

Fen mire management in eastern Poland

methods, financing and impact on habitat



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The need for management

Outline of presentation:

- *Challenges*
- *Solutions*
- *Sucesses*
- *Problems to solve*

The need for management



Traditional extensive land use has ceased here by the end of the 70ies of the previous century

Much of this area for long was and still is no subject to successional overgrowth by trees and bushes, which makes the areas unsuitable for open fen species of birds, plants and insects.

The need for management



Habitat management is crucial for sustainability of conservation of largest mire tracts in Poland: the Biebrza Valley (NE Poland) and Lublin Polesie (SE Poland).

Biebrza - second largest Aquatic Warbler breeding site in the world (up to 20% of the world population of the species)

Up to 15,000 ha of current and potential Aquatic Warbler habitat should be managed



Threat of plant succession (end of '90):

• Tree encroachment	1 454 ha
• Bush encroachment	5 897 ha
• Reed encroachment	2 690 ha
• Mosaic of open and forested habitat	5 110 ha
Total	15 151 ha

Source: „BNP Management Plan” draft, 2001

Solutions – the projects



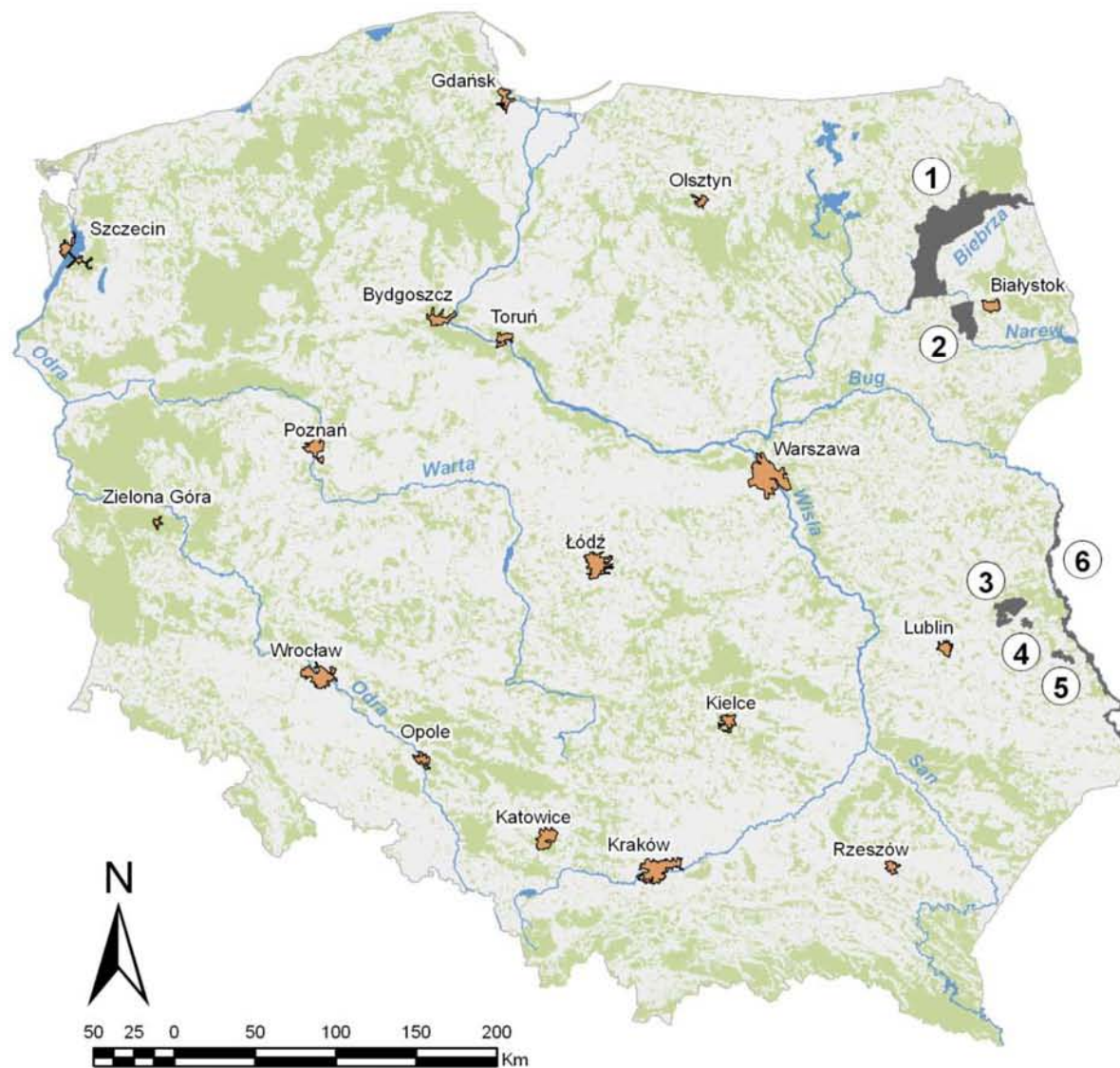
The Aquatic Warbler LIFE Project in Poland and Germany (2005 – 2011)

