Kosteliska - Bird Parks as a Tool for Biodiversity Conservation

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Bird Parks of the Czech Society for Ornithology - a dynamic leader of bird conservation and the creation of their environment

- CSO – more than 7500 members

Czech Society for Ornithology – South Moravian Branch

Impossible without people

Restoring nature and supporting biodiversity


More photos:
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Landscape management

Kosteliska - Restoration of Alluvial Habitats

Kosteliska Bird Park established in 2020
- wide selection of **habitats**: from pond and its banks, wet meadows and wetlands to dry sandy low hills

Restoration project: 2021 – 2024
Main goals: to use traditional agricultural methods to start effective care of the area and create favourable conditions for a broad spectrum of plants and animals

Norway grants

STATE ENVIRONMENTAL FUND OF THE CZECH REPUBLIC

Working together for a green Europe

Methods:

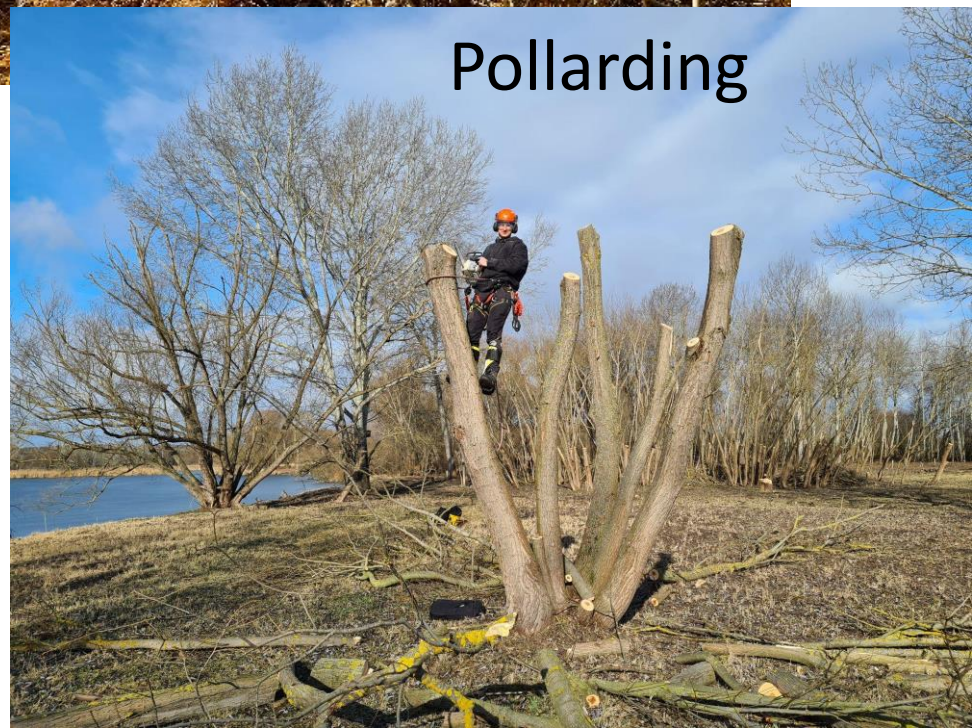
Mowing and removal of biomass

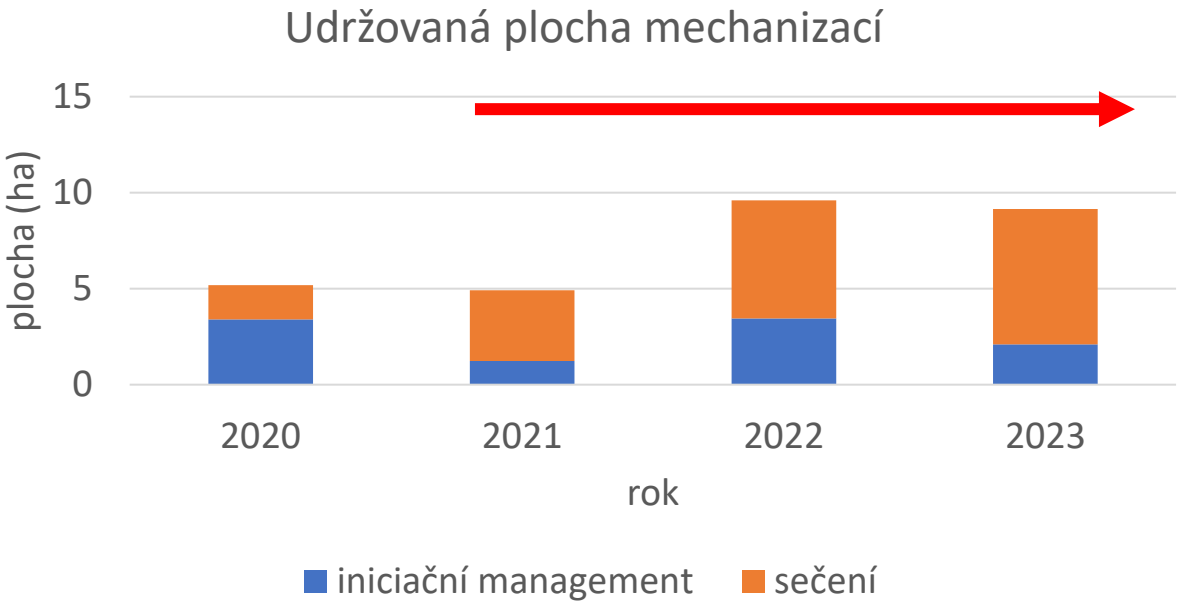
Terrain modelling and sod removal

Grazing

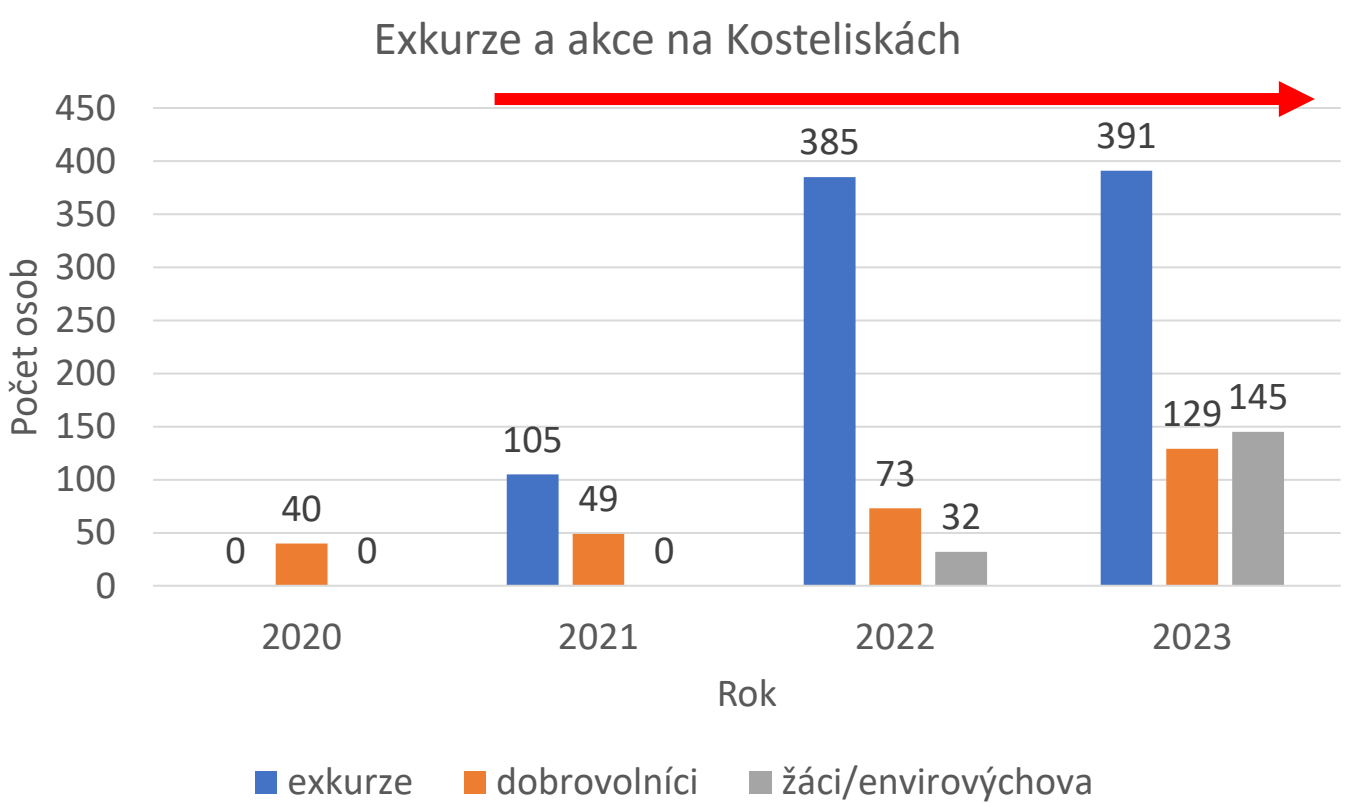
Planting willows

Pollarding




Udržovaná plocha mechanizací
15
10
5
0
plocha (ha)
2020
2021
2022
2023
rok
iniciační management
sečení


