



SLOVAK ENVIRONMENT
AGENCY

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TRANSCEND – NITRA RIVER BASIN, SLOVAKIA

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Department of Research and International Cooperation

TRANSCEND kick-off

Salamanca, 15-16th Feb 2023

SLOVAK ENVIRONMENT AGENCY

- Public institute subordinate to the Ministry of Environment of the Slovak Republic founded in 1993
- SAŽP supports the ministry and provides evidence-based policy advice
- Positioned at the interface between research and policy – connects various stakeholders
- Covers and coordinates broad range of environmental issues; implementation of environmental strategies, projects, analysis and assessment of environment, data reporting, environmental education, state of the environment

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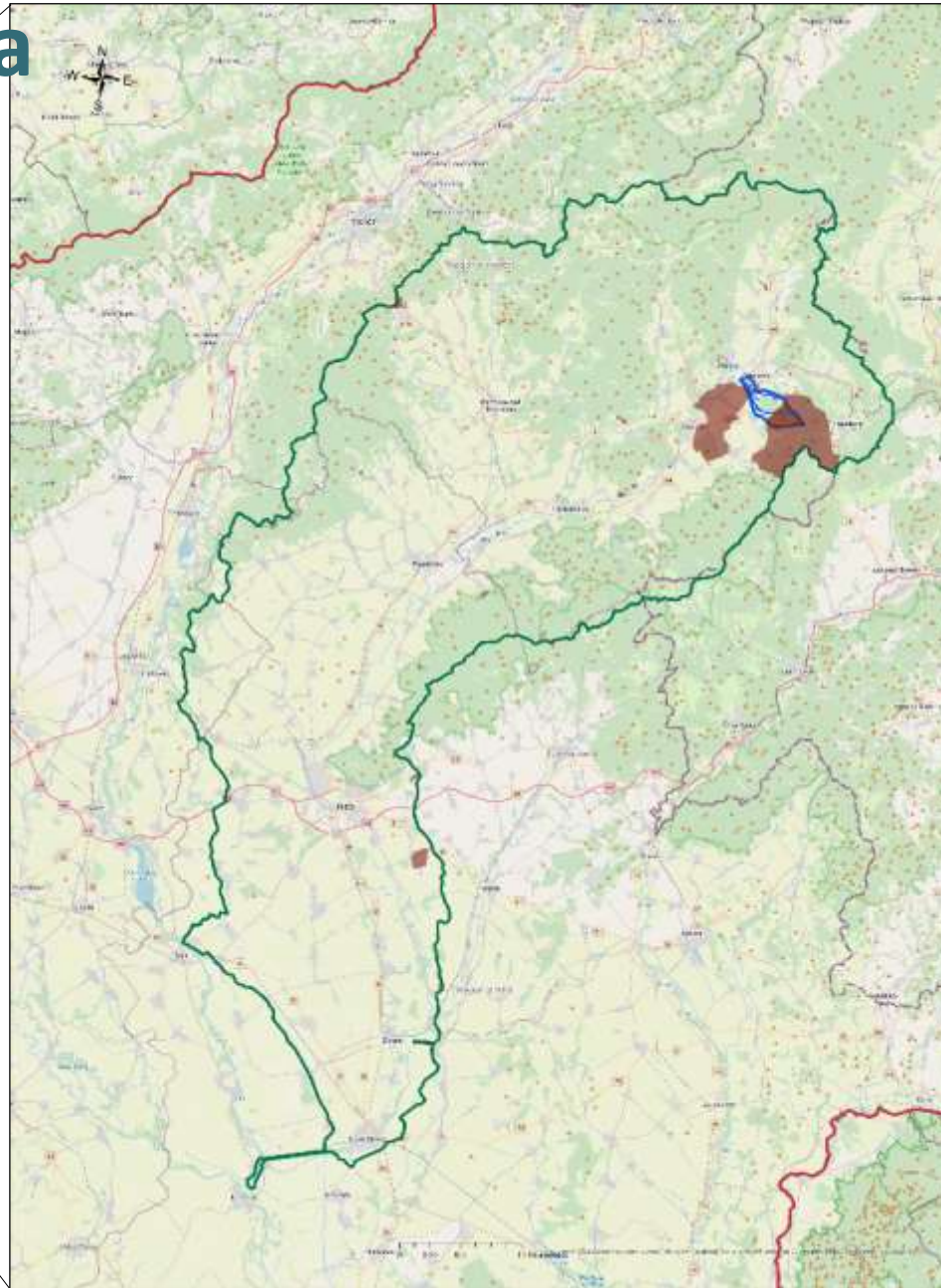
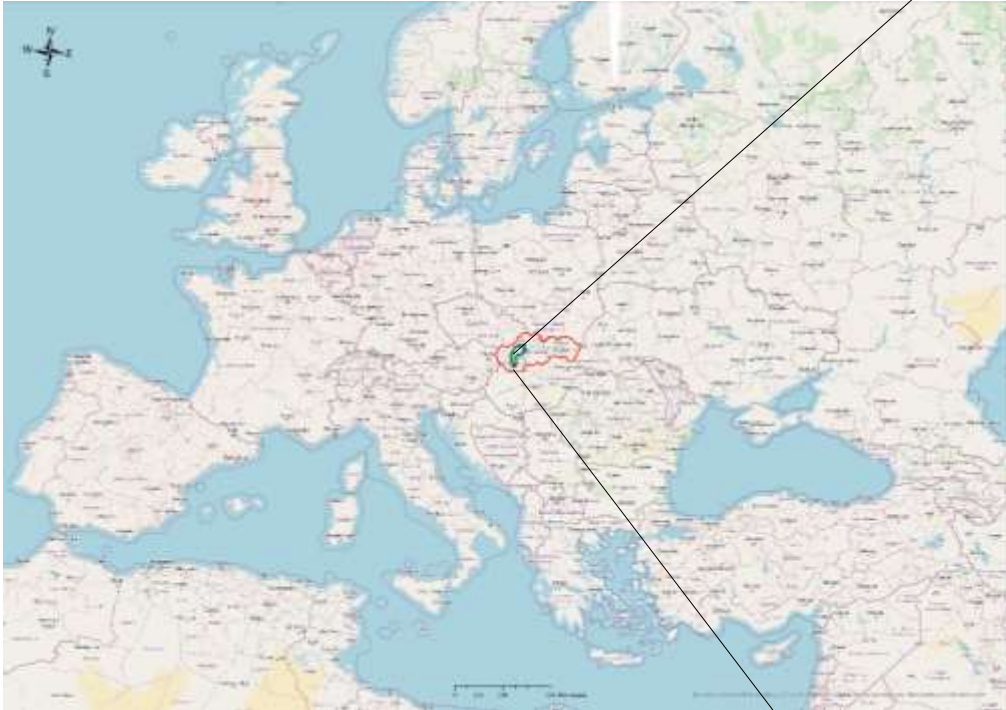
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Department of Research and International Cooperation

