



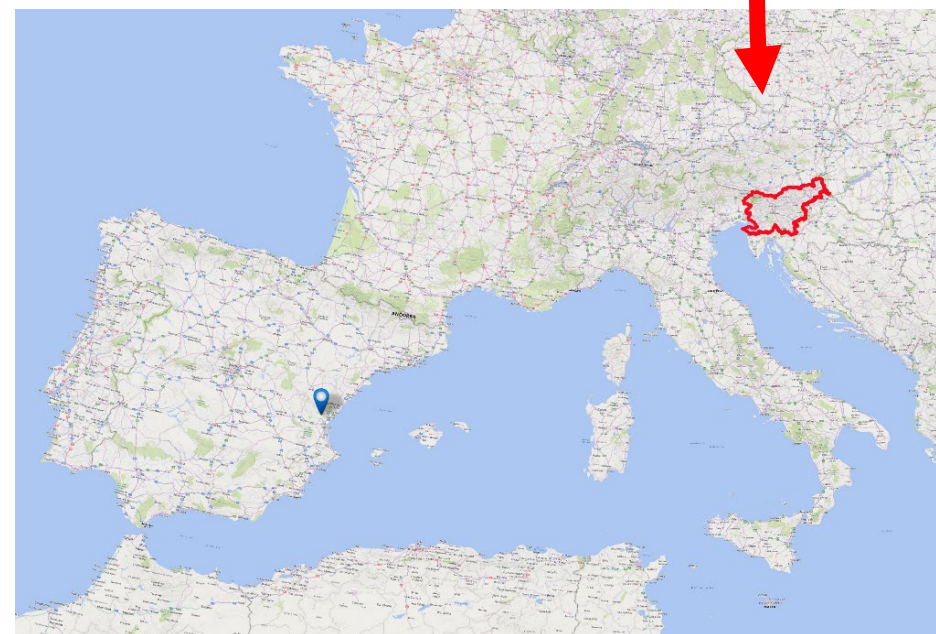
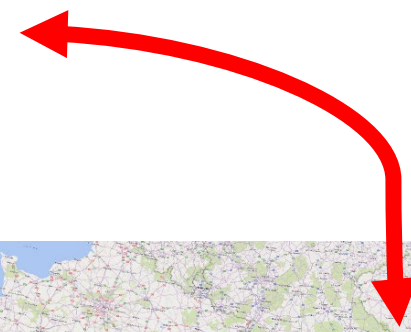
