Water Knowledge Hub

CASE STUDY

Slovakia: Ruzinov Strkovec Lake in Bratislava

Summary

The Ruzinov Strkovec Lake has been subjected to severe pollution due to contamination by illegal sewage pipes. The Association of Industry and Nature Protection took action and initiated a project to both revitalise the lake and draw the attention of local people to its flora and fauna. The key lesson learnt is how the partnership between an NGO and municipality can result in a successful revitalisation of local water resources.

Background

The Ruzinov Strkovec Lake covers some 56,000 m^2 in the suburbs of Bratislava, Slovakia's capital. The lake is surrounded by blocks of houses, shops, schools and other urban infrastructure. The lake was formed as a result of gravel mining for construction purposes in the 1960s when Bratislava was expanding its housing stock. "Strk" in English means "gravel". Ruzinov belongs to one of the most industrialised and urbanised areas of Bratislava. The gravel pit lake was initially planned as a recreation area for local people and the lakeside was adjusted by cement panels and covered by grass.

Ten years ago, the lake was contaminated by illegal sewage pipes making it a source of annoying smell and putrescent products.

In summer period, when the water level decreased, the polluted banks of the lake became a harbour for rats and mice and the lake surface was covered by algae. As a result the water quality was of the worst possible category.

The lake was considered to be dying and dangerous for any use. The situation was regarded as critical, as the lake is located in the vicinity of human settlements and urban infrastructure facilities, such as hotels, schools, kinder gardens, and hospital.

Contaminated sediments, illegal dumping and leakage of local sewage without treatment further reduced the aesthetic value. Also, an increased number of rodents and mosquitoes threatened the health and quality of life of the local people. They complained to local authority, and in response the local authority declared a willingness to revitalise Strkovec Lake. However, two problems complicated the situation:

- There was a technical problem regarding how to excavate contaminated sediments in a highly urbanised area while ensuring the sustainable status of the lake.
- There was a lack of finance to support the revitalisation of the lake.

Actions taken

The Association of Industry and Nature Protection (APOP) initiated and organised a project to both revitalise the lake and draw the attention of local people to its flora and fauna. The APOP established the team that consisted of a broad range of experts: engineers, ecologists, hygienists, municipal representatives and other partners that were willing to financially support the project. Two parallel actions were taken by the APOP:

- Experts were encouraged to design the revitalisation project.
- Sponsors who might financially or personally contribute to the project were attracted.

The total cost of the project was USD 480,000, of which a half was granted by the local municipality and half from the APOP and other sponsors. The revitalisation project was conducted between 1994 – 1996.

The main question was how to revitalise the lake with a minimum disturbance of local settlement. The proposed solution was to use a special vacuum vehicle operated by divers. During the first phase of revitalisation works, the divers step-by-step siphoned the contaminated sediments away from the lake and pumped them into tankers. The sludge was transported into the waste water treatment plant of Slovnaft – the Slovak refinery company and one of the partners of the project.

The second phase of the project was to modify the lake banks and a surrounding park with appropriate vegetation. The lake bank was covered by 600 m^3 of quarry stone. The edge of the lake was braced with 2,000 m^3 of gravel stone. The immediate vicinity of the lake was turned into a park with trees, foliage plants, and bushes. A children play areas was created, as well as benches for parents. The educational notice boards were installed to inform visitors about the history of the lake, the importance of the lake fauna and flora, the protection activities that have been carried out, as well as the rules and regulations for visitors.

Botanists were invited to the project to assess the negative impacts of macrophytes that reduced the aesthetic value of the lake. The task was how to ensure an optimal vegetation regime in the lake. An annual harvesting of water flowers as a source of biomass (suitable for composting) was the chosen solution.

An integral part of the project was to establish water quality monitoring. Local authorities decided to implement regular biological and chemical monitoring of the lake.

In addition, the APOP and Ruzinov municipality cooperated with the local fish association to form the “Flipper Club”. The club regulates fishing activities on the lake as well as renting out fishing kits, boats and water bicycles.

Outcomes

The main outcome of the project is improved water quality in the lake, from class V (the worst) to between class II-III (moderate). In addition, the establishment of green areas in a vicinity of the lake resulted in the attractiveness of the area to local people. The measures applied could be summarised as follows:

- Development of the revitalisation project (technical and environmental aspects)
- Removal of contaminated sediments, sludge and mud from the bottom of the lake

- Establishment of nets and planting of water plants in a vicinity of the lake
- Harvesting of water macrophytes
- Reconstruction of sewers to divert waste water away from the lake
- Instalment of education notice boards and other facilities for relaxation and children’s games
- Establishment of regular water quality monitoring of the lake.

There should also be noted one important outcome beyond the revitalisation project: it is the establishment of the partnership of industrial companies and environmental protection institutions. Every year, the APOP - including its industrial and public environmental institutional partners - meets to discuss and carryout concrete revitalisation projects.

Lessons Learned

The case describes how the partnership between the NGO and municipality resulted in a successful revitalisation of the local lake – the implementation capacity strengthened.

The case shows that deteriorating water quality is connected to threats to ecosystems and human health. Once the water quality is improved, the lake become to be attractive for inhabitants and environmental quality improved.

Corresponding Author
Thalmeinerova, Danka J.

Corresponding Author Contact
dankajt@zoznam.sk

Organisation
Association of Industry and Nature Conservation of Slovakia - APOP

Year
2008

Country
Slovakia

Region
Europe

Keywords
Stakeholder engagement , Danube River Basin

Thematic Tagging
Urban , Water services , Gender , Youth , Ecosystems/Nature-based solutions
Language English

Supporting Materials
Presentation of Case study (pdf)
GWP Central and Eastern Europe

Slovakia: Ruzinov Strkovec Lake in Bratislava

Related IWRM Tools
Integrated Urban Water Management Plans, Local Authorities, Civil Society Organisations , Multi-Stakeholder Partnerships, Ecosystem Assessment

---