



15 years of LIFE-Nature

Europe's contribution to Natura 2000
in the Netherlands



Foreword

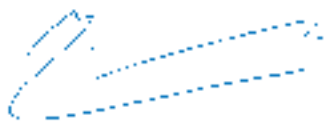


More nature, vital nature. That is the basis of our nature policy. A beautiful landscape in which to live, work and spend our spare time with pleasure. It is also the habitat of our 40,000 species of animals and plants. The Dutch Ministry of Agriculture, Nature Management and Food Quality (LNV) puts its responsibilities for nature protection into practice through legal measures, ensures that existing natural assets are sustained and also that new areas of nature are created.

Good-quality nature can only be achieved if everybody supports it. Together with the provincial authorities, the Ministry of LNV therefore provides funding, advice and opportunities to people and companies who are actively involved in nature and the landscape.

As you will see in the LIFE-Nature brochure, support has been used in innovative ways in the Netherlands. New techniques have been developed to restore fens and bogs and the expertise gained in biotope restoration has been successfully shared with other LIFE-Nature beneficiaries through LIFE Co-op. LIFE-Nature projects in the Netherlands also clearly demonstrate the importance of the integration of nature restoration and site management in broader spatial planning. Equally important is the collaboration between nature organisations and local and provincial authorities.

When the new LIFE+ programme (2007-2013) will start, it is essential to keep communicating. The Natura 2000 network should not only be about conserving endangered habitats and species, but also about building a European knowledge network of site managers, researchers and competent authorities. I hope that the information in this brochure contributes to the development of such a knowledge network.

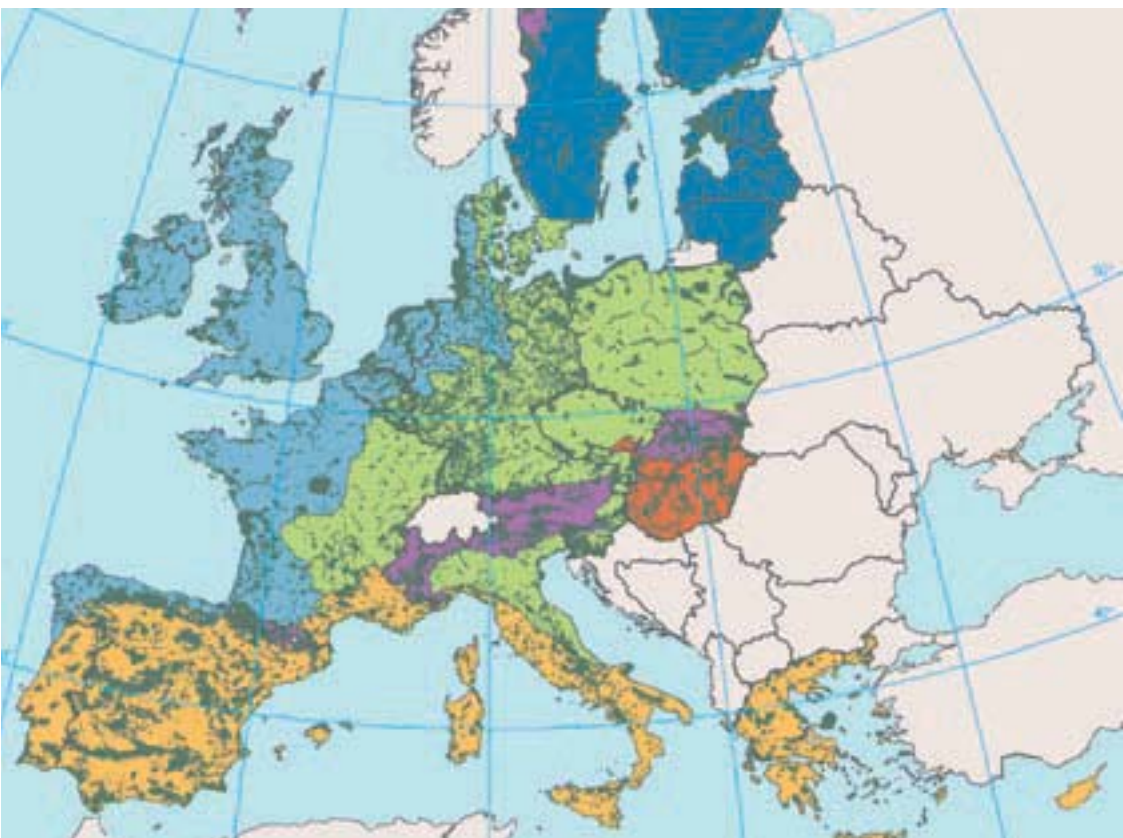


Dr. C.P. Veerman
Minister of Agriculture, Nature and Food Quality



Table of contents

1	Funding nature conservation in Europe	5
2	The purpose of LIFE-Nature in Europe	7
3	LIFE-Nature projects in the Netherlands	9
4	LIFE addresses Dutch conservation priorities	11
5	LIFE-Nature projects – salt marshes, sand dunes and estuaries	15
6	LIFE-Nature projects – lakes, lowland peatlands and fens	23
7	LIFE-Nature projects – raised bogs	28
8	LIFE-Nature projects – heathlands and other Pleistocene landscapes	30
9	LIFE-Nature projects – endangered species	33
10	LIFE-Nature projects – sharing experiences	36
11	Key facts and figures about LIFE-Nature in the Netherlands	38
	Colophon	40



The European Natura 2000 network across biogeographical regions



The Natura 2000 network across Europe

The creation of the Natura 2000 network lies at the heart of the EU 'Habitats' and 'Birds' Directives, which, together, form the cornerstones of Europe's nature conservation policy and are the main delivery mechanism for achieving Europe's commitment to halting biodiversity loss by 2010. The objective is to protect and manage rare and endangered animals, plants and habitats across their natural range, irrespective of national or political boundaries.