Udržovaná plocha pastvou
25
20
15
10
5
0
Plocha (ha)
2020
2021
2022
2023
rok
ovce/kozy
krávy
koně



Typ opatření	2020	2021	2022	2023	jednotka
ořez vrb	50	0	6	98	Ks
výsadba	0	5	24	40	Ks
budky	0	7	10	27	Ks
odpadky	7	1	2	2	pytle
tůně	0	2	6	1	počet

Project in numbers:

- Over 10 ha restored
- Pasture infrastructure built – 10 ha
- Grazing started: combination of cattle, sheep, goat and horse grazing
- 4 cows bought in the project (2x two-for-one, Hungarian Grey)
- Mowing of invasive and expansive species will continue on min 2 ha
- Over 1 ha of invasive trees already reduced
- Terrain modelling - 10 smaller wetlands (pools)
- Sod removed to allow the development of rarer plant species
- Tens of willows pollarded, tens of new willows planted to be pollarded later
- Dense and dark forrests – reduction of 2/3 of trees

Botany

- Species-poor stands of **invasive species** (especially *Solidago gigantea* and *Symphyotrichum novi-belgii*) and reeds have been **replaced by a diverse mosaic** of low grasslands and short-lived and perennial wetland vegetation.
- **On** periodically **flooded** and waterlogged **areas**, **grazing** has proven to be a very **appropriate** type of management, as it keeps the vegetation loose, allowing competitively weak, endangered species that are present in the soil seed bank or may have migrated in from the surrounding area to establish. Examples include the perennial soda plants *Schoenoplectus tabernaemontanii* and *Trifolium fragiferum*.
- At the same time, the movement of animals **hardens the soil**, which leads to the development of temporary wetlands with the occurrence of thermophilous vegetation with a number of endangered species, of which we found here the *Lythrum hyssopifolia, Chenopodium chenopodioides, Veronica anagalloides, R. V. catenata* or *Centaurium pulchellum*.
- Grazing has **exposed the sandy soil** on the uplands and the endangered sand species *Filago minima* and *Erysimum diffusum* have grown there. It is important to continue extensive grazing in the area and ideally to extend the pastures over a larger area to allow other competitively weak, endangered species growing in the vicinity of Jarohněvický Pond to grow.

Entomology

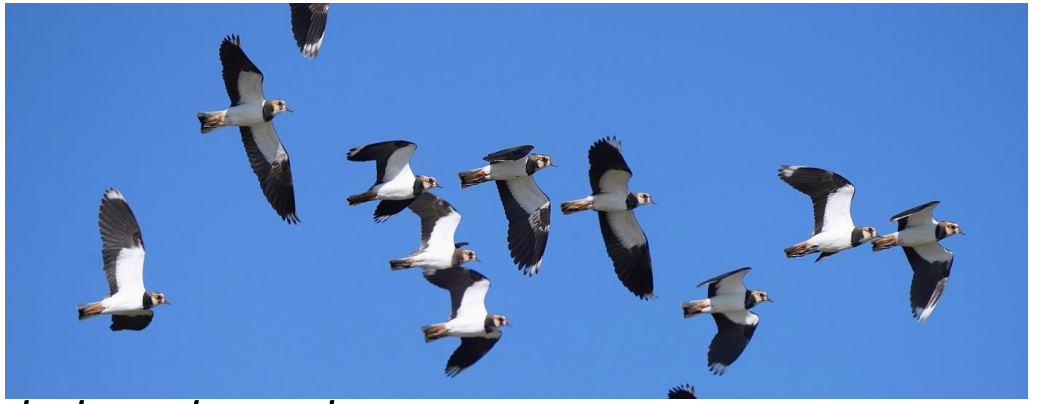
- research: 142 beetle species on pastures and 21 species of diurnal butterflies. Of the total number, 6 species are specially protected and 20 species are included in the Red List of Invertebrates.

- important insect refugium deserving of high attention: fundamental positive change in the environment since 2021: FROM *Solidago g*. and reed stand with no interesting insects lived TO a species-rich grassland with a variety of microbiotopes
- positive effect: diversified vegetation, created wetlands, dead wood left behind, pollarding, slightly salted banks, excrements of animals without antiparasitics

