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PROJECT

PROJECT INFORMATION SHEET

WETLANDS

PRODUCTS AND ACTIVITIES

THE DRP, WETLANDS AND WATER POLLUTION

Wetlands such as floodplain forests, marshlands, deltas, floodplain corridors and lakeshores have numerous functions. They are valuable drinking water reserves for millions of people. They assist in reducing the impacts from floods and pollution. They also provide habitat for many species. However, 80% of the Danube's wetlands and floodplains were lost since the end of the 19th century, threatening species such as pelicans in the Danube Delta and beavers in the Upper Danube.

Danube wetlands are getting significant help from the UNDP/GEF Danube Regional Project (DRP). A key goal is to target Danube water and wetland managers to better incorporate wetland conservation into their river basin planning, especially to help them fulfil the EU Water Framework Directive. Project partners include Danube NGOs, especially those in the Danube Environment Forum (DEF) with 170 NGO members, scientific experts and the International Commission for the Protection of the Danube River (ICPDR).

WHO CAN BENEFIT FROM THESE DRP PRODUCTS?

Are you involved in planning river basin management somewhere within the Danube River Basin? Are you responsible for developing or implementing policies related to reducing water pollution from municipalities in the basin, at the national or municipal level? Or are you a manager of a wetland or interested in wetland conservation? If yes, then we can help, especially:

- Water and river basin/district managers
- Wetland managers
- National government representatives responsible for developing and implementing policies and legislation related to reducing water pollution
- Municipal decision-makers
- Environmental NGOs concerned about water pollution or wetlands
- International organizations (e.g. Ramsar Convention Secretariat)

WHAT ARE THE PRODUCTS AND ACTIVITIES?

1. REPORTS

Two reports have been prepared to date. The first summarizes project actions taken to help Danube countries prepare new land-use and wetland conservation policies and legislation. The second is an Inventory of Protected Areas (Natural Habitats) in the Danube River Basin together with GIS output, maps and a database.

2. GUIDANCE DOCUMENT: WETLANDS AND RIVER BASIN MANAGEMENT

This document is geared to encouraging Danube national water and wetland managers to increase wetland protection and restoration activities. It explains why wetlands are important for water and river basin management, especially in reducing nutrient pollution, and provides examples of how managers can proceed with wetland efforts.

3. WETLAND PROMOTIONAL PRODUCTS

Products including Fact Sheets and a Powerpoint presentation will be developed to help encourage water and wetland managers to consider wetlands more seriously in their efforts. The Danube Environmental Forum (DEF) is leading this component.

4. SUPPORT FOR NGOS

The DRP provided support to wetland-related activities to the four countries of Croatia, Serbia, Slovakia and Slovenia. The support was meant to assist the larger 'International Wetlands Campaign' of the DEF. Financial support was also provided through the DRP Small Grants Programme to NGOs working on wetlands-related projects.

5. LOCAL POLICIES AND CONCEPTS

Three case studies will present ways in which sustainable land-use concepts, policies and best practices can be implemented at the local to help protect and restore wetlands.

6. MEDIA OUTREACH – BACKGROUND STORY

'Wet plants are there for a reason' tells the story about an NGO that received DRP funding to help restore wetlands in a town in Hungary. The story also gives a good picture of the general context of wetlands-related work in the Danube basin. Other media activities includes press releases launched locally, nationally and internationally, and other stories that have been published in international and national media.

7. WORKSHOPS

A final wetlands-related workshop will be held in the Danube Delta, Romania in 2007.

8. WEBSITE

Wetlands section on DRP website with full downloadable reports:
Theme: www.undp-drp.org/drp/themes_wetlands.html

Reports: www.undp-drp.org/drp/en/activities_1-4_wetlands_and_land-use_policies_fr_phase1.html

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BACKGROUND STORY

WET PLANTS ARE THERE FOR A REASON

Zoltan is surrounded by tins of raw corn and fly larvae, cans of Borsodi beer, and his Trabant playing Hungarian hits from the 70s. He feels at one with nature, nestled at the side of Malom Tó (lake), happily watching ducks skim the surface.

Two hours of calm waiting, then a tug on his translucent line drives him to his rod. The next ten minutes are blessed with pulling the unwilling victim ashore, presenting the 33 cm grass carp to envious friends, throwing him back in, and opening a fresh Borsodi. The fish also returns to what it was doing – eating.

Grass carp, an alien species from Asia, were introduced to Malom Lake in the 1970s because of their appetites – they can eat their own weight in vegetation daily. Requests for the fish had come from local fishing associations to clear the lake of reed-grass vegetation to allow more space for fishing and rowing.