Some 20,000 sites have been included in the Natura 2000 network so far, from all 25 Member States. Collectively, they cover around 18% of the European territory - an area 15 times the size of the Netherlands. Such a large-scale coordinated effort to protect biodiversity over so many countries makes it unique in the world.

1 Funding nature conservation in Europe

The European Union has had a dedicated fund for the environment since 1992 (LIFE). Half of its budget has been allocated to nature conservation and the establishment of the Natura 2000 network, in recognition of the need for financial assistance to help stem the loss of biodiversity in Europe.

Over the past 15 years, LIFE-Nature has contributed some € 750 million to over 970 nature conservation projects across the EU. Projects have focused on practical on-site activities to help conserve and restore the habitats and species listed in the Habitats and Birds Directives to a 'favourable conservation state', especially in Natura 2000 sites.

Having operated on around 10% of the sites within the Natura 2000 network so



far, under a wide range of circumstances and socio-economic conditions, LIFE-Nature has been instrumental in building up experiences and good practices on nature management across the EU. As such, it provides a valuable insight into the effective implementation of the Habitats and Birds Directives.

Despite its relatively small budget – compared to the other EU funds – its impact has been considerable, including in the Netherlands. This brochure presents the Dutch participation in and experiences with LIFE-Nature over the last 15 years.

Beech forest, France
Ecosystems LTD / G. Raeymaekers



Raised bog, Finland
Ecosystems LTD / G. Raeymaekers



Alps, Austria
Ecosystems LTD / M. Fritz



Castro Verde, Portugal
Ecosystems LTD / K. Sundseth



Magdalena isles, Sardinia
Ecosystems LTD / K. Sundseth

Examples of LIFE-Nature project sites across Europe

2 The purpose of LIFE-Nature in Europe

Being a relatively small fund, LIFE-Nature could not hope to pay for the full-scale implementation of the Natura 2000 network. Instead, its objective has been to act as a catalyst in the early establishment of the network, beyond the stage of basic research, but still at a preliminary phase before long-term recurring management solutions can be introduced.

The overall objectives of LIFE-Nature are to:

- Pump-prime initial investment or start-up costs in order to facilitate the long-term conservation management of a particular site;
- Promote dialogue with other land users in and around Natura 2000 in order to raise awareness and win support for the long-term management of the site;
- Develop innovative techniques and demonstration models for the conservation of particular habitats and species of Community interest;
- Develop good practices and share experiences on managing Natura 2000 sites across Europe.

Projects are co-financed at a rate of 50%, or 75% in exceptional cases (for priority species or habitat types). Typical actions include preparatory measures (such as negotiations with stakeholders, elaboration of management plans, technical

blueprints, etc.), land purchase and leasing, restoration works, initial investments to kick-start longer-term management activities, awareness-raising and project management.

Projects are primarily chosen on the basis of their potential conservation impact/benefit. The extent to which socio-economic concerns are integrated into the project and the quality of the project application itself are also important criteria. In contrast to many other EU funds, selection is based purely on merit, not on pre-established national quotas. Despite the considerable amount of time and effort needed to develop a coherent application document with clear objectives and detailed descriptions, LIFE-Nature has proven to be a very popular financial instrument. Part of its attraction lies in its 'bottom-up' approach. By operating at a site-level, projects are able not only to carry out very practical conservation actions but also to engage with local stakeholders and involve them in the search for sustainable long-term solutions that are acceptable to all.



LIFE-Nature projects in the Dutch Natura 2000 landscapes

Dutch projects (1) Friesland Buitendijks, (2) Naardermeer, (3) Nieuwkoop, (4) Fochteloerveen, (5) Wieden-Weerribben I en II, (6) Korenburgerveen, (7) Drents-Friese Wold, (8) Ilperveld, (9) Ambition, (10) Tiengemetten, (11) Alde Feanen, (12) Bargerveen, (13) Brackish Marsh, (14) Zouweboezem, (15) Engbertsijkvenen, (16) Westzaan, (17) Samares, (18) Roerdelta, (19) Vlietmonding, (20) Duinherstel.

Trans-national or international projects (a) MARS, (b) Natte Ecosystemen, (c) Dommeldal, (d) De Zoom-Kalmthout, (e) DEMOWAD, en (f) Small Cetaceans.

3 LIFE-Nature projects in the Netherlands

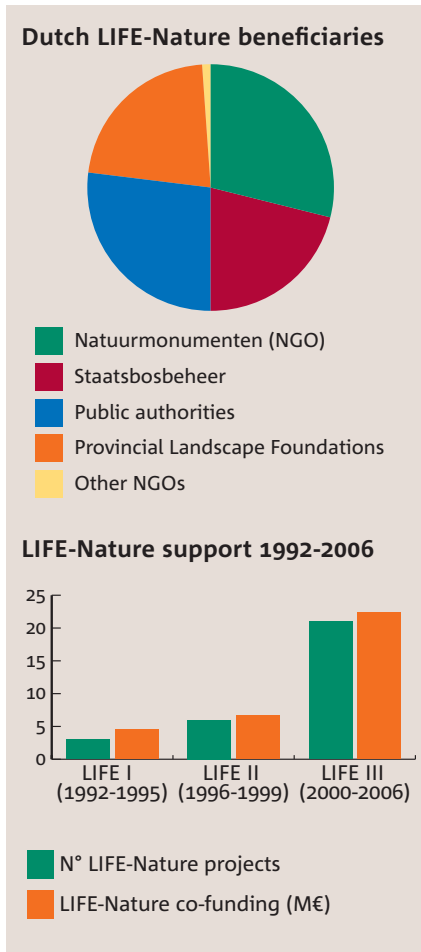
Over the past 15 years, LIFE-Nature has contributed over € 28.5 million to 22 projects (the projects 'Friesland Buitendijks' and 'Wieden-Weerribben' were targeted twice). A further six projects also involved actions in the Netherlands but were part of larger trans-national or international projects with one or more other country.