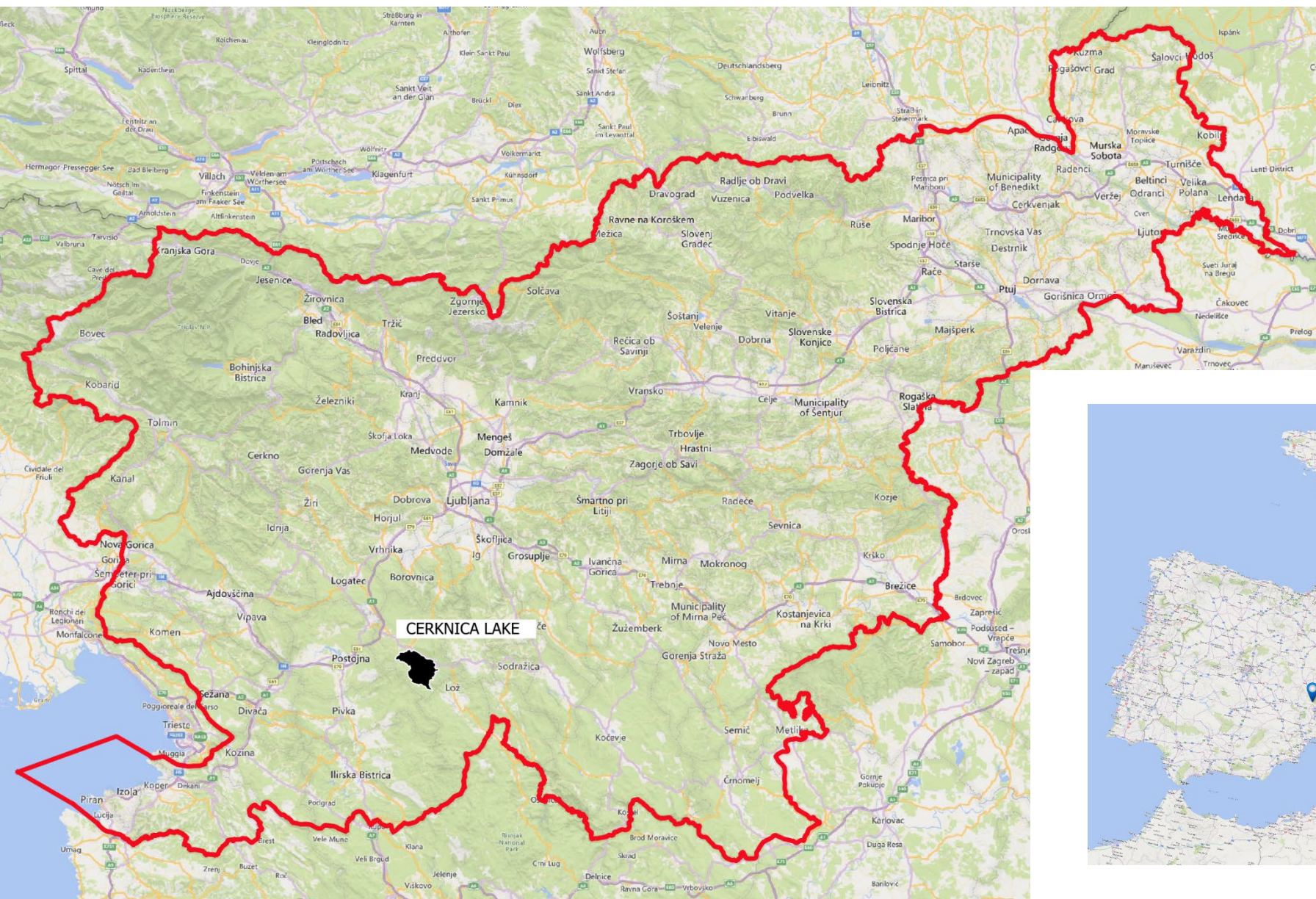
WATERCOURSE RESTORATION EFFORTS at the INTERMITTENT CERKNICA LAKE in SLOVENIA

