

DEF Bulletin

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A good approach ends by destroying rivers

Danubeparks

International Canoe Trip



IMPRESSUM

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A good approach ends by destroying rivers: the European Danube strategy

An integrated strategy for sustainable development in the Danube river basin is undoubtedly a good idea. When the first ideas emerged of following the example of the EU Baltic Sea Strategy and developing a similar strategy for the Danube river basin, I felt that this idea could be a chance to stop the continuing river destruction. Without respect for rivers, the upper Danube has been destroyed down to Gabčíkovo by more than 50 dams, leaving only two stretches where the Danube can flow freely over a few dozen kilometers because citizens stood up to protect the Danube. Downstream, the huge Iron Gates dams have destroyed the unique river ecosystem of Europe's largest gorge with rocks and cataracts, replacing a rapid river by a big lake filled with several hundred million tons of mud, suffocating habitats and fish spawning grounds for several hundred kilometers. Furthermore, there exists an unsolved problem on the Lower Danube, involving the creation of downstream erosion with effects up to the Danube delta, leaving a major threat of mud overkill. The dams also divide the remaining freely flowing river stretches and interrupt the genetic exchange and spawning migration of the Danube sturgeon species, including the big beluga sturgeon, the most impressive one, which is threatened by worldwide extinction. We already have more than 600 major dams on the main tributaries and some ten thousand smaller dams and other modifications to lesser rivers and streams for hydropower, including run-of-river power plants, very often leaving the river bed with insufficient or no water. Is it not clear that this major hydromorphological change with enormous negative impact on biodiversity is already a major problem for the Danube and other river basin river ecosystems?

An approach similar to the Baltic Sea strategy?

The Baltic Sea Strategy placed the protection of the Baltic Sea at the centre of its action plans to prevent marine ecosystems and rivers from pollution. A similar programme to protect the Danube

river and its tributaries from the perspective of sustainable development is absolutely necessary. A strategy to protect and restore the ecological backbone of the Danube river, the tributary rivers as life veins, wetlands, river slopes, moors, lakes and mountains as biological hotspots and habitat connections between the Black Sea, the Alps and the Adriatic and Mediterranean Seas would be a most important contribution not only to European biodiversity policy but also to many other uses of nature, like Danube tourism. The massive hydromorphological degradation of the Danube and other rivers should result in a restoration programme removing dams with a high negative impact on remaining ecosystems to protect species from extinction. Such visions are not only fantasies of eccentric river or species protectors, but important strategies towards safe, clean drinking water, resilience to climate change, tourism, flood protection, groundwater levels for agriculture, the basis of landscape, culture, tradition and history. To save this heritage for the future, it is crucial to place the protection of the Danube river and its tributaries at the centre of a sustainable development strategy for the Danube river basin.

New infrastructure for navigation and hydropower

The Danube and its tributaries are at the centre of the European Danube Strategy, but from a completely different perspective. In reality, the centre of this strategy comprises new infrastructure for navigation and hydropower. The Action Plan emphasizes further modifications of the Danube and its tributaries for navigation and hydropower. If it is not substantially corrected, it will mark a historical era involving a new stage of river destruction in the Danube river basin. After a half century of river destruction, we thought the future could be better, with resistance at Hainburg in Austria resulting in a National Park and other initiatives to protect the Danube and its tributary rivers. The Habitats Directive and the Water Framework Directive gave new hope for change. It now seems, however, that the second and final stage of river destruction is on the way, aiming at what was left

of the natural river environment. What is special now is the pretence of ecological objectives, of sustainable development, of climate protection, of environmentally friendly dams and navigation infrastructure projects. Dams and canals are not environmentally friendly even if you do perform a lot of “greening” in the vicinity, and they are not necessary for economic development or climate protection. Nature-friendly alternatives do not perhaps generate as much money for transnational or national companies or politicians as the “concrete and dredger” strategy does, but they are sustainable.

Navigation myths

The EU Regional Commissioner Johannes Hahn from Austria presented the strategy to the public with an emphasis on the Danube as a waterway. The parameters for waterway infrastructure development taken from the infrastructure building and navigation lobby are devastating for the river: “The objective is to remove existing navigability bottlenecks on the river which shall accommodate type VI b vessels all year round by 2015.” Waterway type VI b means 4 combined barges, with lengths up to 195 m, and draughts of 2.50 m to 4.50 m. Perhaps nobody outside the lobby knew what this meant for the river, since “only” a draught of 2.50 m for a single barge will cause far too much damage to the freely flowing river stretches designated as “bottlenecks” in



the Danube Strategy. With greetings from George Orwell, the remaining freely flowing sections, more than a thousand kilometers, have become “bottlenecks”. What do the innocent words “all year” mean? It means eradicating low waterlevel periods. High and low water levels are the basis of river, floodplain and groundwater ecology, so these innocent words should be scrutinised in the light of consideration for the Danube as a lifeline. Even draughts of 2.50 m (which means a deeper fairway or navigable channel) would result in massive river training, dredging, straightening, disconnection of banks, islands and wetlands and new dams. The Commission should know that this is not feasible until 2015. Therefore it can be assumed that this is “only” a provocation meant to gather experts of river ecology and environmental NGOs to the defense, so that they might forget their demands for restoration and change to a position of acceptance of the lesser of two evils.

Environmental impact

The Action Plan spreads myths like the “low environmental impact” of inland navigation, based only on CO₂ equivalents, leaving out even the heavy air pollution from the fuel of the vessels. Real “low environmental impact navigation” would mean avoiding further deterioration, re-naturing canalized stretches, and removing dams, dikes and stone paving from river banks. Sustainable transportation on the waterway would mean adapting ships to the river and using

the improved modal split possibilities to move part of the transportation goods to the railway, if mother nature creates a low water period. The action to “modernise the Danube fleet in order to improve environmental and economic performance” is in the Action Plan, but it contains only fuel and filter technologies. A real sustainable strategy has to go further and develop a Danube fleet adapted to the river and to future climate and water cycle change. On the river Rhine this future change will bring a much reduced quantity of water for the waterway, as the catastrophic low-water summer of 2003 has shown, but nobody dares to think of new dams or any other new heavy waterway infrastructure works.

Rhine and Danube

Commissioner Johannes Hahn compares the Danube waterway with the Rhine waterway, stating that the Danube transport was only 10 % of the Rhine cargo quantity. This calculation is based on 330 Mio. tons on the Rhine and 50 Mio tons on the Danube, with the Danube as a much longer waterway. Hahn is pretending that the two can be compared in terms of transportation potential, although the situation along the Danube is completely different. The river Rhine connects the most important port of Rotterdam for a short distance with other European commercial and industrial areas of high importance. Along the Danube, the situation is worse; in some cases a connection is projected, also as a part of the Action Plan, by canalizing the Sava river or by the Danube-Bucharest canal, opening the door for further expensive and environmentally harmful projects like the Danube-Oder-Elbe canal. In terms of technical waterway conditions, the situation is already comparable with the Rhine without any infrastructure measures, but in the case of the Danube, Europe’s most important river ecosystem is at stake. For what? Perhaps for the profits from infrastructure building and for the navigation companies.