The main Dutch beneficiaries are non-governmental organisations, in particular Natuurmonumenten, Staatsbosbeheer, and the Provincial Landscape Foundations. National, provincial or local authorities have applied less frequently for LIFE-Nature projects, but have often been associated as partners or co-funders, especially in later years.

Interest in LIFE-Nature was initially low, possibly because nature conservation was already well established in the Netherlands; however, as recognition of Natura 2000 grew, so did the number of projects submitted under LIFE-Nature. By the 2006 application round, eight projects had been approved bringing in a total of almost € 10 million in EU co-funding in a single year.

Despite the fact that the total number of Dutch projects financed has been relatively modest compared with other EU countries, their impact has been sig-

nificant, not only in terms of conserving individual sites and species, but also for Natura 2000 and nature conservation in general in the Netherlands, thanks to the interest and support shown by 'Europe'.





4 LIFE addresses Dutch conservation priorities

4.1 Restoring valuable habitats

In contrast to many projects from southern Europe, where the emphasis is on protecting areas of great nature value before they are lost to development, the Dutch projects focus first and foremost on the restoration of threatened biotopes. This often involves major engineering works such as re-profiling the site, adjusting its hydrology, removing barriers, such as dykes and dams, polluted soil, etc.

Most of the LIFE funding in the Netherlands is therefore spent on initial heavy investment and on the development of innovative management solutions (for instance, approaching site

management from a landscape perspective and involving a wide range of stakeholders right from the outset). Compared to other countries, little financial support from LIFE-Nature in the Netherlands has been allocated for land purchase or costs associated with project management.

Another key characteristic of the Dutch LIFE-Nature projects is that they generally focus on one single site at a time. The advantage of this approach is that it enables the beneficiaries to get to the root of the problems, introduce some fundamental changes in the way the land is managed, and so deliver long lasting results for nature.

Nature in the Netherlands

Despite strong land-use pressures, the Netherlands still hosts an impressive array of habitats and species of international importance. The extensive coastline, for instance, harbours many habitats of international renown and some of the largest polder fens in North-West Europe. Nowhere are tidal mud flats and salt marshes more representative and spectacular than in the vast Waddensea on the border with Denmark and Germany.

Further inland too, water plays a predominant role in maintaining important areas of marshlands, fens, floodplains,

peatlands and riverine habitats across what has become known as the 'wet axis', just behind the dunes and polder areas. These sites are particularly important as they lie along the main Palearctic flyway and offer a refuge for millions of staging, feeding and breeding birds every year.

The border regions around Germany and Belgium, also still harbour important vestiges of ancient semi-natural landscapes. Amongst these are the species-rich dry calcareous grasslands and the 'Kempen', (a patchwork enclosed small heathlands, woods, swamps, mixed crops and scattered farmsteads).

4.2 Tackling the most important threats

The types of projects funded through LIFE-Nature in the Netherlands clearly reflect the country's history of land-use and conservation priorities. Most of the threats stem from the fact that today the Netherlands is one of the most densely populated countries in the EU.

Whilst productive farming has formed the backbone of the economy for centuries, thanks to a long tradition of reclaiming land from the sea - which has given rise to the characteristic Dutch

polders - a multitude of other activities, ranging from expanding urban sprawl, transport networks, industries, etc., have added to the already intense land-use pressures in recent years.

As a result, the remaining natural areas in the Netherlands are confronted by the combined effects of what are commonly referred to (in Dutch) as the five V's: eutrophication ('vermesting'), dessication ('verdroging'), acidification ('verzuring'), intense fragmentation ('versnippering'), and artificial hydrological balances ('verstarring').

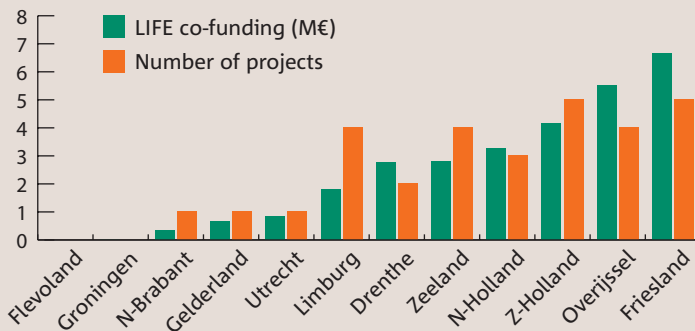


Manure injection by KINA / M. de Jonge



Intense fragmentation by H. Groenewoud

LIFE-Nature support in each province



4.3 Supporting the establishment of the Natura 2000 network

Having tackled the most obvious conservation problems in previous decades, the priority in the Netherlands is now to stem the further loss, degradation and fragmentation of its valuable nature areas. Under the overarching goal of ‘making space for nature’, the emphasis is on restoring and even recreating key habitats and natural landscapes in a strategic and coordinated manner across the entire country, through the National Ecological Network (Ecologische Hoofdstructuur).

The contribution of LIFE-Nature projects has been important for both the national and the European ecological network. Over the years, major restoration works have been undertaken on 28 of the 162 Natura 2000 sites within the Netherlands. On a further 11 sites, efforts have focused on restoring the habitats for core



Bittern by Vereniging Natuurmonumenten / R. Messemaker

populations of endangered amphibian and fish species listed in the Habitats Directive.

As a result, most of the 51 habitat types listed in the Habitats Directive that are present in the Netherlands have benefited in one way or another from LIFE-Nature projects. Only forests and riverine habitats are somewhat under-represented. Whilst endangered species may have only been the focus of two projects, many more will have benefited from the habitat restoration works in different sites, especially the waders and waterfowl.

