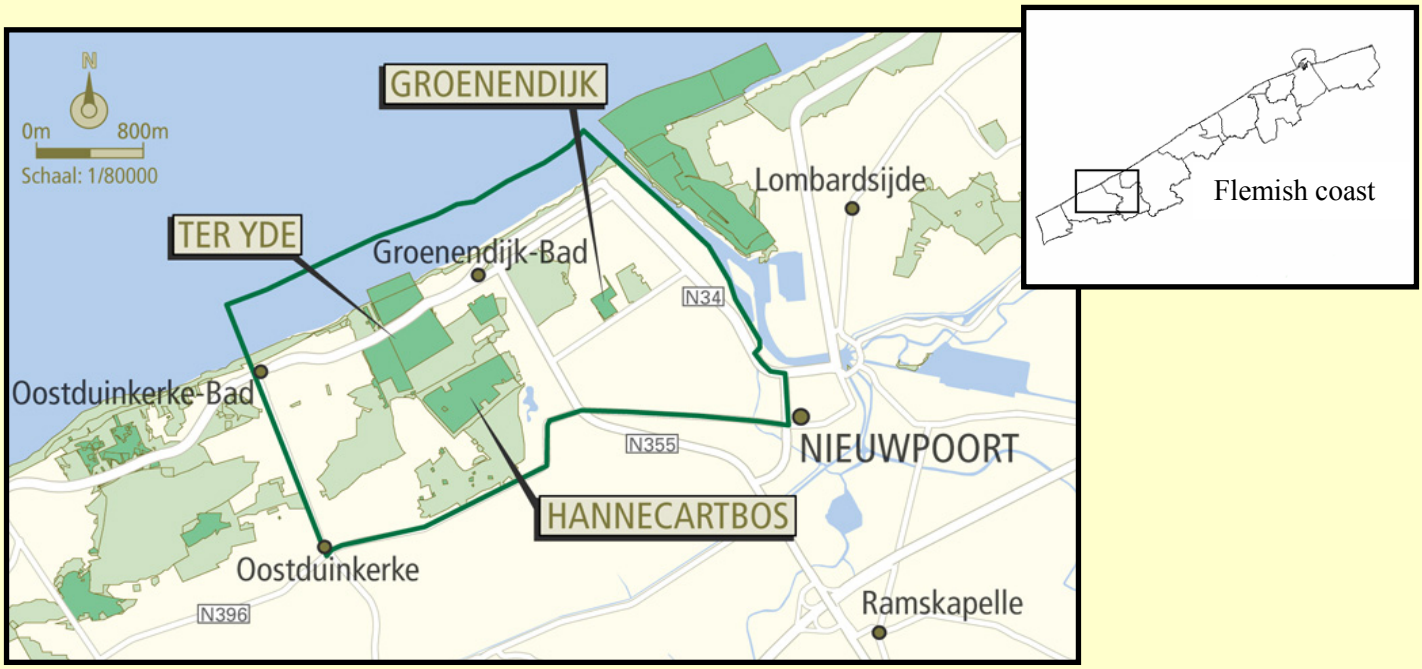
Ministerie van de Vlaamse Gemeenschap afdeling Natuur

FEYDRA

NATURA 2000

Life - nature programme 2002-2006
LIFE02 NAT/B/8591

The life – nature project FEYDRA was a project of the AMINAL – Nature Division Coastal Conservation Unit of the Ministry of the Flemish Community. The Life-FEYDRA project area is located on the Flemish Coast, more specifically on the territory of the coastal municipalities of Koksijde and Nieuwpoort.



'FEYDRA' stands for 'Fossil Estuary of the Yzer Dunes Restoration Action'. The project was given this name because the project area is located on the site where one of the branches of the former Yzer estuary flowed during the Middle Ages.

The project ran from 2002 up to and including 2005 with as purpose the restoration of typical dune habitats thanks to the following nature restoration measures:

- The demolition and removal of the wastewater treatment plant in the nature domain Groenendijk in Nieuwpoort, which had not been used since 1996, followed by the reprofiling of the grounds to restore dune pools and calcareous marshland;
- The felling and removal of dying elders and poplars over a surface of approximately 6 ha in the Flemish nature reserve Hannecart wood to restore it to its original condition of flowery haylands and dune grasslands;
- The removal of thicket in the Flemish nature reserve Ter Yde to restore the open dune landscape.
- The clearing of the dune brook 'Beek-zonder-naam' (Nameless Brook) in the Flemish nature reserve Hannecart wood followed by the installation of two weirs to obtain a more natural phreatic water balance in the dune complex 'Ter Yde';

Life-FEYDRA also paid a lot of attention to networking and communication: the distribution and exchange of information and experiences concerning nature restoration were a major part of the project.

