was the competent authority for environmental issues. These factors also helped the beneficiary design "relevant" projects, which in turn led to high scores for long-term project sustainability.

An important outcome for securing long-term conservation was the drafting of species action plans and three broader management plans covering project areas. As well as these plans, the projects - even those as early as 1992 and 1994 - included concrete conservation actions, such as the removal of predators and herbivores, control of invasive species and restoration of natural vegetation. Land purchased was part of a larger strategic plan to manage the laurel forest. Another main output concerned the positive influence of the projects on the local community and stakeholders gained through effective awareness raising, mainly targeted at school children and key interest groups.

This has led to a huge increase in knowledge on the ecology of priority habitats and rare species, changing attitudes towards nature in sectors such as fishing and farming (through one-to-one contacts, education programmes and printed material) and greater local pride in emblematic species. Farmers, for instance, changed their practices with the help of the projects to reduce conflicts with the laurel pigeons and local fishermen began to accept the monk seal. The 2000 project on Zino's petrel promoted the species as an asset to tourism, encouraging responsible behaviour by the industry and leading most local people to associate LIFE with this species.

## Opportunities for improvement

Building relations with the local community has been an important element in the success of the projects. Yet, despite these achievements, more could be done to increase awareness of the Natura 2000 network, which remains low.

There is also room for improvement in other respects because, although the projects have been very successful in general, not everything has gone to plan. For instance, whilst the 1997 project led to the drafting of a regional strategy for eradication of invasive plant species and the employment of a permanent team of three people, the draft strategy has not been implemented and so there is no legal framework in place to combat invasive or exotic species. Indeed, as a sign of the need for such a framework, the ginger lily (an invasive plant species) was observed on open sale locally during the mission to compile the ex-post report.

With regards to the 1998 project, mitigation measures to prevent crop damage by pigeons were implemented but there was not full cooperation from farmers. There was a need to convince farmers that the measures would work.

It also should be noted that whilst the design of all the completed Madeiran projects was appropriate for reaching the objectives, in some cases more time than anticipated was needed for land purchase, the lesson being to allow time for dealing with authorisations and bureaucratic processes. In other cases, work was delayed as a result of bad weather.

## Conservation boost

Taken together, however, it is clear that the projects have given conservation efforts a massive boost in

*By engaging with Madeira's coastal communities, LIFE is supporting efforts to reduce conflict between biodiversity conservation, economic development and traditional activities, such as fishing*

Photo: LIFE09 INF/PT/000045/SPNM

Photo: LIFE00 NAT/P/007097

*Successive projects have encouraged respect for nature*

the region and provided the necessary impetus for continued management. Thanks to LIFE, the habitats and species targeted are now in a better conservation status with threats reduced and populations increasing. Project actions have helped to reduce the most important problems for the target seabird species (predation of eggs and individuals, absence of nesting sites caused by erosion and presence of herbivore species), for the Madeira laurel pigeon (conflicts with farmers), for the monk seal (human disturbance) and for the laurel forest (invasive plants).

Some projects also had demonstration value. For example, the eradication of non-native animals on Deserta Grande (1995 project) was innovative and the first of its kind in Europe. The method was subsequently applied in another LIFE project in Macaronesia – the SAFE ISLANDS FOR SEABIRDS project (**LIFE07 NAT/P/000649**) on the island of Corvo in the Azores.

In terms of incentive value, the initial LIFE project in 1992 acted as a catalyst for a series of follow-on projects targeting the Madeira laurel forest which, together, have formed a continuum of effort greater than the sum of each project. For instance, the four areas of land purchased over the course of five projects created a large area that is more efficient to manage.

LIFE co-funding has also had a socio-economic influence on Madeira, providing local employment during project implementation and some long-term employment, for example, in the natural park, where a team of three people is working to control the spread of invasive species and additional permanent posts have been created. Conservation is closely linked to eco-tourism (whale, seal and bird watching) so the projects also helped to support the wider economy. Moreover, local people are aware of the ecosystem services from healthy forests for drinking water, for recreation and for tourism on the islands.

Capacity building was another key success factor and the projects have undoubtedly increased the capacity and efficiency of the beneficiary – not just through knowledge and skills but also facilities and equipment. Project personnel developed skills and increased their motivation, as demonstrated by the fact that the two more recent projects evaluated (2000 and 2006) were both winners of the annual LIFE Nature 'Best' Projects awards.

Importantly, monitoring has continued for all the projects. The continuity of key actions is guaranteed by the beneficiary through its regional budget and from revenues. The priority laurel forest areas purchased by the projects are managed as a single unit that is efficient and cost effective.

## Conclusions

Thus in summary, the projects helped targeted areas of laurel forest habitats to recover after removal of non-native species. They also succeeded in improving the conservation status of the Madeira laurel pigeon, Zino's petrel and the monk seal. Furthermore, the work of the 2006 LIFE project allowed the definition of a new species now named Bugio's petrel (*Pterodroma deserta*), which is endemic to Desertas.

*Awareness-raising has played an important role in the success of LIFE project actions in Madeira*


Photo: LIFE06/NAT/P/000184

CONCLUSIONS

# Long-term success factors for projects

**What makes a project successful? Common overall approaches identified by ex-post evaluations include: delivering tools to improve management capacity; engaging relevant public authorities; effective local stakeholder engagement; secure long-term funding; and transferability of best practices.**

Nature conservation interventions can be very specific to each targeted species or habitat. However, what is common is that it is very rare for one project to make a significant impact during its lifetime. Long-term success is usually dependent on the extent to which a project facilitates and strengthens ongoing work that can address multiple challenges over several years and adapt to changing circumstances.

## Delivering tools to improve management capacity

One of the most successful ways of delivering long-term success has been to create tools, processes or mechanisms that enhance management capacity to work on nature conservation. This is also an area where LIFE can add real value, since

*Hay-baling in late August at the Iski morost Natura 2000 network site, one of the tasks needed to manage extensively the grasslands in the project area*

Photo: LIFE03 NAT/SLO/000077/Andrej Medved

other nature conservation funding sources often require money to be spent directly on conservation actions.

Several LIFE Nature projects have worked to create the partnerships, deliver the agreements or identify the interventions necessary to deliver effective conservation practices long into the future. Examples of successful approaches include:

- Creation of national working groups on species conservation – e.g. Iberian desman; Spanish Imperial eagle;
- Approval of conservation strategies – e.g. Iberian lynx; Fea's petrel;
- Establishment of long-term management plans – e.g. brown bears in Romania;
- Definition of new legislation – e.g. Royal Decrees on power lines and invasive species in Spain;
- Identification of more cost-effective conservation interventions – e.g. for the forget-me-not at Lake Constance, Germany.

