RESTORING BUCHAREST'S CIRCUS LAKE

February 2026

CONTEXT

Circus Lake is a small urban lake located in a heavily used public park within a dense residential district of Bucharest. Over approximately a decade, residents observed a progressive decline in the lake water level (~1.4 m), raising concerns about ecological degradation, landscape quality, and the long-term viability of the lake.

PURPOSE

The demo case aimed to:

- Identify the real cause of the lake level decline, beyond surface-water explanations.
- Address the issue at a system level, integrating surface water, groundwater, urban infrastructure, and climate change impacts.
- Test Nature-Based Solutions (NbS) capable of restoring local water balance.
- Limit long-term dependence on permanent hydraulic compensation (pumping or artificial refilling).
- Develop a transferable methodology for other urban lakes and districts.
- Transform community concerns into a scientifically robust and relevant response.

RESULTS

- **Improved system understanding:** lake decline identified as a symptom of groundwater imbalance.
- **Nature-based solution pathways** defined, capable of restoring water balance without long-term hydraulic dependence.
- **District-scale perspective** adopted, recognising the critical role of the urban subsurface.
- **Community knowledge validated,** strengthening trust between citizens, experts, and authorities.
- **Transferable methodological framework developed** for other urban lakes.

KEY LESSON

- Effective urban water management starts with listening to communities.
- Citizens detect change, science explains it, and Nature-Based Solutions rebalance the system.
- Urban lakes must be treated as socio-hydro-ecological systems, where groundwater is the hidden backbone and integrated, district-scale urban planning is essential for viable solutions.

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PROCESS

AWARD

1. Community signal

Residents and park users first detected the gradual water-level decline, acting as an early-warning system.

2. Conceptual reframing

The lake was identified as hydraulically connected to the shallow aquifer.
The issue was reframed from a lake management problem to a **district-scale urban water imbalance.**

3. Identification of cumulative drivers

- changing precipitation patterns,
- reduced unintended recharge due to water network rehabilitation,
- dewatering and subsurface barriers from buildings and infrastructure.

4. Integrated modelling

A multi-layer modelling framework linked:

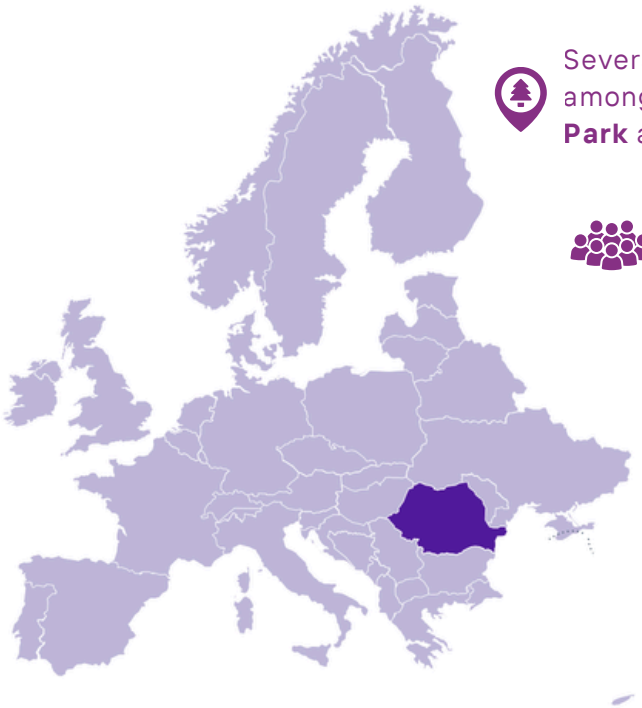
- surface processes (runoff vs. infiltration),
- the urban unsaturated zone,
- aquifer interactions with the lake, sewers, foundations, and NbS.

→ Enabled testing of alternative NbS scenarios at district scale.

5. Stakeholder co-production

Municipal authorities were involved early to align scientific findings with planning and operational realities.

KEY INFORMATIONS



Several Large parks, among them **Circus Park** and **Tei Park**

129.000
Inhabitants

12 km2

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