To this end the international conference **"Dunes & Estuaries 2005"** was organised in Koksijde from September 19 through 23, 2005, with as theme nature restoration in coastal dune and estuarian habitats along the European coastlines. The international conference was a huge success and gave new dynamics in the restoration of coastal dunes and estuaries throughout Europe.

On 1 December 2003, an **information evening** was held about the nature restoration measures in the Flemish nature reserve Hannecart wood and an **information folder** on these nature restoration measures was distributed.

Following the start of the nature restoration measures in the nature domain Groenendijk, a **press conference** was held on 11 January 2005, to inform everyone of the realisations of life-FEYDRA.

At the start of the works in the Flemish nature reserve Ter Yde the people living in the neighbourhood received an **information sheet** in their letterbox explaining the why and wherefore of the works.

During the execution of the works information panels were positioned at the work sites to keep passers-by informed of the work in progress. The public could and can visit the website **www.mina.vlaanderen.be/feydra/** to obtain more information about life-FEYDRA

From 26 March through 30 October 2005 a temporary **exhibition** of the project was held in the Flemish Visitor and Nature Education Centre for the West Coast 'De Nachtegaal' (The Nightingale) in De Panne. This exhibition was officially inaugurated on Saturday 26 March 2005. The exhibition of the objectives and progress of the FEYDRA-Life-project comprises a model, a video, various real objects and beautifully illustrated panels.

NATURA 2000

The nature domain Groenendijk and the Flemish nature reserves Ter Yde and Hannecart wood belong to the Natura 2000 network.

This is a European network of areas designated by the member states of the European Union as special protection zone pursuant to the Birds Directive and Habitats Directive.

LIFE - nature is the financial instrument of the European Union set up in 1992 to contribute to the expansion of the Natura 2000 network.

Life-FEYDRA also focused on tourism and recreation.
Walking in Hannecart wood was made even more enjoyable by improving the footpaths and replacing the barbed wire fencing around the Hannecart wood with a more beautiful and functional enclosure!

Life-FEYDRA also boosted the dialogue between the local public authorities and the Nature Division. This dialogue resulted in an agreement between the local water company IWVA and the Flemish Region: the technical nature management of the IWVA – dune domains 'Cabour', with a surface of 88 hectares in Adinkerke (commune De Panne) and 'Ter Yde', with a surface of 25 hectares in Oostduinkerke (commune Koksijde) was transferred to the Nature Division.

How did life-FEYDRA approach the nature restoration?

Restoration of the calcareous marshland and dune pools in Groenendijk

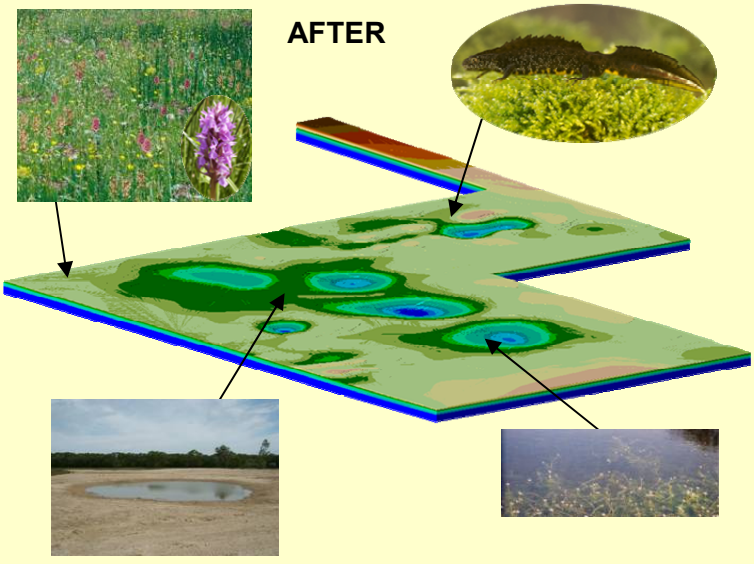
In Groenendijk life-FEYDRA aimed to restore the ecologically valuable calcareous marshlands and dune pools with their typical fauna and flora over a surface of 5 ha **by demolishing the old wastewater treatment plant of Nieuwpoort and subsequently reprofiling the grounds**. Before being able to start on the actual demolition work, the whole operation was carefully planned: the drafting of the work specifications, the evaluation of the offers and the work monitoring were subcontracted to an experienced engineering firm. These preliminaries were indispensable for the execution of the works. The demolition works started in early January 2005 with a press conference and ended in June 2005.

BEFORE

In the initial phase of the demolition works all hazardous materials were removed. In the second phase the buildings and the infrastructure of the wastewater treatment plant were pulled down and all demolition material was removed. Upon completion of the demolition works the cleared grounds were given a relief ideally suited to the development of valuable calcareous marshland, dune pools, moss dunes and dune grasslands.