## Public authority engagement

Private project beneficiaries - such as NGOs - can drive actions to protect a habitat or species. They can also establish and deliver long-term management plans for areas of habitat under their protection. However, their ability to put in place and maintain ambitious long-term strategies and actions on their own is limited by their capacity.

The adoption of national strategies or legislation is much more likely where the relevant public authorities are involved in drafting them and will thus support their official approval. Public authorities are also more likely to have the capacity to provide the leadership, funding and long-term commitment necessary for the delivery of ambitious long-term plans and actions. "It is really important to highlight how crucial it is that the administrations are involved in projects," believes Maria Jesus Palacios, head of service of nature conservation projects in Extremadura.

Usually, an essential condition for regional or national authority engagement is that the project fits with relevant nature conservation priorities. This also significantly increases the likelihood that - whoever the project beneficiary - the project's work will be picked up, continued or developed through additional public funding at national or regional level once the LIFE project is completed.

Photo: ASTRALE EEIG/Justin Toland

*The RSPB's Nick Folkard: "Having follow-up projects is great and the fact that LIFE will allow it in the right circumstances is good"*

## Local stakeholder engagement

Another long-term success factor for projects is the extent to which they engage local stakeholders effectively. Success in this area prevents unnecessary conflict and the undermining of short-term conservation achievements by inappropriate human activities and behaviour.

"The fact that LIFE emphasises that and asks what are you going to do to engage the local communities is good," confirms the RSPB's Nick Folkard. However, he notes that in his organisation's case, "I don't think it's made us do things that we wouldn't have had to do anyway."

In many cases, successful LIFE Nature projects have worked with groups who were initially hostile to nature conservation approaches that they saw as a threat to their way of life. However, engagement and cooperation enabled mutual understanding between the different interests and the identification of solutions that met nature conservation goals as well as the needs of interest groups.

Indeed, the promotion of such approaches is perhaps one of the greatest successes of LIFE Nature overall,

Photo: ASTRALE EEIG/Simona Bacchereti

*Mikko Tiira, Development Manager with Metsähallitus, Finland's Natural Heritage Service*

given the need to balance long-term nature conservation goals with local economic development. The ex-post studies have shown the long-term success of LIFE Nature projects that have engaged well with stakeholders from important sectors of activity including farming, forestry, fishing and hunting.

## Success after a 'failed' project

The tale of the Nebrodensis project (**LIFE00 NAT/IT/007228**) shows how, even when LIFE appears to have failed - in this instance the project was even subject to a recovery order [i.e. for recovery of EU funds] - it can, in time, produce a positive impact. The project goal was to conserve and manage the remaining population of the Sicilian fir (*Abies nebrodensis*) whilst establishing an ex-situ nursery for future replanting. Ex-post findings show that problems experienced by the project were solved after its end, with direct benefits for the conservation status of this critically-endangered tree. The beneficiary's long-term commitment to improving propagation techniques for the species enabled it to deliver the results foreseen by the LIFE project at a later date. Effective protection measures for the Sicilian fir population – which numbered fewer than 30 adult individuals at the start of the project – have allowed for the development of natural regeneration, with the result that 80 wildlings have been observed near the mother-trees. In addition, more than 3 000 seedlings are available in the local nursery.

*Sicilian fir (Abies nebrodensis)*

Photo: ASTRALE EEIG/Michele Lischi

"You have to convince people that you are doing the right thing," explains Mikko Tiira: "For a number of years now, when we plan actions [in Finland], we inform neighbouring landowners and we have strong dissemination activities with local people, so that they know what we are doing."

Says Nick Folkard, "The machair project (**LIFE08 NAT/UK/000204**) we are running up in Scotland now is very much linked to local people's needs and desires and trying to help people stay on the land, start using the traditional approaches again. Interestingly it's almost become more of a socio-economic project than a biodiversity/conservation project."

Stakeholder engagement is so important that it has even been the main activity and primary objective of some projects. This is particularly clear in the case of LIFE Nature projects targeting large carnivores. To enable co-existence between humans and the target species, projects have worked to change attitudes, alongside practical interventions such as providing electric fences or compensating damage to livestock or beehives.

## Long-term funding

A clear lesson from LIFE is that often one project is not enough. "Having follow-up projects is great and the fact that LIFE will allow it in the right circumstances is good because there are many situations in which you can't crack a problem in three or four or five years," says Nick Folkard. He cites the example of RSPB's work to conserve the UK's bittern (*Botaurus stellaris*) population, co-funded by LIFE through two projects – **LIFE96 NAT/UK/003057** and **LIFE02 NAT/UK/008527**.

"If we'd been forced to stop at the end of the first one and never get any more LIFE money for bitterns, a huge amount of important work wouldn't have happened." Projects in phases provide flexibility and allow the experience of one project to influence the next (see the example of Madeira, pp. 38-41). "The idea that you can do a project and then build on it and learn from it is a great strength [of LIFE]," says Mr Folkard.

The importance of taking a long-term outlook is also shown by cases such as the Nebrodensis project in Italy (see box p. 44).

## Integrating the different factors

Cristina Barbieri of Italy's Instituto Delta highlights how a combination of all the success factors identified above have played a part in the success of LIFE projects in the Po Delta. "European funds in general, but particularly the LIFE funds, thanks to the information and communication activities, raise the awareness level of local communities and, sometimes, also of public authorities." She notes a double impact, with the financial investment initially attracting attention, whilst the projects also provide a platform for informing about the need to manage areas of high natural value. Investments in visitor centres have had a socio-economic impact by triggering tourist interest in the project sites, leading to new employment opportunities.

Maria Jesus Palacios notes that in Extremadura, "The tourism sector has started to react to the strong information and communication side of the LIFE projects. They are saying that if this nature aspect is important in this area I'm going to use that fact. LIFE is also doing important work to make sure that the development of the tourism sector is sustainable. We are trying to learn from our mistakes in Spain where in some areas tourism has had a negative impact on nature. The mistakes made with construction etc in the coastal areas have to be avoided in inland Spain."

Ms Barbieri believes that the size of the project area plays an important role in enabling the integration of success factors: "It is more probable that after the project implementation relatively big areas could develop some kind of initiative such as tourism, or other kind of activities that renew interest in the management of the sites."

