

Large-scale Conservation Project Lakes Uckermärkische Seen

Improvement of the regional waterbalance and climate,
bog protection, biodiversity, land purchase, nutrient retention



(1) There are over 230 lakes in the project area

*In the past, large forests and bogs covered the Uckermärkische Lakeland. Since around 1700 there has been gradually **intensifying land use**, revealing environmental problems caused by the drainage, destruction and eutrophication of habitats. In 1996 the territory became part of the **federal program** to „establish and secure privileged parts of nature and landscape significantly representative of the state as a whole.“ By 2010, a large number of nature conservation measures will be instated, which should increase the **water retention of the region** and thus stabilize the water balance of the wetlands increasingly strained by climate change.*

Area

The project area is located in the glacier-shaped **Mecklenburg-Brandenburg Lake District**, in a hilly landscape with dead ice holes, bogs and groove lakes. The area possesses a tremendous diversity of habitats and species, as well as exceptional water quality. The osprey, white-tailed sea eagle, lesser spotted eagle, European crayfish, lamprey, European pond turtle, beaver, *Nehalennia speciosa*, barbastelle, yellow orchid, and sundew are all found here. Through the area runs the drainage divide between the North and Baltic Sea. The 92,000 hectare area with over 230 lakes includes **7 core zones** containing 84 lakes, and 233 kilometres of rivers on 25,000 hectares.



River basin district and state: Elbe, Oder; Brandenburg

Coordination zone: Havel, Stettiner Haff

Names of water bodies: Lakes: Kuhzer See, Großer Küstrin See; Rivers: Havel, Strom, etc.

Critical load factors and impacts: Water conservation damaged by water engineering, structural and material change and eutrophication affecting biological communities

Protection status: Nature Reserve, FFH-areas, SPA-areas, Nature Park

Reason / Cause

As early as 1938-39 and 1960-70 landscape and nature reserves were designated in the area and in 1990 the German Democratic Republic (GDR) planned to establish a national park. Since 1997 there has been the Uckermärkische Lakes **Nature Park**, which is bordered by the Feldberger Lakeland (in the Mecklenburg-Vorpommern federal state) Nature Park. The area is characterized by the coexistence of different habitats such as dry habitats on sandy soil, large forests and over **230 lakes**. However, **artificial ditches** drain into bogs, marshes, meadows and lakes, transporting lime, nutrients and other pollutants to other water. **Eutrophication** by agriculture is detrimental to the habitat. Water loss and deforestation lead to rising temperatures, **drought** and increased extreme conditions. Added to these problems are the already apparent effects of climate change. The artificial connectivity between different river basins creates competitive exclusion among originally separated communities. The drainage of peat bogs causes microbial degradation of the turf, releasing carbon dioxide.



(2) Re-watered wetland, before and after

Objective

Stabilization of the landscape's water balance: Removal of artificial drainage by re-raising water levels in lakes, small water bodies, bogs, and groundwater as well as the restoration of sinks without outflow.

Other priorities: improvement of water quality, restoration of river continuum, visitor management, preservation of the characteristic glacial-shaped relief, of habitats, as well as population sizes of species, protection and restoration of natural forests, opening of heathland and inland dune sites, planting hedges in open landscapes, and full protection of the core areas with 22 FFH-habitat types (LRT) and 24 FFH species.

Measures

The most valuable **nature conservation land** in the core areas will be **purchased**. The landusechanges or modification of land rights on important mineral sites will be obtained via leasing contracts between the „Förderverein“ and the farmers as soon as the existing ones expire, thus no compensation will need to be paid. From the viewpoint of the donor, the investment will pay itself off within 10-30 years. Purchased waters will be leased according to the Brandenburg Fisheries Act, but with **requirements** to improve conditions (protection and development of underwater vegetation of FFH LRT 3130-3160).