- Serves as the National Focal Point (NFP) for the EEA
- Coordinates the national experts within the EEA's Eionet network and participation in the EEA management board
- Eionet groups gathers experts from different fields; consultations, surveys, workshops
- Publishes reports, foresight outlooks, articles
- Manages Horizon projects within the SAŽP (T2gE, TRANSCEND, WIDERA)

Nitra River Basin, Slovakia

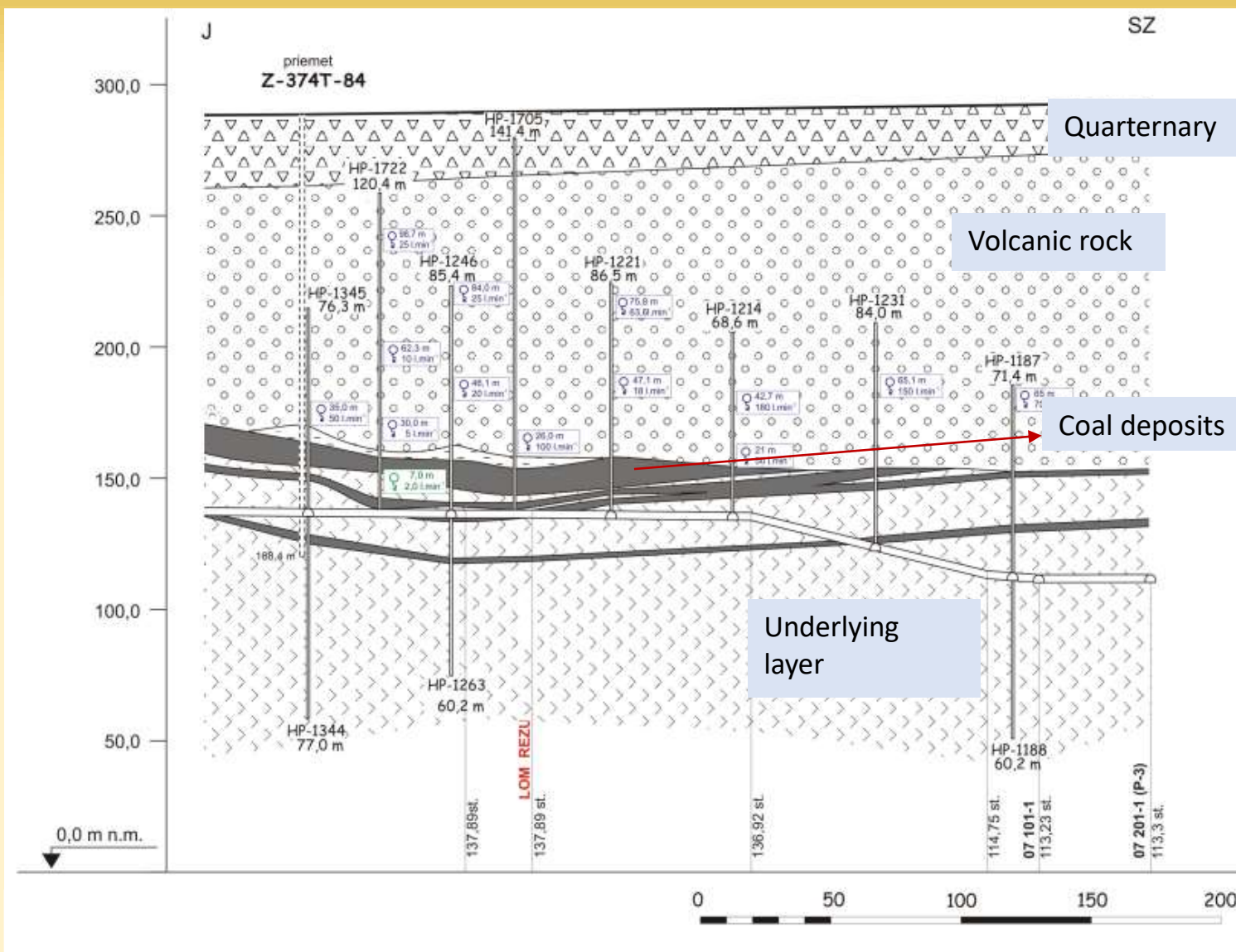


Coal mining in Upper Nitra RB



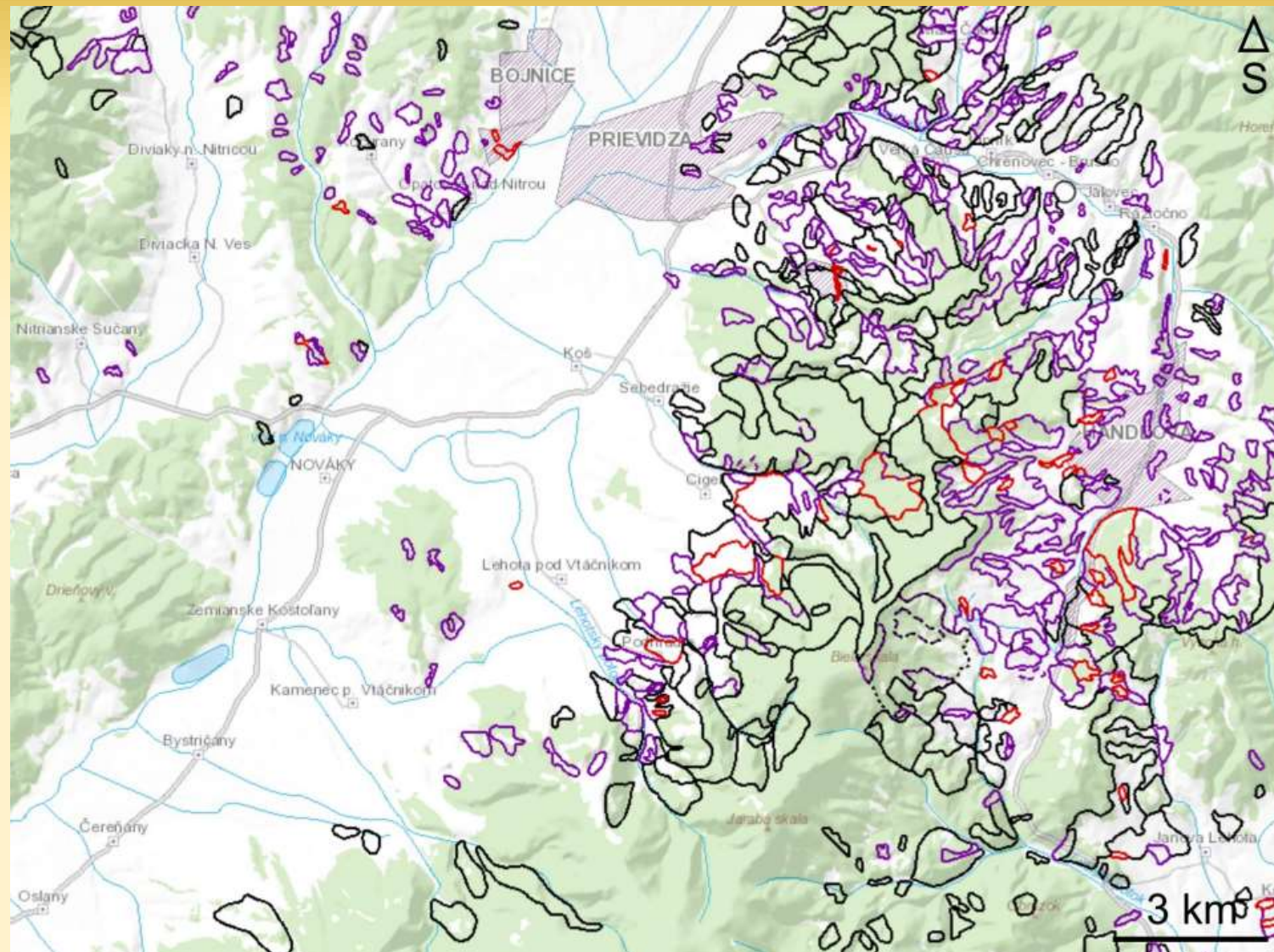
- 100 years of coal mining
- The electricity produced represents 266 MWe $\approx$ 6% of the total installed power of Slovenské Elektrárne, a.s.
- The mines will be closed by the end of 2023