Integrated corridor analysis

Beyond the myths and lies about the “low environmental impact” of inland navigation (this would only be true if it were adapted to a nearly

natural river), there lies no sound, integrated analysis of transport and cargo potential, no cost-benefit analysis. The whole TEN-T Danube navigation project has no analysis of integrated transport structure and development independent of the navigation and infrastructure building lobbies, that would examine the railroad alternative and include real sustainability, river ecology and cost-effectiveness as parameters for the transport corridor. The mistaken claim of environmental friendly navigation which in fact causes destructive river alterations has to serve as proof of everything, for economically and environmentally doubtful planning that must be funded by the European tax-payer.

Energy and hydropower

Energy and hydropower, the other dominant aspects of the Danube Strategy, constitute a further, perhaps even more destructive element for rivers. There is a misconception that hydropower is an environmentally friendly renewable energy. The Danube Strategy wants to pave the way for many new hydropower dams along the Danube or on nearly all its tributary rivers and streams. Dams are absolutely destructive for river ecosystems, but the headline is “to encourage more sustainable energy.” The rivers of the Danube river basin will pay the price for a long lasting confusion of thought concerning sustainable energy. Is it “green” to dam and destroy rivers? Climate protection is not a good argument because ecologically intact rivers play an important role in maintaining the hydrologic balance in the global warming process and in climate change adaptation for increasing flooding processes.

Money and hydropower

Big money, big companies and their allies are waiting for billions of investment and profit. Even the Danube river itself is an objective for further destruction by dams. In the mountains or in the lowlands, dams are destroying habitats, species richness and habitat connections. In the Danube and in the tributaries, many species are facing extinction caused by dams or run-of-river power stations. If the damage were reduced

somewhat by fishladders and other means of mitigation, it would still remain damage. Without expert knowledge, it is not easy to see the underwater damage to river ecosystems. So, politicians often decide issues of energy policy without being fully aware of the environmentally destructive consequences for river ecosystems. Moreover, they often don't know what they are destroying: If there is any assessment, in most cases it does not include biodiversity and river habitat assessment beyond the affected river stretch. To decide whether or not hydropower can be increased or should be decreased because of its effects on river ecosystems, a Danube-wide biodiversity and habitat assessment would be a pre-condition for a sustainable strategy. Looking at the most recent global analysis of river biodiversity, the Danube river basin is already marked in red as one of the most threatened rivers (Vörösmarty, C.J., and others, *Global threats to human water security and river biodiversity*, Nature, vol. 467, 30, September 2010, p. 556). Who wants to claim that further destruction will be "sustainable"?

European energy market

The objective of extending the EU internal energy market to South East Europe, even to Albania, Macedonia and Kosovo, reveals the big money background for investors and their national allies. Destroying or damaging rivers by dams or other energy plants that heat up rivers (including nuclear power plants like Belene in Bulgaria) can be very lucrative in the European energy market. Instead of tourists at the most impressive mountain rivers like the Velika Morava, Drina, Tara or Tisza, the money-makers can deliver "green energy" from destroyed rivers for the European energy market. In areas suitable for new hydropower, the permit process could be streamlined, says the Action Plan. In the face of big money with its corrupting impact, all instruments of environmental impact assessment and NGO participation will be weak, if they matter at all.

Hydromorphology out of sight

What, however, about all the positive statements about biodiversity and the aim to "implement

fully the Danube River Basin Management Plan"? A closer look shows that these environmental objectives are placed clearly behind transport and energy. The Water Framework Directive and the Management Plan are more or less reduced to water quality and better co-operation in water management. These objectives are important, but we don't want to reduce environmental objectives in favour of navigation canals and reservoir dams with clean water.

Positive elements

"The 2020 EU target for biodiversity must be met, by halting biodiversity and ecosystems loss, and by restoring ecosystem services and reconnecting habitats. The objectives of nature protection areas, such as Natura 2000 sites, can be achieved only with due respect to the ecological requirements of the whole region." This commitment of the Danube Strategy is important, and in order to be a sustainable strategy it must be applied to the Danube and its tributaries. The Action Plan contains important actions for rivers, such as buffer strips, a sediment analysis for the Danube and Sava, and fishladders. Wetland conservation and restoration is among the aims of the Action Plan. It includes not only wolves and bears but also sturgeon (with a feasibility study to determine whether they can pass the Iron Gates), the co-operation of Danube National Parks, the Lower Danube Green Corridor and a Mura-Drava-Danube Biosphere Reserve. There are many positive things to improve the environment and to occupy environmental experts and NGOs.

Contradictions

The principle of the strategy is to give something to every lobby or pressure group. As a result, there are strong contradictions between different objectives. For example, it is claimed that "the Actions under the Danube Strategy will fully contribute to the implementation of the post-2010 EU biodiversity strategy to halt biodiversity loss and ecosystems services' degradation and to restore them in so far as feasible". This is clearly not compatible with a wave of new dams and river infrastructure. In the end environmental protection is much weaker than the big money

in alliance with proclaimed climate protection. The most realistic outcome will be that river ecology will be “considered” while implementing the most destructive dam projects. “The environmental impact of transportlinks, tourist developments, or new energy-producing facilities must also be considered” (Action Plan).

Ruling out river protection

Is this a strategy for sustainable development? In a sustainable Danube Strategy, the protection of the Danube and its tributaries should be at the centre, as it has been for the Baltic Sea and its rivers in the Baltic Sea Strategy as a model for the Danube Strategy. The Danube Strategy is different. The heavy weight of navigation and hydropower in alliance with big money and pretended climate protection cancels out river protection. The result seems to be the opposite: Further massive destruction of river ecosystems along the Danube and the natural Balkan rivers, all of which have great importance for European biodiversity.

Outlook: sustainability without deterioration

We should use the the next months until the official endorsement of the strategy in April 2011 to express our views and clearly demand an end to the destruction of rivers with dams and other heavy infrastructure works. A sustainable strategy for the Danube must protect the rivers and adapt the uses to this objective. Environmental NGOs should develop a real sustainable strategy for the Danube. At the centre of such a strategy is the avoidance of any deterioration, the encouragement of restoration and improvement of river and other ecosystems. An important tool for the protection of Europe’s most important biodiversity and habitat axis can be found in a Danube biodiversity corridor including wetlands and mountain slopes along the Danube. We will try to protect fauna and flora in and along the Danube and contribute to a real sustainable Danube Strategy.

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Ecological sanitation in rural areas – a step towards conservation of water resources in the Ukrainian Danube basin

An investigation by the Global Water Partnership of Central and Eastern European countries shows us that 20-40% of the rural population have no sanitation policy, because existing sanitation programs, according to the priorities of the European Commission, don’t take into account settlements with a population less than 2000 inhabitants. This fully concerns the villages in the Danube River Basin. In the Ukrainian part of the Danube delta and in the Carpathian area (the rivers Tisa and Prut), the majority of the population lives in rural areas, scattered over a wide area. The rural population is economically poor; rural regions are less developed and are unable to obtain the necessary economic assistance for development of the water supply and sanitation facilities. There are no treatment facilities or special measures to prevent discharge of untreated sewage into the river. This creates problems of two kinds: for water resources because it leads to degradation of natural resources and deterioration of the Danube River Basin waters; and for people, because contact with human excreta and waste water leads to serious health risks for the rural population.