European nature Directives: species and habitat types listed in Annexes	Present in the Netherlands	Benefiting directly from LIFE-Nature projects
Habitat types (Annex I FFH Directive)	51	32
Animals (Annex II of FFH Directive)	30	7
Plants (Annex II of FFH Directive)	5	0
Birds (Annex I of Birds Directive)	41	10
Natura 2000 sites		
N° sites	162	28 (+10) ¹

¹ Small scale actions within Natura 2000 sites for specific species



5 LIFE-Nature projects - salt marshes, sand dunes and estuaries

Salt marshes, mudflats and estuarine habitats are well represented all along the Dutch coast, and many are of international significance. Because the Netherlands is located on the western Palearctic flyway, these areas are also strategically important as staging, feeding and breeding sites for millions of migratory birds every year. None is more representative than the Wadden Sea in the north of the country, a vast area of land and sea (25,000 sq. km), which stretches over three countries. The area is of immense commercial and natural value, hosting one of the largest areas of salt marsh and mudflats in Europe, and harbouring up to ten million migratory birds every winter.

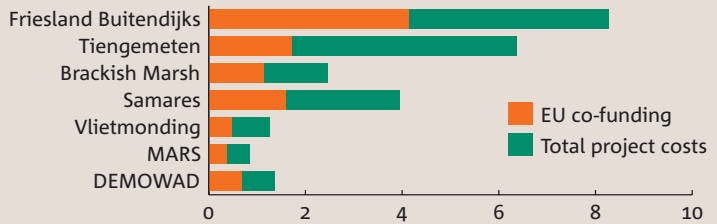
Other areas of major conservation importance also exist further south, for instance where the Rhine, Meuse and Scheldt rivers enter the North Sea. Here, the large estuaries once hosted the whole range of wetlands along the freshwater/brackish/salt gradient but, in the wake of the great

'Delta works' in the 1950s which cut off large areas from the sea, many have since shrunk or disappeared altogether.

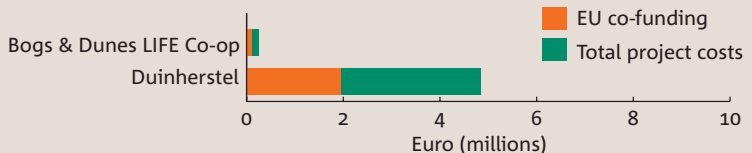
The extensive dune systems in the Netherlands are among the most complex, dynamic and important in north-western Europe. As elsewhere though, they have been damaged and lost through the combined effects of over-use, afforestation, over-stabilisation, acidification, eutrophication, fragmentation, desiccation and the edge effects of development.

Recognising the natural value of its coast, the Government is now implementing an ambitious and far-reaching strategy to reverse the trends of habitat loss and degradation, through land reclamation and flood defence, by restoring and even recreating key habitats at strategic locations along the coast. LIFE-Nature has provided timely support for some of the pioneering projects within these areas.

LIFE-Nature projects on salt marshes & estuaries



LIFE-Nature projects on sand dunes





Friesland Buitendijks by It Fryske Gea

Friesland Buitendijks: a turning point for policy

For centuries, salt marshes and mudflats in the Netherlands have been enclosed by dykes and drained in order to create ‘polders’ for use as new agricultural land. Friesland Buitendijks was earmarked to become the next polder; by the mid-1980s, some 1,000 ha of the total 4,000 ha had already been converted. However, the persistent erosion of valuable salt marshes was starting to ring alarm bells, both in the Netherlands and further afield. This prompted a Provincial Landscape Foundation, It Fryske Gea, to apply for

LIFE funds to prevent further damage at Friesland Buitendijks.

Approved in 1993, this was the first (and financially most significant) LIFE-Nature project in the Netherlands. Its objective was to buy out all remaining private land owners in order to allow the area to remain an extensive salt marsh. Because such habitats have little economic value, land purchase was considered the only equitable way to bring about a major change in land-use policy. Initially, the local communities were



Friesland Buitendijks by
It Fryske Gea



strongly opposed to this. For centuries, their fathers and forefathers had worked hard to reclaim ‘worthless’ land from the sea, so why should they not be allowed to continue this age-old tradition?

After much negotiation and debate, the project did eventually succeed in changing the local mindset. This was greatly helped by the fact that ‘Brussels’ had recognised the European value of the area and was willing to inject a significant amount of money into the project (€ 8 million).

In the end, all the land purchase targets were met and the area is now managed as a nature reserve. But the consequences of this first LIFE-Nature project go well beyond Friesland Buitendijks. Not only is there now a greater awareness and understanding of nature conservation and Natura 2000 in both the private and public sectors, but the project also prompted a major shift in Dutch coastal policy. For the first time, the trend of taking land from the sea was reversed. This in turn sparked off a series of similar initiatives further along the coast, this time with less local resistance.



Tiengemeten: *thinking big - ambitious plans to restore the whole island*

Like many other estuaries along the coast, the Haringvliet estuary in the Rhine-Maas delta was closed off from the sea in the 1970s. The resulting halt in the tidal ebb and flow had devastating consequences for the natural habitats and wildlife. Shallow tidal creeks, sand flats, salt marshes and brackish marshes all started to disappear, and with them went the large populations of waders and waterfowl.

By the 1990s, the Dutch Government had begun working with national and regional authorities and conservation organisations to devise an ambitious restoration plan that would restore part

of the tidal movements and recreate the whole range of intertidal habitats within the Haringvliet estuary. To kick-start the process, an application was submitted to LIFE-Nature for the large-scale restoration of the island of Tiengemeten, lying in the very heart of the estuary. The plans aimed to recreate key habitats over the entire island (700 ha) at a cost of six million euros. In a series of major engineering works, holes were punched through the dykes to let in the tidal waters, while large polder areas (over 100 ha) were lowered and re-profiled to recreate shallow depressions for waders and halophytic plants.



All photos Tiengemeten by R. Geleitse

The sheer scale and innovative nature of the project had a positive catalytic effect. Similar measures are now under way further along the estuary, all in keeping with the overall strategy for the Delta and using the valuable experiences gained in the first project. One such initiative is being supported by a second LIFE-Nature project aimed at reconnecting isolated populations of the extremely rare endemic root vole, which was once widespread in the delta.

