

AIM OF THE PROJECT

The aim of the project is to realize the priority conservation and management activities set by the Mire Habitat Management Plan for Latvia. It is the first habitat management plan for Latvia and outlines the priority areas in urgent need of management activities - Cena, Stikli, Klāņi and Veseta Mires. The sites are nationally and internationally important as include habitats and species of EU Concern as well as protected habitats and species of Latvia.

Objectives of the project:

- ✓ secure the best possible conservation status of priority habitats and species of European importance;
- ✓ involve local society and stakeholders in the conservation and management activities;
- ✓ raise public awareness and enhance the understanding of the current nature conservation issues, habitats of EU importance and Natura 2000 network.



PROJECT SITES Especially protected nature areas:

- ✓ Cena Mire
- ✓ Stikli Mires
- ✓ Klāņi Mire
- ✓ Veseta Floodplain Mire

The Project sites are included in the European network of protected nature areas Natura 2000

NATURE VALUES

Cena Mire Nature Reserve (2133 ha). Cena Mire is located about 12 km SW from Riga. Its development has started about 6000 years ago by land paludification. Previously, Cena Mire has been one of the largest raised bogs in Latvia but at present due to drainage and peat extraction only small part has remained. In Cena Mire breed and rest about 20 rare and protected bird species. The vegetation of the intact part of Cena Mire includes labyrinths of bog pools and ridges and is surrounded by bog woodland. Cena Mire is a unique raised bog because it is one of the few raised bogs of Latvia that possess the features of the coastal raised bog type and also the features of the eastern bog type of Latvia. Cena Mire is included in the List of Internationally Important Bird Areas.

Klāņi Mire Nature Reserve (1615 ha). The site is located about 9-12 km south from the Baltic Sea and includes 2 raised bogs of a coastal type of Latvia. The raised bog vegetation is characterized by the presence of *Trichophorum cespitosum*. The mires have developed as a result of terrestrialisation the ancient lagoon of the Littorina Sea. The intact part of Klāņi Mires has a typical vegetation of raised bogs with hummocks, hollows, lawns and carpets, but on mire margins the drainage influence is observed in mire vegetation. Special value of the area is Klāņi Lake that is characterized by high habitat and species diversity. In the mires, lake and the surrounding forests breed over 20 rare bird species.

Stikli Mires Nature Reserve (6636 ha). It is the largest raised bog complex in Western Latvia. The value of the site lies in the wide range of habitats of EU importance - raised bogs, transition mires, old-growth forests and 7 lakes. The raised bogs have the hummock-hollow complex. At the same time the mire margins are damaged by drainage ditches where the restoration of site hydrology and mire habitats will be carried out. Stikli Mires is a habitat for protected bryophytes, like *Sphagnum lindbergii* and *Odontoschisma sphagni*. The vast raised bog areas and the surrounding forests are a habitat for almost 30 bird species, several *Tetrao urogallus* leks are observed there. Mires are an important area for migrating birds. It is approved by the fact that Stikli Mires are an Internationally Important Bird Area.



Vasenieku Mire from Stikli Mires Nature Reserve (Photo by Māra Pakalne)



Drosera anglica and *Sphagnum cuspidatum* in a bog pool of Klāņi Mire (Photo by Māra Pakalne)

Veseta River Floodplain Mire Nature Reserve (424 ha). The site includes peculiar spring mire vegetation and reed beds that have developed in the river floodplain, as well as alder swamps. It is a small area but very rich with rare and protected plant and animal species that possesses one of the largest populations of very rare plants in Latvia - *Saxifraga hirculus*, *Liparis loeselii* and *Hamatocaulis vernicosus*.



Klāņi Lake (Photo by Uvis Suško)



Lobelia dortmanna in Klāņi Lake (Photo by Māra Pakalne)



Dactylorhiza russowii in Veseta Floodplain Mire (Photo by Māra Pakalne)



Veseta Floodplain Mire (Photo by Māra Pakalne)

glutinosa and *Fraxinus excelsior*, as well as eutrophic and dystrophic lakes, river habitats and *Molinia meadows* are known as well.

HABITATS

In all the 4 project sites 14 habitats of the European are recorded. The project sites include a wide diversity of mire, forest, lake and grassland habitats. The largest areas are covered by active raised bogs but here are also other mire types, like spring mires, alkaline fens and transition mires. In the project sites Boreal forests, alluvial forests with *Alnus*

FLORA

The intact areas of the raised bogs in the project sites are characterized by *Eriophorum vaginatum*, *Drosera rotundifolia*, *Oxycoccus palustris*, *Rhynchospora alba*, *Andromeda polifolia*, *Rubus chamaemorus*, *Drosera rotundifolia*, *Oxycoccus palustris*, *Calluna vulgaris* and *Sphagnum* species - *S. magellanicum*, *S. rubellum*, *S. fuscum*,



Trichophorum alpinum in Veseta Floodplain Mire (Photo by Māra Pakalne)



Cypripedium calceolus in Klāņi Mire Nature Reserve (Photo by Māra Pakalne)

S. cuspidatum. *Sphagnum* species occur in lawns and hummocks and are most characteristic species in the raised bogs. In the areas influenced by drainage the coverage of *Calluna vulgaris* has increased and *Pinus sylvestris*, *Betula pubescens* have become more widespread but *Sphagnum* species disappear. Still the intact parts of the mires and the nearby forests and lakes are the habitats for over 30 rare species of Latvian flora, like *Cypripedium calceolus*, *Liparis loeselii*, *Saxifraga hirculus*, *Gymnadenia conopsea*, *Dactylorhiza russowii*, *Corallorhiza trifida*, *Betula nana*, *Trichophorum cespitosum* and bryophyte species - *Calypogeia sphagnicola*, *Sphagnum pulchrum*. For the protection of these species special management measures are needed.

