

The implementation of floating artificial islands for improvement of breeding conditions for waterbirds and increase of biodiversity in fishpond ecosystems

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STÁTNI FOND
ŽIVOTNÍHO PROSTŘEDÍ
ČESKÉ REPUBLIKY

Společně pro zelenou Evropu
Podpořeno Norskem prostřednictvím
Norských fondů.





FISHPOND ISLANDS

- important nest sites for waterbirds

Reproduction success and population dynamics of our target species (ducks, gulls and terns) is strongly affected by the breeding site environmental conditions

ISLANDS of intensively managed fishponds - the most important breeding habitat for waterbirds

The lack of suitable nesting sites leads to both inter- and intra-specific competition for this critical resource

Fishponds in Czechia



***Romantic
Touristic destination***



Fishponds in Czechia



***Biodiversity hotspot
Many birds and plants***



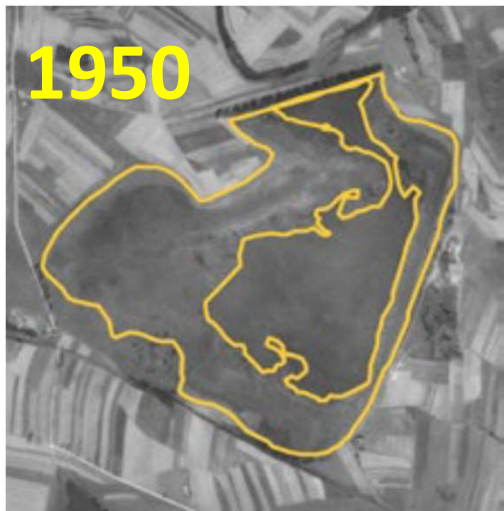
Fishponds in Czechia



Summer reality!

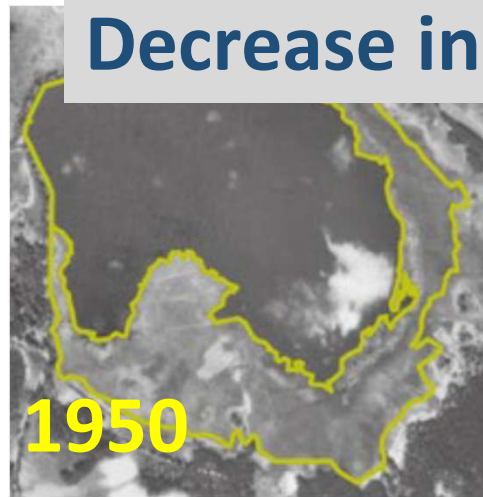


Decrease in suitable nesting sites



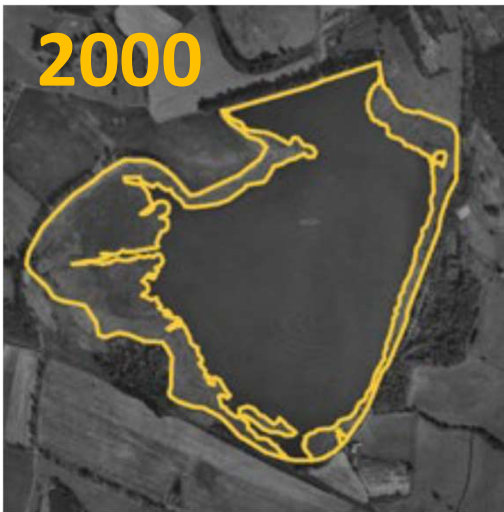
1950

Řežabinec pond
Písek District
South Bohemia
(National Nature Reserve)