The other notable impact of the project has been its ability to capture the imagination of the general public. Tiengemeten is located close to the port



of Rotterdam and has done a great deal to raise awareness regarding the natural asset value and international importance of the surrounding estuaries. Plans are now in the pipeline to develop a series of carefully managed ecotourism initiatives that will enable visitors to experience the restored nature of the island at first hand.



Zuidkust Schouwen, Zeeland by J. van Houdt

LIFE in the Delta: *working towards a common goal*

In the last year of LIFE-Nature, two projects were launched in the Oosterschelde. Unlike the Haringvliet, this was part of an estuary that had not been closed off from the sea. The aim of one of the LIFE projects is to restore marshland near Zierikzee, again using major engineering works (including the demolition of 25 dykes). The other project will do the same further upstream, but it also includes plans to fill in a disused harbour - using the soil from the first project site - an added advantage of strategic thinking! Since both projects form part of a wider

restoration strategy for the whole estuary, their collective impact is expected to be more than the sum of their parts. As many of the restoration works are quite innovative, the technological expertise and know-how gained can be passed on to others. Such projects foster a strong spirit of partnership. In contrast to the earlier LIFE projects, most are now run with the active involvement and support of all interest groups - be they national, local or regional authorities, water boards, NGOs or local interest groups - and are firmly embedded in wider land-use policies.



Embryonic shifting dunes (2110) by *Stichting Bargerveen / M. Nijssen*

Dutch dunes: innovative restoration on a large scale

Around 45,000 ha of dune and associated habitats remain in the Netherlands.

Despite the immense pressures they face, they are still amongst the best preserved in Europe. Staatsbosbeheer, which owns a significant proportion of the dunes, applied in 2005 for LIFE-Nature funds to carry out a series of urgent restoration measures on 4,700 ha of dunes in seven major Natura 2000 sites along the coast. The scale of the restoration measures is impressive even by Dutch standards and should go a long way towards achieving a 'favourable conservation status' for the listed habitats and species present.

Whilst some of the actions involve classic restoration techniques such as scrub removal and rehumidification, others are much more experimental. One such measure involves allowing the driving forces of wind and sea to, exert their influence on the dunes once again. More natural dune systems should eventually form once these natural dynamic processes have been released. If successful, the techniques will be passed on to other dune managers in the Netherlands and further afield in the rest of Europe.



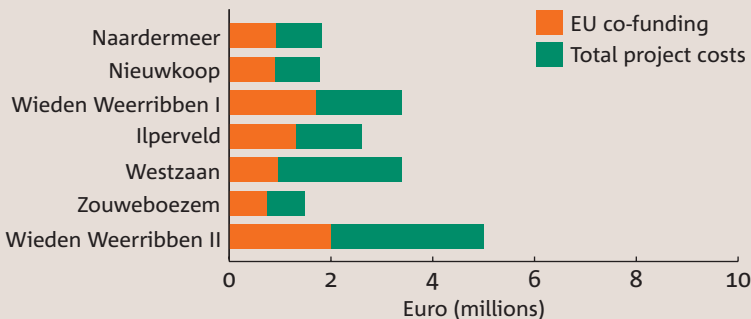
6 LIFE-Nature projects - lakes, lowland peatlands and fens

The significant number of peaty grasslands, quaking bogs, fens and lakes present in the Netherlands are reminiscent of the large peatlands that once covered the country in earlier times. By the 17th Century, however, most of the peat had been excavated, leaving only a linear pattern of waterlogged trenches and narrow ridges, upon which the peat was left to dry.

With time many of the ridges washed away, and eventually developed into lakes. Where the original linear pattern survived, the trenches between the ridges gradually terrestrialised to form various types of fen habitats. These areas are still of great natural value today, harbouring numerous rare wetland birds such as the bittern, purple heron or black tern.

However, they now only represent islands in a sea of intensive farmland, and, as such suffer from the devastating effects of nutrient enrichment, dessication and acidification emanating from the surrounding areas. Despite these seemingly insurmountable problems, Staatsbosbeheer and Vereniging Natuurmonumenten and others have taken important steps to protect the remaining wetlands, based on a combination of detailed technical planning, strategic thinking, innovative techniques and working closely with stakeholders. Several of these pioneering projects have been co-financed by LIFE-Nature.

LIFE-Nature projects on inland wetlands





Naardermeer by KINA / H. de Jong

Vereniging Natuurmonumenten



Naardermeer - an oasis in a sea of agriculture

The Naardermeer was one of the first nature reserves in the Netherlands. The 700 ha lake and surrounding habitats were rescued several times in the past from various development projects, including one that would have turned it into a waste disposal site for the city of Amsterdam over 100 years ago. But by the late 20th Century, it had succumbed to the more insidious effects of intensive agriculture in the surrounding areas. Water was desperately needed to save

the wetland from drying out completely but as there were no obvious sources of clean water, polluted water was used, which further exacerbated the problems. LIFE-Nature support was sought to tackle three main problems: the continuing loss of water from the nature reserve, the accumulation of nutrient-rich silt on the lake bottom and the degraded acidified reeds and hayfields on its fringe. The first problem was tackled by transforming the agricultural land immediately



Naardermeer by Vereniging Natuurmonumenten

surrounding the lake into a 200 ha buffer zone with high water levels. This had the immediate effect of slowing the seepage of water from the lake and even the buffer zone soon began to attract large numbers of waders.

Natuurmonumenten also built a special dredging boat that literally ‘vacuum cleaned’ the silt off the bottom of the lake. In total 300,000 sq.m. of silt was removed and deposited on nearby embankments between the nature reserve and the surrounding farmland. This in turn, allowed the water table in the buffer zone to be raised even further without affecting the farmers.

