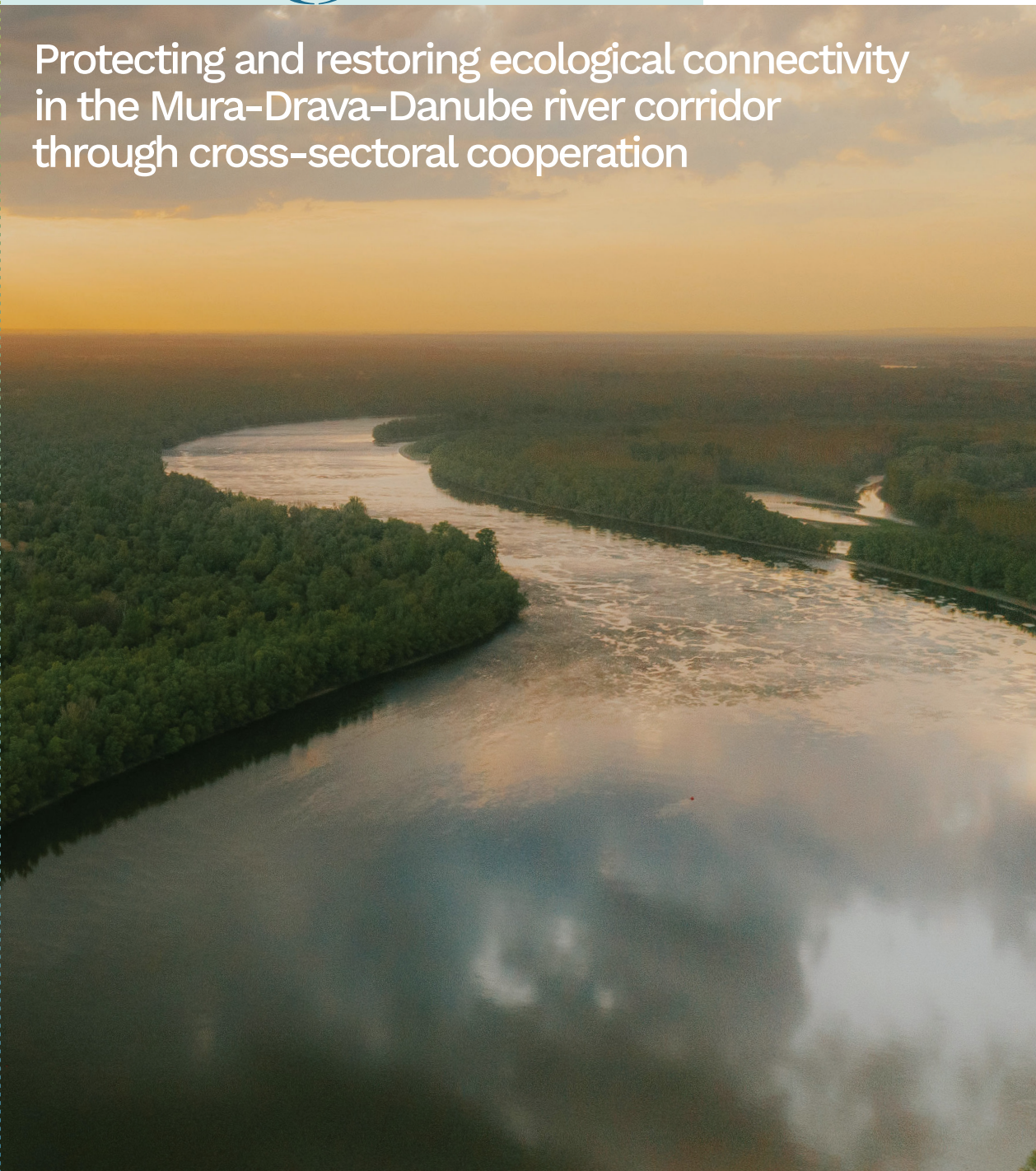


Living rivers — Living cooperation — Living minds

Protecting and restoring ecological connectivity
in the Mura-Drava-Danube river corridor
through cross-sectoral cooperation



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Project website: www.interreg-danube.eu/lifelinemdd

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Cover photo: Drava Danube confluence © Ante Gugić