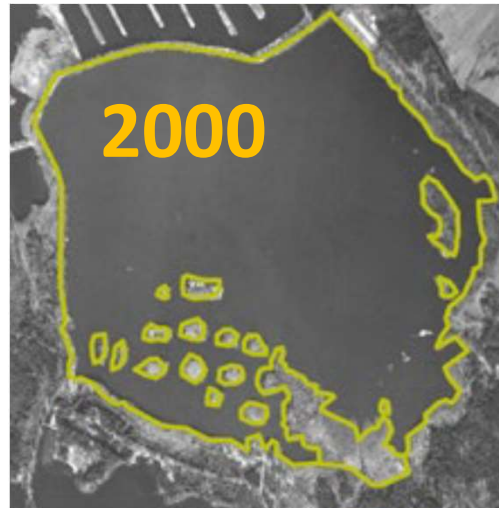


1950

Staré jezero pond
Třeboň Biosphere Reserve
South Bohemia



2000

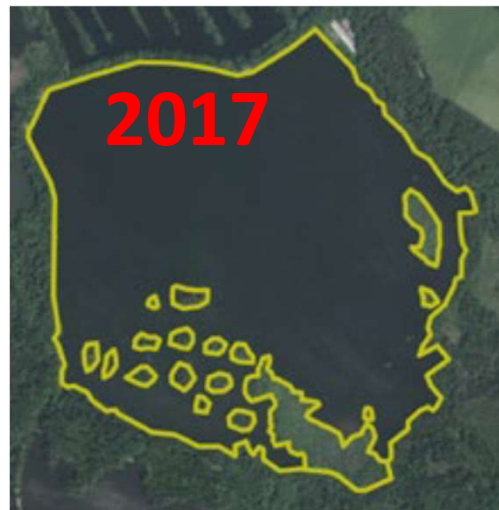


2000

Rod pond
Třeboň Biosphere Reserve
South Bohemia



2017



2017



2001



2017

Decrease In suitable nesting sites



Overgrowth of islands
-management helps

BUT

Low precipitation in early spring
- delay in the timing of breeding

The Destruction of Black-headed Gulls colonies

2014

fishpond Schwarzenberg



2019

**Třeboň Biosphere Reserve
(Natura 2000 site, Ramsar Site)**



Ducks breed successfully with Gulls

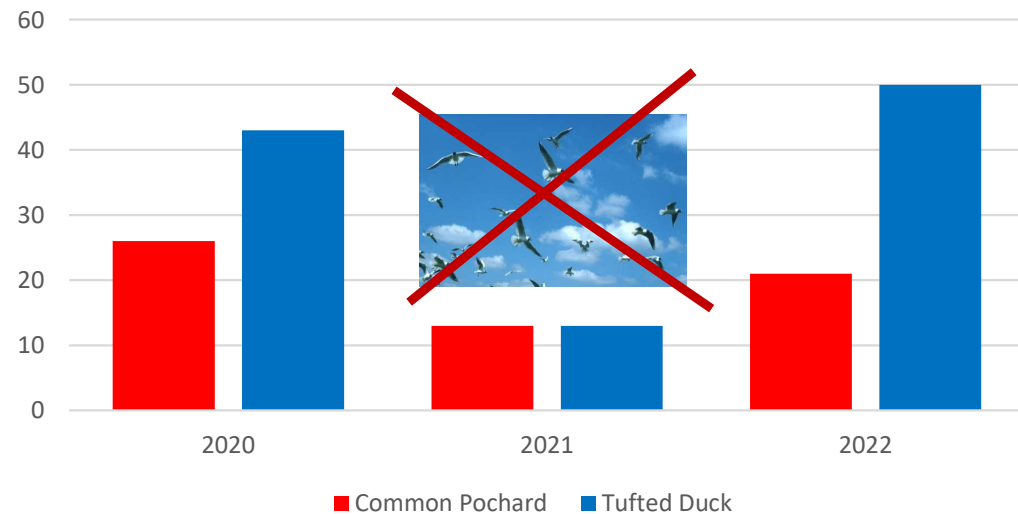


Daily nest survival (programme MARK)
2014-2021:
Common Pochard – best models: Gulls colony; Gulls colony & timing of breeding

Nest site	Probability of hatching
In the colony	69.0 %
outside	38.6 %



Number of broods (20 fishponds, 250 ha)





Target species:

Mallard, Gadwall, Red-Crested Pochard, Common Pochard, Tufted Duck, Black-headed Gull and Common Tern

Project outputs – 20 islands in 9 sites

- North Bohemia
- South Bohemia

Locations:

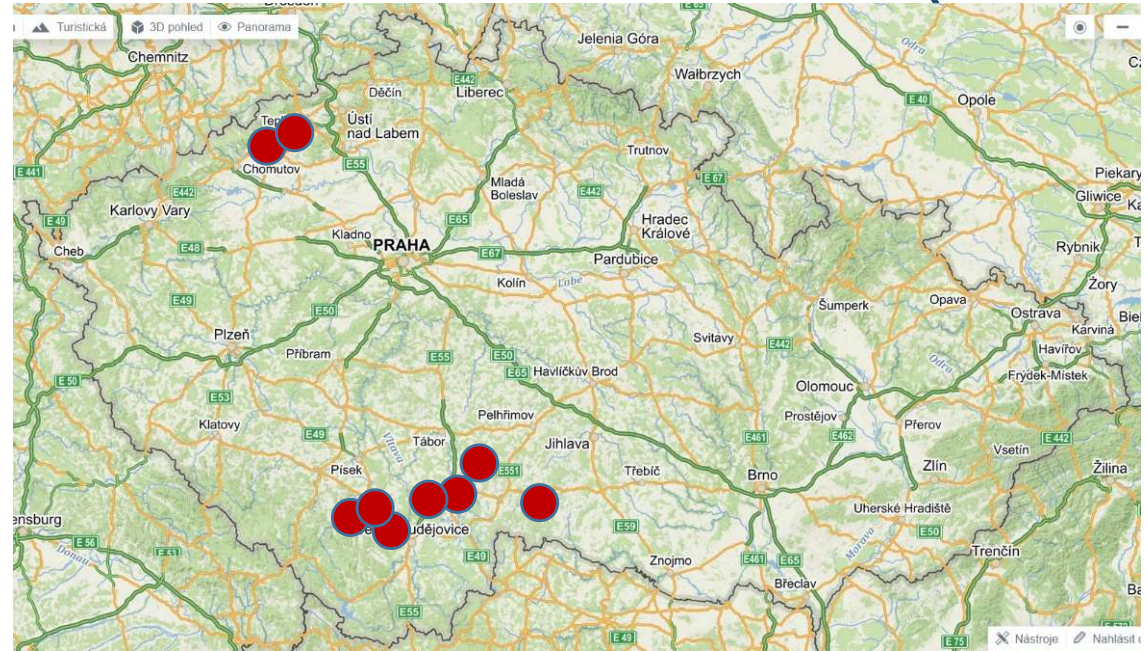
Fishponds Vlkovský and Schwarzenberg Krvavý, Obecní, Velký Lomnický Domin, Starý Vrbenský, Vyšatov ponds post-mining water reservoirs-Most

Main applicant:

Czech University of Life Sciences

Partners:

Water Management Development and Construction
Norwegian Institute for Nature Research
 Nature Conservation Agency of the Czech Republic
 Regional Office of the South Bohemian Region
 Sev.en Energy AG
 Třeboň Fishery Holding



The solution:

Artificial floating islands
 project TH0203063
 utility model 34438

The issue:

Decrease of suitable nesting sites for waterbirds



...project team



Norwegian Institute for Nature Research



Diego Pavón-Jordán



Artificial floating islands can help...



- ➔ **Alternative nest sites for waterbirds**
- ➔ **Breeding together with protective species -
- ducks with gulls and terns**
- ➔ **Support of local breeding colonies**
- ➔ **Roosting sites**

Strengthening of macrophytes

Habitat for invertebrates

Increase in water quality

Increase in fishpond biodiversity



...some technical details



GABION-BASED DESIGN

Durable but light and flexible steel construction (sandwich)

Connection using steel spirals

A floater from durable plastic tubes

Coconut material to fix the plants

32 m² - 16 pieces (2m² each)



Support of local breeding colony of Black-headed Gulls (fishpond Domin)



Nests (2023): 29 Black-headed Gulls, 1 Common Pochard, 1 Tufted Duck, 1 Greylag Goose

Support of local breeding colony Common Terns and Black-headed Gulls on fishpond Vyšatov



Nests (2023):

