

Supporting information for the oral presentation:

Jan Květ – Two partial revivals of a drained Pannonian shallow lake

Session 4, Tuesday 30 June 2026 at 15:25h

Reading recommended prior to the presentation



The Lake of Kobylí – Kobylské jezero – basic information

Compiled by Jan Květ on the basis of his own experience, information from Wikipedia and by the AI.

Kobylské jezero – the Lake of Kobylí is one of the relatively recently extinct lakes of South Moravia. At one time, it could have been the largest lake on the territory of the present-day Czech Republic. It probably existed from the beginning of the Holocene. In the 1830s it was drained and converted into arable land for growing sugar beet in particular. However, gradually, and especially between 1938 and 1960, as a result of minor tectonic movements, increased soil erosion in the catchment and simultaneously neglected cleaning, the bed of the draining rivulet Trkmanka became heavily silted. In the rainy period of 1960 to 66 the lake began to recover. In 1965 it almost expanded to about 2/3 of its original average area. Our study of the succession and production ecology of the wetland vegetation, its enhancement by the expanding local population of muskrats (*Ondatra zibethica*) and comparative measurements of microclimate between the still drained and shallowly flooded or waterlogged lake sites took place there mainly in 1966-67. Following the deepening of the drainage channels and extensive land reclamation works, the Lake of Kobylí was re-drained at the end of 1967.

The lake of Kobylí area is located between the villages of Kobylí, Brumovice, Krumvíř and Terezín, situated along the boundary between the Hodonín and Břeclav districts of the South Moravia region of the Czech Republic. The first written mention of the lake dates back to 1464. During floods, it occupied an area of up to 10 km², was up to 10 m deep. At its more or less standard watermark, it occupied some 300 to 400 hectares and was rich in fish. It contained brackish water and was surrounded by salt marshes. Today, the lake is remembered by a fish in the Kobylí village's crest, some local names (Jezero, Ostrůvek); the strikingly flat former lake bed reminds us of the lake as well.

In 2014–15, the Ostrůvek Biocentre was established on a small part of the former lake, east of the demolished Ostrůvek farmstead - a complex of several small lakes and pools serving as a focal point of biodiversity in the local dry agricultural landscape. The main source of water for the central small lake is the Smrad'ula (Stinky) brook. Its name is related to the local H₂S-containing springs.

Location: Europe, Czech Republic, South Moravia region,

48° 57' 19" N., 16° 54' 56" E..



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Water surface area of original lake:	up to 10 km ² during floods, usually 3 to 4 km ² , almost empty in dry years
Its max. depth during floods:	about 10 m. Average depth: 1.5 to 2 m
Altitude:	about 175 m
Water inflow:	Trkmanka rivulet, Čejčský , Spálený , Haraska brooks
Water discharge	Trkmanka rivulet
<u>Salinity of water</u>	About 0.1 per cent.

Formed during the Late Glacial period, it was one of the largest lakes in the Bohemian lands before it was drained in the 1830s to obtain agricultural land. Key historical and geographical details include:

- **Location:** Situated near the villages of Kobylí, Čejč, and Vrbice in the Břeclav District. [\[1\]](#), [\[2\]](#)

- **Drainage:** Drained in the mid-1830s (1835–1836), the area is now primarily used for intensive agriculture. [[1](#), [2](#)]
- **Ecological Value:** The surrounding area features rare, endangered saline vegetation (halophytes) and has occasionally seen spontaneous wetlands return during particularly rainy years (e.g., in the 1960s). [[1](#), [2](#), [3](#)]
- **Current Landmarks:** Instead of the lake, the straightened Trkmanka stream and Biocentre wetland act as the primary geographical features. [[1](#)]

For detailed academic papers on the region's historical geography and disappearing salt marshes, you can refer to the [Masaryk University Digital Repository](#) or the [ResearchGate Halophytic Flora Study](#).

The restoration of the **Biocentre** (commonly referred to as **Biocentrum Ostrůvek u Kobylí**) is a highly praised ecological project designed to **bring water and biodiversity back** to the dried-up bed of the former Kobylské jezero lake. [[1](#), [2](#), [3](#), [4](#)] Another small Biocentre called **Biocentrum Záповěď u Terezína** (about 6 hectares) comprises wet meadows, two artificial pools attached to the Trkmanka rivulet, stands of common reed and cattail (*Phragmites australis*, *Typha angustifolia*, *T. latifolia*) and spontaneously regenerating small salt marshes of continental type.

Built on approximately **14.5 hectares of land**, the project successfully reversed over a century of aggressive agricultural drainage. [, [2](#)]

Key Features of the Restoration

- **The Return of Water:** The core of the project was blocking the old underground agricultural drainage systems. The straight, artificial channel of the Kobylský Stream was completely reshaped into a natural, winding meander, extending its length from **390 meters to 560 meters**. [, [2](#)]
- **Creation of Lakes and Pools:** Developers excavated **13 interconnected pools** of varying depths. This includes two shallow lakes named *Mělké* and *Koňské*. The deepest pool was playfully excavated into the literal **shape of a horse's head** (a nod to the village name *Kobylí*, meaning "Mares").
- **Massive Water Retention:** The earth removed during excavation was piled into an earthen levee along the banks. This allows the biocentre to hold **over 67,000 cubic meters of water**, effectively acting as a climate sponge that cools the surrounding dry vineyard region. [[1](#), [2](#), [3](#)]
- **Flora and Fauna Revival:** The area was replanted with native trees and wild grasses. It quickly became a sanctuary for rare waterfowl, amphibians, and insects. Typical vegetation of continental salt marshes on solonchak-type soil has been returning to the shores of the pools, in which the water table fluctuates within a wide range. Visitors can now spot birds like the purple heron or the vibrant European bee-eater from a bird observatory.
- **Tourism and Public Access**

The area has been transformed into a peaceful eco-tourism destination:

- **The Educational Trail:** A dedicated nature trail equipped with information boards snakes through the biocentre. [1]
- **Birdwatching Tower:** A wooden birdwatching lookout (*Ptačí pozorovatelna*) allows visitors to view wildlife without disturbing the habitat. [1, 2]
- **Accessibility:** A newly built, 1.2-kilometer **asphalt pedestrian and cycling path** safely connects the main sporting complex of Kobylí directly to the biocentre. [1]
- **Ecological Recognition:** Due to its immense success in combating drought and climate change, the project won a prestigious award in the **Adaptterra Awards**, which highlights the best climate adaptation projects in the Czech Republic. [1]

Address: Biocentrum Ostrůvek u Kobylí, statek, 691 10 Kobylí na Moravě, CZ.

Succession of dominant plant populations in wetland vegetation developing in re-flooded area

- ***Elytrigia (Agropyron) repens + Echinochloa crus-galli*** both generative and vegetative spreading
- ***Bidens* spp.** (mainly *B. tripartitus*) – dissemination
- ***Bolboschoenus (Scirpus) maritimus* s.l.** - both generative and vegetative spreading
- ***Typha latifolia*** – vegetatively spreading polycormones (clones) developed from seedlings
- ***Phragmites australis*** – spreading vegetatively mainly from drainage ditches
- (***Typha angustifolia*** – only in deeper water)

