BESTbelt Conference, 1.-4.11.2022, Ulcinj, Montenegro

Session 3: Potential of the European Green Belt for Climate Protection and Nature Restoration

LIFE for MIRES

Trans-boundary mire restoration along the Czech-German Green Belt

and

Cross-linking Green Belt

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GrünesBand Deutschland

european greenbelt

Bund für Umwelt und Naturschutz Deutschland

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FRIENDS OF THE EARTH GERMANY

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

LIFE FOR MIRES

Trans-boundary restoration of mires for landscape hydrology and biodiversity in Šumava and Bavarian Forest

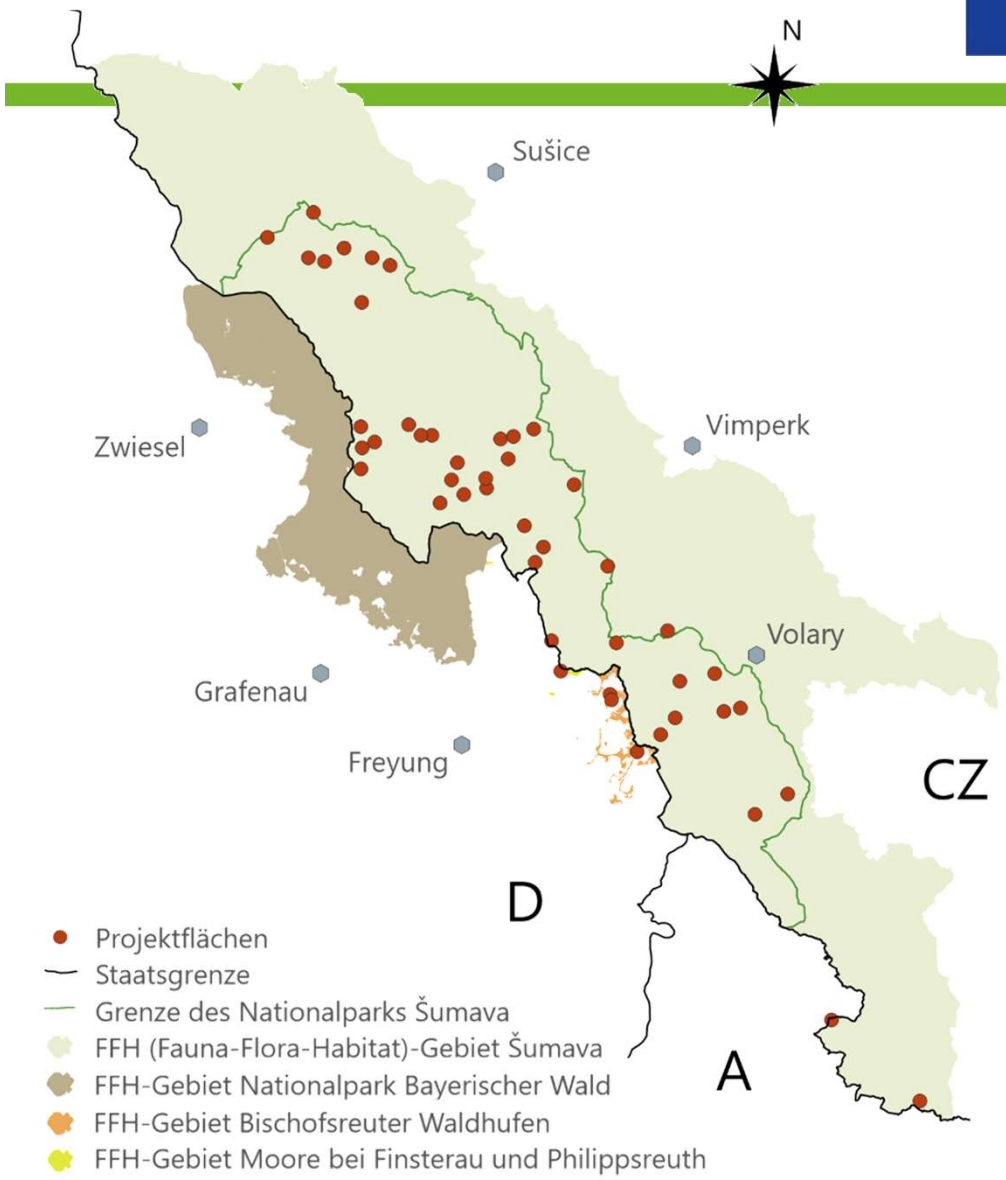
LIFE Nature and Biodiversity, 8/2018-12/2024, LIFE17 NAT/CZ/000452