Three alternatives for addressing sanitation in rural areas are considered today:

- Connecting small settlements to the treatment facilities of big cities;
- Connecting several small settlements to one

sewer system with treatment facilities;
-Construction of individual treatment facilities in every small village or in private houses
From the experience of Germany, Sweden and Norway, it is known that introduction of ecological sanitation approaches (using cheap simple and reliable systems, such as a system of urine diversion without water, autonomous systems and treatment systems using of natural filters and other types of natural cleaning in private homes for one family) are realistic solutions that meet modern requirements of the EU Water Framework Directive and the requirements of sustainable development for small towns in rural areas. The modern understanding of ecological sanitation is a stable sanitary regime that protects and supports human health, doesn't cause environmental degradation or the depletion of water resources, and is technically and institutionally appropriate, economically viable and socially comprehensible.

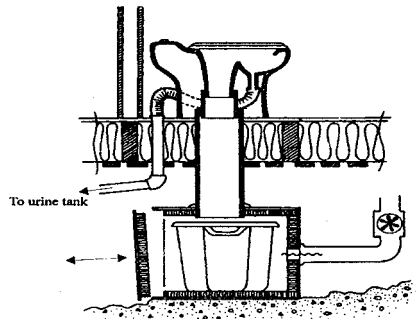
Only 3% of villages in Ukraine have sewer systems. This means that only about 1.4 million people have comfortable living conditions. The remaining 14.3 million of the rural population use septic tanks and cesspools, which usually remain out of control and become sources of nitrates in and biological contamination of groundwater and river basins.

The first attempts to implement ecological sanitation approaches taken by the Ukrainian Environmental NGO "MAMA 86", and the Western Center of the Ukrainian Branch of the World Laboratory in Ukraine demonstrate their effectiveness for rural schools. Construction of toilets with separate collection of urine and feces (dry toilets) in rural schools can be an important step towards solving the eco-sanitation problems of small villages in the Ukrainian part of the Danube River Basin and is one of the real practical solutions for reducing pollution of basin water.

A special feature of dry toilets is that they require neither water nor connection to water drain systems. Dry toilets help to maintain clean water, and facilitate the return of nutrients to the soil, instead of dilution and discharge of nutrients into reservoirs.

In 2009, the Western Center of the Ukrainian

Branch of the World Laboratory, with financial support from the Coalition Clean Baltic (CCB), organized the construction of dry toilets in the Zabuzhzhia village school, which is situated in the Western Bug river basin.



Dry toilets in rural schools

There are 250 students studying in the school. They became a major target group through which information about ecological sanitation principles was spread among their parents, neighbors and the entire rural population of the region. This idea also received support from a local farmer, who will use settled urine, and composted feces as fertilizer on his fields. The project's goal was to raise awareness among rural residents and demonstrate the possibility of reducing pollution in the river basin.

Our experience of introducing ecological sanitation approaches shows that the use of dry toilets in rural areas of the Ukrainian part the Danube River Basin is particularly appropriate, because there it promotes a rise in living standards to the level of cities, while incurring much lower costs, and also reduces water pollution with wastewater, while eliminating risks to human health.

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Velkolélský ostrov Island – a unique example of cooperation in the region

Velkolélský ostrov Island or Nagyléli sziget, as it is known, is familiar on both sides of the Danube as one of the last major Danube islands spanning more than 250 hectares. The island is named after the nearby settlement of Velký Lél, which was named after the Hungarian warrior Lehela or Léla, who was executed in Germany in the 10th century. The settlement of Velký Lél and the island itself are part of the village of Zlatná na Ostrove (Csallókőzaranyos) today. The first reference to the village comes from the year 1094, when it is mentioned as Locus Aureus. All three names suggest that gold was already being mined here in ancient times. The waters of the Danube created meanders at this location, where significant amounts of gold had settled. Even today someone with luck and a deft hand may unearth a couple of pieces of gold from the sand of banks of the Danube. However, gold is not the main wealth of the region that makes the place worthy of a visit today.



Island meadows

In the past there were pretty river branches of the Danube situated here. Now most of the branches have been transformed into regulated channels. One of them brings us from the main road to the settlement of Velký Lél, which once boasted farms, a beautiful park and a distillery. Nowadays the distillery is only a ruin with a chimney, unfortunately not the only one in the settlement; only a couple of newer houses are inhabited. Local residents used to keep cows, horses and sheep and grow wheat and maize. The island itself was accessible only by the ford;

therefore, it was appropriate and safe pasture for domestic animals. During floods, when the island was often almost entirely under water, the meadows on land around the settlement provided a haven for four-legged inhabitants. Water meadows and pastures, which used to be found in the lowlands around all the major rivers,



Summer flooding

were widespread because they were able to feed herds of domestic animals throughout the year. The constant flow of fertile mud from the Danube ensured rapid growth of grass and broadleaf herbs. Regular grazing and mowing also helped to maintain the picturesque grassy landscape, with rare species of fauna and flora.

Today, Velkolélský Island is a unique mosaic of forest, wetland and grassland habitats. Rough lowland ash-elm-oak forest and also soft lowland poplar – willow forest cover almost half the island. Part of the forest retaining its natural character was declared a nature reserve in 1974 in recognition of its uniquely intact state. Today's "winged" reservation was ironically created after many years of conservation work by the doyen of Donau nature protection, Andrej Stolmann. He was working on the protection of huge breeding colonies of grey heron here. However, the protection of the bird colony unfortunately failed to be transferred from paper into reality, so it happened that at the time when the reservation was declared, clear cutting was taking place at the very edge of the breeding colony. So, the herons have moved to a small island on the Hungarian side of the Danube.

The island is edged by the very wide main river bed on one side and by the Velkolélský branch,

which is also relatively wide, on the other side. In the past, the water in the branch flowed freely, but since regulation in 1980s, the water remains standing for most of the year. The Velkolélsky branch is now overgrown by sedges and willows from the banks, and on the open water surface we can find a rare flower: *Trapa natans*. The Velkolélske meadows, though lined with massive poplars and head willows, remained unnoticed by nature conservation. Nowadays, these valuable communities provide habitats for many endangered species in Slovakia (e.g., beetles and butterflies) and, of course, for the unique Pannonia hydrophilic flora. However, after the general decline of livestock production, the meadows became overgrown with weeds and invasive species transported by the river.

It would take not too long for the island to be changed beyond recognition. Fortunately, it was included as part of the protected bird area SKCHVU007 Dunajskéľuh and so integrated into the network of protected areas Natura 2000 in the years 2004-2005. The Island itself is also a separate territory of European importance: SKUEV0183 Velkolélsky Island, an area of 328, 65 hectares. This step created more opportunities to manage and protect nature on the island, along with farming. The management of Velkolélsky ostrov Island is provided by the Regional Association for Nature Conservation and Sustainable Development in Bratislava – BROZ, in cooperation with the State Nature Conservancy of the SR and local inhabitants. Through a number of projects financed by foreign funds, the European Union, national and private sources, a unique partnership has been forged, which has progressively engaged water management enterprises, foresters and local farmers. In 2006 they managed to rent or purchase most of the fields on the island into the hands of nature conservationists. This allowed new managers of the area to introduce many measures, which led to the improvement of the conservation status of several types of habitat on the island. First of all, free access to the territory was prevented. This easy action - one ramp- protected nearly 300 hectares against unnecessary disturbance. After replacing the first few locks, everyone has

become accustomed to it, and it is now generally accepted that one does not normally go on the island or to the Danube by car. A typical feature