LIFE+ project "AW and biomass" (2011 – 2014)

The LIFE Project "Conserving Aquatic Warbler in Poland and Germany" has shown that large-scale habitat management at this site is possible using special prototype machinery on caterpillars (a so called "ratrak"-type harvester machine).



LIFE+ project sites



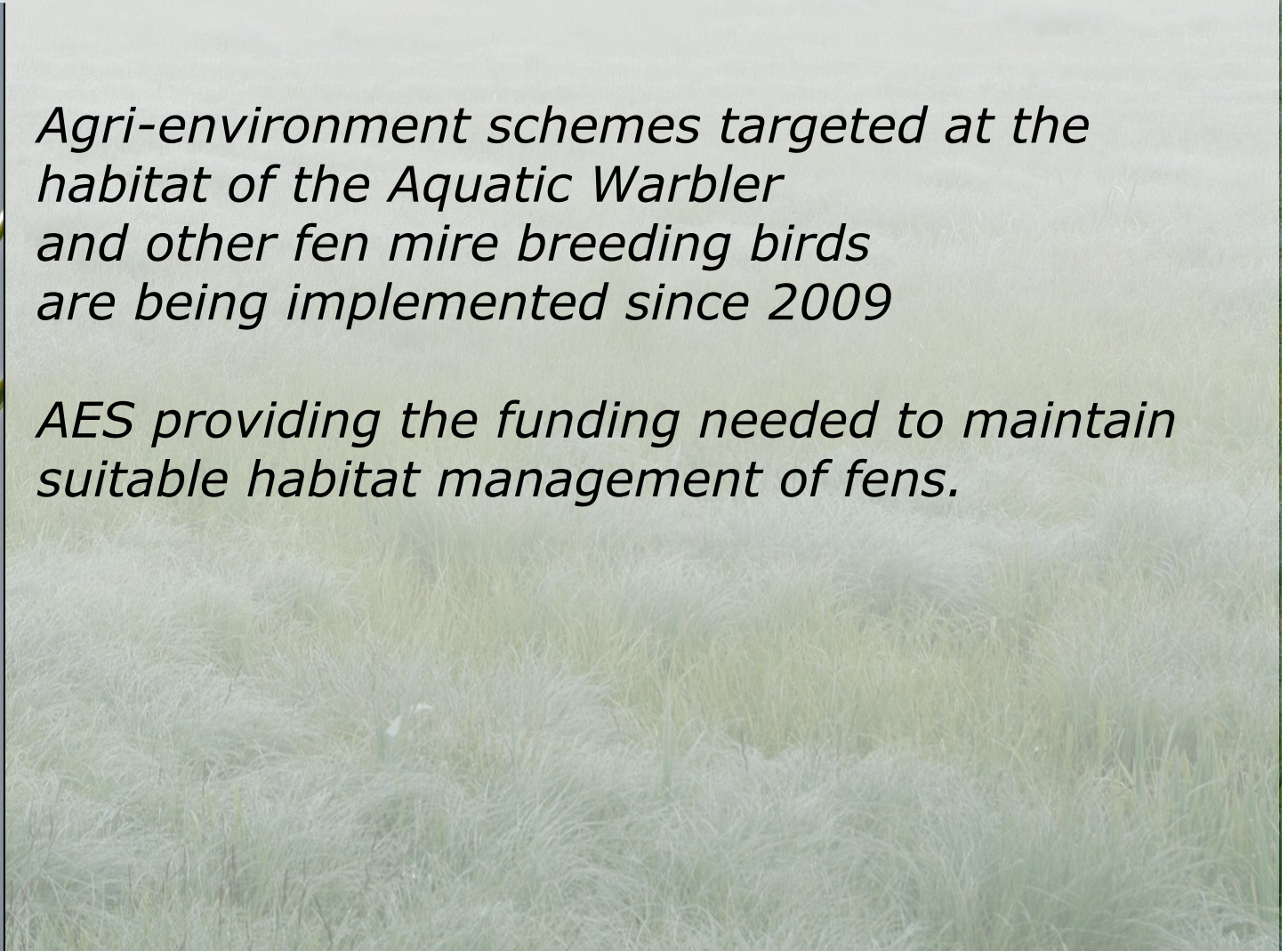
- 6 sites
- 12,000 ha priority project area, where biomass harvest planned