Content

- 3** A treasure trove of nature and culture
- 5** Establishing the scientific knowledge base
- 13** Cross-sectoral restoration of connectivity
- 17** Local awareness for living rivers
- 21** Stakeholder platforms for sustainable cooperation
- 23** Future outlook



Kerstin Böck,
project manager

© Marie Bleyer

As the project manager of the lifelineMDD project for two and a half years I had the privilege to lead a team of people who really did their best to protect and restore the area along the Mura, Drava and Danube rivers. Hundreds of hours were spent in online meetings, thousands of emails were sent. Activities in the field, such as bird or fish monitoring, sophisticated analyses regarding sediments, river training structures and climate change, restoration activities, training activities, volunteering, filming and other means of communication - each of these (and many more) activities, no matter how big or small they were, contributed not only to the local nature but also to people's livelihoods. And that is what makes this project special - that helps both nature and people to thrive. The achievements about which you will read in this brochure would never have been accomplished without the amazing people collaborating on the project. Teamwork, good cooperation, and respect among the project partners played a major role in achieving project success. It was a pleasure to support these dedicated people in realising our common goal and vision. I hope you will enjoy reading the brochure - we really enjoyed implementing all the activities you will find in it.

Kerstin Böck

A treasure trove of nature and culture

“A river is more than an amenity, it is a treasure. It offers a necessity of life that must be rationed among those who have power over it.”

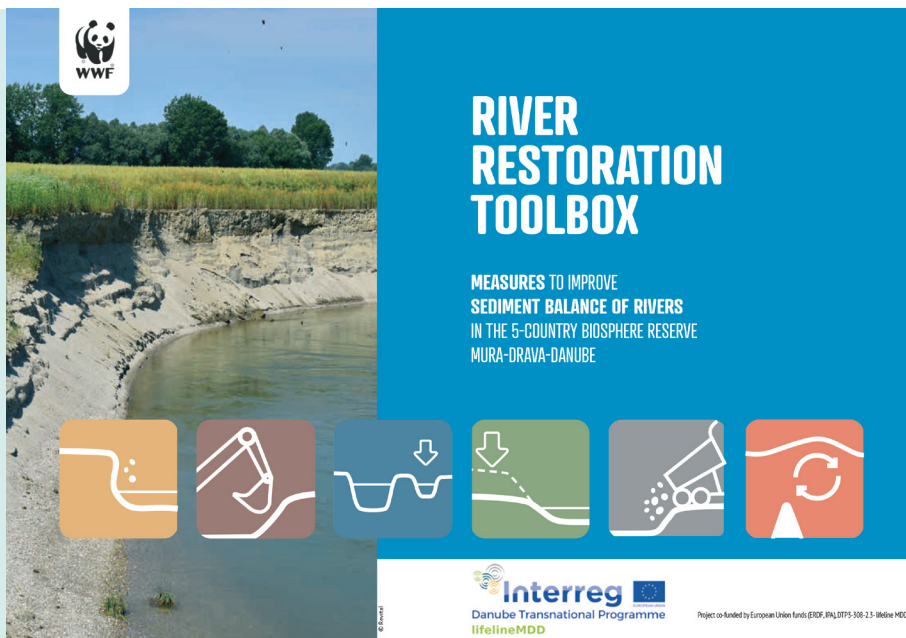
Oliver Wendell Holmes Jr.

lifelineMDD: Cross-sectoral partnership for ecological connectivity in the TBR MDD

The Mura, the Drava and the Danube form one of the most valuable river corridors in the Danube Basin, a lifeline for people, species and habitats. Flowing more than 700 kilometres and connecting an area of 930,000 hectares stretching across Austria, Slovenia, Hungary, Croatia and Serbia, the rivers form a unique landscape of the UNESCO 5-country Biosphere Reserve Mura-Drava-Danube (TBR MDD). **Designated in 2021, it has become one of the largest riverine protected areas in Europe.**

However, connectivity within the corridor is reduced due to human-made changes to rivers and their natural processes. Thus, the main goal of *lifelineMDD* has been to **improve ecological connectivity through a cross-sectoral partnership and implementation of science-based restoration measures**. The previous Interreg DTP project *coop MDD* established cooperation between protected area managers and produced guidelines for a dynamic river corridor. *lifelineMDD* took up some of these strategic decisions and took cooperation one step further by moving from joint planning to joint working. It strengthened cooperation by establishing a cross-sectoral stakeholder platform and a common knowledge base rooted in a transboundary and interdisciplinary scientific work and pilot implementation of science-based river restoration works. Another step towards common understanding was taken through development of various educational materials and the implementation of training courses for nature educators held on 5-country and national level.