## 'Red light' findings

As already discussed in the Italian NEMOS case study (see pp. 22-23), the analysis of a project after it has finished can highlight an area or areas where there were unexpected, even disappointing, results. So, despite LIFE's sterling efforts, in the aftermath of the NEMOS project species numbers continued to decline. However, it was discovered that this was because of external factors that couldn't have been foreseen at the time of the project application.

As another ex-post evaluation shows (see Orbotello lagoon box), sometimes, however, it is possible to foresee long-term difficulties. One conclusion that can be drawn is that perhaps actions for nature conservation should only get the green light when there are sufficient guarantees for their long-term maintenance and sustainability.

## LIFE and Italy's Orbetello lagoon

The main goals of the 1995 Orbetello Lagoon project (**LIFE95 NAT/IT/000698**) were to stop the principal causes of the degradation of the Natura 2000 site – one of the most important wetlands of the Tyrrhenian coast; and to restore areas of critical importance to birdlife, in particular breeding species.

However, the ex-post study reveals that the resulting management plan was never put into action; two of the site's restored islets were destroyed, whilst two more have not attracted the target species. Furthermore, invasive species are not under control, hunting continues and there is also considerable development pressure on the area. Only one out of six areas restored under the project showed a positive impact afterwards.

Unsurprisingly, the evaluation of the sustainability of the project is equally disappointing. There is, for instance, no evidence of positive changes and developments after the project ended and no subsequent funded monitoring of the bird species. A main conclusion therefore, is that this lack of commitment after the end of the project has allowed the project gains to erode: a failure that appears to be symptomatic problems affecting much of the Ortobello area. One notable exception is an area within the lagoon managed by a later LIFE project led by WWF (**LIFE00 NAT/IT/007208**). This tackled similar threats to Orbetello lagoon with positive impacts that are still felt today, within a limited area of the lagoon.

CONCLUSIONS

# Lessons learned at project level

**Despite best intentions or actions, nature conservation projects sometimes fail. LIFE Nature evaluations highlight important lessons learnt from running projects and put forward some reasons for their success or failure.**

At project level, the ex-post visits also looked at the appropriateness of design and implementation and whether the Natura 2000 sites and/or European habitats and species targeted were in a better conservation state at the end of the project and after.

Generally where project design is poor, the problems run right through the project, leading to poor sustainability. Reasons for this vary, but may include not understanding the conservation needs and context, not having a good partnership and/or not having the support of the main actors. With experience, the project beneficiaries should be able to better identify those projects at risk from a lack of continuity of management or actions and to adjust them accordingly, possibly under a follow-on application or even during the project.

Some of the ex-post visits highlighted examples where the project design was weak. These include projects that were prepared without sufficient consultation, were over-optimistic about what they could achieve, or where the actions were outside the competence of the applicants. Other examples of poor design include projects where insufficient information was available on target species and habitats, where applicants did not have the support of key stakeholders, or where significant changes were made at the last minute, especially to time scales

## Partners for LIFE

Good partnerships with relevant stakeholders are often the key to success. If the partnership is weak,

*Sharing knowledge is vital for projects to have a long-term impact*

Photo: LIFE05 NAT/FIN/000105/Ingar Olen

## The regional authority of Trento in Italy

Italy's regional authorities support projects as beneficiaries, co-financiers and in providing funding for sustainable management. The Province of Trento has run three completed LIFE projects, NIBBIO (**LIFE95 NAT/IT/000742**), NECTON (**LIFE97 NAT/IT/004089**) and NEMOS (**LIFE00 NAT/IT/007281**).

The regional authority has used these projects to support its 'slow but steady' approach to land purchase, designation of Natura 2000 sites, habitat restoration and the establishment of long-term management. The authority has developed a good communication network between stakeholders and local municipalities. When buying land, for example, the support of the municipalities is crucial because they can help in the relationships with the landowners.

The province has an annual budget to purchase land for conservation (some 40 ha has been acquired after LIFE). It can also designate Natura 2000 sites; fund non-recurring and recurring management of sites based on annual payments; tailor agri-environment schemes to match its needs, as well as having an 'emergency fund' for conservation purposes. In the Natura 2000 site Lago d'Idro, for instance, the province has replaced bridges destroyed by flooding. Other strengths include encouraging spin-off projects and support for ancillary activities such as unemployment-relief schemes linked to conservation.

One outcome of this strong position is that regional funding mechanisms are becoming more attractive for follow-on projects, putting less pressure on repeat applications to LIFE. The region's capacity for nature conservation has also led it to become one of the first beneficiaries of LIFE funding for Priority Action Frameworks (the TEN project – **LIFE11 NAT/IT/000187**). The objective of this project is to plan an integrated long-term management system and restoration programme for the Natura 2000 network within Trento, with a particular focus on encouraging local responsibility, participation and integration.

*Lago d'Idro*

Photo: Matteo Freddi, under Creative Commons License

either at the design stage or during the project, this can lead to problems implementing the actions. LIFE can provide the resources needed to prepare thorough communication strategies. This may be time-consuming, but it can pay dividends in terms of local acceptance of conservation work.

The support of regional authorities (or their equivalent) is often crucial, especially in consideration of Nature 2000 site protection and management, Rural Development Programme (RDP) agri-environment schemes, compensation schemes and long-term funding. For example, the Italian projects seem to have good long term support, as illustrated by the Trento regional authority (see box).

### Commitment

Evaluations of LIFE projects identify motivation as the single most important success factor. The commitment and genuine passion of management teams - often led by NGOs - has been essential to the success of LIFE Nature projects.

As mentioned in the introduction (pp. 3-11), the measure of 'effectiveness' is a key aspect of the ex-post assessment. An effective project has to change a situation from one where there are clear threats to one where the threats are being addressed and the future prospects for the habitat or species has improved. In all projects this is achieved to some extent.

### Expect the unexpected

An element that cannot be controlled through plans is the reaction of local stakeholders to the project, its activities and its results. Only the in-depth approach of an ex-post mission can attempt to assess long term the 'chemistry' between the participants (beneficiaries, partners, stakeholders etc) that is often so important for determining success or failure in the long run. At the heart of this is often trust in the coordinating

Photo: LIFE08 NAT/SLO/000244/Miha Krofel

*Monitoring wolves in Slovenia. Sharing of the information gathered by LIFE projects at networking events for experts and amongst relevant stakeholders is crucial to the success of conservation efforts*

beneficiary and the ability of the project manager or project team to communicate with all interests and to secure support for management activities.

Habitat restoration or species recovery projects can be controversial and be opposed by local communities. Whilst slow environmental degradation can go unnoticed, the restoration actions often appear to be dramatic and raise concerns.