Solutions – economic incentives



Agri-environment schemes targeted at the habitat of the Aquatic Warbler and other fen mire breeding birds are being implemented since 2009

AES providing the funding needed to maintain suitable habitat management of fens.



Solutions – economic incentives

Agro-Environmental Programme 2007-2013, scheme 5

Nr	Nazwa pakietu	Nr wariantu	Nawa wariantu
5	Ochrona zagrożonych gatunków ptaków i siedlisk przyrodniczych na obszarach Natura 2000	5.1	Protection of birds habitats
		5.2.	Mechowiska
		5.3.	Szuwary wielkoturzycowe
		5.4	Łąki trzęślicowe i selernicowe
		5.5.	Murawy ciepłolubne
		5.6.	Półnaturalne łąki wilgotne
		5.7.	Półnaturalne łąki świeże
		5.8.	Bogate gatunkowo murawy bliźniczkowe
		5.9.	Słonorośla
		5.10.	Użytki przyrodnicze

Scheme 5.1 - payment: **1370 zł/ha = c.a 330 Eur/ha**

Effects of the LIFE project



***New technology
for mowing:***

Since the project start now it is possible to mow large areas of peatlands and to collect the biomass

Two mowing techniques used

1. Machine with mulcher header – for initial moving of dense rushes overgrown by sparse, small scrubs



Two mowing techniques used

2. Machine with rotating disc mower – for meadows not overgrown by scrubs or dense reeds



Collecting of biomass - three alternative methods dependent of local conditions

- 1. Collecting of mulched biomass immidiately on the trailor. Biomass is mown, collected and transported in a single stage.*





Pros- and contras of three alternative methods of biomass collection

*1. Collecting of mulched biomass immediately on the trailer.
(used by OTOP on fens)*

- single stage = lower frequency of machine manovers*

BUT

- high biomass humidity*
- biomass not compressed -need often to change trailer and lower storage capacity/transport cost*
- suction of biomass might negatively influence amphibians and invertebrates*

Collecting of biomass - three alternative methods dependent of local conditions

2. Collecting of biomass after mowing. Grass is left on meadow in a lines to dry. On the second stage hay is shredded and collected on a trailer.



Pros- and contras of three alternative methods of biomass collection

*2. Collecting of shreeded biomass after mowing.
(used by OTOP on slightly drained meadows)*

- low biomass humidity*

BUT

- double stage = higher frequency of machine manovers*
- biomass not compressed = need often to change trailer and lower storage capacity, higher transport costs*

Collecting of biomass - three alternative methods dependent of local conditions

3. Collecting of biomass after mowing. Grass is left on meadow in a line to dry. Then on the second stage dry hay is baled. At third stage bales must be collected on a trailer.





Pros- and contras of three alternative methods of biomass collection

*3. Collecting of baled biomass after mowing.
(used by farmers, leaseholders)*

- biomass compressed = higher storage capacity, lower transport costs*
- low biomass humidity*

BUT

- triple stage = highest frequency of machine manovers*
- require more specialised (caterpillar based) machines*







Chełm



Collecting of biomass bales
on Chełm Marshes



Collecting is biggest problem

Chełm

Solutions:

ratrak with lifting system

sledge pulled by ratrak

Drawbacks:

damage to habitat





C. Werpachowski

Made with fascine bundles reinforced with jute (or polypropylene) string.

Tractor road is build with first layer parallel to tracks and second layer across tracks - need to be more properly made than for ratraks (loose fascines).

Biomass (shrubs and tree branches) comes from shrub removal or from road margin cleaning.

Workload is very high: 4 persons worked 1.5 months for 200 m

Such road can be used only for 1 up to 3 years.