In record time, the foreigners ate just about everything. “Fish like grass carp are added to about fifty percent of the 1,000 small lakes in Hungary,” says Sándor Tatár, a representative of the local NGO Tavirozsa. “The result is that nearly half of the lakes have been virtually cleared of vegetation.”

The fish's impacts on Malom Lake were too much on top of earlier impacts. From the 1920s, landscaping and dredging to make way for new housing developments destroyed large areas of plant life. Waste cesspits were also dug that leached pollution into the ground-water and lake. Nutrient pollution increased but the ecosystem could handle it given the ability of the remaining lake plants to absorb pollution. "But once the grass carp started eating, the lake's self-cleaning capacity ended and nutrient pollution skyrocketed," says Tatár. By 1980, large algal blooms appeared. Water quality deteriorated and fish reproduction decreased.

The area's rare and endangered plants were also hit. In the 1980s, for example, lápi rence reed-grass, a fantastic plant that eats aquatic insects with its underwater leaves, completely disappeared. Now strictly protected in Hungary, the plant used to attract botanists from across the country to Malom Lake.

In 1985, Malom Lake was given national protection status. Even though adding foreign fish species became prohibited by law, fishing associations continued to stock the lake with grass carp. In 1996, a new sewage treatment plant was built near the lake for the local town of Veresegyház and neighbouring villages. Plant capacity was over-used, however, to the point that concentrations of nutrients discharged from the treatment plant were above permitted levels and leached into the lake system. Bacteria levels increased sharply including toxic cyanobacteria and coliform bacteria resulting in human symptoms such as allergic reactions, fever and vomiting.

"Water quality at the sand beach became catastrophic," says Tatár. Having attracted some 3000 to 4000 people daily in the past, beach numbers went down by ninety percent after 1990.

TAVIROZSA FOUNDED

In response, some local residents united to form the Tavirózsa NGO in 1996. With funding from the Hungarian government, the NGO assessed local water quality and biological factors in the lake and surrounding Szödrákosi-patak (creek) catchment area of 132 sq km. The creek runs north through Veresegyház and its three lakes including Malom Lake before draining into the Danube River above Budapest. Natural, social and economic values, protected species and human impacts were also assessed.

Early successes included discoveries of protected areas that had been illegally cut or drained and gaining protection status for another valuable area. Discussions with the Mayor led to a plan to upgrade the local treatment plant to remove nutrients, although a lack of funds could delay works.

In 2006, with help from the UNDP-GEF Danube Regional Project (DRP) Small Grants Programme, Tavirozsa purchased equipment to test water in three lakes. Monitoring found that big rains in April and May caused significant nutrient pollution to the lakes because of the city's poorly combined sewage system. In one instance, rain volumes pushed up the solid steel cover of a sewer allowing sewage to seep into the lake. The NGO notified local and regional authorities who came to test the water themselves. "But they didn't test bacteria or algae," says Tatár.

In early August, Tavirozsa measured algae and cyanobacteria chlorophyll and found counts to be double acceptable limits. Tatar notified the Hungarian health authority (ANTSZ) but they didn't answer promptly. By August 18, the NGO measured counts four times the accepted government limit. ANTSZ finally did appear on the scene, but only at the end of the bathing season, and they also failed to measure all parameters as required by law, says Tatár. "The government didn't want to send out bad news during top season," says Tatár.

Interestingly, Veresegyház, not long ago a village, is one of the fastest growing cities in Hungary, attracting some 500 new residents a year to a new suburb 30 minutes from busy Budapest, current population 13,000. The fishing lakes, beach, wetlands, all-year thermal bath and even a bear sanctuary draw new people from Budapest.

Taking matters into their own hands, the NGO has since created Tavirozsa Radio (www.tavirozsa-radio.hu, FM 107.3), the city's first radio station, to raise public awareness. And in the recent Hungarian October local elections, Tatár became a local councillor in Veresegyház.

GOODBYE GRASS CARP, HELLO REED-GRASS

DRP funds were also used by the NGO to implement a demonstration wetland rehabilitation project at the top end of one of the city's three lakes, Pamut Lake.

"We support the project because it will bring the reed-grass back which will help bring back some valuable local fish species that have almost disappeared," said the leader of Pamut Lake's fishing association's, Gusztáv Kiss. "Water quality will improve. Grass carp won't be added to our lake anymore."

Following a baseline environmental assessment in the spring of 2006, the small lake area was fenced off and all grass carp were removed. Rooted and floating native reed-grass with high nutrient removal capacities were collected from nearby lakes in bags and then manually added to the site.