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)

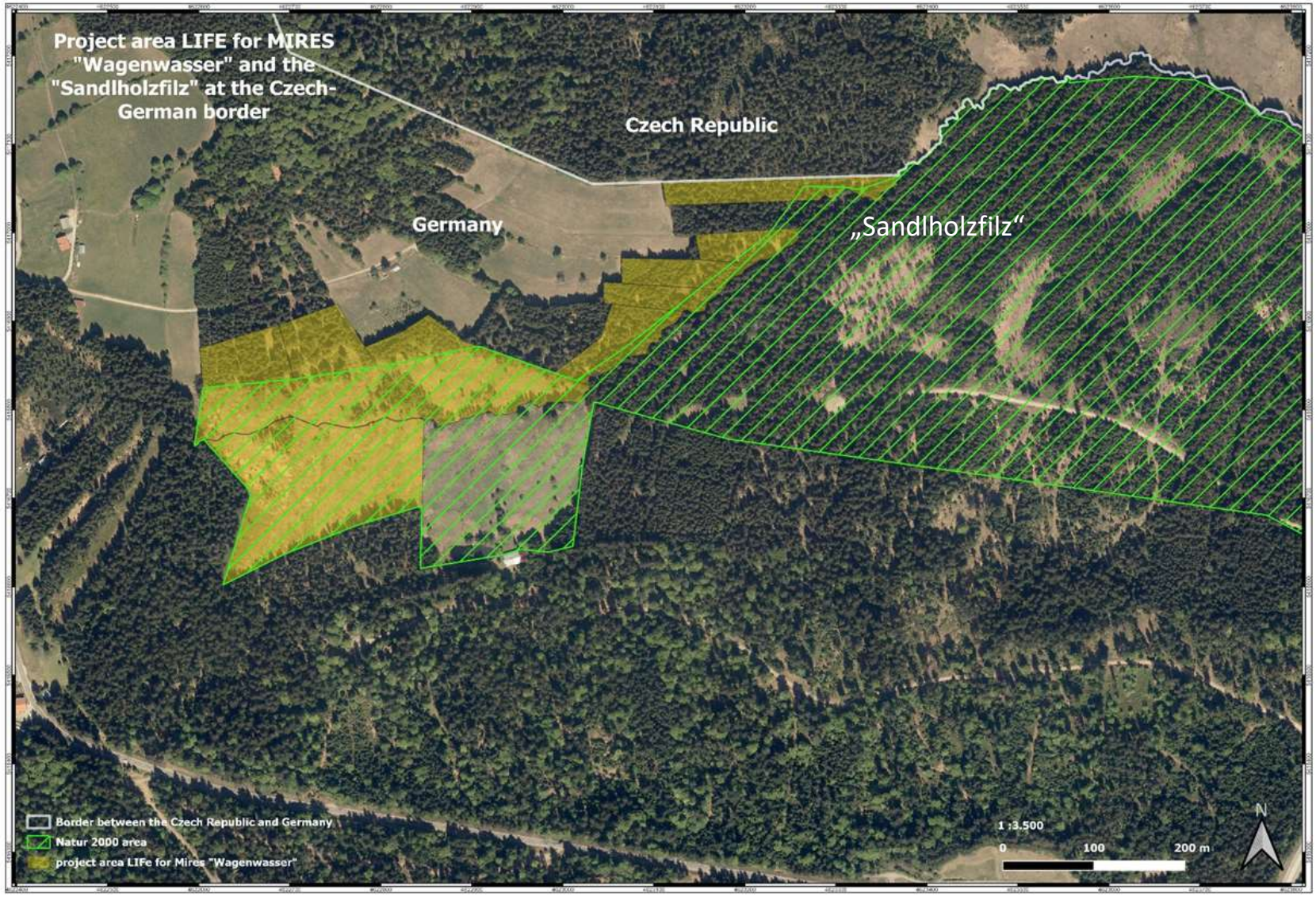
► Joint Monitoring

Total project sites (CZ)	43
Completed	18
Ongoing restoration	6
Restored area	918 ha
Restored streams	17 km
Dammed and infilled ditches	97 km

Dactylorhiza majalis sp. turfosa in the site Rybarny I

Restored natural stream, blocked ditches and created small pools in the site Rybarny I, pictures: Ivana Bufková.