Many large carnivore projects take place against a backdrop of entrenched hostility, but where the species' presence is also a positive driver for ecotourism. In all such projects it is essential to build relationships with hunters, farmers and other local interests. LIFE projects can provide the resources and the time to build up relationships and trust with stakeholders. This has been invaluable in new Member States such as Cyprus where, says Takis Tsintides, "The approach and the understanding and the change in attitude, even among public officials, remains and is a real benefit from the LIFE projects."

*Takis Tsintides, Chief Conservator of the Department of Forests, Cyprus*

All LIFE Nature projects include some form of education and dissemination activities to raise awareness about species and habitat conservation issues. For example, large carnivore projects tried to counter myths and suspicions and provide updates on sightings and population trends[8]. In some cases the hostility towards the presence of the species cannot be resolved by the project. Stakeholders may have an attitude of resignation rather than support, despite reasonably effective deterrent and compensation packages.

Even within large projects, small-scale and accessible demonstration areas are useful to show how restoration can be done and to promote the uptake of good practice. Demonstration areas are particularly useful as a focal point for field meetings.

## Shared knowledge

Best practices may be in conservation techniques, communication strategies, funding mechanisms and so on. And although innovation is not a mandatory component of LIFE Nature there are nevertheless several examples of innovative approaches in the projects reviewed. Several projects have established administrative systems that are used as models for wider application (e.g. the independent Large Carnivore Initiative for Europe helps to coordinate a network of experts and is a forum for presenting and sharing information on species ecology and behaviour.)

Many projects establish 'permanent' monitoring plots with the intention of following habitat restoration or species recovery post-project. Yet in several cases it was found that the funding for monitoring ended at the official project closure.

Several projects had published technical and scientific information after the end of the project, yet unfortunately little of this is available through Commission databases. This is changing, however, and the LIFE programme website now provides a channel for dissemination after LIFE of products online.

Mikko Tiira, of Metsähallitus, Finland's Natural Heritage Service, thinks that dissemination networks should be strengthened further: "Why don't we open a best practice library on the LIFE website? This could collect experiences, books from various LIFE projects at Member State level. The Commission could provide the money for translation into English of such publications to be uploaded on the LIFE website," he suggests.

*8 http://ec.europa.eu/environment/life/publications/lifepublications/flippingbook/carnivores/index.html*

CONCLUSIONS

# Lessons learned at LIFE programme level

**Ex-post evaluation has highlighted that most LIFE Nature project actions are sustainable and have a long-term impact. However, there are some programme-level weaknesses and gaps that will be addressed by the new LIFE (2014-2020) regulation.**

Analyses of the LIFE Nature programme confirm that projects have made a 'significant contribution' to the implementation of the Birds and Habitats directives. Even though it is relatively small compared with other EU programmes, it has been shown to be effective in supporting EU Nature and Biodiversity policy. Very few projects get directly involved in defining EU policy, but examples such as the following put forward the case for improving policies and legal protection:

- Influencing government shoreline management planning policy in the UK;
- Developing national plans for large carnivores in Romania; and
- Developing Species Action Plans for endangered species in Madeira.

Most projects expect sustainability (as a result of good project design and implementation) and work towards a successful outcome. The ex-post evaluations found that project sustainability is generally achieved. Thus, in that sense, LIFE Nature is clearly a successful instrument. Even in projects approved before 2005, which have no obligation to provide an after-LIFE conservation plan, the main factors for long-term impact and sustainability are present.

Some of the key factors in achieving sustainability were found to be continued funding, a responsible body, the formal support of statutory authorities and good communication. In some cases, there were problems where, for example, no follow-on activity was undertaken, where the threats still remain or where new threats compromise the achievements of the project.

However, there are challenges managing the sustainability of LIFE Nature project actions that the 2007-2013 LIFE programme regulation does not cover:

- Habitat restoration and species recovery projects take time: success can only be assessed at a later date and follow-on monitoring is crucial; For example, mire restoration projects may take at least 20-30 years before any scientific opinion can be made on success (e.g. Scottish blanket bogs), so it may be too early even to state that a project funded under LIFE I has been a success.
- Published project results, best practices and information about the Natura 2000 network lacks detail about the long-term outcomes and impact of projects. Information in layman's reports and project results booklets is typically too general to be of use to others wishing to replicate the work or learn from the project experience.
- Potential 'added value' is often missed through lack of dissemination to correct audiences and networking. From the start projects should be developing contacts with other projects and potential audiences (e.g. for final events). Dissemination is often poor and the gearing potential of projects is missed.

*Habitat restoration in Finland, part of a transnational project to project the lesser white-fronted goose (Anser erythropus)*

Photo: LIFE05 NAT/FIN/000105/Petteri Tolvanen

**Table 1 – Ex-post findings relevant to sustainability and long-term impact at LIFE programme level**

| Sustainability | Replication | Critical success factors | Barriers to long-term success |
|---|---|---|---|
| • Favourable conservation status of habitats and species achieved and maintained<br>• Minimum Viable Populations achieved<br>• Long-term funding for recurring habitat management<br>• Continuity of staff / organisation (capacity building)<br>• Support from national and regional authorities<br>• Support (or acceptance) by local stakeholders<br>• Long-term employment opportunities<br>• Engagement of young people | • Development of good practices in habitat management<br>• Transfer of techniques to new geographical areas<br>• Positive impact on immediate area around project<br>• Catalyst for developing national policies<br>• Active networking with similar projects / areas<br>• Leads to follow-on LIFE projects | • Good initial design<br>• Motivated project personnel<br>• Efficient project operation (good value for money)<br>• Actions effective in meeting objectives<br>• Acceptance by local stakeholders | • Continuation of threats<br>• Inappropriate design (problems not identified or addressed)<br>• Uncertain funding (e.g. reliance on successive agri-environment schemes)<br>• Poor dissemination of project results (methodologies, knowledge, advice)<br>• Little impact on younger stakeholders (the next generation)<br>• Lack of interest from local / regional authorities<br>• Loss of public support for conservation actions / negative media coverage |

- Unforeseen shortcomings: these may include management plans not being approved, insufficient funding and insufficient monitoring. In several instances, whilst a project appears to deliver good results, there is poor follow up and management plans or monitoring programmes are not completed or implemented.

## Monitoring the long-term impact of LIFE Nature

The long-term effect of a project - its impact - should be measureable by a change in environmental, economic or social conditions. For LIFE Nature projects this generally implies a significant improvement in the conservation status of a habitat or species with the aim of securing favourable conservation status. Project impact also includes whether or not it inspired new initiatives.