Grazing cattle

of the island is called the head willow. After many years of neglect, these have once again been systematically restored and treated. Regular trimming of branches at intervals of several years to obtain fuel creates the typical feature of “hollow willows by the brook”. Their rotted bark and decayed cavities provide habitats for many rare species of beetles and birds. If the regular care is interrupted, however, their branches break under their own weight and fall apart. The solitary old oaks in the middle of island meadows are also valuable for landscape quality. These have been professionally treated in the past year to prevent further threat to their surroundings. Moreover, they are themselves habitats for several species of insects and nesting birds and are also a rich source of acorns, which are used for planting new seedlings for the next renewal of floodplain forests in the Danube region. Natural forest habitats are left to themselves. In contrast, indigenous tree species, such as white birch, black poplar, willow, oak and ash, are established in the disturbed parts of the forest after the removal of invasive species of plants. Spurious species of plants began to spread gradually from the forest edge to the grassland. There are some particularly unwelcome visitors, such as Ash-Leaved Maple, American ash and Red ash. Since 2009, BROZ has succeeded in removing non-native species of herbs and plants-- also thanks to animals. A cattle herd of seventy animals was moved to the island in cooperation with local farmers and

with aid of the LIFE project. These local people have been tasked with ensuring progressive grazing of areas overgrown with thistles, non-original goldenrod and invasive plants. Less accessible localities and thorny shrubs are in the care of a numerous herd of sheep and goats. Among ordinary farm animal breeds, there are also traditional breeds – Hungarian grey cattle (Szürke Marha) and black sheep with long horns. In recent years ten horses were added, and the idyllic picture of our largest island in the Danube was complete. The mowing and grazing regime of the island has been, of course, under the strict supervision of nature protection from the beginning. This system has created permanent jobs for shepherds and support staff too.

During the next three years we are planning several equally important interventions on Velkolélsky ostrov Island. Twenty years ago, the Velkolélske rameno river branch was cut off from the main stream of the Danube for the planned construction of the Nagymaros dam. A panel road to the island was built to relieve access to it, but it slows the water flow. The water in the branch is thus of no appreciable flow, and it has gradually become clogged and overgrown with trees. Greater water flow is usually observed only during floods, when the level of the river is higher than the Island itself. But altogether it is not enough to thoroughly scour the branch of lengthy deposition. Measurements and studies have been done in the past year, which would form the basis for revitalization work to reconnect 5.5 km long Velkolélske rameno branch to the main flow of the Danube.

Removal of the embankment at the beginning and the end of the branch will again enable fish migration to the spawning grounds on the island, which will also contribute to the enrichment of food and nesting habitats of birds tied to water habitats. The banks are lined with large stones, which are meant to prevent river erosion. But they also cover the original aluminum profile or sandy shore, popular places for the breeding of some bird species, especially the Bank Swallow, which was a common species in the past. In the summer this bank protection was gently removed from one 50-meter section on the island. We plan

to repeat this action in another locality further down the river.

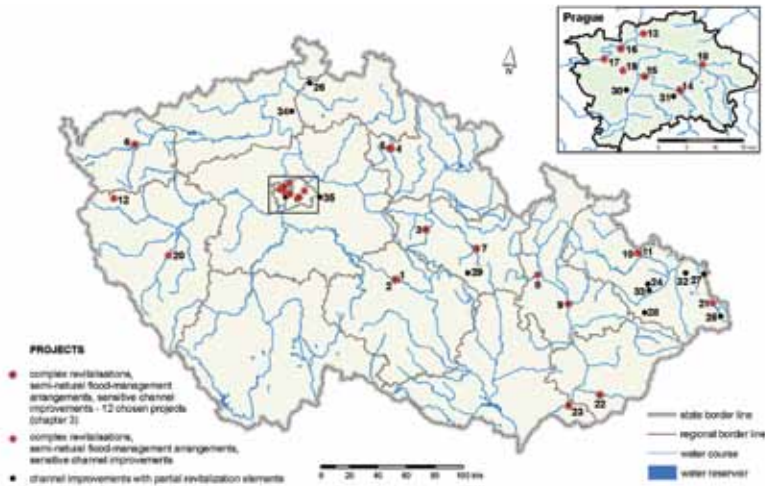
Long-term initiatives by many volunteers and professional nature conservationists, in cooperation with water management enterprises, and active participation by local farmers and residents is beginning to yield positive results step by step. This would not be possible without the dedicated work of all involved. Let us hope that Velkolélsky ostrov Island, at first sight linking such different approaches to revitalization, will become a successful example of cooperation for other regions in Slovakia. The revitalization measures on Velkolélsky ostrov Island are realized through contributions from the European Commission and the Ministry of Environment in the project LIFE07NAT/SK/000707 Conservation of endangered bird species populations in natural habitats of the Danube inland delta. More information about activities on the island can also be found on the page:

<http://www.dunaj.broz.sk/vtaky/>.

Andrej Kovarik, Katarína Radvanská, Tomáš Kušík, Mgr. Matúš Kúdela,
Foto: K. Radvanská, K. Tuhárska, J. Michalíková

REURIS - the best hopes for urban rivers

For decades urban rivers in central Europe were seen as a threat rather than an advantage. Thus, despite the fact that such areas are particularly important, and often the only functioning or potential reservoirs of biodiversity and open space in the city, degraded or abandoned riparian areas are common in cities. Rivers become part of industrial brown-fields, where citizens do not venture. The issue of urban river space management is the more complicated because river landscapes in towns have been seriously modified, and revitalization of such places means solving complex environmental and socio-economic problems. In at least a few European towns, REURIS in providing the chance to improve a bad situation. REURIS is an acronym for REvitalization of Urban RIver Spaces. REURIS is a common project of the Czech Republic (Brno,



Pilzen), Germany (Lepzig, Stuttgart) and Poland (Katowice, Bydgoszcz). The project has several goals, including implementation of strategies and activities aimed at restoration (reconstruction of natural and cultural resources) and management of urban river spaces; testing strategies and tools in practice and assessment of their effectiveness; consensus among all interested parties (e.g., local tenants, planners and administrators of water resources); integration of spatial, socio-economic and engineering issues in the process of preparation; realization and management of the implemented activity; and creation of a common set of methods and procedures allowing for coordinated work by multidisciplinary teams as well as effective social involvement. More about this project can be found on the website: <http://www.reuris.gig.eu>. Each partner has to realize or prepare own pilot project. For example, in Brno, a complex restoration of the Old Ponávka was planned. The creation of a green corridor along an artificial river branch of the Svitava River in a post-industrial area has been projected. They also decided (as part of the project application) to further extend the project to include river restoration in urban areas in the Czech Republic. This part was the responsibility of the Union for the Morava River. Our aim was to map and conclude the experiences of preparation and realization of the river restoration project in urban areas of the Czech

Republic. We prepared a questionnaire with relevant questions and sent it to many institutions (water authority, government nature protection, NGOs, municipalities and towns and to engineering companies). Then we analyzed the questionnaires and evaluated the results. Respondents returned about 60 % of all questionnaires, which is relatively large share. We divided the returned questionnaires into four groups:

1. River restoration in an urban area - good example, with detailed planning;
2. River modification in an urban area with natural elements - good example;
3. River restoration in open landscape - good example, but not for our purpose;
4. Technical training work in an urban area and open landscape - bad example (misunderstanding-- respondents did not understand the concept of restoration).