"We are confident that the new reed-grass will help improve water quality and fish habitat," says Tatár. He then brings me to a small highly vegetated wetland area with a small link to Malom Lake.

Pulling out a floating needle-like coontail plant, he says that, because the plants here have been able to remain healthy, water quality is two grades higher than that in algae-green Malom Lake and "the water is full of life".

The next step is to test the demonstration site water in the future to prove that quality improved. Based on that evidence, Tatár hopes to secure a larger project using the same strategy to restore all three lakes starting in 2007. "It's a good idea to have all three lakes included," says Kiss. "Grass carp might return to our lake otherwise, for example carried over by birds." Tatár also wants to ensure that pollution from the local treatment plant stops soon.

"With small funds, one can improve the natural self-cleaning capacity of wetland areas," he says. "The bigger problem is getting local support. At Pamut Lake, we were able to convince the fishing association there to accept the project. But the other two lakes each have their own association, and they're not convinced yet. They still prefer their grass carp and open water space to the reed-grass, clean water, clean beach and healthy ecosystem. Now we're working to change their perceptions."

Tatár also hopes to increase national and international awareness of their efforts at Malom Lake. "It's a small lake but it's connected to the Danube. The issues surrounding wetlands and alien species are basin-wide."

Funding from the UNDP-GEF DRP for Tavirozsa's project is just one among many activities being funded across the Danube River Basin to protect and restore wetlands, and to raise the importance of wetland management in river basin management. Besides funding NGOs in other Danube countries, examples of other DRP wetland-related activities include raising awareness of the importance of wetlands among Slovak water managers, and assessing the effectiveness of wetlands in reducing nutrient pollution.

The extinct Utricularia bremii
Aquarell painted by Vera Csapody in Veresegyház, 1947

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PRODUCTS AND ACTIVITIES: REPORTS

1. FIELD AND POLICY ACTION FOR INTEGRATED LAND USE IN THE DANUBE RIVER BASIN – METHODOLOGY AND PILOT SITE TESTING WITH SPECIAL REFERENCE TO WETLAND AND FLOODPLAIN MANAGEMENT

The report summarizes project actions taken to help Danube countries prepare new land-use and wetland conservation policies and legislation in line with other legislation including the EU Water Framework Directive (WFD). A working methodology to assess land use was developed and tested at three pilot sites in Croatia, Romania and Slovakia. Sustainable land-use concepts aimed at reducing nutrient pollution in water bodies, especially through wetland conservation, were developed at each site and discussed with local stakeholders. Practical and policy measures, and action plans, were also identified to help implement the new concepts.

The report found four broader trends that support wetland conservation and sustainable land-use including WFD linkages, the changing nature of agriculture, wetland protection against floods and legal requirements for public participation. The report further identified the need for improved capacity building for local governments and NGOs.

2. INVENTORY OF PROTECTED AREAS (NATURAL HABITATS) IN THE DANUBE RIVER BASIN

The Ecological Expert Group of the International Commission for the Protection of the Danube River (ICPDR) was charged with preparing a river basin-wide Inventory of Protected Areas designated for the protection of water-related habitats and species. This Inventory is required under Article 6, Annex IV and Annex VI of the EU Water Framework Directive. This report, together with a GIS output, maps and a database, was prepared as part of this task. The Inventory at present comprises a total of 237 protected areas, including wetlands, from 11 countries in the Danube Basin. However, the data is unavailable or incomplete for several DRB countries. Consequently, the Inventory will need to be updated in the coming years as more data is made available.

Reports can be found on the DRP website at: www.undp-drp.org/drp/en/activities_1-4_wetlands_and_land-use_policies_fr_phase1.html

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SUPPORT FOR DANUBE ENVIRONMENTAL FORUM NGOs

BACKGROUND

Support was provided by the UNDP/GEF Danube Regional Project (DRP) for the **Danube Environmental Forum's (DEF)** wetland-related activities. The DEF, created through earlier UNDP/GEF interventions, is today the umbrella organisation for the largest network of NGOs in the Danube Basin with 174 member organisations.

DRP support was geared to enhancing the DEF's **'International Wetlands Campaign'** which encourages national water managers in the Danube Basin to better incorporate wetland protection into their national river basin management plans. This should also assist them in their efforts in developing measures to meet the EU Water Framework Directive. **Four** DEF NGOs in the countries of Croatia, Serbia, Slovakia and Slovenia were supported. Significant **media outreach** was also implemented.