All projects show a degree of impact yet it would be unrealistic to expect a single LIFE Nature project to address all the threats to 100% of any one habitat type or species (although some have). Whilst some projects are one-off restoration actions (usually area-based) other projects require several phases (blanket bogs, aapa mires, bittern in the UK) or national/international programmes (Spanish imperial eagle, lesser white-fronted goose, brown bear, wolf and lynx).

*Monitoring is essential to any assessment of the impact of LIFE at programme level*

Photo: LIFE08 NAT/S/000266/Johanna Gardeström

Examples of long-term impacts include:

- The support for rural employment in Finnish Lapland;
- The measured increase in the population of the Spanish imperial eagle in Spain;
- Increase in populations of endemic seabirds in the Madeira Archipelago;
- Re-establishment of traditional, and sustainable, land management, including grazing, on Stora Alvaret;
- Re-establishment of traditional farming practices in the meadows of the Varde Estuary in Denmark;
- Meeting UK Biodiversity Action Plan targets for the bittern ahead of schedule;
- Developing a Balkan network for the protection of the black vulture;

- Preparing national conservation plans for large carnivores in Romania;
- Saving remaining examples of western taiga forest in Sweden;
- Re-establishing a Minimum Viable Population of brown bears in Brenta (Italy); and
- Re-establishing a viable wolf population in the French Alps after an absence of 60 years.

Nature does not always respond as planned and the ex-post evaluations give several examples where expected population increases have not happened or where restored habitats have yet to measurably benefit the target species. For example, Denmark's Wadden Sea project has not delivered the expected benefits for birds such as Corncrake (*Crex crex*) and Lapwing (*Vanellus vanellus*) and some additional habitat management may be required.

In addition, evaluations show that there is a lack of consistent monitoring data after projects end. In practice, it can be difficult to collect quantitative information several years after closure. On the other hand, most projects will have a wider biodiversity benefit that is seldom measured or reported in the monitoring of specific actions. The wider value may become more obvious over time.

This reinforces the need for well-designed monitoring plans, not only at project sites, but also at a wider level. It also highlights the need to implement the monitoring and management plans foreseen in the 'After-LIFE' Nature conservation plans.

## Raising awareness of Natura 2000

LIFE Nature projects have continued to fulfil many of the goals set out by EU Nature policy when LIFE was created more than 20 years ago, in particular the implementation of the Habitats Directive and Birds Directive. Nevertheless, there have been some areas of weakness, such as awareness of the Natura 2000 network, dissemination of best practice at EU-wide level, networking, and gearing up of projects to identify the costs of restoration programmes.

Whilst each project is a flagship for the Natura 2000 network, the dissemination of information about Natura 2000 in its broadest sense does not feature in many projects. This might be a result of more pressing local needs to win support for conservation work without complicating messages with information on the network as a whole. However, the wider issue is being addressed through ongoing projects

Photo: LIFE11 INF/ES/000665

*Environment Commissioner Janez Potočnik takes part in a campaign to raise awareness of the Natura 2000 network in Spain, led by the LIFE project, Conéctate a la Red Natura*

such as Conéctate a la Red Natura (**LIFE11 INF/ES/000665**), a LIFE Information and Communication project that aims to improve public awareness of the Natura 2000 network in Spain and contribute to the appreciation of its maintenance, by means of traditional and social media campaigns.

All projects require an element of communication and consensus-building and the means depend on the particular stakeholders and their interests and needs. There is little evidence of generic information on Natura 2000 being used as part of stakeholder-engagement exercises. Equally, however, very little project communication experience is disseminated to the wider nature conservation community. As a result it is difficult to answer the question of whether or not projects have contributed to understanding of Natura 2000 as a network of protected sites.

The issue is illustrated by the experience of LIFE in Cyprus, as Takis Tsintides explains: "We know that Cypriots from the beginning were against the notion of Natura 2000. All landowners and village authorities were against this concept because in Cyprus, all landowners think of their land as a potential construction site: they will sell it for a high price. They realised that with the inclusion of their land in the Natura 2000 network, these rights were lost; so they were hostile. And so, when we tell them that we are going to protect a plant species that grows in their area, they are not [happy]."

This "matter of culture" highlights the need for "dissemination of results and enhancement of public awareness and information campaigns," adds Mr Tsintides. However, in order to be effective he believes awareness-raising needs to be about more than producing leaflets and booklets: "We need to come nearer to the people, to oblige them to see and to hear our messages…We need more active ways…. Gradually we will learn and improve [our awareness-raising]," he concludes.

## Networking action

Project beneficiaries are encouraged to make the best use of the opportunities to attend events to present their experience. Although all projects must now include an action for networking, maintaining those networks after project closure will be challenging. This is an issue for the programme as a whole, since it is neither realistic nor reasonable to expect projects to maintain networking activity indefinitely and it may take several projects working together in the first place to create a network.

Networking also has to have a purpose - by theme, by country or by region. There is no standard model for habitat or species networks, for regional or national networks, so some care is needed when considering how the LIFE programme should present guidance on this matter.

*A project workshop*

Photo: LIFE00 NAT/SLO/007226

Networking is important for projects dealing with populations of migratory species. For the 1996 Greek project targeting the wintering grounds of the lesser white-fronted goose (*Anser erythropus*) the ex-post evaluation showed that there should have been a greater focus on trans-boundary flyways. This is now being addressed in a 2010 project, Safeguard LWfG (**LIFE10 NAT/GR/000638**).

## Adding value to LIFE

Incentive value is a measure of the gearing ratio of the project in attracting additional funding sources. Projects can make LIFE funding go further by combining the resources gained from different sources. A number of projects have led to the use of other funding mechanisms to support the overall conservation objective. In some cases this has been within the framework of the project itself, in others as part of an immediate follow up to the project or other specific EU or national funding directed towards the conservation problem. Many project results are linked to successive RDP agri-environment programmes and these will have to be maintained for the restoration goals to be achieved. Some projects have used INTERREG (EU Regional Cross-Border cooperation funds) as a way to develop partnerships and share results." In Slovenia," says LIFE National Contact Point, Julijana Lebez-Lopez, "there are different sources of funding for continuation of actions after the project's end. It can be national funds, regional funds or RDP funds."

The new LIFE programme regulation (2014-2020) foresees the mobilisation of other EU, national and private funds towards environmental issues, in particular for nature conservation in the Natura 2000 network in the form of 'Integrated Projects' (see box).