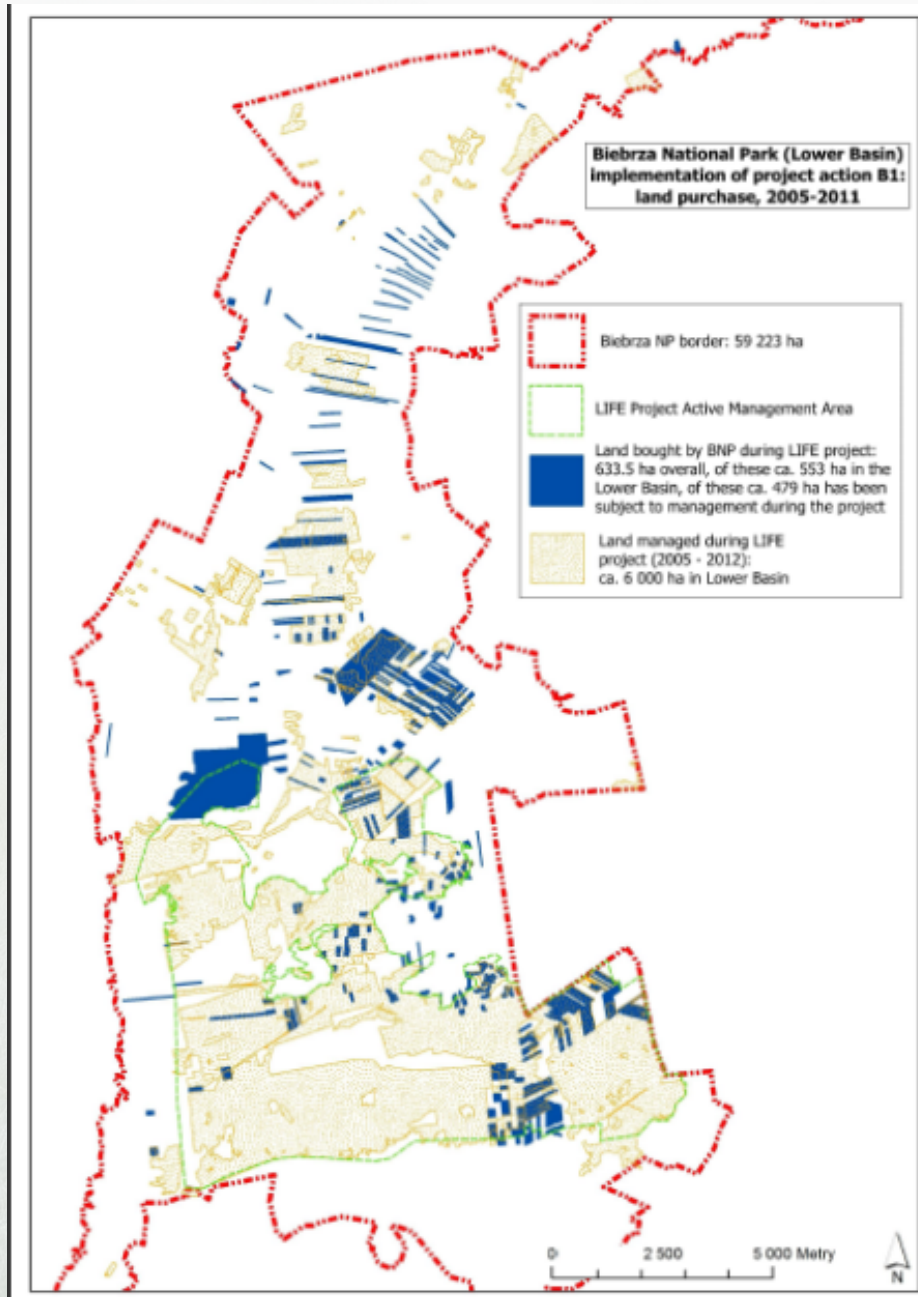
A photograph showing a tractor road constructed from fascine bundles (bundles of sticks or brush) laid out in a field. The road is made of two layers: the first layer is parallel to the tracks, and the second layer is across the tracks. The background shows a line of trees and a blue sky with some clouds.