In short, the LIFE-Nature project demonstrated that even the worst affected wetlands, located amidst an intensive agricultural landscape, could be restored through a combination of sound planning, innovative techniques and public support. This not only prompted similar projects elsewhere but also led to a more strategic form of thinking. Since the end of the project, three provinces have agreed on a coordinated plan to restore and reconnect all fens in south-western Netherlands. This plan is also now firmly embedded in the wider land-use strategy from the region. Great schemes can develop from small beginnings!



De Wieden by Vereniging Natuurmonumenten / R. Messemaker

Vereniging Natuurmonumenten / W. Miedema



De Wieden and Weerribben: *turning back the ecological clock*

Vereniging Natuurmonumenten, in collaboration with Staatsbosbeheer, decided to use the experience gained from the Naardermeer project to carry out restoration works on an even grander scale, this time on the two major wetland sites of De Wieden and Weerribben further north. These are amongst the largest fen ecosystems in north-western Europe (approx. 9,000 ha).

They were however in an advanced state of natural succession.

The only way to restore the diverse habitats and rich stocks of species to their full glory is to turn back the ecological clock. Under the LIFE-project, former peat excavation trenches were re-opened, the entire floating vegetation plus shrubs and trees were removed, and



De Wieden by *Vereniging Natuurmonumenten / R. Messemaker*



Excursion boat by *Vereniging Natuurmonumenten / R. Messemaker*

vast amounts of brushwoods, sods and semi-liquid slurries were taken off-site using heavy machinery that had been especially designed for the purpose.

The results were immediately obvious. Patches of open water appeared everywhere. Of course, it will take time for the species and habitats to re-establish themselves but at least now

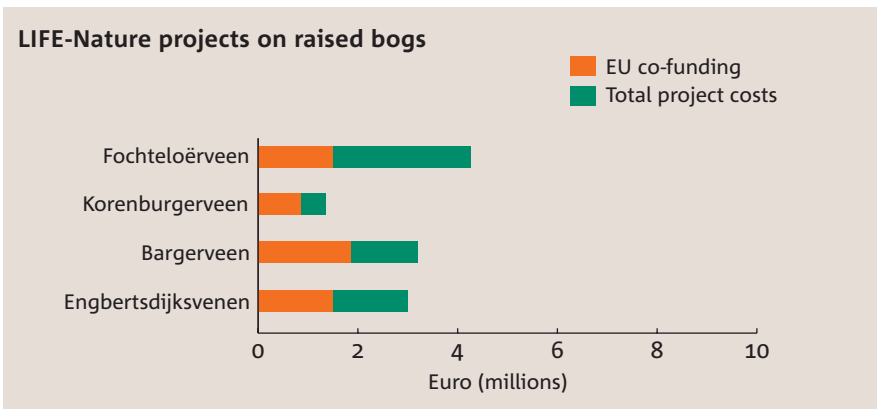
the clock has been set back to zero and the process of natural succession can begin again. What is more, now that the initial heavy investment works have been completed, the Government will be able to maintain the cyclical management at a much-reduced cost.

7 LIFE-Nature projects - raised bogs



Ninety-nine percent of the once extensive raised bogs in the Netherlands have disappeared through a combination of peat extraction, intensive drainage and land improvement. Restoring such badly degraded bogs requires detailed plan-

ning and careful preparation. Through the LIFE projects over ten million euros has been invested in restoring all (but one) of the remaining large bogs in the Netherlands (approx. 6,000 ha in total).





All photos by *Ecosystems LTD / G. Raeymaekers*



Saving the last raised bogs

The first of three LIFE-Nature projects on raised bogs focused on Fochteloërveen, a 3,000 ha degraded bog in the north of the country. Although severely damaged, it still had at its core an area with sufficient peat moss (*Sphagnum*) to sustain peat formation. This meant there was a chance that the entire bog could eventually recover, provided measures were taken to restore its hydrology. Through the LIFE project, over 24 km of dykes and dams were installed. Thanks to this massive undertaking, the peat is already showing signs of recovery and, as an added bonus, the common crane has returned for the first time in three centuries.

Similar projects were undertaken on a further three sites - Korenburgerveen, Bargerveen, Engbertsdijksvenen - each time building on the experiences gained in the previous projects and adapting these to the special circumstances of the new area. The overall objective in each case was to restore as much of the hydrology as possible, so that in the future the only action needed was some fine-tuning of the water levels and low-key maintenance work, backed by regular monitoring. These experiences, and the innovative techniques developed are now being shared with site managers in other countries through a LIFE Co-op project.

8 LIFE-Nature projects - heathlands and other Pleistocene landscapes



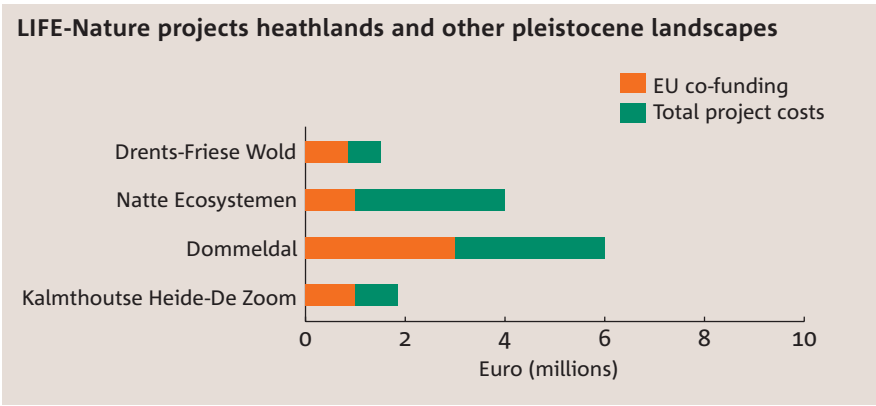
Hertekamp restoration works by *Vereniging Natuurmonumenten / R. Schuiling*



Provincial Landscape Foundation Overijssel / H. Koster

Once polders had installed and rivers embanked, the western part of the Netherlands became a relatively safe and prosperous place to live. Towns flourished, economic development was supported by productive grasslands and sufficient peat was available to survive the winters. By contrast, the eastern part of the country remained far less populated as the sandy soils were unable to support large communities.