Water drainage system

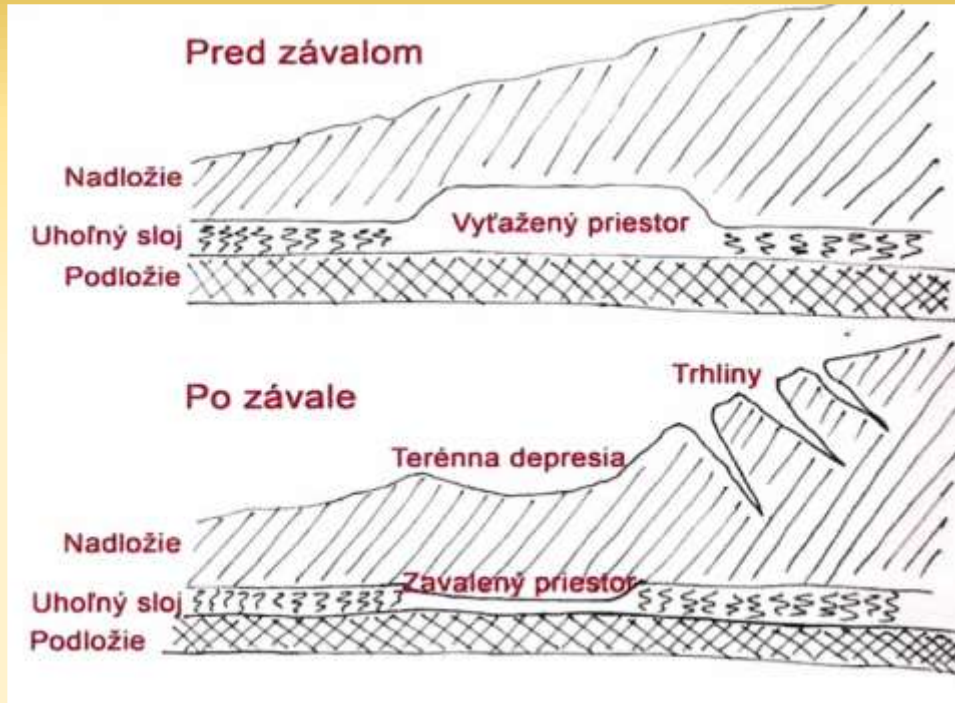


- The drainage system 56 km long
- The discharge rate 100 L sec⁻¹
- This underground reservoir could hold 250 000 m³ of water at 50% capacity