The long unique river corridor formed by the Mura, Drava, and Danube is widely known for its rich biodiversity and diverse habitats, but it is also under immense pressure. To preserve this lifeline, joint solutions and efforts are needed. The lifelineMDD consortium took the first steps towards a cross-sectoral and transboundary harmonised approach for river restoration and elaborated a **River Restoration Strategy**, a commitment to the science-based improvement of the river ecosystems of the Mura, Drava and Danube. The commitment is based on the results of a set of scientific studies compiled by the project partners into one **Synthesis Report**, that additionally wraps up the detected challenges and recommended solutions. The Strategy also incorporates the suggestions of the **River Restoration Toolbox**, an important planning and decision support tool for water management and nature protection institutions that promotes integrative river management in the TBR MDD in the long term. The project team produced this handy toolbox based on the joint learning process through scientific studies, experience exchange on past and ongoing projects and the implemented pilot restorations.



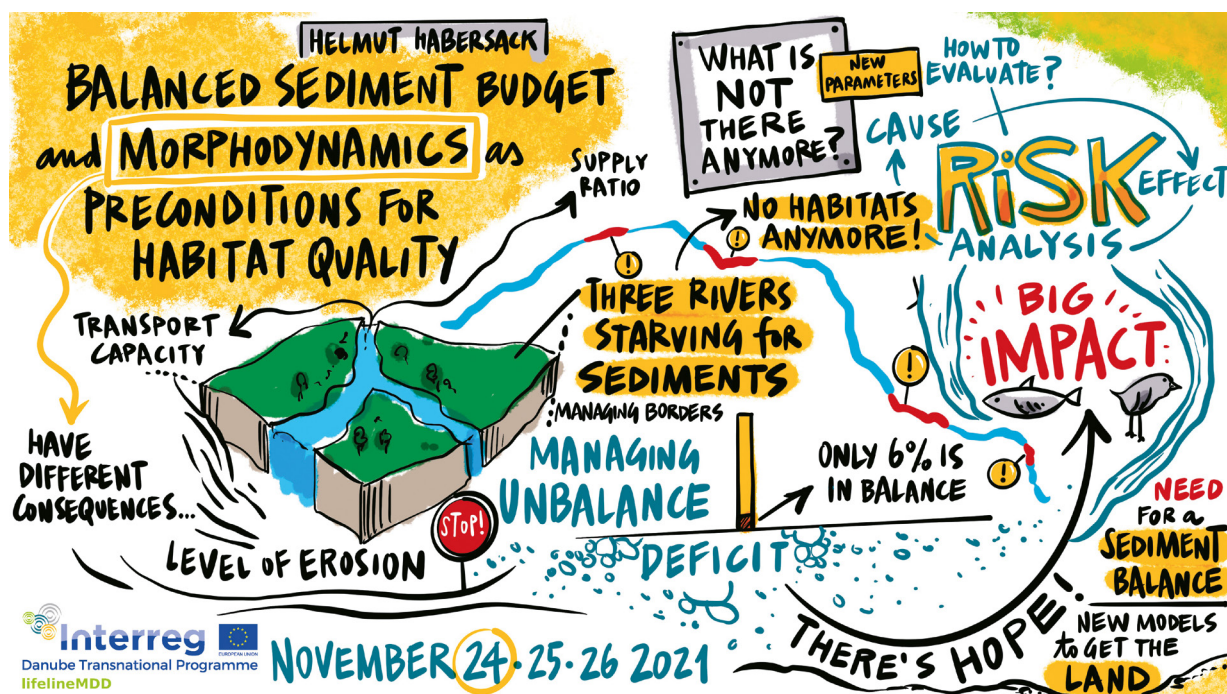
The River Restoration Toolbox offers simple and concise information on the methods that can be used and combined to achieve sediment input through revitalisation. **Scan the QR code** or visit our website to find out more



Establishing the scientific knowledge base

The project partners worked to establish the **knowledge base** and relevant scientific tools for long-term monitoring of improvements in the dynamic river corridor and its habitats for the first time on a transboundary, TBR MDD level. They worked on scientific studies on **biotic elements** highly dependent on a healthy, dynamic river ecosystem, i.e. fish and birds, and on **abiotic framework conditions** such as sediment transport, river training structures and hydrological changes expected due to climate change. The joint findings were summarised in the previously mentioned Synthesis Report.