Traditional extensive farming was practiced in most of these areas, eventually creating a rich and diverse mosaic of semi-natural habitats in their own right. Many are now listed in the Habitats Directive, but it took some time before LIFE co-financing was sought to conserve these areas. As in the past, most of the nature conservation interest was focused on the west of the country, with interest in setting up projects in the eastern regions arising only slowly...





Site restoration by *Provincial Landscape Foundation Overijssel* / H. Koster



Integrating heathland restoration in land-use policy

The vast network of interconnected heathlands, poor acid grasslands interspersed with rivulets and patches of forest within the Drents-Friese Wold (6,500 ha) managed to survive more or less intact into the 20th Century. In the last 50 years, however, with the advent of artificial fertilisers, large parts of these ‘wastelands’ have been turned into productive agricultural land.

LIFE-Nature is now helping to restore a significant part of this historical landscape. Highly fertilised topsoil is being removed from over 300 ha and used to fill in former deep drainage channels.

But for a complex landscape such as this, such actions on their own are not enough; they need to be integrated into wider land-use policies. Thanks to close cooperation with the two provincial authorities involved, this is being achieved. Ecological corridors are being created through the wider countryside, environmentally friendly farming is being introduced and efforts are under way to take account of the ecological value of the streams and brooks in the general hydrological plan for the region. Small-scale tourism activities, based on the natural historical value of the area, are also being actively encouraged.



Veluwe, Edese heide by KINA / Stefan Claessens

Working across borders

Significant heathlands also exist further south on the border between Belgium and the Netherlands. Several sites have been targeted by LIFE-Nature projects, including the 'Brabantse Zoom - Kalmthoutse Heide' and 'Dommeldal'. On both sites, several hundreds hectares of heathland, small rivulets and continental dunes have been restored and the derelict irrigation system re-activated.

Although the project leaders were all Belgian organisations, they worked in close partnership with their Dutch

counterparts. In this way, the sites could be treated as a single ecological entity, irrespective of administrative boundaries. One of the projects, 'Dommeldal', also has an interesting cultural component as it aims to restore a complex irrigation network that had been constructed more than a century ago to irrigate the grasslands. Restoring this impressive piece of engineering workmanship should not only help bring back the species-rich wet meadows and grasslands, but also add to the scenic and cultural interest of the area.

9 LIFE-Nature projects - endangered species

Many of the endangered European bird species present in the Netherlands, such as the corncrake, black-tailed godwit, purple herons, bittern and countless other rare waterbirds have benefited significantly from LIFE-Nature through actions undertaken to conserve their habitats.

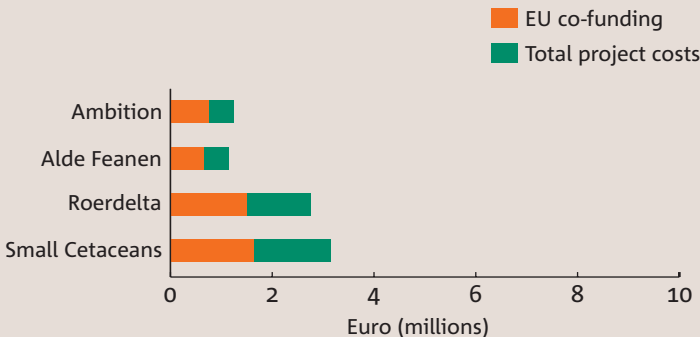
There are also 35 other species of European interest in the country, including many rare amphibians, fish and small mammals. One such mammal, the root vole (*Microtus oeconomus arenicola*) is endemic to the Netherlands. National action plans have been developed for the majority of these species, but funding is required to help implement them and kick-start the process of recovery. LIFE-Nature has been instrumental in funding a number of these plans.



Large Copper Butterfly by Vereniging Natuurmonumenten / R. Messemaker

Dutch organisations have also worked in international LIFE-Nature projects such as SCANS II, which aims to survey the whole of the Atlantic shield in a bid to estimate populations of harbour porpoises and dolphins. Working with 13 other countries, the overall objective is to inform decisions on setting acceptable catch limits for fisheries in the Atlantic. Every year it is estimated that thousands of marine mammals are drowned accidentally in fishermen's nets.

LIFE-Nature projects targeting species protection





Nordic root vole by KINA / Dick Klees

Better habitats and ecological corridors for the root vole

Microtus oeconomus arenicola is a sub-species of the root vole that is endemic to the Netherlands. It has its stronghold on the Wadden Island of Texel, where it thrives thanks to the lack of competitors. Isolated populations also exist in other parts of the country, but these are rapidly disappearing due to the shift towards more intensive farming practices, combined with a permanently stable groundwater level, which has encouraged other voles to move in. Unable to compete with them, the sub-species population is now at an all-time low.

Many of the large-scale habitat restoration works co-financed through LIFE-Nature in the brackish marshes near Zierikzee, the island of Hoeksche Waard or in the Alde Feanen National Park, for instance, will be of direct benefit to this endemic sub-species. These will be complemented by further specific species protection measures within each project to help re-establish and reconnect the isolated populations. Collectively, they should help to expand the existing habitat for the species to such an extent that the population will at least stabilise.



European tree frog by KINA / P. van Hoof; inset by Staatsbosbeheer / R. Heringa

Implementing the National Action Plan for endangered amphibians

Large-scale rural consolidation schemes have destroyed many of the habitats favoured by amphibians. Recognising the steady decline of certain particularly vulnerable species such as the tree frog, great crested newt, yellow-bellied toad or the European midwife toad, the Dutch Government drew up species recovery plans for each one. At the heart of the plans is a four-pronged approach to conservation: to protect existing populations, enlarge the size of the habitats around the core areas, provide ecological corridors between populations and, finally, create meta-population structures.

