



**MURA
DRAVA
DANUBE**

IN
COOPERATION
WITH

EURONATUR

SAVING THE „AMAZON OF EUROPE“

Mura-Drava-Danube: Rivers at the crossroads between Protection and Destruction

TRANSBOUNDARY RIVER SYSTEM OF THE MURA, DRAVA AND DANUBE



Restoration of Mura (AT)

© Johann Pfeiler



Wooden mill on Mura (SI)

© Ecology in Progress



European otter at Mura (HU)

© D. Kaltenecker/4nature



Nearly extinct: Ship sturgeon at Danube (HU)

© Szteklík Endre



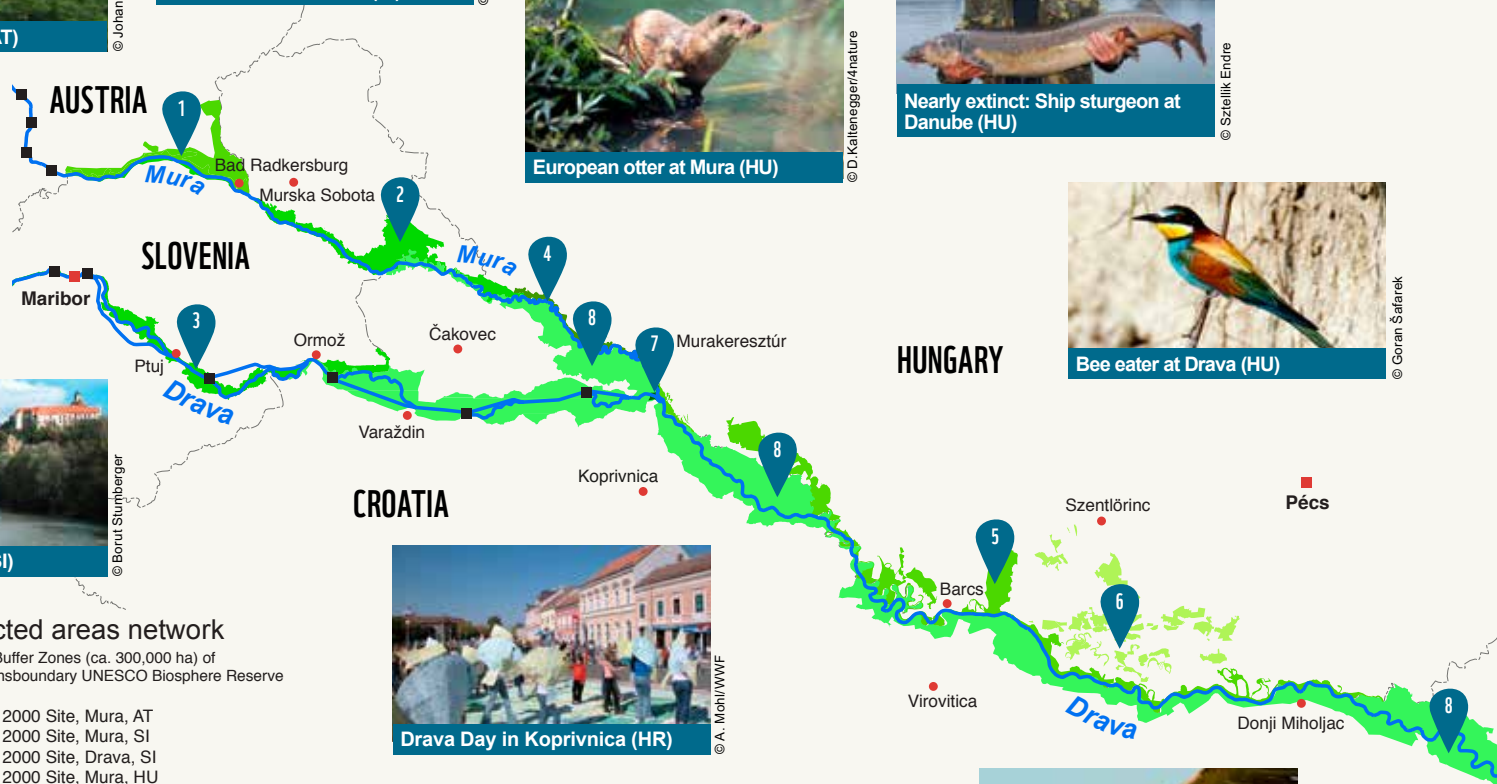
Bee eater at Drava (HU)

© Goran Šafarek



Borl Castle at Drava (SI)

© Borut Šturmberger



Protected areas network

Core and Buffer Zones (ca. 300,000 ha) of
Future Transboundary UNESCO Biosphere Reserve