In the late summer of 2005 a mowing and grazing management was implemented for the whole nature domain Groenendijk. This type of management had already been implemented in 2003 on the soil sections where no excavations were required and this resulted in the reappearance of orchids and of a favourable vegetation development!

AFTER



Nature restoration in Hannecart wood

View of the dying poplars and elders in Hannecart wood

Life-FEYDRA implemented the major management measures of the regional **management plan** for Hannecart wood approved in the Ministerial Order of 10 June 1999. Because the unique, boggy soil in the Hannecart wood the implementation of the nature restoration measures was not a straightforward process. It was necessary to proceed with great care and to use **specially adapted equipment**: all the machines were equipped with low pressure tyres so as not to damage the soil. Too much pressure on the soil during the works would have jeopardized the appearance of the desired flowery haylands! As moreover Hannecart wood is an area with a high water level the works had to be carried out in the period of the lowest water level (late summer).

Restoration of dune grasslands and flowery haylands

The deforestation occurred in **two phases**. The first phase was carried out in September - October 2004, the second phase took place in August-December 2005. The split in two phases proved interesting as the experience derived from the problem points encountered during the first phase helped prevent similar problems in the second phase (e.g.: the manner in which the work site area was demarcated and the removal of stumps).

Throughout the works we ensured **the sedge vegetation** was not damaged as these plants are vital to the small Desmoulin's whorl snail (*Vertigo moulinsiana*), one of the target species of life-FEYDRA. To obtain a landscape of the greatest possible variety the regional **hawthorn bushes** were maintained. The existing **channel pattern** in the wood was maintained for historic reasons and to safeguard the humidity gradients as this ensures even greater biodiversity. The deforestated section of Hannecart wood will be subject to **hayland management** in the coming years to ensure the felling surface develops into the desired flowery haylands. Moreover, **the Shetland ponies** continue to graze actively in Hannecart wood and will contribute to the good development of the flowery haylands and dune grasslands. In the spring of 2005 various types of charophytes appeared in the cleared trenches. This shows that one of the target habitats of life-FEYDRA is already developing well.

Felling surface immediately after the works

Intended flowery hayland

TARGET GROUPS

Creeping marshwort

Desmoulin’s whorl snail

Ragged-robin

A more natural water balance in the Ter Yde–dune complex

Nameless Brook

The water level in the polders is regulated artificially and has a direct influence on the phreatic water level in Hannecart wood and the rest of the 'Ter Yde' dune complex. By installing two adjustable weirs it is now possible to better manage the water level of the Nameless Brook: the dune valley vegetation and flowery haylands indeed require a sufficiently high phreatic water level. The Nameless Brook also contained a large amount of nutritious silt. By clearing the dune brook we created a situation that is deficient in nutrient substances, which is ideal for the typical charophyte vegetation we aim to obtain. Also the Crested newt will feel at home here. The clearing of the brook and installation of the weirs occurred in the late summer of 2005.

Restoration of the open dune landscape in Ter Yde.

The restoration of the open dune landscape is prescribed by the regional management plan of the Flemish nature reserve Ter Yde, drafted within the scope of the Life-FEYDRA. The regional management plan was approved by the Ministerial Order of 25 June 2003.

A closed **Sea buckthorn thicket (1 ha)** located near the eastern edge of a large dune slack ('Orchid dune slack') consisting of wet depressions and dry dune ridges, was removed in September-October 2003 in order to contain the overgrowth of the dune slack by the Sea buckthorn thicket. This occurred by means of power saws and forest mowers. The material was removed by hand from the grounds. To expose the soil as much as possible and to create optimum germination possibilities for the plants, the humus layer was raked up and removed by hand. On the cleared grounds there is now a diversity of dune grassland and moss dune species! In the area from which the thicket was removed in 2004 we have found various specimens of Rue-leaved saxifrage, Common milkwort, Blue fleabane and Common restharrow. In 2005 we also noticed the appearance of Yellow-rattle, Spring vetch and Beach centaury.
These plant species are indicative of a good development towards dry to wet dune grasslands. The section from which the thicket has been removed is mowed annually and is also grazed on by Shetland ponies.

On the western side of the dune slack a small **Beech-Willow wood and a row of poplars (0.4 ha)** were removed in the winter of 2004 in order to restore moss dunes and dune grasslands rich in orchids. The underlying humus layer was also removed. The felling of the trees and bushes with chain saws and forest mowers also brought an end to the negative effects of the seedlings, leaf fall and shading of the open part of the highly valuable 'Orchid dune slack'.