CROATIA

The area of concern here is the biodiversity-rich wetlands of the Drava River and confluences of the Bednja and Plitvice rivers. Past negative impacts include the construction of accumulation reservoirs that led to the cutting off and drying out of wetlands and their habitats with many fish deaths. On the Bednja and Plitvice rivers, recent upstream engineered regulations led to downstream spring floods for the first time ever in 2006 with farmlands flooded and local protests resulting. The project aims to raise awareness about natural solutions and create a long-term process for stakeholder dialogue and sustainable development planning. Project activities include stakeholder questionnaires, round table forums, radio and TV media outreach and educational initiatives with children. **(NGO: Franjo Koščec Association, Varaždin)**

SERBIA

The NGO here launched a local campaign to tackle problems in the 'Zasavica Special Nature Reserve', an area rich in wetlands. Surveys of villagers showed that they perceived the Reserve

as important for the country's national heritage and that illegal waste dumping was the biggest problem. Local awareness was raised through educating children, disseminating information materials and successful media outreach. Local representatives, including a newly formed 'Children's Committee', met with local authorities to successfully push for improvements to waste management. **(NGO: Ecological Movement of Sremska Mitrovica)**

SLOVAKIA

This country-wide project found that most water managers saw their mandates as limited to ensuring good water quality and quantity with less attention for ecosystems and wetlands. NGO workshops held across the country for some 150 water managers helped raise awareness of the importance of wetlands and the responsibility of managers to protect them, especially to help fulfil the EU Water Framework Directive. Some model wetland restoration projects within the country were also identified. The project concluded that more wetlands-related training is needed for water managers as well as support from the national Ministry of Environment. **(NGO: Daphne, Bratislava)**

SLOVENIA

The project goal here was to increase local public participation in protecting the Vrbje Pond near the Savinja River, a tributary of the Sava River and a proposed Natura 2000 site rich in biodiversity. Awareness raising activities included successful media outreach, the distribution of publications and promotional materials, workshops with local stakeholders and educational tours for school children and adults. Proposals were also made to increase revenues from local eco-tourism development, for which the NGO developed new information tables and a visitors center. **(NGO: Environmental Society Radoziv)**

MEDIA OUTREACH COOPERATION

Press releases jointly developed by the UNDP/GEF DRP and DEF were highly successful in launching three wetlands-related activities in 2006. The first was a new DRP project to encourage national water managers to better use wetland water plants to help reduce pollution. The second launched the DEF international campaign noted above. The third presented the first results of the DEF campaign in Serbia for the Zasavica Reserve.

The press releases were distributed through the UN Information Service in Vienna, DEF International and the DEF Serbian national focal point to international, national and local journalists on February 2, World Wetlands Day. The resulting widespread media coverage included top news on the international website of the Ramsar Convention (the organization that implements Wetlands Day) and local coverage around the Zasavica Reserve and neighbouring towns and villages.

More media outreach is planned for World Wetlands Days in 2007 and 2008, where the DEF will present their updated findings on whether water managers have increased their consideration of the importance of wetlands – all part of their International Wetlands Campaign.

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Photo: Victor Mello

NGO Grant Story

IMPROVED FORESTS AND PROTECTION FOR SLOVAK WETLANDS

The Slovak section of the Danube River downstream from Bratislava was severely altered after the new Gabcikovo hydroelectric dam system went into operation in October 1992. BROZ (Bratislava's Regional Association for Nature Conservation and Sustainable Development) decided to take better care of what was left. Over the last few years, it achieved a number of successes in better managing floodplains in the river section from Bratislava to the city of Komarno. In 2006, its activities were significantly supported by the UNDP/GEF Danube Regional Project (DRP).

"2006 was the year that a new ten-year forestry management plan for the 1,500 hectare Rusovce floodplain near Bratislava was negotiated," says BROZ project manager Tomas Kusik. "We succeeded in demonstrating nature-oriented forestry right at the doorstep of our capital city."

The plan was the result of an agreement with Slovakia's State Forests agency which accepted most of the NGO's nature conservation demands. As a result, hybrid poplars will be replaced with indigenous white and black poplars and ash trees. *Robinia* and *Ailanthus* trees will be removed by "selective cutting". Natural habitats will be restored and sites used for intensive recreational activities by urban residents will be better managed. BROZ is also monitoring the plan's implementation.

"BROZ helped us in gaining support from the Ministry of Environment for the removal of alien invasive trees in selected areas of the Danube floodplains," says Jozef Habara, vice- director of the Slovak Forests branch of Palarikovo. "We also cooperate with BROZ in collecting the seeds and fruits of native tree species such as elm, oak and pear, which we then cultivate in nurseries and later plant in forest stands. By this way, we aim to increase biodiversity in the existing forest stands and preserve the floodplain forests for future generations."