FAUNA

Mires are valuable habitats for bird species, like *Grus grus*, *Numenius arquata*, *Tetrao tetrix*, as well as the only nesting area for *Gavia arctica*, *Lanius excubitor* and *Numenius phaeopus*, *Tringa glareola* and *Pluvialis apricaria*. Raised bogs are an important overnight area for *Anser fabalis*, *A. albifrons* and nesting areas for *Grus grus* in Latvia. In addition to the protected bird species of Latvia, like *Pandion haliaetus*, *Haliaetus albicilla*, *Circus gallicus*, *Circus aeruginosus*, *Pluvialis apricaria* in the project sites also species from Bird Directive are known, including the priority species, such as *Aquila pomarina* and *Crex crex*. The sites are the habitat for the *Castor fiber* as well as a migration route of *Canis lupus* and *Lynx lynx*. In the project sites at least 4 bat species appear that are protected in Latvia. The mires are also a habitat for rare insect species.



Nest with the eggs of *Grus grus* on the islands of Cena Mire (Photo by Aivars Petriņš)



Tetrao urogallus (Photo by Aivars Petriņš)

PROJECT ACTIVITIES

- ✓ Elaboration of management plans and regulatory documents for the project sites;
- ✓ Hydrological investigations and restoration of raised bog habitats that are losing their nature conservation value;
- ✓ Management of transition mires and quaking bogs Fennoscandian mineral-rich springs and spring fens;
- ✓ Management of forest habitats Western taiga (9010*) and *Tetrao urogallus* leks;
- ✓ Monitoring of site hydrology and the effects of management measures on habitats and species;
- ✓ Organization of seminars for all interest groups and an International seminar "Raised bog conservation and management" to present the project results;
- ✓ Publishing of informative booklets, arrangement of nature trails and elaboration of the educational pack for teachers and school children;
- ✓ Shooting a film about the project;
- ✓ Organization of Raised Bog Conservation Day;
- ✓ Publishing of Guidelines for mire habitat and species management and conservation.

As a result of the project 19 priority actions are carried out to prevent the threats for the habitats and species of Community importance.

THREATS

The mires in the project sites are subjected to several kinds of threats - drainage, peat cutting, eutrophication and fire. These threats have already negatively influenced not only the project sites and are a threat also many other protected nature areas in Latvia, as well outside them. It is known that about 75 % of the protected nature areas in Latvia are negatively influenced by the change of their hydrological regime in their territory or in their vicinity. In the last years peat extraction has decreased in Latvia but still it continues intensively.



Influence from drainage and peat extraction to Cena Mire (Photo by Aigars Indriksons)

MIRES IN LATVIA

During the last decades the total area of mires has decreased drastically in European countries. Many mire types that have been earlier common, are rare now, including the raised bogs.

In Latvia mires cover about 4,9% from the total land area. In Latvia pristine and undamaged mire complexes are still found, most of which now are state protected. In total about 12% from the Latvian mires are under state protection.

On the other hand, about half of mires are influenced by various human activities and the degradation of the mires influenced by drainage continues.

Therefore, to stop the degradation of mires in Latvia and diminish the influence of desiccation caused by drainage of mires of at least some of Latvian mires that are located in the protected nature areas, restoration of mire hydrology and habitats is carried out within the project financed by **the European Commission LIFE-Nature Programme LIFE04NAT/LV/000196**



Betula nana in Cena Mire (Photo by Māra Pakalne)



IMPLEMENTATION OF MIRE HABITAT MANAGEMENT PLAN FOR LATVIA



Duration of the project: September 2004 - December 2008

Beneficiary: Latvian Fund for Nature

Project partners: Riga Forest Agency, Nature Protection Board, Mārupe Municipality, Babīte Municipality, Ventspils Regional Environmental Board, State Joint-Stock Company "Latvia's State Forests", Usma Municipality, Puze Municipality, Pope Municipality, Forest Research Station, Aiviekste Municipality, Kalsnava Municipality, Vietalva Municipality, Latvian State Forestry Research Institute "Silava", Olaine Museum of History and Art, State Joint Stock Company "Olaines kūdra".

Funding: European Commission LIFE-Nature Programme

Text: Dr. Māra Pakalne and Valda Baroniņa

Photos: Dr. Māra Pakalne, Aivars Petriņš, Aigars Indriksons, Uvis Suško

Project is implemented by the Latvian Fund for Nature

Address: Raiņa Blvd. 31-6, Rīga LV-1050

www.ldf.lv

The leaflet is printed with the financial support from

Nature Protection Board

Design: Linda Rūķīte

Printed in: McAbols

2005



Drosera rotundifolia (Photo by Māra Pakalne)

CO-OPERATION

Latvian Fund for Nature with this "Mire" LIFE project in the frame LIFE Co-op Project "Dissemination of ecological knowledge and practical experiences for sound planning and management in raised bogs and sea dunes" has started cooperation with the other countries, where the experience on mire management is exchanged among the representatives from the project partners. During the project realization co-operation is carried out with the other LIFE projects in Latvia as well as from other countries.