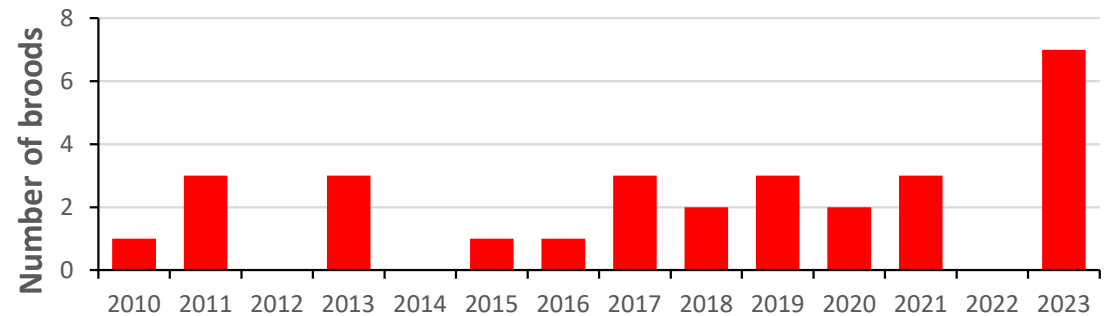
- 30 Black-headed Gulls
- 25 Common Terns (3.7 % CZ population)
- 3 Tufted Ducks

Support of local breeding site of Common Pochard (Kardašova Řečice)

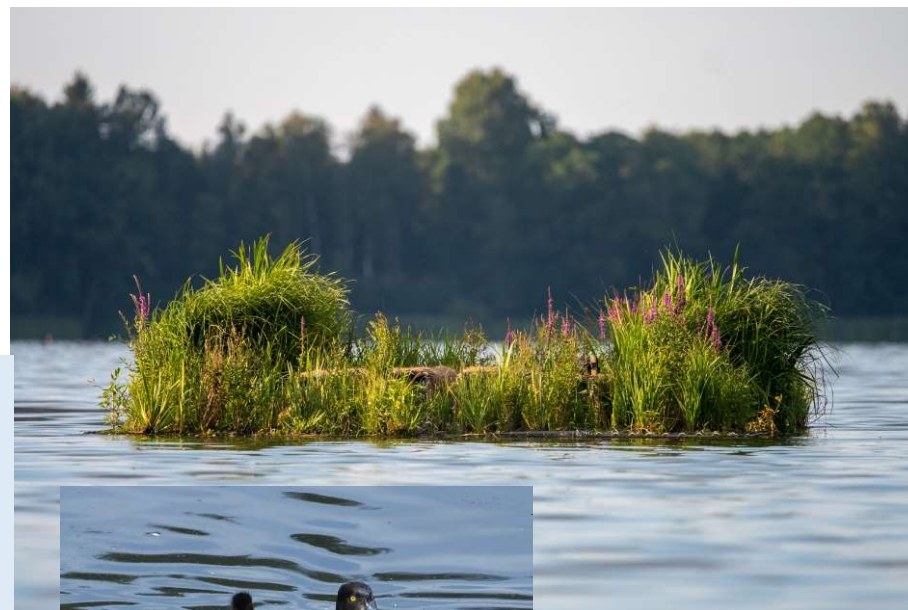


2023: fishpond Obecní:

- **2 nests of Common Pochard**
- **1 nest of Mallard**



Support of local breeding site of Tufted Duck (Krvavý pond)



May 2022– installation

July – 1 successful nest of Tufted Duck
(4/5 nest in other sites predated)