Presentation content:

- Cerknica Lake location and intermittence
- Drainage interventions and regulations of watercourses at the Cerknica Lake
- Consequences of drainage interventions in the context of climate changes
- Restoration of watercourses at the Cerknica Lake

CERKNICA LAKE LOCATION

AREA OF THE LAKE: 26 km²



CERKNICA LAKE INTERMITTENCE



In ideal circumstances we only had less than two months for restoration – end of July, August and first part of September

Cerknica Lake is enveloped in mystery...



One of many sinkholes at the lake

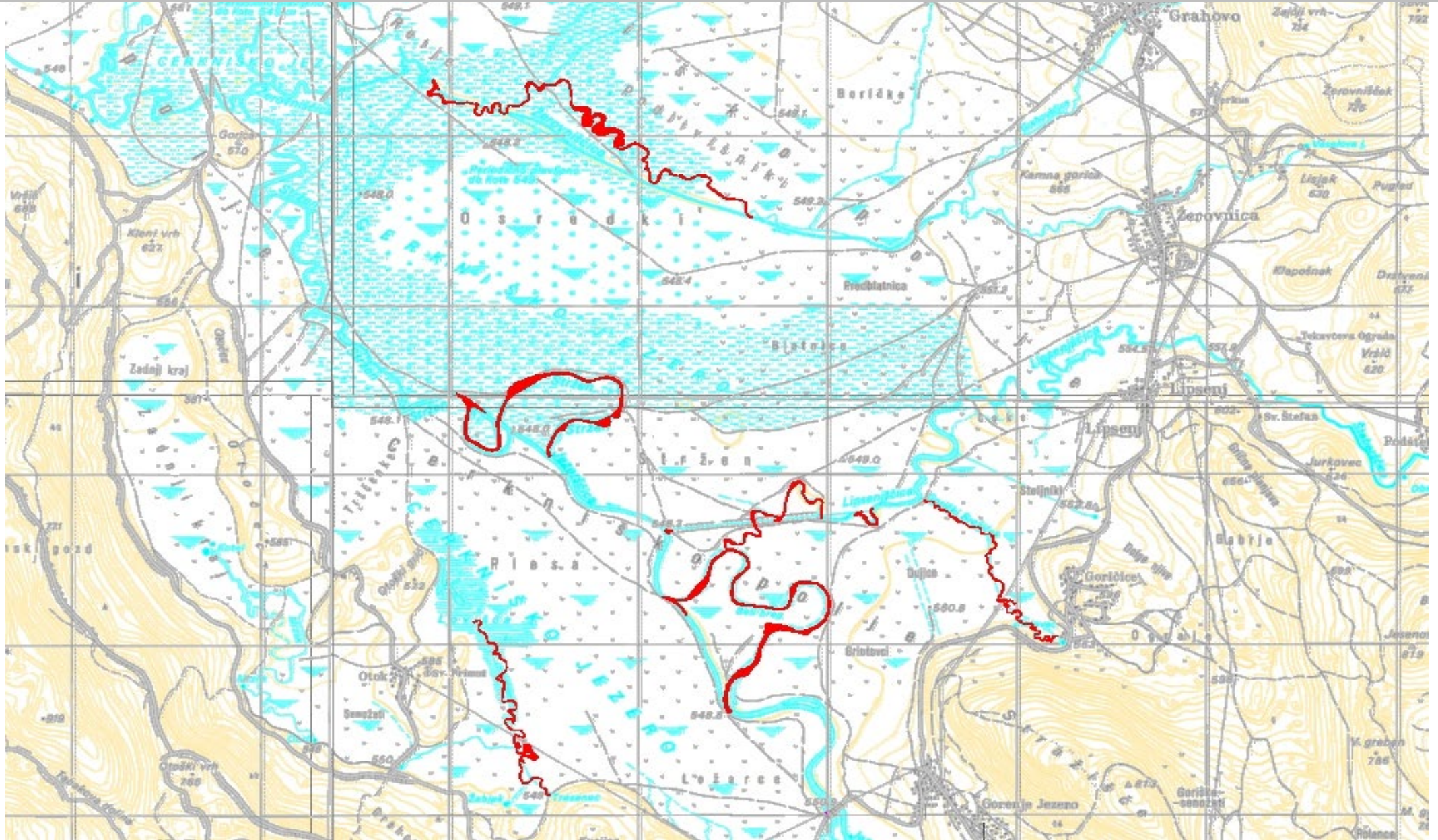


CERKNICA LAKE DRAINAGE ATTEMPTS

- WHEN? From mid-19th to 20th century (between 1844 and 1958)
- WHY? To gain more agricultural land – grass to feed domestic animals
- HOW? Watercourse regulation, filling up natural meanders, interventions into ponor caves entrances (mining with explosives)



Total length of watercourses on the lake before the implemented regulations was 45 km and after the implementation of regulations, it was 33 km (12 km = 27,6 % reduction in length).



CONSEQUENCES OF CERKNICA LAKE DRAINING ATTEMPTS

- The interventions were unsuccessful – agriculture was not possible
- Less space/surface for the aquatic and riparian species
- Changed water dynamics of the lake – the lake drains several times a year
- Lack of water during dry season
- Reduced self-cleaning ability of watercourses