Active geology



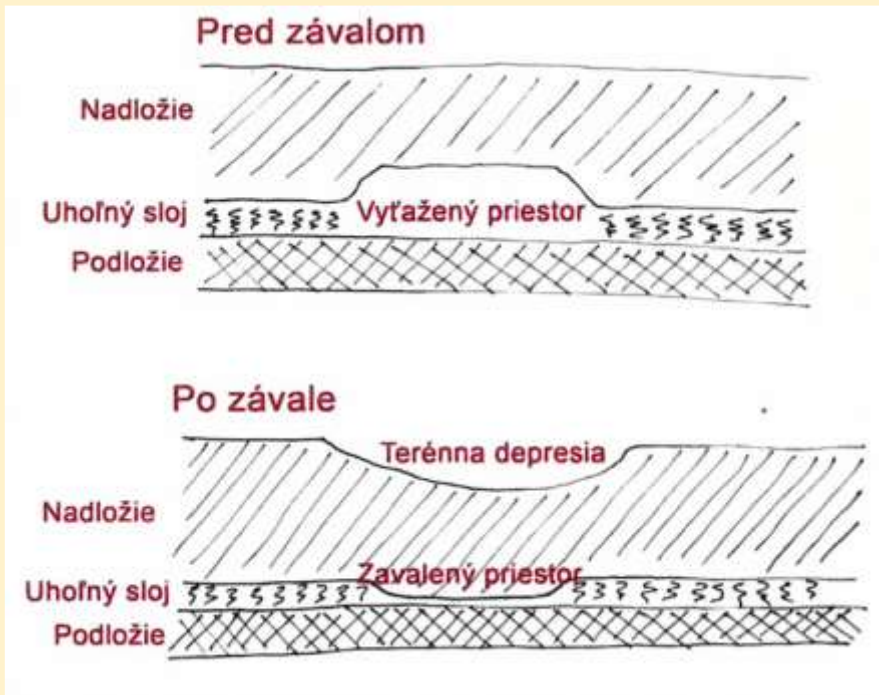
Geology and the consequences of mining

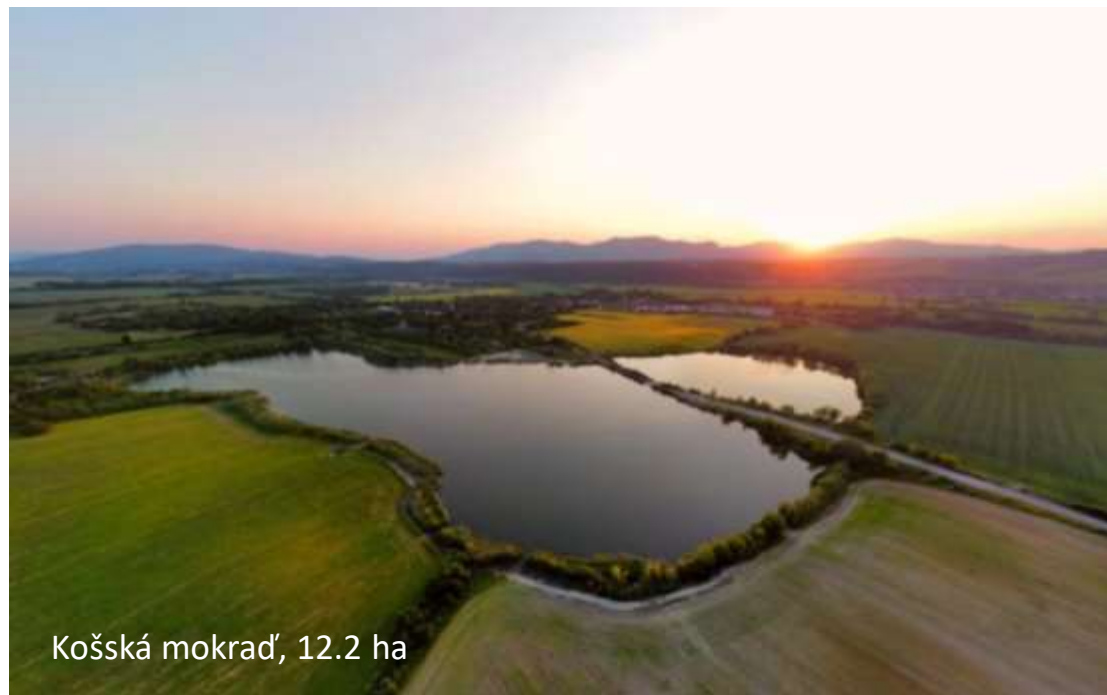


- Tectonic rocks (andesite) overlaying coal deposits and soft sedimentary layer
- Trenches several km long
- Precipitation “disappearing” and seeping into the groundwater

Geology and the consequences of mining

- Similar situation in the flat terrain
- Undermined areas collapsed, and the terrain depressions were filled with water
- About 30 wetlands with an area of 50 ha have been created in the past 40 yrs of mining