"Floodplain forests represent natural protection for water reservoirs from which we supply drinking water for inhabitants of the Bratislava capital city and its surroundings," says Jana Stulajterova, press agent for the Bratislava Water Supply Company. "Therefore we positively view the activities of BROZ for the protection of the Danube floodplains."

CELEBRATING PROTECTION

BROZ activities in this region also succeeded in establishing new nature protected areas. In cooperation with the State Nature Conservancy of the Slovak Republic, proposals for three new protected areas downstream from Gabcikovo, totalling nearly 1,400 ha, were prepared and submitted in November 2006 to the Regional Environmental Offices.

Completion of this work was jointly celebrated on 19 September when the State Secretary of the Ministry for Environment, representatives from the State Nature Conservancy, the Regional and District Environmental Offices, State Forests, SVP - Povodie Dunaja (Danube water management institution), local communities and hunters, enterprises and the media acknowledged the good cooperation with BROZ.

A special venue under this DRP-funded event took place at Velkolelsky Island on the Danube, upstream from Komarno, where participants were transported by tractors with trailers to its central meadows. Goulash and fish soup were served and special excursions were offered through the forest jungle, along the natural Danube river banks and by boat along the river branch. This three-km long, 250 ha island was leased in 2006 by BROZ for 25 years. Funds were granted from EU Life and BROZ now has the unique challenge to demonstrate nature management on one of the Danube's largest islands.

DRP funds were also used for the production and dissemination of 2,500 copies of a bilingual brochure (Slovak-Hungarian) about the Danube floodplains and their pollution and flood reduction functions.

"In our work, we have promoted the start of new partnerships and shown that nature conservation is no barrier to development, but rather that it brings new opportunities to local communities," says Kusik.

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Photo: Victor Mello

NGO Grant Story

TURNING FARMLAND INTO NUTRIENT-REMOVING HAY

The Zitava Valley is part of Slovakia's Vah River Basin. Vah River waters enter the Danube about 100 km east of Bratislava. In the Zitava, some 80 ha of wet grasslands in a Natura 2000-rated area are subject to annual spring floods, making it unattractive for farming. At the same time, the surrounding areas include arable fields where soil erosion is a major problem for the local Vah River management agency.

In 2005, the NGO SOS/BirdLife Slovakia implemented a project with help from the UNDP/GEF Danube Regional Project (DRP). The NGO's first action introduced and applied best agricultural practices (BAPs) to avoid, minimise and control non-point sources of pollution (e.g. from agriculture) to ground and surface waters. Farmers converted and restored 15 ha of regularly flooded arable soil into grassland through two key steps – using a technique building on the experience of the NGO Daphne from the late 1990s on the lower Morava River.

One, seeds collected from intact meadows were dispersed onto the arable soil. Two, small cut pieces (‘turfs’) of intact grassland were transferred onto the restoration area. After some months and twice a year, the sites undergoing restoration have to be mowed. The benefit will be that the new grassland retains an estimated annual amount of 3.9 t of nitrogen in the Zitava River Basin, thus serving as an effective and natural nutrient ‘sink’.


Monitoring of restored meadow


Mowing of restored meadow

The second action supported the restoration of wetland habitat in the adjacent Zitavsky luh, a Special Protection Area under the EU Habitats Directive. Here, 10 ha of tussock grassland will now be cut every year resulting in the renewal of plant communities, the improvement of habitat for limnic birds and better future access to the meadow.

"This activity helped me to clean up my overgrown wet meadows and thus increase my hay yield and the area that I can mow every year,” said František Varsanyi, one of the participating local farmers. The harvested hay can also be sold to local farmers, including the nutrients that the hay retains – some 14 to 19 t of nitrogen yearly.

The NGO’s work included several years of monitoring nutrients and biodiversity with students from the Nitra University. Future plans call for continuous management of the site using EU rural development funds.

A proposal is now being prepared. Actions were also planned and closely coordinated with the local Nature Conservation Agency, Vah river water managers and local municipalities.

Actions were communicated via two press releases and in meetings with 40 local stakeholders including municipal representatives and farmers. Lectures about the project and site history were given to children in three local schools. Furthermore, 5,000 information leaflets were jointly prepared with the local communities and distributed.

"This project really helped us to present the countryside around our village as one of the last places where the Zitava River still creates valuable wetlands," says Ludovit Sládeček, mayor of Kmeťovo village.


Collection of biomass from restored meadow

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