In addition, the first **shared metadatabase** for biotic and abiotic data has been developed as a pilot tool for intensified data exchange within the TBR MDD. This is a prerequisite for a TBR MDD wide view of biodiversity and ecosystem connectivity. The metadatabase is seen as a first and necessary step for a future data exchange tool, as defined by a future TBR MDD management authority, and developed according to their needs.



The lifeline MDD scientific mid-term conference, the first for the Mura-Drava-Danube, took place online in November 2021. It gathered an eclectic group of scientists and stakeholders and allowed for the first time a TBR MDD-focused exchange of research results, data and information relevant for river management and nature protection.

Graphic recording by Housatonic of a presentation by Prof Helmut Habersack (BOKU) © WWF



The fish sampling team on
the Drava (Croatia), July 2021
© BOKU

Fish population status report

For the first time, a fish study was conducted on TBR MDD level, which included an extensive data and literature review on hydrology and fish, and involving fish sampling on several locations, as well as eDNA analysis. The outcomes underpin the importance of the TBR MDD as a **biodiversity hotspot**. The main reason for the occurrence of more than 60 fish species, many of which form healthy, self-reproducing populations, is the open continuum between the Mura and the Drava and the hydromorphological dynamics (habitat diversity) in these rivers.

Problems identified:

- Potential migration barriers (new hydropower plants) and morphological degradation
- Artificial flow fluctuations caused by the last hydropower dam on the Drava, and their subsequent ecological effects
- Hard embankments and morphological regulations
- Non-native species that, in combination with hydrological changes due to climate change, may lead to a shift in the fish community composition
- Adult specimens, and thus potential mother fish, are only present in very low densities.
- Further analysis is recommended into the effects of hydropower, fishing/harvesting pressure and the low predator densities.



River birds breeding report

The bird census team observing nesting birds and river bank structures on the Mura (Slovenia), April 2022 © IRSNC

The study of the river birds was a natural extension and addition to the river bird censuses conducted since 2006 onward. It consisted of two bird censuses (2021 and 2022, for the first time conducted in a harmonized way and covering the entire river lifeline of the TBR MDD). The focus was on a set of indicator species for intact river ecosystems with dynamic habitats such as sand and gravel bars or steep eroded banks.

The identified threats are

- changes in the hydrological regime related to climate change
- channelization and artificial bank protection, and
- disturbance.

The two census years were both years of extreme hydrological conditions: 2021 brought unusually high water levels unfavourable for bird species that nest on sand and gravel bars, whereas 2022 brought extremely low water levels.

Little ringed plover *Charadrius dubious* nesting on a gravel bank of the Mura (Slovenia) © IRSNC