All the felled material was removed via a fixed route by means of a tractor and trailer fitted with low pressure tyres. This helped limit the damage to the soil. Moreover, rubber mats were placed in the most fragile locations to restrict the pressure exerted on the soil by the machines to a minimum. Indeed, if the pressure on the soil is too great this could hinder the development of the desired vegetation and the return of the relevant plants and animals due to track formation and soil compression. This work method also yielded good results. This section is now mowed and subsequently grazed on by Shetland ponies and sheep.

From September to October 2004 some **3 hectares of Sea buckthorn thicket** were removed from a dry dune slope. The underlying humus layer was scraped down to the bear sand to allow the sand to fly up again. This method helped restore the ever-decreasing shifting dunes with marram grass vegetation.

Start

After

In the winter of 2005 thicket was cleared from a wet dune slack (0.5 ha) using forest mowers and a sickle bar. The underlying humus layer was also removed. All the material was removed by hand. The removal of this thicket was intended to restore the wet dune valley vegetation and to create a biotope for the Natterjack toad.

What are the concrete results of life - FEYDRA?

- The results of the restoration actions are monitored by a team of scientists who evaluate the nature restoration measures. The first findings are positive!
  In the areas where the thicket has been removed in Ter Yde we have already found Rue-leaved saxifrage, Yellow-rattle, Common milkwort, Blue fleabane and Common rest harrow. On the section in Hannecart wood deforestated in 2004 we found Bog Pimpernel, Cowslip and Blunt-flowered Rush.
  This monitoring will provide **valuable scientific findings**. The final report will be ready in 2008.
- The attention for communication ensured everyone clearly knew why the nature restoration works were being carried out, represented an added value for the holiday-maker and increased the impact of nature conservation.
- The nature restoration actions and the improvement of the footpaths and replacement of the fencing of Hannecart wood enhanced the perception of the dune areas and are therefore **positive for nature-based recreation.**
- **A better dialogue with the local authorities** generated concrete results: the signing of management agreements with the local water company for two areas, the launch of the drafting of regional management plans for these areas and cooperation with the commune Koksijde for the organisation of the international conference.
- Optimum conditions for the settling and breeding of species of the Habitats Directive, i.e. **Creeping marshwort, Fen orchid, Natterjack toad and Crested newt.**
- Safeguard of **the largest population of Creeping marshwort** in Flanders from further recession.
- Restoration of **shifting dunes, moss dunes, dune grasslands, flowery haylands and open water habitats poor in nutrients.**
- A more **natural water balance** in the area.
- Restoration of the sand-drift dynamics in Ter Yde.
- **The proceedings** of the international conference constitutes a particularly useful set of publications related to nature restoration and nature development along the European coastline. The Nature Division, Coastal Conservation Unit submitted four **articles** about nature restoration on the Flemish Coast. They respectively concern the acquisition policy on the Flemish Coast, the removal of thickets on the Flemish Coast in the past decade, the large scale nature restoration works carried out in the past years on the Flemish Coast and the major role played by the financial instrument LIFE in nature conservation on the Flemish Coast. The international conference also yielded a publication on recommendations for nature conservation and restoration.

- Broadening of the basis for nature conservation and nature restoration.
- Interest of the press in nature conservation and nature restoration
- Exchange of experiences with nature restoration through the organisation of an international conference, reception of various international delegations and international publications.
- Implementation of the European habitats and birds directive and extension of the Natura 2000 network at the Flemish Coast.

Conclusion

Life-FEYDRA has given an extremely strong impulse to the management of the nature domain Groenendijk and to the Flemish nature reserves Hannecart wood and Ter Yde: the project allowed to achieve concrete realisations on the grounds and therefore realises the expansion of the Natura 2000 network.

Life-FEYDRA furthermore ensured good communication about the nature restoration and proper scientific monitoring of the nature restoration.

LIFE thus proves to be a highly suitable instrument for nature conservation and provides incredible dynamics in nature restoration.

Colophon

This newsletter aims to inform policy-makers and people interested in nature conservation of the results of the life- nature project FEYDRA.
What were the objectives of the project?
What are the results of the project?
How was this achieved?

This newsletter is available in three languages (English, French and Dutch) and can be requested at the following e-mail address:
hannah.vannieuwenhuyse@lin.vlaanderen.be

For more information?

Ministerie van de Vlaamse Gemeenschap afdeling Natuur

FEYDRA

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The AMINAL, Nature Division, Coastal Conservation Unit is part of the Ministry of the Flemish Community, Department of the Environment and Infrastructure.
The Nature Division is responsible for the preparation and execution of the Flemish Nature Policy.
This also includes the management of nature reserves owned by the Flemish Region.
www.natuur.be

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Life

http://europa.eu.int/comm/environment/life/home.htm
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