## Learning the lessons

The wide range of lessons drawn from ex-post visits to LIFE nature projects is confirmation of the value of such follow-ups as part of a monitoring strategy at project and programme level. In depth ex-post evaluations fill a current gap in programme-level monitoring. However, their main value is in the information arising from a semi-structured interview process rather than an approach based on quantitative information or the standardised collection of data. For Mikko Tiira of Metsähalitus, this is a weakness: "Information [on how many ha of a habitat have been restored with LIFE money, for example] has not been collected in a structured way: it is not a requirement that all projects should report at the end how many

hectares they have restored for each habitat type in a format that you can easily merge and convey into a database. We don't have these basic statistics, and that's a pity," he says.

In 2009, the Commission funded an ex-post evaluation of projects and activities financed under the LIFE programme between 1996 and 2006[9]. This made a number of recommendations for LIFE programme implementation and for strengthening the connections between the programme and the project cycle. These include that there should be a clear link between project applications in response to the programme, the selection of projects, and the monitoring of these projects throughout their active period, at the end and several years after closure with feedback from the process reinforcing the programme by showing what works best in practice and what has the greatest impact. For Mikko Tiira, LIFE currently "puts emphasis on the potential effect of the project only at the application phase, but not on the true effects after."

Issues to consider when addressing the impact of the LIFE programme as a whole on nature conservation include:

- The value of pump-priming supporting the initial stages of restoration work;
- The value of promoting dialogue and creating partnerships with stakeholders;
- Providing demonstration models of innovative best-practice;
- Disseminating results and networking with similar projects;
- Being able to measure real conservation benefit;
- The incentive value of projects in attracting additional funding;
- Integration of conservation with other policy sectors; and
- Positive influence on the local economy, local community and stakeholders.

## Conclusions

The ex-post exercise implemented since 2006, and put in place with more emphasis with a new methodology since 2009, shows that LIFE Nature projects are in general sustainable, with few examples to the contrary. As shown by the examples highlighted in this publication, in the majority of cases, project beneficiaries continue to pursue project actions after LIFE.

9 COWI (2009) *Ex-post evaluation of projects and activities financed under the LIFE programme: Final Report Parts 1 to 6.*

## LIFE Integrated Projects

Integrated Projects are a new type of project that aim to improve the implementation of environment and climate policy by focusing on the implementation of environmental or climate plans and strategies on a larger territorial scale (e.g. regional, multi-regional, national).

These projects should improve the integration of environment and climate aspects into other EU policies. To do this they will need to be inclusive, so they require stakeholders to be involved.

They are intended to coordinate the mobilisation of other EU, national and private funds for environmental and climate objectives sectoral programmes, such as regional Natura 2000 networks or cross-border flood prevention strategies. This will require structured cooperation between LIFE and the other main EU Funds within the Common Strategic Framework.

Plans and programmes related to the Birds and Habitats directives will be one area of focus for Integrated Projects.

The LIFE programme already contains provisions whereby land purchased and durable goods acquired must be indefinitely assigned to nature conservation activities beyond the end of the project. Nevertheless, several improvements will be introduced by the new LIFE regulation to guarantee further improvements in the sustainability of LIFE, particularly with the new Integrated Projects. Moreover, the current practice of ex-post monitoring visits for selected projects will continue with the new LIFE programme.

Photo: LIFE98 NAT/F/005192

*Involving the local community ensures that LIFE's message is not forgotten and that there is continuing support for further conservation actions*

# Projects that have had an ex-post evaluation

**The table below provides a list of the LIFE Nature projects that have received an ex-post evaluation of their long-term impact and sustainability. For more information on individual projects, visit the online database at: http://ec.europa.eu/environment/life/project/Projects/index.cfm**

| COUNTRY | PROJECT | TITLE |
|---|---|---|
| AUSTRIA | LIFE97 NAT/A/004117 | Dürrenstein/Niederösterreich - Wilderness area Dürrenstein - Niederösterreich (Lower Austria) |
| | LIFE95 NAT/A/000399 | Bear protection program for Austria |
| | LIFE02 NAT/A/008519 | Braunbaer - Conservation and management of the brown bear in Austria |
| | LIFE00 NAT/A/007055 | Schütt-Dobratsch - Schütt-Dobratsch |
| | LIFE98 NAT/A/005413 | March-Thaya-Auen - Water World March-Thaya-Auen |
| BELGIUM | LIFE98 NAT/B/005168 | Kempen - Actions for oligo-mesotrophic Aquatic Habitats in de Kempen |
| CROATIA | LIFE02 TCY/CRO/014 | CROWOLFCON - Conservation and management of Wolves in Croatia |
| DENMARK | LIFE94 NAT/DK/000492 | Re-establishing lichen and coastal heaths in the Anholt desert, Denmark |
| | LIFE99 NAT/DK/006456 | Wadden Sea - Wadden Sea estuary, nature and environment improvement project |
| ESTONIA | LIFE03 NAT/EE/000181 | Silma - Restoration of habitats of endangered species in Silma Nature Reserve |
| | LIFE00 NAT/EE/007083 | EE Coastal Meadows - Boreal Baltic Coastal Meadow Preservation in Estonia |
| FINLAND | LIFE00 NAT/FIN/007060 | Aapa & Avi - Protection and usage of aapa mires with a rich avifauna |
| | LIFE00 NAT/FIN/007059 | Lady's slipper - Conservation of Cypripedium calceolus and Saxifraga hirculus in Northern Finland |
| | LIFE99 NAT/FIN/006278 | Wetlands - Management of the most valuable wetlands in SW Finland |
| FRANCE | LIFE97 NAT/F/004226 | Etang de Biguglia - Oxyura leucocephala's reintroduction on Biguglia's pond |
| | LIFE99 NAT/F/006314 | Forêts Bourgogne - Forests and linked habitats in Burgundy |
| | LIFE00 NAT/F/007273 | Pin laricio - For a conservatory management of the laricio pine habitats |
| | LIFE99 NAT/F/006318 | Hardt Nord - The management of the xerothermic habitats of the North Harth |
| | LIFE98 NAT/F/005237 | Programm for the conservation of the dry grasslands of France |
| | LIFE96 NAT/F/003202 | Wolf in the French Alps - Conservation of large carnivores in Europe : wolf in France |
| | LIFE99 NAT/F/006299 | Wolf in the French Alps - Conservation of great carnivores in Europe: return of wolf in the French Alps |
| | LIFE96 NAT/F/004794 | Brown bear in Pyrenees - Conservation of large carnivores in Europe : Brown bear in central Pyrenees |
| | LIFE98 NAT/F/005250 | Archipels et Ilots marins de Bretagne - Maritime archipelagos and islets of Brittany |
| GERMANY | LIFE94 NAT/D/000432 | Southern Chiemgau |
| | LIFE97 NAT/D/004224 | Chiemgau - Raised bogs and habitats for the corncrake in Southern Chiemga |
| | LIFE99 NAT/D/005940 | Westl. Untersee - Biotope-Network "Westlicher Untersee" (Lake Constance) |
| GREECE | LIFE02 NAT/GR/008497 | Dadia - Conservation of birds of prey in the Dadia Forest Reserve, Greece |
| | LIFE96 NAT/GR/003217 | Phalacrocorax - Conservation of Phalacrocorax pygmaeus and Anser erythropus in Greece |
| | LIFE98 NAT/GR/005264 | Vai 31/12/2002 - Conservation measures for the Palm Forest of Vai, Greece |
| | LIFE97 NAT/GR/004249 | Canis lupus - Conservation of Canis lupus and its habitats in Central Greece |

