LIFE for MIRES
Trans-boundary mire restoration along the Czech-German Green Belt and Cross-linking Green Belt

Melanie Kreutz
BUND Department Green Belt

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Pictures: BUND Department Green Belt, Richard, Kraft, David Stille
2 Examples

**Green Belt Germany:**
„Landgraben-Dumme-Niederung“
Project area „Cross-linking Green Belt“
(„Quervernetzung Grünes Band“)

**Green Belt Czech Republic-Germany:**
Šumava – Bavarian Forest

*In accordance with UNSCR 1244 and opinion of ICI.
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Trans-boundary restoration of mires for landscape hydrology and biodiversity in Šumava and Bavarian Forest
LIFE Nature and Biodiversity, 8/2018-12/2024, LIFE17 NAT/CZ/000452

Coordinating beneficiary: National Park Šumava
Associated beneficiaries: National Park Bayerischer Wald, University of South Bohemia in České Budějovice and BUND Bavaria/Department Green Belt

Overall budget: 5 845 000 €

60 % EU Funds plus Co-funds from the Czech Ministry of Environment and the Bavarian Nature Conservation Fund

http://life.npsumava.cz/ (Czech/German/English)
Main aims:

- Restoration of mires and wetlands (approx. 1670 ha).
- Impoundment of approx. 80 km of drainage ditches.
- Restoration of approx. 13 km of straightened streams.
- Improvement of habitats of flag ship species like Black Grouse (*Tetrao tetrix*) and Northern Birch Mouse (*Sicista betulina*).

Total project area: Approx. 2,000 ha; implementation on Czech side in national park Šumava (43 project sides) and on the German side in municipalities of Philippsreut and Haidmühle (approx. 50 ha in 3 project sides).

► Joint Monitoring
Restored natural stream, blocked ditches and created small pools in the site Rybarny I, pictures: Ivana Bufková.
Project area “Wagenwasser”
Spruce afforestation/monocultures on drained mires and wetlands (mainly from 1960ies)

Negative impact for biodiversity and hydrology:

- Low structural diversity and low biodiversity (e.g. shading of the ground, no transition areas)
- Barrier effect for all species of open and semi-open habitats
- High interception and transpiration by spruce monocultures
- Reduced water retention capacity
Annex IV Habitat Directive
Red List Germany 1 (threatened with extinction)

...needs large, intact wetlands and mires with many transition areas, from wet to dry and from open to semi-open

...one of the smallest rodents in Europe: 5 to 8 cm long (without the tail), weighing 5 to 13 g

...able to climb, competitive advantage in wetlands

...max. population density of 2.5 to 6.4 individuals per hectare

...low reproduction rate (one litter with approx. 5 young/year)

If suitable habitats exist, they are often highly fragmented

➢ leads to genetic impoverishment of isolated subpopulations
Populations in Western and Northern Europe are highly fractured due to glacial origin and decline of mires and wetlands.

- Only 3 populations in Germany
- Bavarian Forest: 3 main populations; 2 with a high potential to be connected to Czech populations

➤ Improvement of trans-boundary ecological corridors
many other endangered mire species (*Carabus menetriesi pacholei, Vipera berus* or *Boloria eunomia*) are dependent on the same habitat structure
Complete Removal or thinning of spruce afforestations and removal/locking of drainage ditches by using dead wood and branch material

Incorporation of dead wood and branch material

- into drainage ditches and to create dams in drainage ditches
- Into artificial of canalised streams/creeks for establishing sediment traps and raising of streambed

Creation of habitat structures:

- Standing and lying deadwood
- Creation of branch and stone piles as structure for mire species, e.g. as hibernation places for *Sicista betulina, Vipera berus* etc.
- Creation of small water bodies for amphibians and insects
- Creation of **transition structures**: transition from open to half-open areas, near-natural forest edges, transition from wet to dry areas

➢ **Rewetting and support of biodiversity**
Thinning of spruce afforestation on approx. 50%
Trans-boundary connection of mire habitats, occurrence of mire ground beetle
C. *Menetriesi pacholei* detected for the first time in 2021

- Creek „Wagenwasser“ improved as ecological corridor

In 2022 Black Grouse (*Tetrao tetrix*) returned (at least sporadically)

- Very likely from existing population approx. 2 km away on Czech side
Funded within the Federal Programme for Biodiversity (75 %)

10/2019 - 9/2025

Budget: 5,8 Mio €
Part of a wetland ecological corridor of national importance

Main goals

- **Development of wet grassland** in close cooperation with agriculture
- **raising of the water level** in combination with habitat establishment measures
- establishment of large-scale grazing
Project area of BUND in Landgraben-Dumme-Niederung:

- Alte Dumme
- Kusebruchswiesen
- Salzflora
- Stadforst Salzwedel
- Cheiner Torfmoor
- Brietzer Teiche
- Salzwedel
“Cheiner Torfmoor”

- Several spring mire with a total area of approx. 400 ha
- Belongs to a network of wetlands along the Green Belt with nationwide importance for the protection of species and habitats:
  - 8,000 flowering individuals of *Dactylorhiza majalis*
  - One of the last retreats for *Melitaea neglecta*
Additional raising of water level in two sub-areas

What could be achieved for climate protection without threatening species protection goals?

Balancing via approach of the University of Greifswald ("Moor Futures"):

- **Savings of up to 175 t CO\(^2\)-eq./year**
- **Area of approx. 40 ha: approx. 4.3 t CO\(^2\)-eq./ha/year**
- **Reduction of greenhouse gas emissions by approx. 25 %**

- Higher CO\(^2\) savings only possible with stronger waterlogging
  BUT: Increased waterlogging means abandonment of agricultural use; this is a contradiction to biodiversity goals (extensive grazing and coordinated mowing needed)
Water accumulation test in 2021

- led to the rewetting of approx. 16 hectares of grassland and created new temporary water areas of 4.5 hectares
- new pipe and lath gauges were installed in order to observe the effects of the rewetting measures.

For the “Cheiner Moor”, a land use concept (grassland) will be elaborated for approx. 170 ha, which will include
- recommendations for agricultural use but also
- maintenance measures to strengthen the populations of valuable floristic species or relevant forage plants for butterfly caterpillars
- water rights permits will be obtained for rewetting of additional sub areas
Thank you for your attention!
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BUND Department Green Belt
BUND Friends of the Earth (FoE) Germany
Hessestr. 4, 90443 Nuremberg, Germany
Phone 0049-911-575294-0
greenbelt@bund-naturschutz.de

BUND Saxony-Anhalt
Coordination Center Green Belt
Dieter Leupold, Ine Pentz

Phone 0049-39000-986272
gruenesband@bund-sachsen-anhalt.de