Where the restorations have been realized or are planned (group 1 and 2 of the overview above) is shown in Figure. 1. Thirty-five projects altogether were selected as good examples. What are the key factors that influence the success of restoration projects? Cities and towns are the main initiators of restoration in the Czech Republic. The project expenses were fully or partly covered by town or city budgets from available funds. Long-term, systematic activity in urban areas has developed mainly in Prague, the capital city (within the framework of the Programme "Streams for Life"), where ten projects were implemented or are in the planning process. Additionally, the town of Chrudim gradually implemented a restoration of its town water race during its partial periods. It is necessary to emphasize that good restoration practices have depended on an enlightened approach and significant personal involvement. Thanks to these, the intended projects have been promoted and given priority. The restoration activities are oriented mainly to small streams/ rivers, their branches and mill ditches; only a few projects are planned for bigger rivers (e.g., the Morava River in Olomouc).

Some of the biggest problems involve proprietary relations. When the land is owned by an investor/ stream administrator/initiator, then there is one step to success. In the best case, the investor, stream administrator, initiator and land owner constitutes one institution/person. The main role in receiving these prospective parcels can be played by long-term public participation. There is a shift in the perception of urban rivers. Towns want to change river appearance as an important part of the urban structure. There are also



ecological aspects (biological diversity, water quality etc.), technical aspects (flood management, water management) and social aspects (public space creation, pedestrian and bicycle traffic support, education, etc.), all of which are important. Flood protection is the priority, and a project of revitalisation is better accepted if there is this connection. This means that the priority should involve projects that solve both town flood protection and simultaneously water course restoration measurements. Unfortunately, many town and water administrators still prefer a conventional technical approach to water courses. This approach is mainly marked by familiar, traditional arrangements used in the past, a lack of relevant information about new trends and possibilities, doubts about using anything new, lack of education and the fact that technical measures are cheaper and easier to implement than any others in urban areas. Technical arrangements need fewer land lots and pursue a single goal: fast, secure water transport that is still financed from the public (state) budget. Many towns have demanded adequate town flood protection. If the river administrator is willing to provide such arrangements, town authorities refrain from intervening in the project's preparation. The other aspect involves conflict between the technical approach of the water authority management and green NGOs or environmental public initiatives. These disagreements very often block whole actions or at least to slow them down. Thus, every body interested in these topics should be included in this problem. Many town representatives or water authorities lack information about environmentally-friendly water

course restoration in urban areas. Sometimes they do not know the difference between technical and restoration measures. This situation was verified in the questionnaires, where strictly technical arrangements were often described as revitalization projects. It is necessary to strengthen the education of public authorities. Since a very important part of our study was to select the best restoration projects and describe them in detail, we chose 12 projects of different types from different parts of the Czech Republic. Some restorations were finished and some were projected. One of the first actions and also one of the best was the restoration of the mill-ditch in Chrudim. The implemented measures were inspired by the diverse pattern of natural water courses. That means we can see 2 kilometers of river meanders, as well as a wandering or braiding river. The specification makes frequent use of woody debris. An example of this restoration can be seen in Figure 2. Another very interesting restoration action was carried out in Litomyšl. There, on the small Loučná River, it was necessary to implement flood protection measures. Because Litomyšl is a UNESCO world heritage site, representatives of the town pay attention to the architectonic shape of every intervention. That is why the river restoration is simple, attractive, useful and functional. There is a pathway along the river, reconstructed bridges and many direct access points to the river. The river flows directly through an area of blocks of flats, but an architectonic solution conceals this fact. Were it not for a lack of space, each project could be described in detail. If you are interested in this topic, you can download our paper from: <http://www.uprm.cz/projekty/reuris/>.

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Union for the Morava River

The Danube Biodiversity Strategy and the Danube Green and Blue Corridor: Europe's Most Important Biodiversity and Habitat Connection

After efforts in recent years to improve water and biodiversity protection by various means, such as the Water Framework Directive (WFD), the

Birds and the Habitats Directives, the European Biodiversity Strategy and other European initiatives, it is now time to think about the next steps to protect nature through European cooperation. These efforts of European environmental policy have led to some important progress, at least in identifying areas to be protected according to the Birds and Habitats Directives, or issues of concern for water ecosystems in water management according to the Water Framework Directive. Some National Parks and other areas with good protection status are, of course, the pearls of the Danube river basin and along the Danube. Nevertheless, all these things are not sufficient to stop the rapid species loss.

Protected areas are often too small or too remote from the next protected area, without secure habitat connection. The Water Framework Directive does not protect critically endangered species if the water body is already defined as being in good condition. To save the diversity of plant and animal species, it is necessary to look beyond the often small protected areas, to take care of destructive competing uses and to implement species and habitat connections where it is still possible.

This means protection of meta-populations of species and habitat connections in regions and across borders, including cross-border analyses of threats to biodiversity. A new level of analysis, co-operation, connectivity, and integration is necessary in the field of species and habitat protection.

The Water Framework Directive is such an integrative approach for water management. ICPDR, authorities, experts and stakeholders (with the active participation of the Danube Environmental Forum) started the process leading to the first Danube river basin management plan.

A similar approach is needed for biodiversity. Many species not on the very restricted species list of the Habitats Directive are threatened by extinction on local, regional and national levels, and ultimately at the level of the whole Danube river basin; some of these species are declining rapidly without specific measures to stop species loss. This does not mean in any way abandoning the Habitats Directive but moving beyond to first

fulfil the connectivity and network approach of its articles 3 and 10, which is still not completely developed. The reasons for the accelerated decline of biodiversity are multifactorial, but the intensification of agriculture, transport infrastructure and energy production is one of the main causes. These uses of natural resources should be examined and confined not only at the very general level of “cross compliance” in agriculture or formal environmental assessments in executed infrastructure planning.

As a waterway, The Danube is an important example of still non-integrated planning with biodiversity, although the Danube river is probably the most important European axis of biodiversity. While there exists, on one side of the issue, a European plan to develop Danube waterway infrastructure in such a way as to pose a serious threat to the entire Danube as a lifeline for biodiversity, there is nothing comparable on the other side. Many international and national environmental NGOs including DEF and WWF have already affirmed that the twin impacts of navigation and nature protection have not yet been balanced („Save the Danube as a Lifeline – Steps to Sustainable Navigation“ on: http://assets.panda.org/downloads/ngo_danube_navigation_position_final_3.pdf). A Danube masterplan for sustainable development must contain a biodiversity strategy above the level of single projects and must place the green and blue Danube corridor at least on the same level of international importance as inland navigation.

The blue and green Danube corridor, as one of the most important habitats and habitat connection lines, is not restricted to the river and its wetlands but also includes mountains and river slopes. Since the last ice age the Danube has been a very important European biological

corridor, connecting habitats on the Black Sea with central Europe and the alpine regions. Tributaries like the Sava, Tisza, Prut and Velika Morava account for habitat connection with the mountains and with other important landscapes. Efforts towards species and habitat conservation and connection could be concentrated on a 10 km stretch of land on each side of the Danube. This is more or less the backbone of Europe’s biodiversity. For major tributaries, 5 kms might be the extent to discuss. Along the rivers there could be areas for observation and analysis, and without delay a target area for new habitat protection and connection projects. Against the background of the process to elaborate the water management plan for the Danube river basin, this European region is prepared to break the mould and use existing co-operation and experience to pioneer an innovative step and implement a Danube biodiversity strategy around the core of the blue and green ecological backbone of the Danube corridor.