**Fascine tracks and
short-term biomass
storage sites**

Problems with biomass collection - ratrak roads on Biebrza

- wider than 1 machine (like 3-4 machines),
- up to 1% of the overall area affected by such roads,
- when used for 2-3 years, passed between 50-100 times,
- need for improvement with fascines;
- vegetation: very common *Typha latifolia*, common *Lythrum salicaria*, *Bidens cernua*





Land managed during LIFE projects (2005-2012)

6 000 ha
(Biebrza Lower Basin)

c. 5,000 ha of BNP leased to farmers for mowing

30-40 ratraks operated by private owners

P. Świątkiewicz



P. Świątkiewicz

Landscape effect



<http://bagnasadobre.pl/>

D. Świątkiewicz
J. Wójcikowski

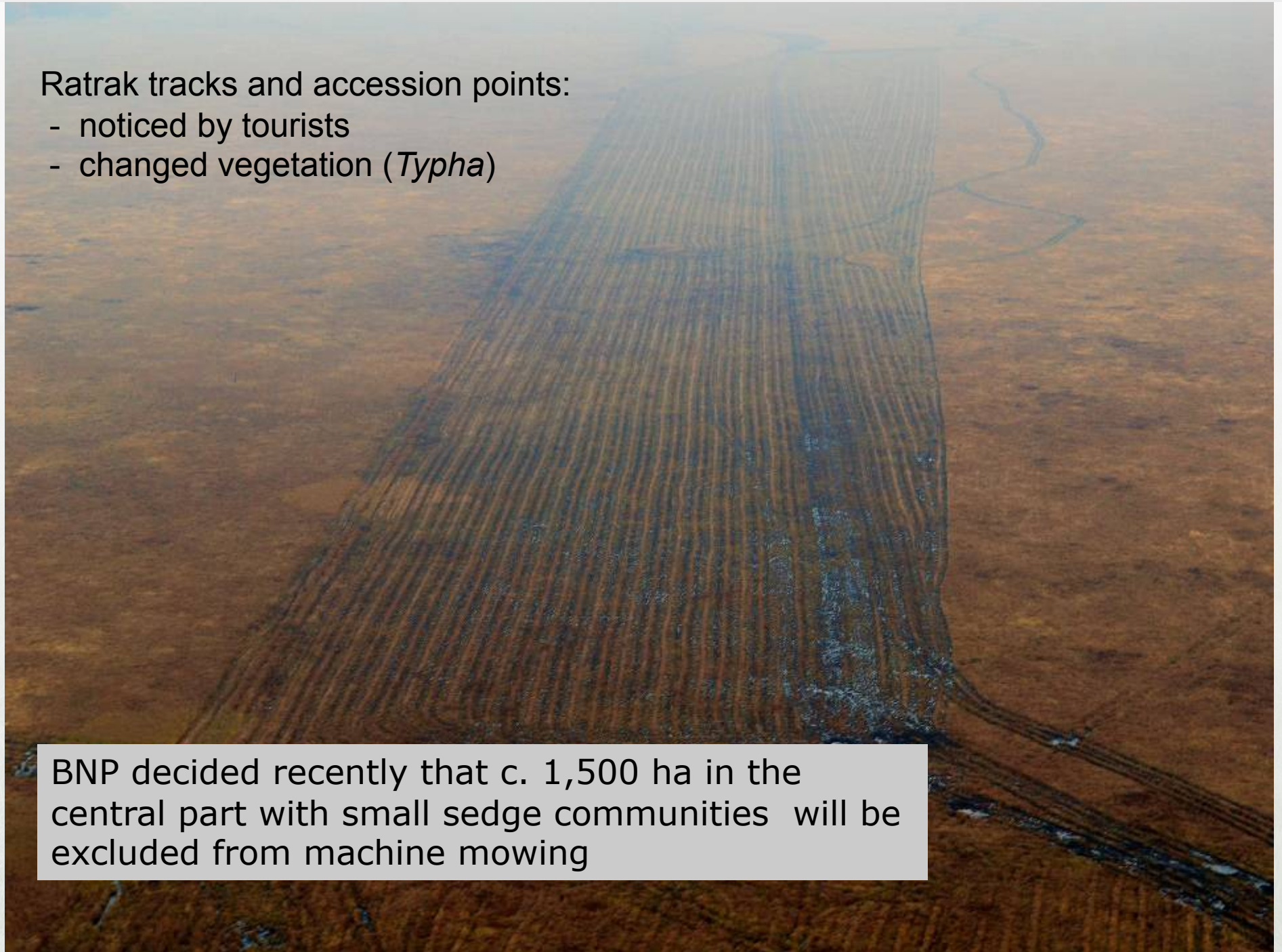
Various conservation targets and their habitat requirements in Biebrza National Park



Ratrak tracks and accession points:

- noticed by tourists
- changed vegetation (*Typha*)

BNP decided recently that c. 1,500 ha in the central part with small sedge communities will be excluded from machine mowing





Thank you for your attention!

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