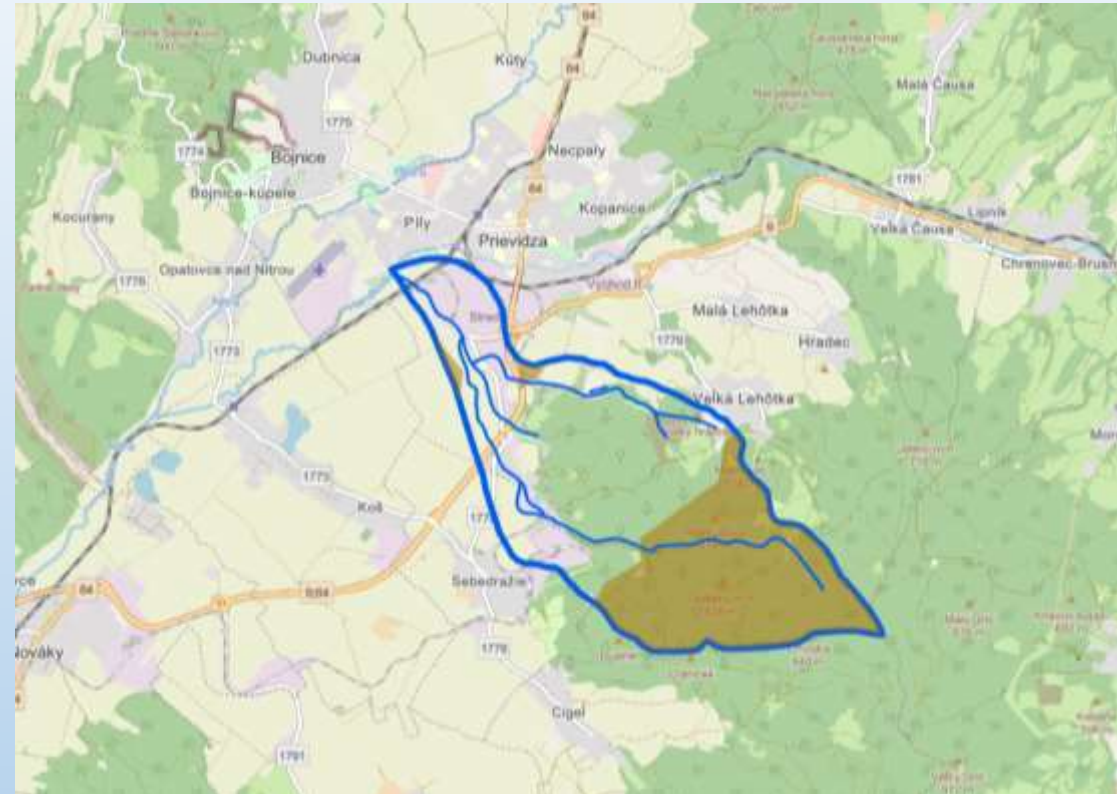
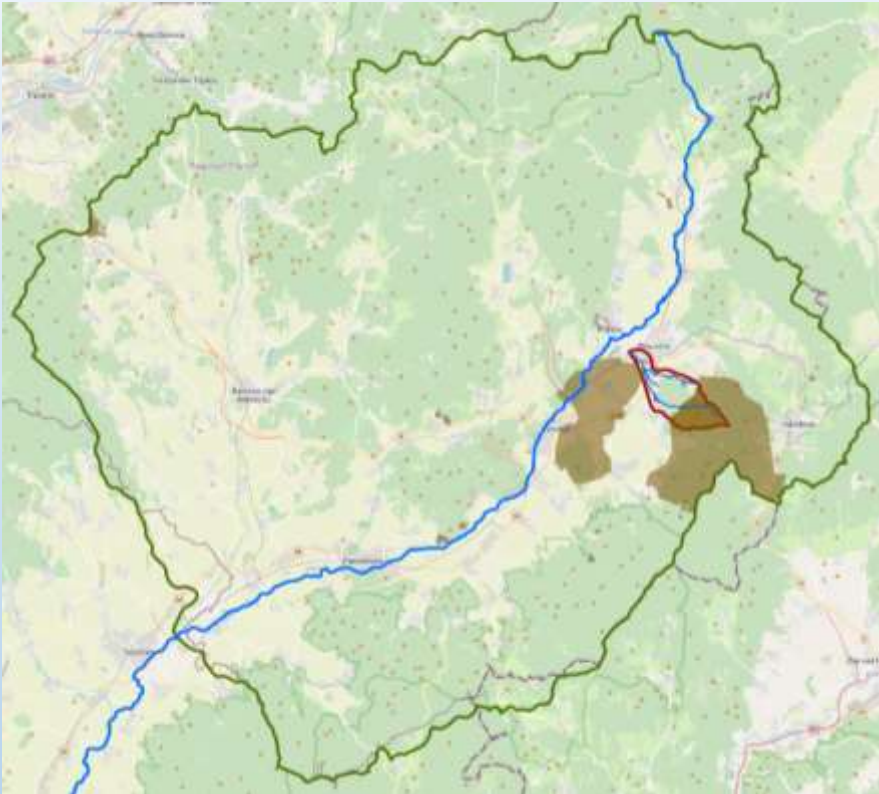


Košská mokrad', 12.2 ha



Mokrad' Laskár, 35 ha

Hlinka river catchment



- Due to mining and underground collapses, the river “disappears” to resurface again few hundred meters down the stream
- Some meteorological and hydrological measurements from this catchment are available (Technical university Zvolen)

Water management issues

- Due to political decision to phase out coal, the mines will close by the end of 2023
- Upper Nitra region supported by Just Transition Fund as a region in transition from fossil-based economy to green economy
- There was a plan to keep part of the drainage system regulated as a groundwater reservoir for multiple purposes
- Government hasn't funded this plan and meanwhile the mining company dismantled the drainage system last year – underground water reservoir is currently unregulated

Water management issues

- Wetlands partly fed by the surface water (from the mines drainage) and some of the wetlands solely by groundwater (will take some time to be replenished)
- Water supply will be reduced by climate change by up to 40% in 2030
- Increased water scarcity, because of the inherent geology and the mining activities
- Urgent need for holistic water management and systemic policies for Upper Nitra RB

Conflicting policies

- According to the mining law, mined areas have to be restored after mining → the wetlands with high biodiversity would be destroyed
- However, last summer (2022), the local authorities decided to give exception to the mining company in this case
- State Nature Conservancy is looking to propose legal protection of the wetlands after the mines have been closed
- The need to solve water supply for the wetlands

Thank you for your attention

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