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River Alliances in Bavaria (Germany) – A Model for more Co-operation and Public Awareness to Protect Rivers and Wetlands

The elaboration of the management plans for rivers according to the European Water Framework Directive has shown the ecological degradation of most rivers and wetlands, including Germany and the Danube and its tributaries in Germany. The threat that ecological degradation might continue despite the objectives of the Water Framework Directive is real: some extremely important rivers, streams and wetlands are not yet protected by Natura 2000 or other means of protection. Plans for new dams are still on the way and increased biomass production creates new erosion problems for surface waters.

In recent years new river alliances have been founded as a result of a gradually increasing awareness of water and river issues, and often

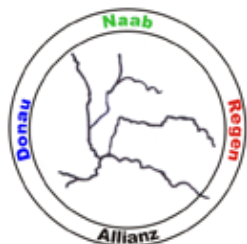




Photo: Nicole Schaller

in response to new threats or to strengthen activities for restoration. Last year in Bavaria the “Ilz Alliance”, at a major tributary of the Danube in south-eastern Germany, and the “Mangfall Alliance”, at an alpine tributary of the important Danube tributary river, the Inn, were founded. Already in action are many other alliances on the Danube in eastern Bavaria and in the old town of Regensburg, including the Danube and two other tributaries.

Each alliance has several different partners, from the most important environmental organizations Bund Naturschutz and Landesbund für Vogelschutz, fishery and angler organizations, canoe federations, water experts, the alpine club, sports clubs, women’s organizations like the “Women Friends of the Danube”, to citizens seeking to protect their landscapes. These broad alliances are not busy all the time; some work better than others, but the network is built and can react to new dangers. The “Ammer Alliance”, protecting the alpine river feeding large Lake Ammer, stood up to fight 11 new dam projects, most within protected areas. The “Isar Alliance” has built ground and awareness for a big river restoration programme in the Bavarian capital of Munich; the “Alliance Danube-Naab-Regen”

in Regensburg has managed to provide expert information, a contribution to the regional river management plan and also offers a workshop on the future of the Danube, including experts, politicians and various stakeholders.

Although what these alliances can do might be insufficient without substantial financial support from public sources, they are independent, and they stand for a combination of expert knowledge and activities. The co-operation of different skills often produces good and creative results. Alliances are often better equipped to meet the problems of continuation of projects and initiatives than single organizations. Facing the imminent threat to rivers and wetlands and looking forward to implementing the next steps towards water, wetland and biodiversity protection together with interested citizens the river alliances are among the best tools to create awareness and results.

The Danube Environmental Forum (DEF) is a river alliance, although it covers other aspects of environmental activity, too. The model of river alliances can be realized at the levels of big or small rivers. It is best done by an exchange between different alliances and different levels of river protection. The Bavarian river alliances

are planning to increase their co-operation in 2011. Also in 2011, the workshop on perspectives for the future of the Danube is an important event for most of the river alliances. This process is a hopeful development to increase river protection by involving the interested public. It is a form of public participation aimed at achieving the objectives of the Water Framework Directive and should be supported with information transfer and financial support by public administrations.

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Celebration of Sava Day

This year the international Sava Day was successfully celebrated in our school for the sixth time in a row. We went on a fieldtrip to the Savica waterfall and Zelenci, the two sources of the Sava river. We sought to get familiar with the sources of our river and see for ourselves that the water is pure and unpolluted. We can count ourselves lucky because the river is born in our country, and we feel morally obliged not to pollute the water and to serve as an example for those nations that live downstream.

The trip involved around 40 students from the Secondary Educational Centre of Biotechnology, Technical Grammar and Veterinary Nursing school. They were well prepared, as we had discussed the problems of water pollution and preservation in advance. Students researched different topics regarding the river and prepared workshops for their classmates. They also expressed their concern for the river and their own health and made suggestions about how to tackle the problems of water pollution. On arriving at the Savica, we explored the surroundings, admiring the natural beauty of the site and

enjoying the good weather. There were many plant and animal species to see and explore. From there we went to see Zelenci, the second source of the Sava, which has a totally different appearance, as it is a pond with water springing from underground. The Savica waterfall is lively and full of drama, while Zelenci is a peaceful, idyllic place.

After the field trip our students sent a letter to important politicians and decision makers stating their views and asking for help. They find international cooperation especially important for water management, as they pointed out that the whole river basin forms a single system, sharing water, plants, wildlife and people. Our letter was sent to the media and on the actual Sava day to politicians and decision makers. We want to let them know that we have been working on public awareness for years, and it is imperative they take part in water conservation too, since they have better means than we do to make a real difference.

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DANUBE PARKS - The Danube River Network of Protected Areas

In one of the previous issues of the DEF bulletin, we reported on the international project called



Programme co-funded by the
EUROPEAN UNION



DANUBEPARKS, which is aimed at strengthening the protection of nature along the Danube river. This project, co-financed by the South East Europe Programme, has been running for more than a year now (officially launched in March 2009). During this period much has happened. Representatives of the 12 partner protected areas from 8 Danube countries (Romania, Bulgaria, Serbia, Croatia, Hungary, Slovakia, Austria and Germany) meet regularly with the aim of joint cooperation and international nature protection of the Danube region.

Several restoration activities to improve the water regime and the floodplain areas have been implemented: e.g., restoration of wetland and grassland habitats in Hungary or restoration of floodplain forests in Germany (between



Inglstadt and Neuburg). For the purpose of floodplain forest management in Slovakia, the first plantings of native tree species from seedlings and seeds were organized by BROZ (Regional Association for Nature Conservation and Sustainable Development). These operations have been done until now in two localities: Čičov and Veľkolélsky ostrov Island (near Komárno), which BROZ has leased for 25 years with the aim



of ensuring long-term, sustainable management and the necessary restoration work.

Project activities also concentrate on the conservation of target species like the European beaver, Danube sturgeons or various bird species. An important project flagship species is the White-tailed Eagle, the majestic raptor of the Danube floodplains, for which project partners are improving nesting conditions. Besides monitoring and international ringing, project partners also deal with the reduction of disturbance during nesting (closing roads, removing of checkdams, human and camera monitoring). In Slovakia, BROZ will ensure the installation of artificial nests in cooperation with the other Slovak project partner, the State Nature Conservancy, and expert institutions like Raptor Protection of Slovakia or the Faculty of Natural Sciences of Comenius University.

In the case of other two birds – the Little-ringed Plover and the Sand Martin – which are good indicator species of the highly dynamic floodplain environment, the population along the entire Danube will be monitored.

Last but not least, project activities also focus on supporting Danube nature tourism. Various project partners construct educational nature trails for visitors to the protected areas (Béda-Karapanca in Hungary, and a prepared trail in the Slovak Danube floodplains) and raise awareness about cycling trails and soft boat tourism.

All project activities are promoted to the general public in the form of press releases, magazine and newspaper articles, as well as TV and radio programmes. Many cultural events have also been prepared within the project: mobile exhibitions (about the Slovak Danube floodplains,

a sound map of the Danube or an exhibition of student art work called "A Chance for the Blue Danube," which enjoys a long tradition in Romania. More cultural festivals have been prepared (the Danube Festival in Hungarian Mohács or the annually organised festival of Danube nature and culture in Austrian Orth an der Donau). This project raises awareness about nature conservation and the Danube river by using the most modern communication channel, such as a project website, a facebook account or publication of videos online via youtube. There is still more than year of project implementation left until all activities will be successfully accomplished. During this period people will also have the opportunity to attend more cultural events and excursions and to participate in the public art competition and gain more information about the importance of project activities for the conservation of the valuable and often little-known wilderness along the Danube.