- 1: Natura 2000 Site, Mura, AT
- 2: Natura 2000 Site, Mura, SI
- 3: Natura 2000 Site, Drava, SI
- 4: Natura 2000 Site, Mura, HU
- 5: National Park "Danube-Drava", HU
- 6: Natura 2000 Sites, Ormánság, HU
- 7: Ornithological Reserve "Veliki Pažut", HR
- 8: Regional Park "Drava-Mura", HR
- 9: Nature Park "Kopački Rit", HR
- 10: National Ecological Network, Danube, HR
- 11: Special Nature Reserve "Gornje Podunavlje", RS
- 12: Special Nature Reserve "Karadjordjevo" and Nature Park "Tikvara", RS

Hydropower dams



Drava Day in Koprivnica (HR)

© A. Mohl/WWF



Bodrog Festival in Bački Monoštor (RS)

© Mario Romulic, www.romulic.com



White-tailed eagle in Kopački Rit (HR)

© Mario Romulic, www.romulic.com

1 Natura 2000 Site, Mura

Protection status: Natura 2000, part of Protected Landscape
Size: 2,159 ha **Country:** Austria

The Natura 2000 site in Austria covers 34 km along the Mura River, which shares its border with Slovenia. It marks the origin of the free-flowing lower stretches of the Mura and hosts the second largest floodplain forest in Austria. Nevertheless, the river's course has been regulated in the past and many side branches have been cut off from the river. EU-funded restoration projects are now trying to restore natural conditions.

2 Natura 2000 Site, Mura

Protection status: Natura 2000 **Size:** 12,767 ha **Country:** Slovenia

The Mura River in Slovenia, partly bordering Austria and Croatia, has been included in the Natura 2000 network and hosts the largest floodplain forest in Slovenia. The border stretch to Croatia is a unique example of natural, dynamic rivers with large, still shifting meanders and colonies of sand martin in the natural river banks. Wooden mills on the Mura are evidence of a long-lasting culture and sustainable use of the river, and are now important tourist attractions.

3 Natura 2000 Site, Drava

Protection status: Natura 2000 **Size:** 9,525 ha
Country: Slovenia

The Drava floodplains in Slovenia between Maribor and Ormož have been severely impacted by three large reservoirs built in the 1970s and 80s for hydropower generation. However, remnants of characteristic riverine habitats and species have been preserved in the old riverbed, the so-called "Stara Drava" (Old Drava), which are protected as Natura 2000 sites. The impressive Borl castle above the Drava dates back to 1199.

4 Natura 2000 Site, Mura

Protection status: Natura 2000, Protected Landscape
Size: 2,135 ha **Country:** Hungary

The Natura 2000 site encloses the lowest section of the river Mura on the Hungarian side, bordering Croatia. It is well known for its abundance of fish species. More than 50 species have already been recorded. Many threatened mammal species such as the European otter find shelter here. Beavers have recolonized the area over the past 10 years after being released in the Mura-Drava confluence.

5 "Danube-Drava" National Park

Protection status: National Park, Natura 2000, partly Ramsar Site
Size: 50,441 ha **Country:** Hungary

The "Danube-Drava" National Park was established in 1996. It comprises the entire length of the Drava within Hungarian territory and the extensive floodplain system of "Gemenc-Béda Karapancsa" along the Danube. The large floodplain forests and wetlands are a major feeding and breeding ground for some 110 bird species including heron, cormorant colonies and a high density of kingfishers. The area is home to the largest population of black stork in Hungary.

8 "Drava-Mura" Regional Park

Protection status: Regional Park **Size:** 87,681 ha **Country:** Croatia

The "Drava-Mura" Regional Park is the largest single protected area in the region. It stretches from the Croatian-Slovenian border to the Danube through five Croatian counties. The gravel and sand banks of the Drava are one of the last breeding grounds for the endangered little tern in Continental Europe. Several thousands of pairs of sand martin breed in the steep banks. The surrounding settlements are home to a rich culture, such as the village of Hlebine at the Drava, which gained its world reputation as a birthplace of Croatian naive art.

9 "Kopački Rit" Nature Park

Protection status: Nature Park, Special Zoological Reserve, Ramsar Site **Size:** 23,126 ha **Country:** Croatia

"Kopački Rit" Nature Park was established in 1967 and covers the vast floodplain area between the confluence of the Danube and Drava. It hosts the largest and best preserved willow forests in the Danube Basin. This area is flooded up to three months per year. Nearly 300 bird species have been recorded so far, including 50 breeding pairs of white-tailed eagle. It is the second most important fish spawning area after the Danube Delta. Planned channelling of the Danube and Drava would severely impact this core area of the TBR MDD.