Project area “Wagenwasser”



MAIN CHALLENGE

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**

Northern Birch Mouse (*Sicista betulina*)
„The lynx among mice“

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

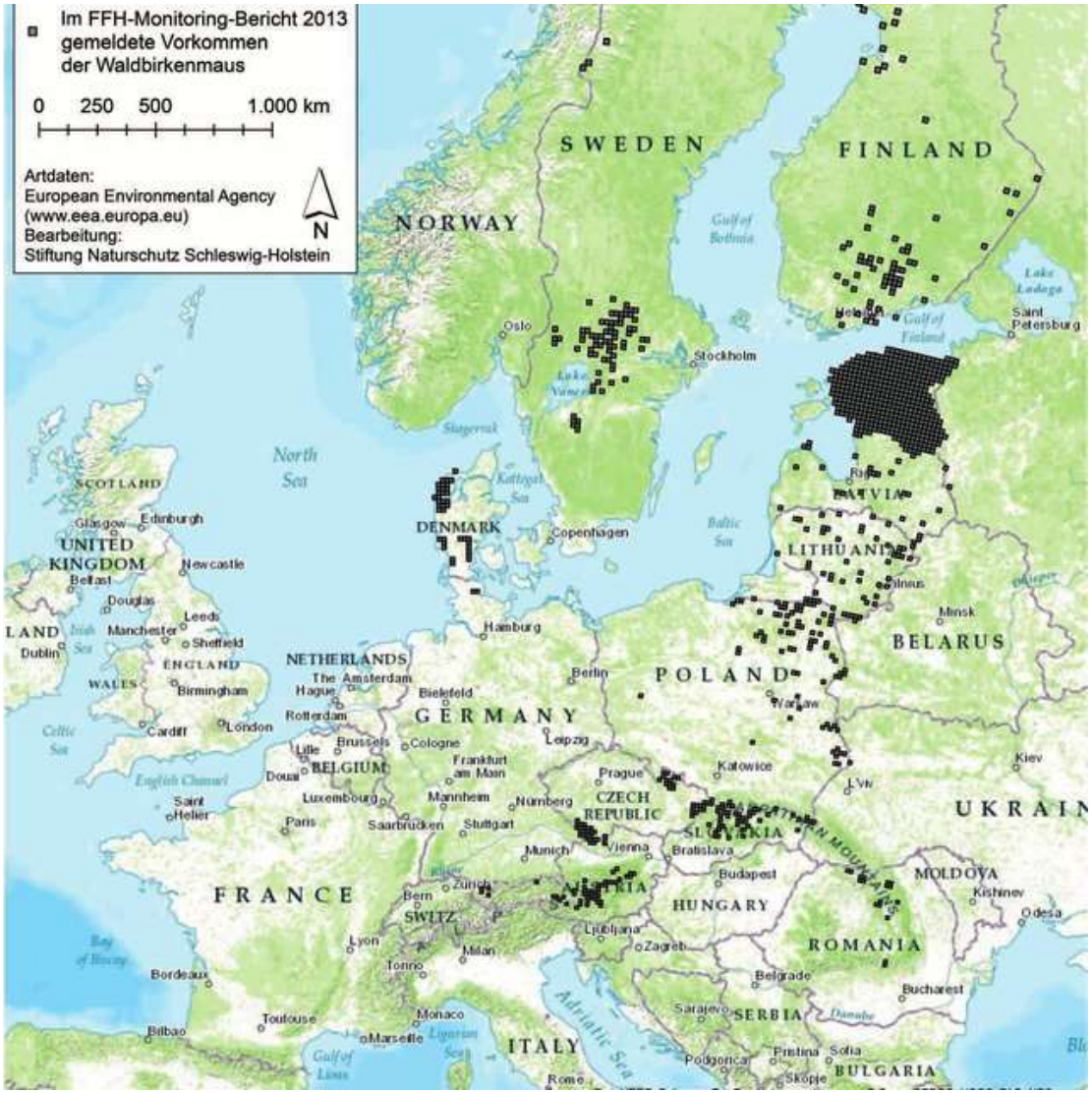
…max. population density of **2.5 to 6.4 individuals per hectare**