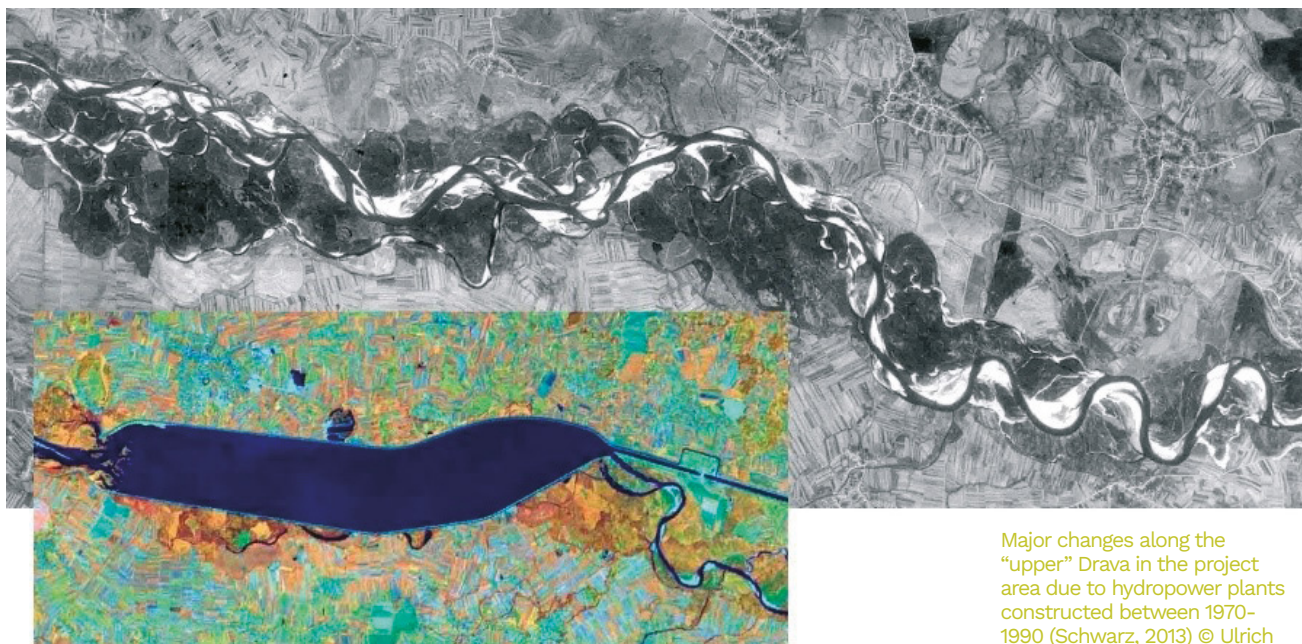


Sand martin colony on a steep bank of the Drava (Croatia) © Darko Grlica



River training structures and historical mapping within the TBR Mura-Drava-Danube

This study aimed to collect knowledge and provide a status analysis of the river morphology and habitat conditions within the TBR MDD. For the first time the entire rivers of the TBR MDD, including their banks and their active and historical floodplains, have been mapped, thereby creating valuable information for restoration efforts for this river corridor. Firstly, the study took an **inventory of river training structures**, meaning all artificial embankments meant to protect the riverbanks. Secondly, it mapped the **historical habitat distribution within the river corridor** from digitised and thus interpreted historical maps of the rivers in the TBR MDD. Such data help understand the rivers and the changes that have shaped them. They provide context for the observed biotic and abiotic framework conditions and at the same time form the basis and a reference for restoration efforts.



Major changes along the “upper” Drava in the project area due to hydropower plants constructed between 1970–1990 (Schwarz, 2013) © Ulrich Schwarz

We now know that flood dykes are present on at least one bank at full length. In spite of the pristine appearance on at least some of the river stretches, only one 5 km segment on the lower Drava contains no regulation works at all, whereas most 5 km segments include artificial embankment on at least 1 km. The main channel has been reduced to almost half of its original surface and the area and number of gravel and sand bars have decreased to about one fifth and one third respectively, compared to the historical state.

Sediment mobilisation study

The study accompanied the Mura restoration at Hrastje Mota (Slovenia) and modelled potential changes to the river (discharge, flow velocity and sediment transport) expected after the restoration based on measurements of several factors, such as discharge, riverbed parameters (surface, depth, width) and sediment distribution by grain size. The complex analysis aimed at verifying the expected impacts of a single restoration on the riverbed and confirmed that, at minimum, the expected impacts are in line with the project's goals.



Field work at Hrastje Mota (Slovenia) for the sediment mobilisation study in spring 2021 © Saša Sobočan

Sediment balance and transport study

This study filled the knowledge gap regarding sediment conditions throughout the TBR MDD by assessing sediment conditions. The project team aimed to improve understanding of the effects of human impacts to provide a basis for implementation of effective preservation counter measures and restoration actions. The presentation of the results in map form and the insights on process understanding from all applied methods aimed to identify priority reaches for immediate action or conservation from a morphological and sediment transport point of view.