11 "Gornje Podunavlje" Special Nature Reserve

Protection status: Special Nature Reserve, Ramsar Site
Size: 19,605 ha **Country:** Serbia

"Gornje Podunavlje" Special Nature Reserve is located east of the Danube in the Vojvodina region. It is one of the few remaining massive floodplains in Serbia. Recently, the nearly extinct ship sturgeon has been caught in Apatin. Traditional methods of management have been preserved (e.g. fisheries) and are still an important source of income for the local communities.



A TREASURE TROVE OF NATURE AND CULTURE

Spanning Austria, Croatia, Hungary, Serbia and Slovenia, the lower courses of the Drava and Mura Rivers and related sections of the Danube are among Europe's most ecologically important riverine areas: the so-called "Amazon of Europe".

The rivers form a 700 kilometers long "green belt" connecting almost 1,000,000 hectares of highly valuable natural and cultural landscapes from all five countries and shall therefore become a symbol of unity by becoming world's first five country **Transboundary UNESCO Biosphere Reserve "Mura-Drava-Danube"** (TBR MDD).

Despite numerous man-made changes in the past, this stunning river landscape hosts an **amazing biological diversity** and is a hotspot of rare natural habitats such as large floodplain forests, river islands, gravel and sand banks, side branches and oxbows. These habitats are home to the highest density of breeding pairs of white-tailed eagles in Continental Europe and other endangered species such as the little tern, black stork, beaver, otter and the nearly extinct ship sturgeon. Every year, more than 250,000 migratory waterfowls use the rivers to rest and to feed.



"Kopački Rit" Nature Park: The confluence of the Danube and Drava rivers is situated in the heart of the Biosphere Reserve

A coherent network of **13 protected areas** along the rivers highlight their ecological values including the world famous "Kopački Rit" Nature Park at the Danube-Drava confluence, "Drava-Mura" Regional Park in Croatia, "Gornje Podunavlje" Special Nature Reserve in Serbia and the "Danube-Drava" National Park in Hungary as well as Natura 2000 Sites in Slovenia and Austria.

In addition to high levels of biodiversity, the river and floodplain areas are vital to the **local communities**. Local fishermen rely upon the fish populations for their livelihoods. The extensive floodplains lower the risks from floods, secure

favorable groundwater conditions and self-purification of water which is essential for drinking water, forests and agriculture. People also enjoy recreational activities along the rivers by walking, swimming, fishing or canoeing.

The area's **cultural heritage** is the evidence of a vibrant past with various cultural influences from east and west. The presence of the Ottoman and the Habsburg empires are visible in the architecture of many old cities in the region. Croats, Hungarians, Serbs and even some Austrian, German or Czech descendants can still be found in the villages of Croatian Baranja or Serbian Vojvodina.

THE “AMAZON OF EUROPE” UNDER THREAT

The distinctive natural values of the Mura, Drava and Danube are at risk. Conflicting management practices such as ongoing and planned channelling of the natural river courses, extraction of gravel and sand from the riverbed and new hydropower dams are threatening the ecological integrity, biodiversity values and natural resources of the area.

Contrary to EU environmental laws and international standards, river management in Croatia, Hungary and Serbia is still based on **outdated concepts**. The idea of transforming natural rivers into uniform channels denuded of gravel and sand is an erroneous and antiquated practice.

These practices, allegedly contributing to navigation and flood protection, are threatening the ecological values and natural resources of the Mura, Drava and Danube area.

River channelling and extraction of sediments from the river cause devastating **environmental impacts**: it leads to deepening of riverbeds, dries out wetlands and floodplain forests, ruins natural river habitats and threatens endangered species. This is evident in the decline of the sand martin along the Drava from 12,000 breeding pairs in 2005 to 3,000 in 2010.

Beside the loss of biodiversity, irresponsible river management causes considerable **economic damage**: e. g. decreasing water levels have negative impacts on drinking water, forests, agriculture

and fish stocks. River channelling also increases the risk of floods in downstream settlement areas.

Currently, the most affected areas by newly planned large scale **river channelling** are the natural stretches of the Danube and Drava rivers in the border area between Croatia, Hungary and Serbia impacting the core zone of the Biosphere Reserve like the “Kopački Rit” Nature Park. Planned **hydro-power dams** threaten the Mura River in Slovenia and the Drava River in Croatia.



River channeling destroys living rivers



Sand martins need steep banks to raise their chicks



Common tern relies on gravel and sand banks of the Drava river to breed

A TRANSBOUNDARY BIOSPHERE RESERVE FOR THE BENEFIT OF NATURE AND PEOPLE

Preserving the valuable transboundary ecosystem requires wise conservation efforts.

The Transboundary UNESCO Biosphere Reserve will combine the cluster of thirteen protected areas along the Mura-Drava-Danube region and jointly manage the shared river ecosystem in a sustainable manner while boosting economic growth and development in the region.