…**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**

Northern Birch Mouse (*Sicista betulina*)
Improvement of ecological connectivity



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**

Northern Birch Mouse (*Sicista betulina*)
Umbrella species for mire habitats rich in structure

- 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

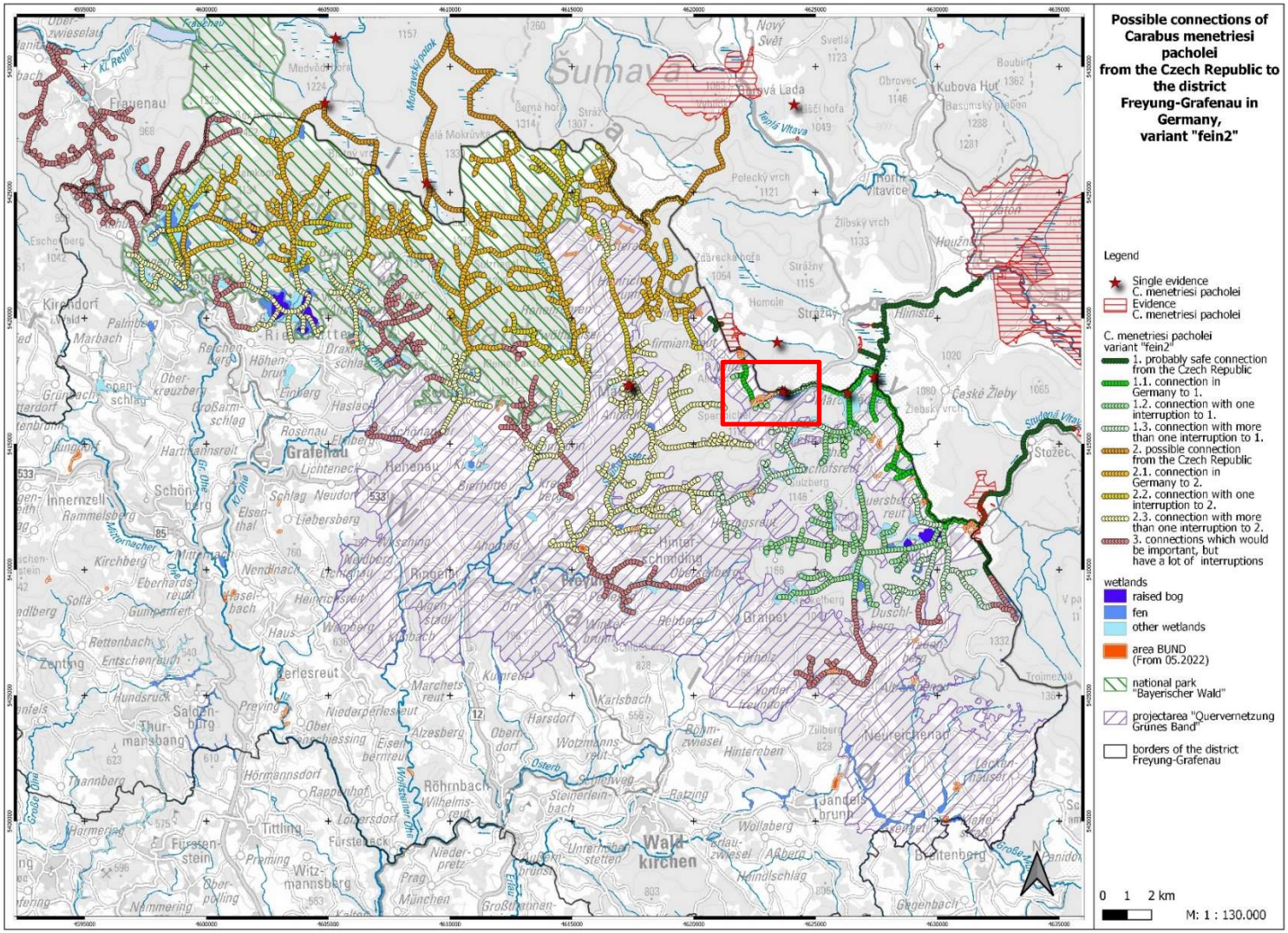
Creation of habitat structures:

- 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 %

MEASURES
Project area “Wagenwasser”



Trans-boundary connection of mire habitats, occurrence of mire ground beetle

C. Menetriesi pacholei detected for the first time in 2021

- Creek „Wagenwasser“ imroved 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

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"CROSS-LINKING GREEN BELT"
OVERVIEW

leben.natur.vielfalt
das Bundesprogramm

Funded within the Federal Programme for Biodiversity (75 %)

10/2019 - 9/2025

Budget: 5,8 Mio €

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Gefördert durch:

Bundesministerium
für Umwelt, Naturschutz, nukleare Sicherheit
und Verbraucherschutz

aufgrund eines Beschlusses
des Deutschen Bundestages

Bundesamt für
Naturschutz

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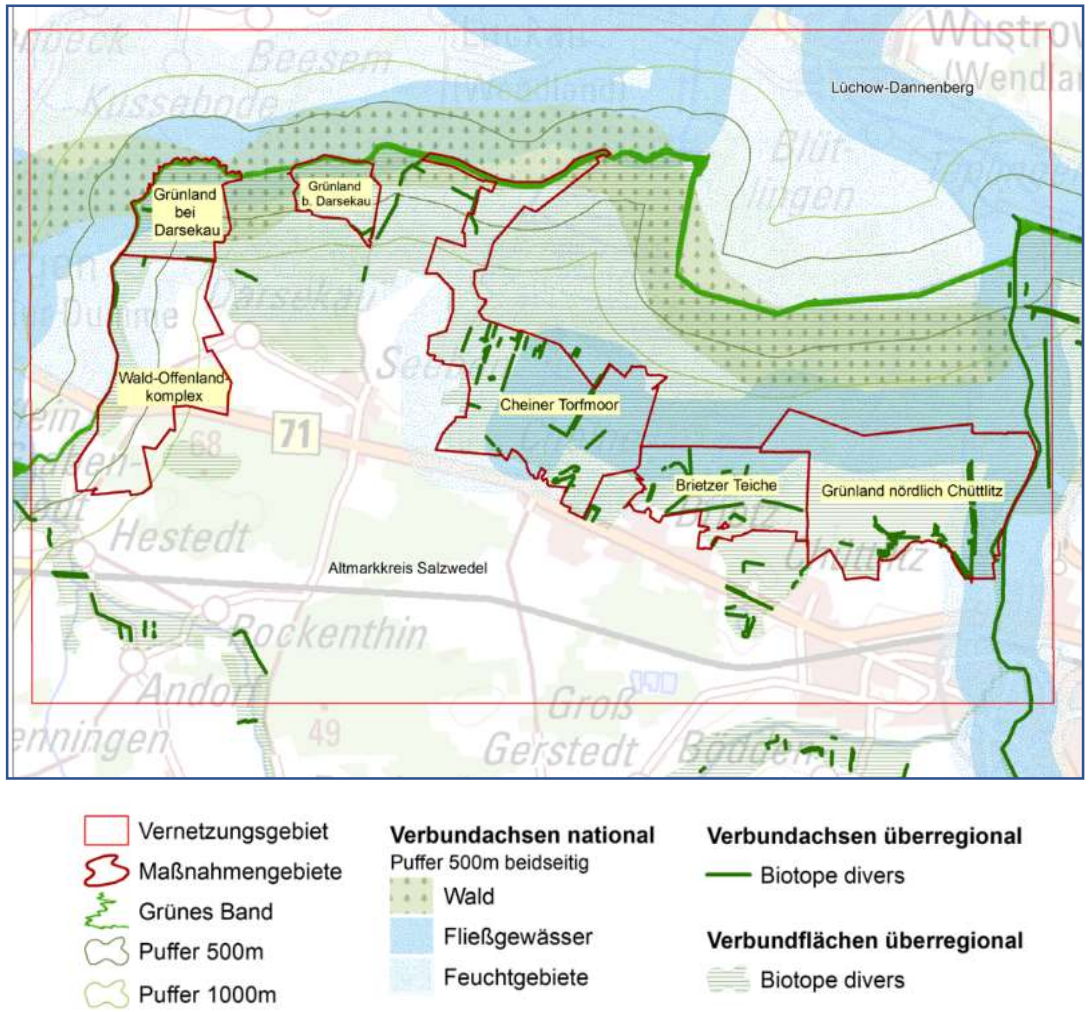
"CROSS-LINKING GREEN BELT"
Landgraben-Dumme-Niederung