Miroslava Rudá

"WATERS UNITE" International Canoe Trip – six times around the Central Danube floodplains

BITE Baja Youth Nature Protection Society, together with partner organizations from Serbia - Plavi Dunav (Apatin) and Moj Kanal (Sombor) - organize jointly each year an international canoe trip with the aim of drawing attention to

the natural features of the Central Danube floodplains, the friendship of nations living here, and the importance of international NGO partnership on the occasion of International Danube Day.



In 2006, even the Mayor of Baja joined us

The participants in the canoe trip row together on the Danube, Monostorski Dunavac (Sárkányos), Danube-Tisa-Danube channel, Ferenc-csatorna (Veliki Backi Kanal) and Ferenc Tápcsatorna (Bajski Kanal). Out itinerary is Baja-Mohács-Bezdán-Apatin-Backi Monostor-Backi Breg-Hercegszántó-Nagybaracska-Baja.

We planned and organized the canoe trip in 2005 the first time, with the intention of founding a new tradition, and for a long time, we were the first to cross the border with canoes via the channel that connects Baja in Hungary and Bezdán in Serbia, towns that were divided for more than 80 years by the border. Our aim was to raise awareness about common international



Participants in the first canoe trip in 2005

ecological research, the co-operation between nations of the Backa Region, and the need to preserve our common cultural heritage while promoting water tourism.



Map of the canoe trip

Our initiative is to let everybody know that the Danube floodplain represents a common borderless habitat, not only for flora and fauna but for its human population as well.

During the six years, 25 to 40 participants have joined the initiative each year. Citizens of Hungary, Serbia, Croatia, Slovenia, Great Britain, Germany, Australia and New Zealand have discovered together the intricate web of floodplain channels and unused branch streams; they tasted the traditional fish dishes of the region, looked at the birds flying above and experienced how it feels to sing together the songs of the Danube nations around the campfire.

Since the canoe trip is now a tradition, we will organize it again. We welcome anybody who feels like joining us. See you aboard in 2011!

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Conservation of the Root Vole in the Slovak Danube Flood Plains

Wetlands are generally perceived as water birds habitats, but they also provide homes for several mammal species that have adapted to life in water or a moist environment. The Root vole (*Microtus oeconomus mehelyi*) – endemic subspecies of the western part of the Pannonian lowland, close to the Danube river - inhabits marshes, swamps and banks with thick vegetation. Its habitat requirements are specific: the vole prefers habitats with stable ground water level, periodic flooding and with continuous growth of wetland vegetation, mainly bent-grass (*Carex* sp.) that forms mounds in wet terrain.

The main cause of Root vole endangerment is the loss of suitable habitat, owing to agricultural and forestry intensification, as well as water stream regulations in the last century. The most appropriate conservation action for its protection is to bring back the traditional method of management: meadow mowing, reed cutting and revitalization of wetlands and bank vegetation.

For this reason, the Regional Association for Nature Conservation and Sustainable Development (BROZ), in its project Conservation of Root vole **Microtus oeconomus mehelyi*, deals mostly with wetland restoration in those areas where the species can still be found.

As a result of land drainage, the average water level in some areas has been significantly lowered, while in others the water regime is artificially regulated. Natural seasonal changes in water level are now strongly restrained; thus, periodically flooded areas such as reed beds and meadows have been reduced. Many natural wetlands remained without water, and instead of rare and valuable species, they are covered by weeds.



One of the most important project activities is the restoration of Čilížský potok brook along its length of 33, 5 kilometers, with the adjacent wetlands of the Čičov area. Čilížský potok brook is one of the last running water streams with natural character in the Slovak part of the Pannonian lowland. The meandering banks of the brook run through the central area of Root vole occurrence and function as a natural biocorridor. Because, however, of a series of actions involving water management and agriculture in the last century, unobstructed flow occurs only in its upper part. All planned changes of water regime will contribute to the improvement of hydrological conditions; the level of water will reach the status known in the past, when the population of Root voles was more abundant and wide-spread in this area.

On the basis of the population's actual state and occurrence mapping, we will choose other localities to improve the living conditions of the Root vole. The measures for restoration of selected wetlands will consist of construction of smaller objects (weirs and sluice gates) on small canals and draining of ditches that currently drain wetland areas. New structures will allow the retention of water accumulated during the rainy season.



In the past, lowland meadows and grasslands were abundant in the Danube inland delta. They occurred in areas not suitable for arable land, areas with high underground water level and poor soils, so they were mainly wetlands and represented important Root vole habitats. By the influence of draining systems and land reclamation schemes, the majority of the area has been drained, ploughed and turned into intensively used arable land for agricultural crops. During the project, selected parts of this arableland will be changed to grasslands by seeding the native seeds of grasses and herbs and introduction of regular management: mowing and mulching.

The majority of the Root vole's habitats are situated outside the active inundation zone, and the growing of reeds contributes to the sedimentation of wetlands, which after some time become dry ecosystems. We deem that reed cutting is a good way method for wetlands management and for the preservation of wetlands as Root vole habitats.



Arableland represents a migration barrier for this vole species; thus, its population was fragmented into isolated populations in intensively used land, a situation that can result in the extinction of the Root vole because of genetic deformations. By planting trees and shrubs of native species, as well as creating strips of grassland or tall herb vegetation along water courses, old river branches and wet terrain depressions, new biocorridors will be created. The role of these biocorridors is to connect root vole population groups, to ensure genetic information exchange and the distribution of this species into new localities and restored habitats.

We will provide information about the project on an internet website, publish educational and

publicity materials, install information panels and present the project at conferences, in the media and during field excursions for students and the public. We will create an interactive mobile exhibition and a film about the life of the Root vole. You can find more about the project on the website www.dunaj.broz.sk/microtus. The project began on 1st of January 2010 and will last till the end of 2015. Our partners in the project are as follows: from Slovakia, the Water Research Institute, Faculty of Natural Science of Comenius University in Bratislava, Ministry of Environment; from Austria the National Park Neusiedler See – Seewinkel; from Hungary, Pisztráng Kör, and the Society for the Study and Conservation of Mammals from the Netherlands. Project LIFE08/NAT/SK/000239 Conservation of Root vole *Microtus oeconomus mehelyi* is carried out with contributions from the LIFE financial instrument of the European Community

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Danube Environmental Forum International Youth Research Camp Baja, Hungary 2009

Baja is a city in southern Hungary, with a Mediterranean atmosphere. It is the second largest city in Bács-Kiskun county, with over 37,000 inhabitants. The city lies at the meeting point of two large regions: the Great Hungarian Plain and the Transdanubia, with the river Danube separating the two regions.

West of the city, the Gemenc forest spreads, which is part of the Danube-Drava National Park, listed as a Birds and Habitats Directive Site, as part of the Ramsar Convention. This area floods frequently.

The proximity of the Danube and the forest of Gemenc, along with the other wetlands nearby, could facilitate the potential for both environmental research and tourism.

The international research camp of the Danube Environmental Forum (DEF) was organized here, on the floodplain of the Danube in 2009. The

participants came from Bulgaria, Serbia, and Hungary, altogether 8 students and their supervisors. The camp was carried out from 10-17 October, in changeable weather (in the beginning mild and rainy, then sunny, in the end windy and cold).

The sites for research and activities were the following:

Ferenc navigation canal, built in 1875, flowing from Baja towards Bezdan in Serbia, fed by the Sugovica (side-branch of the Danube).