The Biosphere Reserve concept defines about **300,000 hectares of core and buffer zones** (existing protected area network) and around **700,000 hectares of transition zones**.

The **core zone** is the ecological backbone of the reserve. It primarily covers the river and floodplains areas which are mostly situated within flood control dikes.

The goals and measures in the core zone are predominantly focused on the preservation of natural habitats, species and processes as well as the restoration of already degraded areas. The **buffer zone** extends along the rivers outside the inundation zone. It is characterised by a mosaic of cultivated land and village areas and also contains some smaller detached zones like oxbow lakes, fish ponds and small wetlands. Extensive agriculture such as cattle grazing, hay making, organic production, local products marketing and ecotourism are some of the key activities in this area. The outer **transition zone** provides regional economical and scientific support to the buffer zone. The majority of towns and universities are situated within this area.

EUROPE'S LARGEST PROTECTED RIVER AREA

with an overall size of almost 1,000,000 hectares.



A FLAGSHIP OF INTERNATIONAL UNDERSTANDING

and regional cooperation based on a common green vision.

THE FIRST PROTECTED AREA

in the world, which is commonly shared and managed across five countries.

Rich fish habitats enable sustainable fisheries



© Anton Vrauer/WWF-Canon

INFO

Essentially, **biosphere reserves fulfill three functions:**

- Maintaining ecosystems
- Developing the region in socio-economic and ecologically sustainable terms
- Encouraging education, research and environmental monitoring.

They are internationally recognized by UNESCO, nominated by national governments and remain under sovereign jurisdiction of the States they are located in. The establishment of Biosphere Reserves started with the **UNESCO "Man and the Biosphere" (MAB) Programme** in 1970. Currently, there are 621 biosphere reserves in 117 countries, only twelve are bilateral and one is trilateral.

GREEN LIGHT FOR THE TRANSBOUNDARY BIOSPHERE RESERVE

In order to preserve the Mura-Drava-Danube area, WWF, EuroNatur and their conservation partners and alliances have endeavoured to form a Transboundary UNESCO Biosphere Reserve “Mura-Drava-Danube” (TBR MDD). On March 2011, in the Hungarian town of Gödöllő, near Budapest, in an act of great environmental leadership and transboundary cooperation, the **Ministers responsible for environment and nature conservation** of Austria, Croatia, Hungary, Serbia and Slovenia signed a joint declaration to

establish the reserve. The **joint declaration** was founded in the preliminary bilateral agreement between Croatia and Hungary from 2009.

The **EU Commissioner for the Environment**, Janez Potočnik, advocates the initiative because it “perfectly fits into the biodiversity objectives of the EU and the Habitats and Birds Directive”. The initiative is also part of the EU Danube Regional Strategy, the regional basis for future EU funding priorities.

THE VISION – LIVING RIVERS FOR NATURE AND PEOPLE!

The time to rediscover our connection to nature is now! Aside from **living river ecosystems** in the Mura-Drava-Danube area, our VISION is to stimulate **nature-friendly development for local communities** by inspiring feelings of both provincial and regional pride.

Imagine the living rivers with dreamy islands, natural river shores of pebble and sand, network of mysterious river arms, lush floodplain forests with astonishing old trees, flourishing bird and wildlife with black storks stalking along shallow river shores catching small fish, thousands of sand martins catching mosquitos to feed their youngsters in natural river banks, sterlets laying their eggs on gravel shoals. The people in the Transboundary UNESCO Biosphere Reserve Mura-Drava-Danube will live sustainable in a healthy ecosystem, with a diversified local economy and strong, vibrant and united cultures embracing the unique values of this area ... simply living rivers for nature and people!

CALL FOR ACTION

Achieving the designation

- **2009 – 2015** Five nations nominate TBR MDD at UNESCO
- **June 2016** UNESCO officially designates the 5-country reserve
- **September 2016** 5 Ministers solemnly open the shared TBR MDD and agree on future cooperation and joint management

Changing river management

- Transform the customary river management into a modern and ecological one
- Stop river channelling and any further removal of gravel and sand from the rivers
- Restore degraded river stretches and floodplain areas
- Stop high peak mode operation of the last Drava dam at Donja Dubrava
- Halt any further construction plans of new hydropower dams along the Mura and Drava



Ministerial agreement on the TBR MDD



WWF conservation work for the protection of the "Amazon of Europe" is financially supported by the MAVA Foundation, Asamer Holding and The Coca-Cola Company.



Would you like to learn more about the WWF's work for the Transboundary UNESCO Biosphere Reserve "Mura-Drava-Danube"? Visit our website at: www.amazon-of-europe.com
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