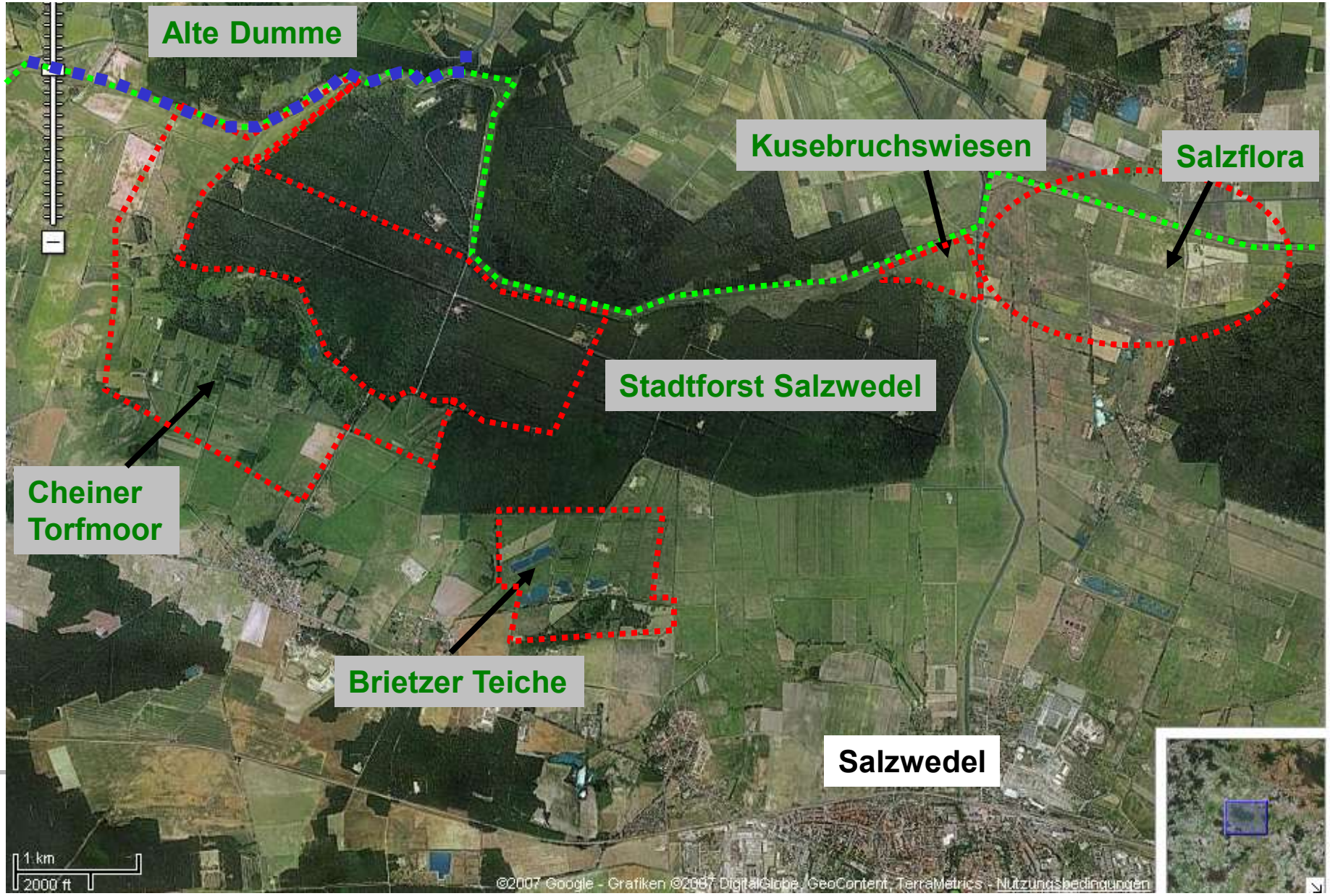
- Part of a wetland ecological corridor of national importance

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:



"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*
- ➢ On 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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