LIFE06 NAT/SLO/000069 – Intermittent Cerknica Lake

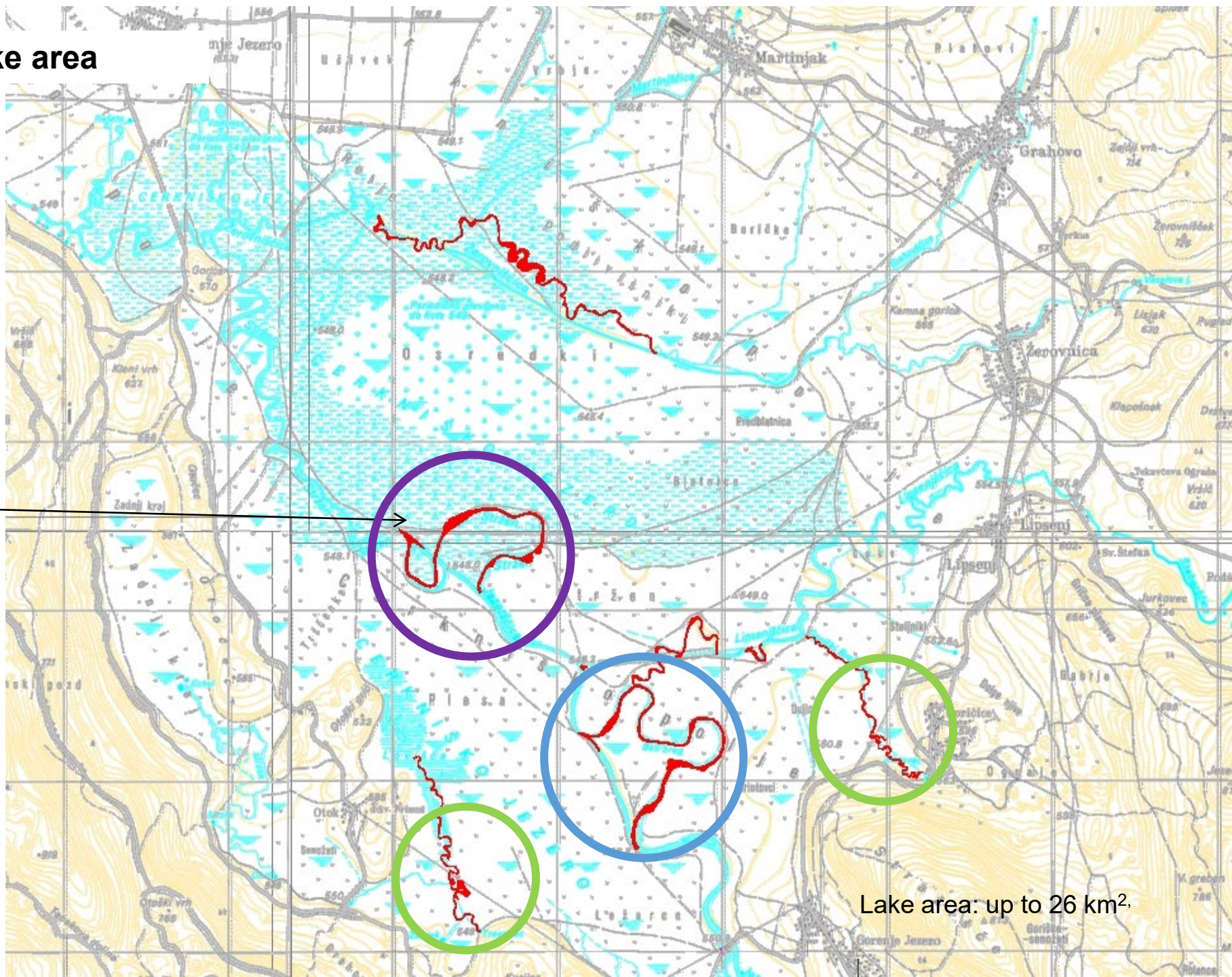
- Acquired technical documentation (several studies, measurements) and permits
- **FIRST EXECUTED RENATURATION IN SLOVENIA**
- On two small watercourses Tresenec and Goriški Brežiček (700 m each)



Goriški Brežiček
in 2010 - a year
after finished
works



Cerknica Lake area



Estimated costs:
1,3 mio EUR

Realization:
1 mio EUR

Lake area: up to 26 km².

START OF WORK:
In September 2017 drainage ditch
was dug out all over around big meander



START of PREPARATION WORKS: End of July 2019

- Organization of the construction site
- Preparing access roads
- Making temporary landfills



Preparing access road to the restoration area



The only access to the watercourse, which was overflowed until 20 Aug 2019, due to high water levels



22. August 2019

Excavation of the meander





The highest up-stream crossing set-up



Watercourse redirection into the newly dug out meander





Total length of double meander: 2.1 km

Wide: from 15 to 20 meters

Total area of construction work: 54 hectares

We continued with the restoration works at the end of July 2021 with filling in the straight canal.



We started to pump out water from the canal.



While we pumped out water, we captured fish and crustaceans and moved them to safety





Then, we started putting soil in the dry canal, starting from the upper part and working from both sides of the channel.



Length of the double meander: 2,1 km

Prolongation of the watercourse Stržén: 1,5 km

Excavated material: 31.000 m³ (used for filling in)

Water particle time before restoration: 30 minutes

Water particle time today: 3 hours and 15 minutes



Thank you for your attention!