| COUNTRY | PROJECT | TITLE |
|---|---|---|
| GREECE | LIFE93 NAT/GR/010800 | Protection and Management of the Population and Habitats of Ursus arctos in Greece (first phase) |
| | LIFE96 NAT/GR/003222 | Conservation of Ursus arctos and its habitats in Greece (2nd phase) |
| | LIFE95 NAT/GR/001115 | Recovery of the Loggerhead Sea Turtle (Caretta caretta) population nesting on Crete |
| HUNGARY | LIFE00 NAT/H/007162 | Large Carnivores - Funding the base of long term large carnivore conservation in Hungary |
| ITALY | LIFE97 NAT/IT/004115 | Taxus e Ilex/Ursus arctos - Conservation actions for Apennines beech forest with Taxus and Ilex, and Ursus arctos marsicanus improvement |
| | LIFE99 NAT/IT/006245 | Bosco Fontana - Bosco Fontana : urgent conservation's actions on relict habitat |
| | LIFE00 NAT/IT/007239 | Praterie Toscane - Conservation of Tuscan Appennines mountain grasslands |
| | LIFE00 NAT/IT/007266 | Curone II - Petrifying springs and seminatural dry grasslands in Valle S. Croce e Valle del Curone |
| | LIFE00 NAT/IT/007214 | Lupo Romagna - Actions to protect the wolf in 10 SIC zones in three parks of the region Emilia-Romagna |
| | LIFE96 NAT/IT/003152 | Ursus/Brenta - URSUS Project: Brenta brown bear conservation plan. |
| | LIFE00 NAT/IT/007131 | Ursus Brenta II - Project URSUS - protection of the brown bear population of Brenta |
| | LIFE97 NAT/IT/004097 | Large carnivores - Priority measures for the conservation of large carnivores in the Alps |
| | LIFE00 NAT/IT/007228 | Nebrodensis - Conservation of Abies nebrodensis (Lojac) Mattei in situ and ex situ |
| | LIFE00 NAT/IT/007281 | Nemos - NEMOS project - improvement of ALpine wetland areas |
| | LIFE95 NAT/IT/000698 | Numenius/Orbetello - Habitat of Numenius tenuirostris and other endangered birds species: planning and execution of interventions for the enlargement and management of the salt-marshes of Orbetello Lagoon |
| | LIFE00 NAT/IT/007208 | Orbetello - Urgent actions for conservation of pSCI Orbetello Lagoon |
| PORTUGAL | LIFE94 NAT/P/001055 | Conservation of the Wolf in Portugal |
| | LIFE94 NAT/P/001052 | Urgent measures for the conservation and restoration of species and habitats of Community interest on the Madeiran archipelago |
| | LIFE95 NAT/P/000125 | Restoration measures for the terrestrial habitat of Deserta Grande |
| | LIFE97 NAT/P/004082 | Laurissilva da Madeira - Measures for the Management and Conservation of the Laurissilva Forest of Madeira (code 45.62*) |
| | LIFE98 NAT/P/005236 | Espécies/habitats/Madeira - Recovery of Madeira's priority habitats and species |
| | LIFE00 NAT/P/007097 | Freira da Madeira - Conservation of Zino's Petrel through restoration of its habitat |
| | LIFE06 NAT/P/000184 | SOS Freira do Bugio - Urgent measures for the recovery of Bugio's petrel, Pterodroma feae, and its habitat |
| | LIFE98 NAT/P/005275 | Zonas costeiras/Açores - Integrated management of coastal and marine zones in the Azores |
| ROMANIA | LIFE99 NAT/RO/006435 | Piatra Craiului 30/6/2004 - Enhancement of Piatra Craiului National Park |
| | LIFE02 NAT/RO/008576 | Vrancea 30/11/2005 - In situ conservation of large carnivore in Vrancea County |
| | LIFE05 NAT/RO/000170 | Carnivores Vrancea II - Enhancing the protection system of large carnivores in Vrancea county |
| SLOVENIA | LIFE02 NAT/SLO/008587 | Karst park - Conservation of endangered habitats / species in the future Karst Park |
| | LIFE02 NAT/SLO/008585 | Ursus Slovenia - Conservation of large Carnivores in Slovenia - Phase I (Ursus Arctos) |
| SPAIN | LIFE04 NAT/ES/000031 | Dunas Laida Vizcaya (España) - Dune regeneration on Laida beach (Urdaibai) |
| | LIFE92 NAT/E/014504 | Oso/Fundación Oso - First phase of a conservation programme for the brown bear and its habitats in the Cantabrian mountains - Fund. Oso Pardo |
| | LIFE94 NAT/E/004830 | Action program for the conservation of the brown bear and its habitats in the Cantabrian mountains - 2nd phase (Cantabria) |