2023 – 2 nest of Mallard

1 successful nest of Tufted Duck



Artificial floating islands as roosting sites



Re-establishment of Black-headed Gull breeding colony

2014



2019



Třeboň Basin Reserve
fishpond Schwarzenberg



2023 128 m² ostrovů

overgrazing by moulting
Mute Swans and Greylag Geese



Islands will continue...new project

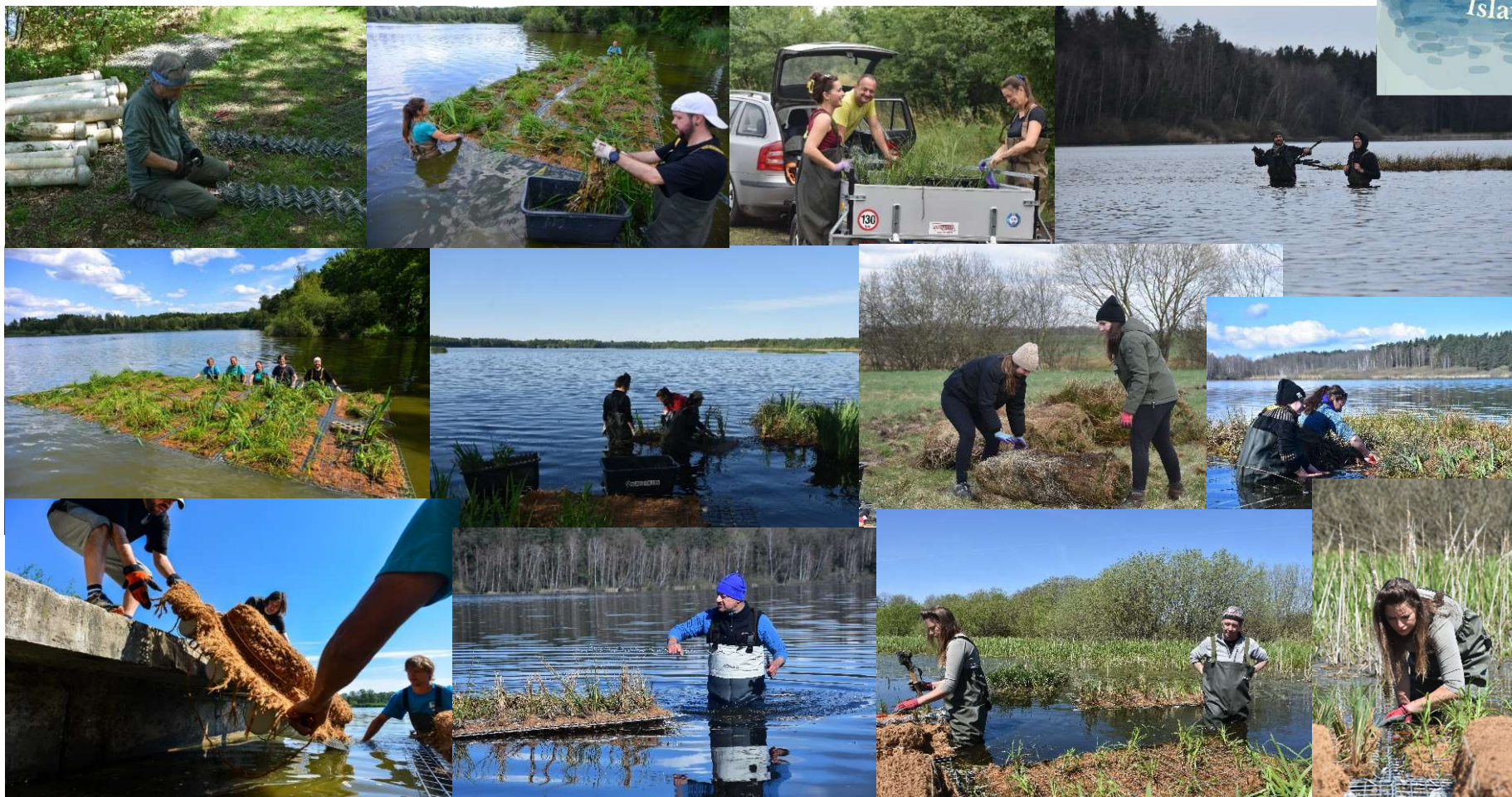
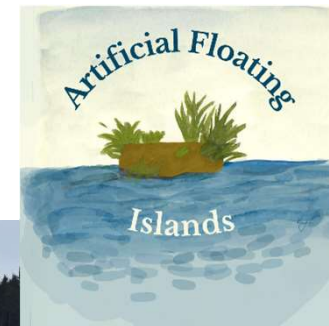


- Measures to eliminate plant destruction by herbivorous species (geese and swans)
- Monitoring of predation (Racoon, Racoon Dog and American Mink)
- Map of suitable wetlands for floating islands instalation



Declining and threatened target species:
Common Pochard, Tufted Duck, Black-headed Gull and Common Tern

Thanks for your attention 😊



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Norských fondů.



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