The study was again the first on TBR MDD level. It reviews and lists the boundary conditions for sediment transport in a structured and comprehensive form. Data on planform changes (channel length, channel slope) and morphological changes of the Mura, Drava and Danube were summarised. The review shows a deterioration of all these conditions, i.e. loss of length in all three rivers, more than one third in the Drava, due to meander cuts, and as low as one fifth in the Mura (which still preserves some stretches in good condition),

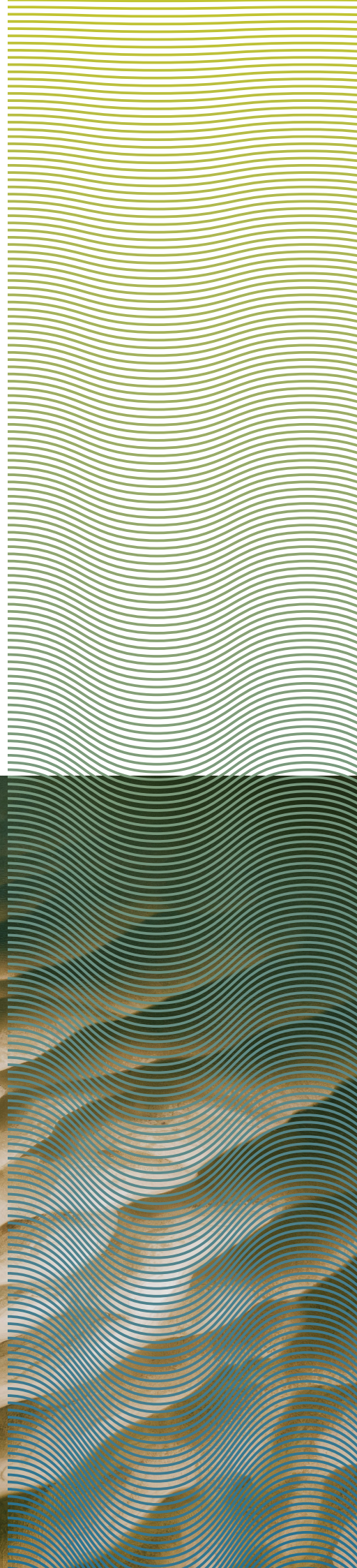
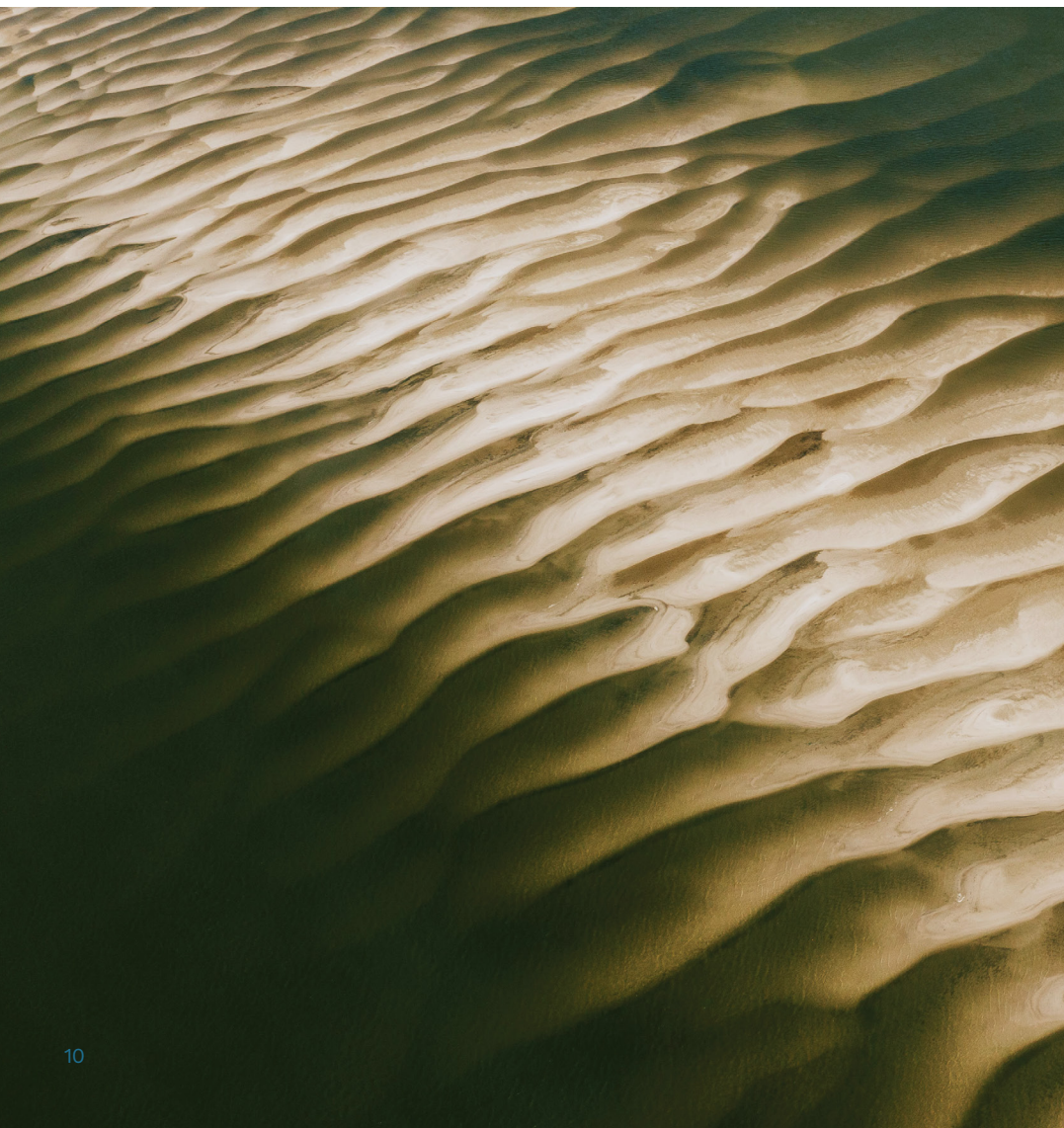
decrease in sinuosity (simply put: straightening tendency of the rivers) and a direct effect of the decrease in length: increased slope. The study leads through the logic of the effects of all these boundary conditions on the river morphology, the changed sediment balance and then explains the relevance of lateral dynamics in providing habitats for riverine species.