In order to help implement these plans, Staatsbosbeheer applied to LIFE-Nature to carry out a strategic programme of actions across 14 amphibian sites in the Netherlands. This is being carried out in close collaboration with its partners from several Provincial Landscape Foundations and specialist NGOs. Hundreds of pools are being dug, ditches restored, depressions created, and hedges and other narrow ecological corridors established. An AMBITION website is also being set up to enable the partners to share information and to raise awareness amongst the general public for the plight of rare amphibians.

10 LIFE-Nature projects - sharing experiences



Communication in the field by C. Weebers

LIFE-Nature is primarily a financial instrument to manage and restore habitats of endangered biotopes and species. Whilst scientific support is only occasionally an important element in LIFE-Nature projects, much emphasis is placed on sharing experiences and networking with other managers. In the first

instance, this takes place at national level through the Forest and Nature Survival Plan ('Overlevingsplan Bos en Natuur' or 'OBN' in Dutch), but efforts have also been made to share best practices and innovative techniques across Europe, for instance through a LIFE-Co-op project on sand dunes and bogs.

International cooperation for bogs and dune restoration

Faithful to the aims of the 'OBN'-objectives and the Natura 2000 objectives, this LIFE-Co-op project sought to disseminate ecological knowledge and practical know-how on the restoration and management of raised bogs and coastal dunes. The beneficiary (Radboud University) worked together with partners and site managers in 13 countries to exchange and integrate expertise on site restoration and management in bogs and dunes.

After two international workshops, a model was proposed to help set up nature restoration projects. The uniqueness of this tool, called 'PROMME' is its balanced attention for the range of species and habitats on the site (and not just for the decline of one habitat or species). Through a system of in-depth questions and answers, the tool helps managers select and build a realistic set of project measures to help restore individual sites according to their specific needs.



Tiengemeten by R. Geleitse

A national knowledge network - a model for conservation research and conservation practice!

The Forest and Nature Survival Plan ('OBN') in the Netherlands was launched to help streamline conservation research and conservation practice. Over the years, it has helped to orientate conservation research towards the needs of the site managers. This powerful combination of practice and theory has yielded some major breakthroughs in conservation science and has resulted in the formulation of new site restoration techniques and management solutions.

Its success lies in the strong collaboration it fosters between site managers, researchers and the competent authorities across the country. Expert teams have been formed to discuss conservation issues in specific sectors (forests, raised

bogs, dunes, heathlands, grasslands, etc.) on a regular basis. Scientists are contracted to prepare specific research projects to help address issues raised by site managers and competent authorities and to test out new restoration or management techniques in pilot areas.

Several LIFE-Nature projects have also received national co-financing through 'OBN' to carry out innovative measures to restore fens, bogs or dunes. This has several advantages: it means that the projects benefit directly from the national knowledge support network, but also ensures that the results of the LIFE project actions are subjected to peer review and passed on to other site managers across the country.

11 Key facts and figures about LIFE-Nature in the Netherlands



Blue throat by Vereniging Natuurmonumenten / R. Messemaker

- 1** Within the past 15 years, LIFE-Nature has contributed around € 30 million to 22 Dutch projects costing a total of € 68 million. A further six projects also involved actions in the Netherlands but were part of larger international projects involving one or more other countries.
- 2** LIFE-Nature projects have been important for both the national and the European ecological network. Major restoration works have been undertaken on 28 of the 162 Natura 2000 sites within the Netherlands. On a further 11 sites, work has focused on restoring the habitats of core populations of endangered species listed in the Habitats Directive, such as the endemic root vole or yellow-bellied toad.
- 3** Reflecting the country's conservation priorities, the majority of Dutch LIFE-Nature projects have focused primarily on the large-scale restoration of key wetland areas across the country. This often involves major engineering works and the development of innovative management solutions.
- 4** Another key characteristic of the Dutch LIFE-Nature projects is that they generally focus on one single site at the time. The advantage of this approach is that it enables the beneficiaries to get to the root of the problems, introduce some fundamental changes in the way the land is being managed and so deliver sustainable long-term solutions for the site in question.

- 5 The projects are also often embedded in larger strategic land-use frameworks. Project managers have paid particular attention to integrating the project measures into the other land-use policies and have collaborated closely with water boards, local and provincial authorities and landowners in this regard.
- 6 Many of the projects, especially in later years, have thus involved strong partnerships. Conservation NGOs and public bodies have collaborated with inventive entrepreneurs to apply new techniques to the restoration of wetlands and semi-natural landscapes as heathlands or grasslands.
- 7 The general public has been kept informed of project objectives and actions, and this has resulted in a greater awareness of the European importance of Dutch Natura 2000 sites.
- 8 LIFE-Nature beneficiaries have been strongly supported by an existing 'knowledge' network of scientists, site managers and conservation authorities. This powerful combination of practice and theory has yielded some major breakthroughs in conservation science and has resulted in the formulation of new site restoration techniques and management solutions, which have been shared with other conservation managers, both in the Netherlands and in other EU countries.



Fixed dunes with herbaceous vegetation (2130) by Stichting Bargerveen / M. Nijssen

Colophon

Publisher Ministry of Agriculture, Nature and Food Quality
Bezuidenhoutseweg 73
Postbus 20401
2500 EK Den Haag
Nederland

Production IFZ Bedrijfsuitgeverij

**Researched and
written by** Kerstin Sundseth & Geert Raeymaekers,
Ecosystems LTD, Brussels

Managing editor Carleen Weebers, Ministry of Agriculture,
Nature and Food Quality

Design Trossen Los^o grafische communicatie

Photo credits *Front page:* IJsselmeer polders, by KINA/ P. van Gaalen

This brochure is a summary of the report entitled '*15 jaar LIFE-Natuur in Nederland, Europese participatie in natuurherstelprojecten*', Ministry of Agriculture, Nature and Food Quality, September 2006.

A copy of the report can be downloaded from the website: www.minlnv.nl

December 2006



agriculture, nature
and food quality