Rehabilitation of Poviestsees near Warta

Situation 1997

- *Littorella uniflora*-Population died out
- View depth (medium): 3,1m
- nature reserve
- species-rich macrophyteflora
- Trophieindex after LAWA: actual 2,3 target 2,0

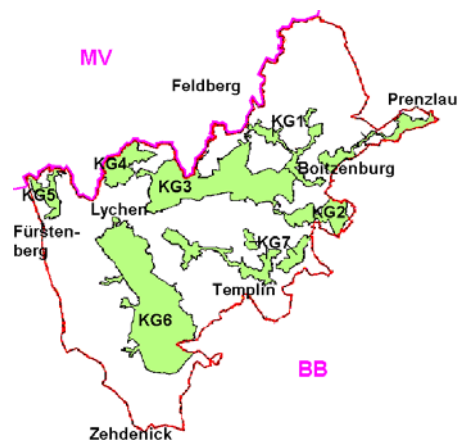
Results by 2007

- return of *Littorella uniflora*
- View depth (medium): 4,2 m
- 40 cm water rise level
- No above ground inflow/outflow
- 5 re-watered bogs
- 4 new spawning habitats for the fire-bellied toad, tree frog, and common spadefoot due to increased water retention

This includes putting an end to stocking, feeding and fishing in ornithologically meaningful waters. Non-resident fish stocks will be removed. Agricultural lands on boggy grasslands will be **extensively managed** plowfree or re-watered. **Rock ramps** located at the outflow of standing waters and peat-lands aid water retention and help to fill empty aquifers. Artificially **connected drainage divides** are **disconnected**. **Surface runoff** is **reduced**, which at the same time reduces water-bound pollutants (lime, nutrients, humic substances) and flood levels. Inappropriately deepened streambeds are raised and flattened. The resulting increase in evaporation leads to **cooling** and higher rainfall in the region. **Drainage systems of sloped and trenched bogs** are restored to their natural state, so that water can trickle on the surface and seep through the peat layers. Trenches are filled with relocated layers of degraded peat. At the same time, intact peat is exposed, which is quickly populated by rare plant species and peat-forming plants. Subsequent peat formation binds CO₂ and makes a contribution to **climate protection**. Some of these projects will be supported by dams created by **beavers**, which need neither planning nor construction expenses; merely accompanying land purchases by the project help to reduce impacts on those who are affected.



(3) Rock ramp: Schematic and „Construction“ after 5 years



(4) Project area with the 7 core zones

Participants

Sponsoring group is the **Feldberg-Uckermärkische Lakeland Association** office in Templin. The maintenance and development plans were designed by the planning office ILN Greifswald. So far up to now the implementation of measures took **15 planning permission hearings** and **24 water legal permits**.

Costs / Financing

Funding from 1996 to 2010 amounts 20.6 million euros. **Project Sponsors:** Federal Agency for Nature Conservation / German Federal Environment Ministry: 75%, Brandenburg Environment Ministry: 19 % association percentage (WWF Germany, administrative district Oberhavel, administrative district Uckermark, North Rhine-Westphalia Foundation, NABU Leverkusen, Foundation Conservation Fund Brandenburg): 6 %.

Results / Assessment

Results so far

- increase in lake level	22 times
- raising of the water level in bogs	41 times
- restoration of sinks, lakes and bogs without outflow	85 times
- structure improving measures on flowing waters	6 times
- reduction of plant eating fish	4 times

Action and impact checks are part of maintenance and development plans. The degree and nature of implementation and effectiveness on the subject of protection of assets are reviewed. This will determine if further action is necessary or if undesirable development exists. The transformation of the Lehtsee lowlands from twich grass grassland to spring water mire has become an **international reference object**.

Contacts

Förderverein Feldberg-Uckermärkische Seenlandschaft e.V.
Dr. Rüdiger Mauersberger
Am Markt 13
17268 Templin
Tel./Fax: +49 (0)39 87 / 5 37 33
E-Mail: foerdereverein_uckermaerk.
Seen@t-online.de
www.uckermaerkische-seen.de

**Bundesamt für Naturschutz
Fachgebiet Großschutzgebiete**
Ralf Forst
Konstantinstr. 110
53179 Bonn
Tel.: +49 (0)228 / 8491-1564 (Sekretariat)
Fax: +49 (0)228 / 8491-1519
www.bfn.de/0203_uckermark_seen.html

Landesumweltamt Brandenburg
Referat GR 1
Naturpark Uckermärkische Seen
Roland Resch
Zehdenicker Straße 1
17279 Templin
Tel.: +49 (0)39 888/ 645 -30
Fax: +49 (0)39 888/ 645 - 55

Literature / Links

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