The drivers of the changes identified are:

- **hydropower plants, which interrupt sediment transport and hinder entering of the sediment into the TBR MDD**
- **sediment extraction, and**
- **artificial protection of the riverbed.**

The different methods used to calculate the extent of riverbed incision show its compelling range: on the Danube, the riverbed incision over the past 25 years reached 1.5 m on certain stretches, and on some stretches of the Drava as much as 1.9 m; the Mura's worst incision stretch was lowered by 1.55 m. To counteract this development, especially considering the thin gravel layer, particularly on the Mura and the Drava, the sediment study recognizes an urgent need for river restoration meant to improve the sediment balance.

Sand banks in the Drava River,
shaped by water flow © Ante Gugić





Sand martin colony on the Drava (Croatia)
© G. Šafarek

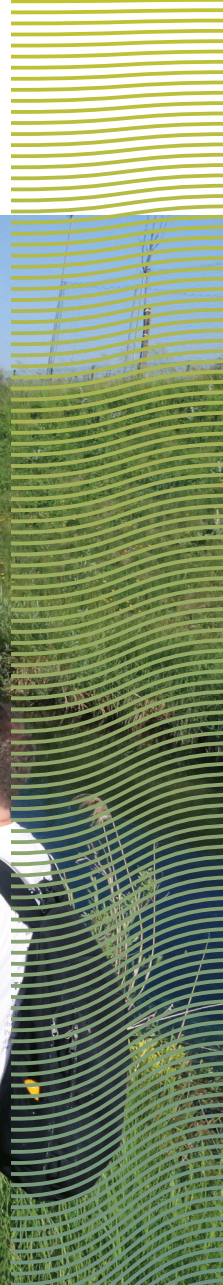
Climate change study, including Hydrological study

Climate change will affect or has already affected most of the world's ecosystems. Considering the potential water scarcity problems it may bring, its analysis for the TBR MDD as part of the project was a must. Whereas such analyses exist for the overall Danube River Basin, this was the first analysis on the level of the TBR MDD. The objective was to predict future **climate change signals in terms of temperature and precipitation and climate extremes** for two emission scenarios. **Predicting the hydrological response to different climate scenarios** was recognized as essential for the future development of the basin. Hydrological processes were modelled to produce hydrological prognosis for quantifying the potential impacts of climate change on the hydrological regime of the Mura, Drava and Danube rivers within the TBR MDD. Such data, combined with the findings of the biotic studies on fish and river birds and with those on the abiotic framework conditions, can provide some insight into expected developments in the light of climate change.