Bird observation: at 4 stops along the canal, we observed bird species, using visual and acoustic detection.



Floristic sampling: we collected samples of vegetation from waterbodies and their surroundings, then identified the complicated ones with the help of a plant identification guide.

Harábó wetland, located in the surrounding of the city of Baja to the north, 1 km. from the Danube River on the left bank. The area is part of the National Ecological Network and contains natural and semi-natural habitats.

Bird monitoring and ringing:

The large reedbeds and diverse vegetation provide good opportunities for nestling and foraging by many bird species. At this time of the year we had the possibility to observe both migratory and non-migratory species. The birds were captured and identified by the experts. Details of their age and condition were written in special forms. Each bird received a ring with a unique code. Standard (CES) sampling points and methods were used for catching birds, and registering them. 83 individuals from 16 species were ringed during 2 days.



Hydrobiological sampling:

The samples were taken on October 14th from 4 locations. Physical (temperature, conductivity) and chemical parameters (pH, dissolved oxygen) were measured at the moment of sampling using digital devices with sound. The samples for chemical analysis were taken in plastic bottles. The concentration of N-NH₃ and P-PO₄ were measured using standard colorimetric methods. The samples of plankton were taken by filtrating water with a 10 mm plankton net. The samples of microperiphyton were taken by washing out macrovegetation. The preliminary analysis was done on live material on the same day in an improvised laboratory. A light microscope equipped with a digital camera was used for preliminary observation of material. Part of the material was analyzed after being concentrated by centrifugation.

Floristic sampling

Bat monitoring:

The bat monitoring took place in the Harábó wetland on the 11th October in the evening hours. The circumstances were not suitable for catching bats with a curtain-net, so we used an ultrasonic detector leading to identification of bats. The different species use individual frequencies for orientation, so they can be identified by aiming the detector at them during flight.

The participants of the camp succeed in the following aims:

Getting to know typical habitats related to the Danube river;

Observing differences in natural, semi-natural and modified areas;

Defining and evaluating the quality of habitats with the help of ornithological, botanical and hydro-ecological investigation;

Taking the opportunity to work together and exchange experiences with other young environmentalists from all over the Danube river basin, through trans-boundary cooperation

List of participants: Erdő Ádám, Gyimóthy Kitti, Iana Gocheva, Rusana Tzvetanova, Unyi Miklós, Vania Ilieva, Zika Reh, Zornitsa Bozhidarova Bratoeva

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Miklós Unyi

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“Farewell, My Friends in the DEF!”

I find it hard to say good bye to all of you who did their best that DEF could exist along the past 12 years and who, more or less, got to know me. I have truly believed that DEF could and should get things changed. I hope that we all have changed the people’s views about the way things must work in the Danube River Basin. And I hope that, together with many of you, I have been a voice that demanded transparency, honesty, respect and love for the River.

A lot of things got changed since that November 1998 when a few voices pledged to make DEF work. And we all did it.

Long list of organizations I should thank for begins with the ICPDR, then “DAPHNE- The Institute for Applied Ecology ” in Bratislava, Serbian Society for Ecology, Belgrade, REC Szentendre, WWF Vienna, to which many, many others have been added along the years.

But it is the people belonging to such organizations whom I have been honored, and glad to meet and work with.

To all of you, my dear friends and colleagues, farewell from me, Petruta Moisi from Galati. Romania.

If any of you still need to assist in matters regarding the beloved Danube River, just say. I would be glad to help.

Believe in the strength and will of people to get things changed!

Petruta

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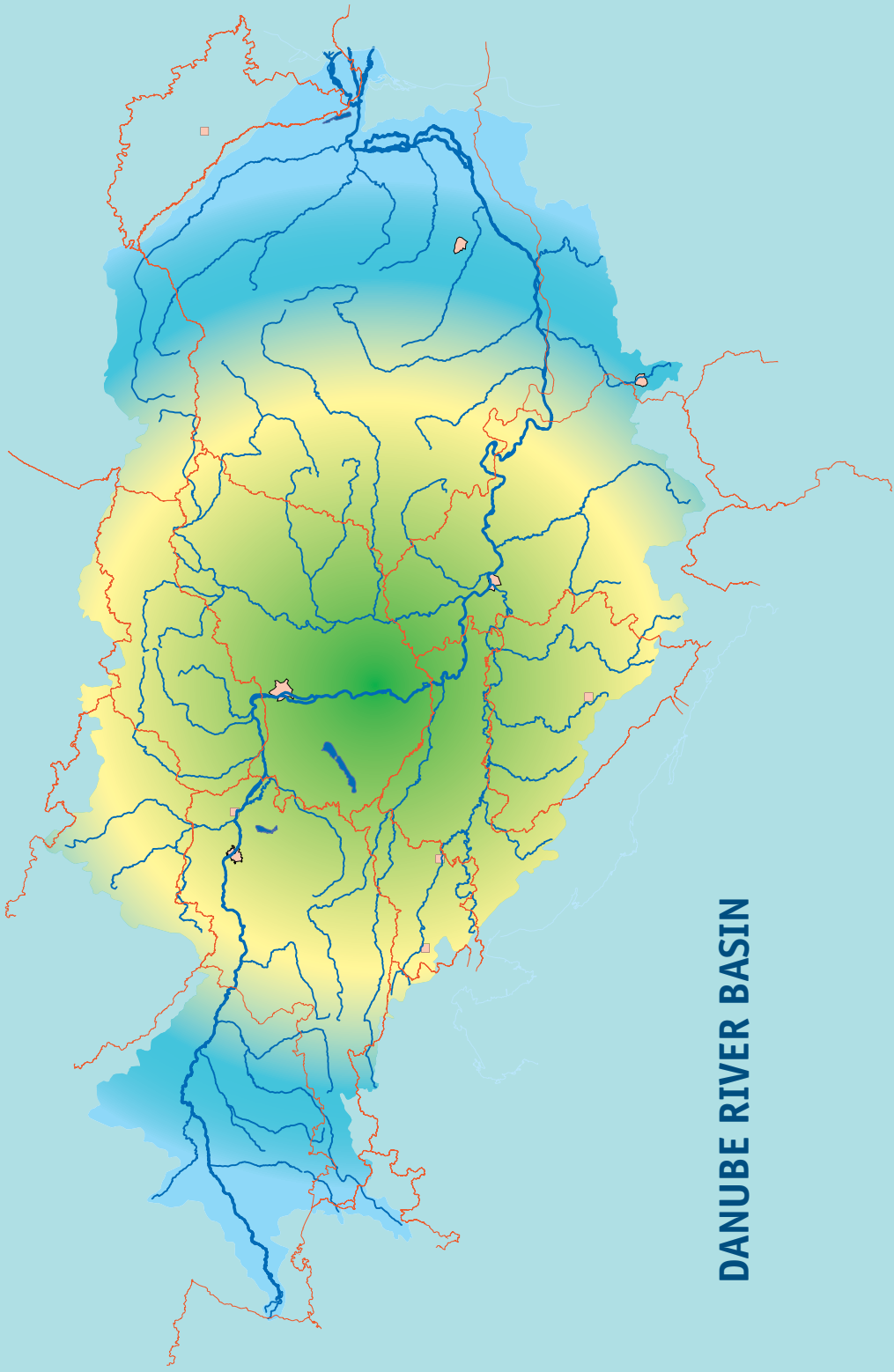
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