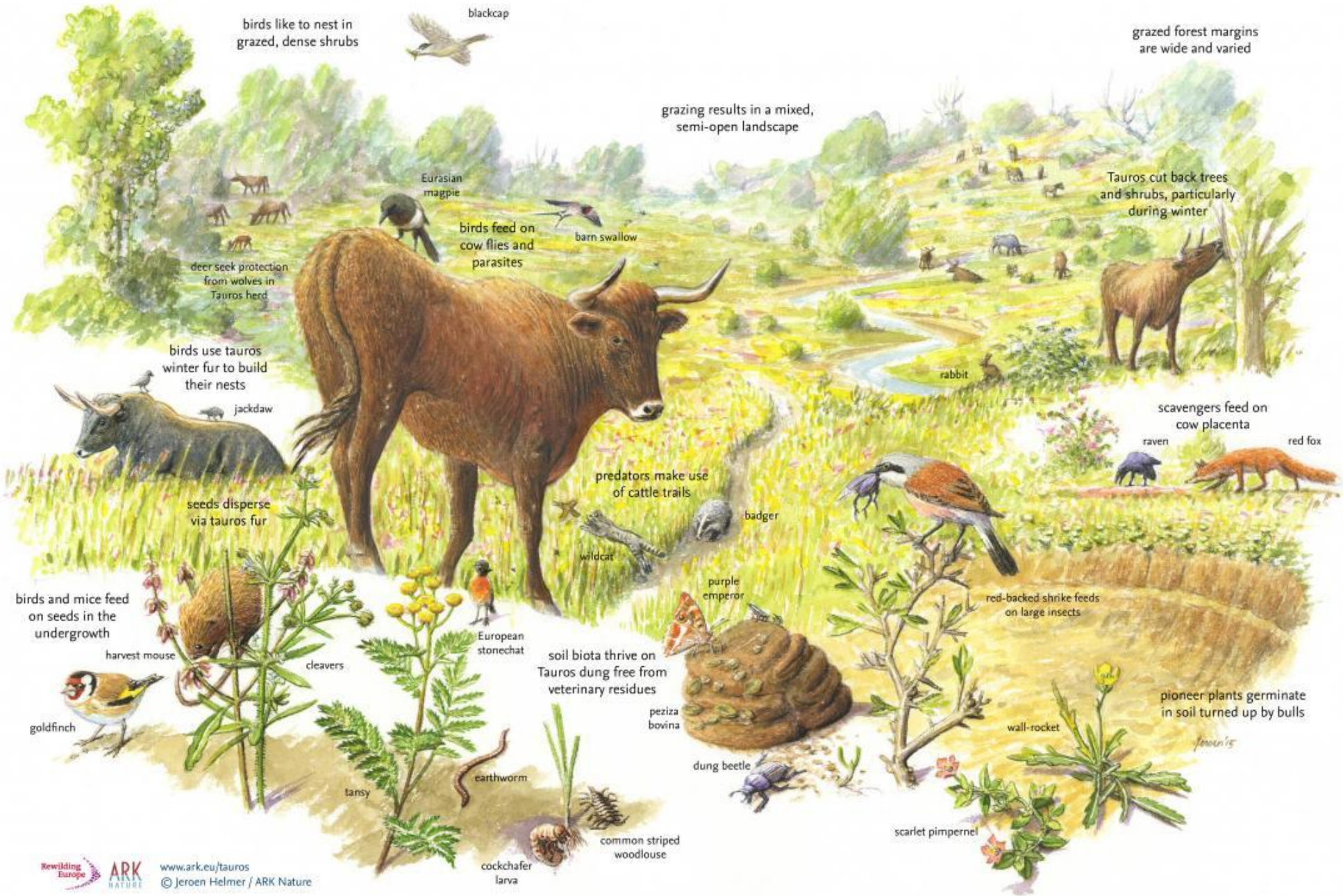
Hydrobiology in new small wetlands (pools)

- invertebrate communities do not differ significantly from those of the surrounding wetland biotopes - may contribute to their diversity (sunny exposed banks with rare *Ochthebius* or terrestrial invertebrates)
- refuge for pioneer, low-competence species
- Amphibians - great potential: *Pelophylax sp., Pelobates fuscus, Lissotriton vulgaris*
- potential for biodiversity suppressed by the presence of fish, especially the non-native *Pseudorasbora parva* and *Carassius gibelio* - very negative impact on the native biota and the physico-chemical conditions of the sites
- future management: suppressing the occurrence of fish - experimentally introduce smaller quantities of predatory fish, or install fish traps in pools with regular collection and removal of unwanted fish, but in addition to ensuring regular collection

Birds



- undergoing changes due to management – monitoring
- some species associated with dense vegetation, such as *Acrocephalus schoenobaenus* or *Acrocephalus palustris* have declined or almost disappeared – BUT they are comon in surrounding areas
- grazed areas are very attractive for rare species of waders, geese (more than 100 chicks, ducks and other birds (*Egretta garzeta, Ardeola ralloides, Tringa ochropus, Upupa epops*, …)
- 204 bird species, including *Himantopus himantopus, Tringa totanus, Grus grus, Lulula arborea, Ardea purpurea, Circaetus gallicus*



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