| COUNTRY | PROJECT | TITLE |
|---|---|---|
| SPAIN | LIFE95 NAT/E/000628 | Third phase of the action programme for the conservation of the brown bear and its habitat in the Cantabrian mountains (Cantabria) Cordillara Cantabrica |
| | LIFE98 NAT/E/005326 | Oso/núcleos reproductores Asturias; Castilla y León - Conservation of the cantabrian Brown bear breeding nucleus |
| | LIFE00 NAT/E/007352 | Oso Cantabria - Conserving the Cantabrian brown Bear and combating poaching |
| | LIFE97 NAT/E/004165 | Monteverde Canarias - Conservation of 5 species of the Monteverde in Canaries |
| | LIFE02 NAT/E/008614 | Lagarto Gomera Canarias - Recovery plan for the giant lizard of La Gomera |
| | LIFE97 NAT/E/004190 | Lagarto Gigante Canarias - Reintroduction of el Hierro Giant Lizzard in its former natural habitat |
| | LIFE94 NAT/E/001238 | Programme for the restoration of Hierro giant lizard Gallotia simonyi |
| | LIFE92 NAT/E/014300 | Aguila Andalucía - First phase of a conservation programme for the Iberian imperial eagle - Andalucia |
| | LIFE94 NAT/E/004823 | II phase of an action program for the conservation of the imperial eagle - Andalucia |
| | LIFE95 NAT/E/001153 | Third phase of an action program for the conservation of the Iberian Imperial Eagle - Andalucía. Sierra Morena, Sierra de Cádiz y Andévalo |
| | LIFE92 NAT/E/014302 | Aguila/Castilla León - First phase of a conservation programme for the Iberian imperial eagle - Castilla y Léon |
| | LIFE94 NAT/E/001044 | Conservation programme for the Iberian imperial eagle (2nd phase) - Castilla y Léon |
| | LIFE95 NAT/E/001151 | Third phase of an action program for the conservation of the Iberian Imperial Eagle - Castilla y León. Avila - Segovia |
| | LIFE92 NAT/E/014304 | Aguila/Com.Madrid - First phase of a conservation programme for the Iberian imperial eagle - Comunidad de Madrid |
| | LIFE94 NAT/E/004826 | II phase of an action program for the conservation of the imperial eagle - Madrid |
| | LIFE95 NAT/E/001152 | Third phase of an action program for the conservation of Imperial Eagle - Madrid. |
| | LIFE99 NAT/E/006336 | CBD/especies Extremadura, Castilla - La Mancha - Conservation of the Imperial eagle, Black vulture, Black stork and Iberian lynx on private protected land in Extremadura and Castilla - La - Mancha |
| | LIFE03 NAT/E/000050 | CBD 2003 Extremadura, Madrid y Castilla - La Mancha - Conservation of the Spanish Imperial Eagle, Black Vulture, Black Stork |
| | LIFE95 NAT/E/000593 | Aguila Castilla La Mancha Ciudad Real - Toledo - Third phase of an action programme for the conservation of the Iberian Imperial Eagle (Aquila Adalberti) - Castilla La Mancha |
| | LIFE92 NAT/E/014303 | Aguila/Extremadura - First phase of a conservation programme for the Iberian imperial eagle - Extremadura |
| | LIFE94 NAT/E/004825 | II phase of an action program for the conservation of the imperial eagle - Extremadura |
| | LIFE95 NAT/E/001150 | Third phase of an action programme for the conservation of the Imperial Eagle - Extremadura |
| | LIFE99 NAT/E/006327 | Cabañeros Castilla - La Mancha - Conservation of the threatened fauna and vegetation in the Cabañeros National Park |
| | LIFE96 NAT/E/003133 | Delta del Ebro Cataluña - Improvement of habitat management in the SPA of the Ebro Delta (Catalonia, Spain) |
| SWEDEN | LIFE98 NAT/S/005369 | SEPA: WT Svea+Götaland - Protection of western taiga in Svealand and Götaland |
| | LIFE96 NAT/S/003185 | Stora Alvaret - Protection and restoration of parts of Stora Alvaret |
| | LIFE00 NAT/S/007118 | Stora Karlsö - Restoration of alvar-habitats at Stora Karlsö |
| UNITED KINGDOM | LIFE02 NAT/UK/008527 | Bittern - Developing a strategic network of SPA reedbeds for Botaurus stellaris |
| | LIFE00 NAT/UK/007075 | Blanket bog - Restoring active blanket bog of European importance in North Scotland |
| | LIFE94 NAT/UK/000802 | Conservation of active blanket bog In Scotland and Northern Ireland |
| | LIFE99 NAT/UK/006081 | Living with the sea - Living with the sea : Managing Natura 2000 sites on dynamic coastlines |

# Available LIFE Nature publications





## LIFE Nature brochures

**LIFE and human coexistence with large carnivores** (2013 – 76 pp. - ISBN 978-92-79-30401-9)

**LIFE managing habitats for birds** (2012 – 80 pp. - ISBN 978-92-79-27587-6)

**LIFE and invertebrate conservation** (2012 – 56 pp. - ISBN 978-92-79-23822-2)

**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)

**LIFE improving the conservation status of species and habitats: Habitats Directive Article 17 report** (2010 - 84 pp. - ISBN 978-92-79-13572-9)

**LIFE and Europe's reptiles and amphibians: Conservation in practice** (2009 – 60 pp. - ISBN 978-92-79-12567-6)

**LIFE and Europe's grasslands: Restoring a forgotten habitat** (2008 - 54 pp. – ISBN 978-92-79-10159-5)

**LIFE and endangered plants: Conserving Europe's threatened flora** (2007 – 52 pp. – ISBN 978-92-79-08815-5)

**LIFE and Europe's wetlands: Restoring a vital ecosystem** (2007 - 68 pp. – ISBN 978-92-79-07617-6)

**LIFE and Europe's rivers: Protecting and improving our water resources** (2007 – 52 pp. ISBN 978-92-79-05543-0)

**LIFE and the marine environment** (2006 – 54 pp. ISBN 92-79-03447-2)

**LIFE and European forests** (2006 – 68 pp. ISBN 92-79-02255-5)

**Integrated management of Natura 2000 sites** (2005 – 48 pp. – ISBN 92-79-00388-7)

**LIFE, Natura 2000 and the military** (2005 – 86 pp. – ISBN 92-894-9213-9)

## Other publications

**Best LIFE Nature Projects 2012** (2013 - 36 pp. – ISBN 978-92-79-33177-0)

**Nature & Biodiversity Projects 2012 compilation** (2013, 100 pp. – ISBN 978-92-79-29476-1)

**Best LIFE Nature Projects 2011** (2012 - 32 pp. – ISBN 978-92-79-25968-5)

**Nature & Biodiversity Projects 2011 compilation** (2012, 83 pp. – ISBN 978-92-79-25249-5)

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

**Best LIFE Nature Projects 2010** (2011 - 40 pp. – ISBN 978-92-79-21315-1)

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

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

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

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

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

KH-AJ-13-005-EN-N

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 / Long-term impact and sustainability of LIFE Nature**

Luxembourg: Office for Official Publications of the European Union

2014 - 60p - 21 x 29.7 cm
ISBN 978-92-79-34698-9
ISSN 2314-9329
doi:10.2779/65091



doi:10.2779/65091