The climate change study confirms a number of suspected dire outlook for the area:

- The summer months are projected to become drier and the winter months wetter by the end of the century
- An overall warming is projected, but also a shift in precipitation patterns
- The amount of snow in winter is reduced and consequently spring snowmelt begins earlier
- Increased water stress later in the summer months
- Higher summer temperatures with low precipitation might push demand for artificial irrigation which further increases water demand and puts pressure on agriculture

Overall, the expected changes could negatively impact the entire ecosystem and cause shifts in aquatic and terrestrial species composition.



The lifelineMDD team during the knowledge exchange field trip in May 2022. Donja Dubrava outlet channel (Croatia), location of German tamarix *Myricaria germanica* © IRSNC

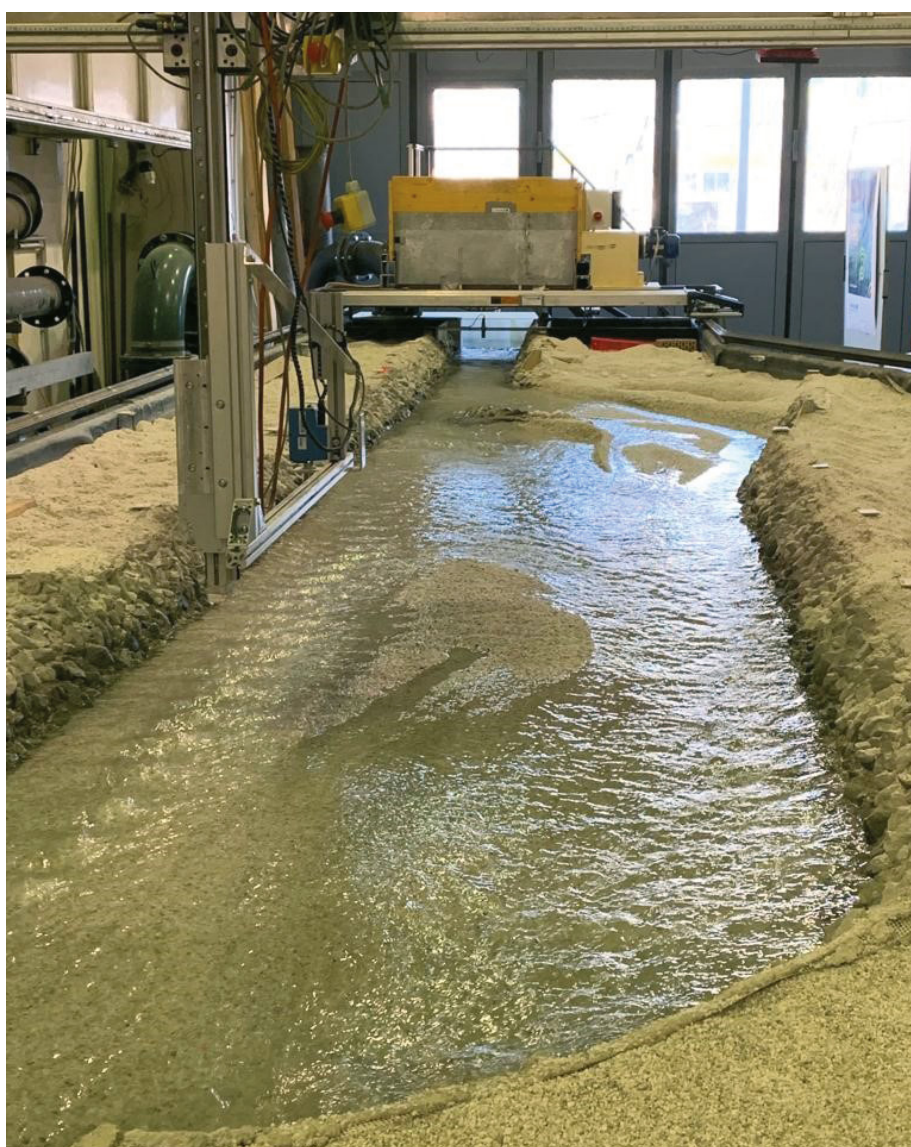


The project team visiting the Lankóc Forest (Hungary), location of floodplain forest restoration measures © IRSNC

Cross-sectoral restoration of connectivity

Within the linlineMDD project, a cross-sectoral learning process between nature protection and water management authorities has successfully improved institutional competences and strengthened cooperation between key stakeholders.

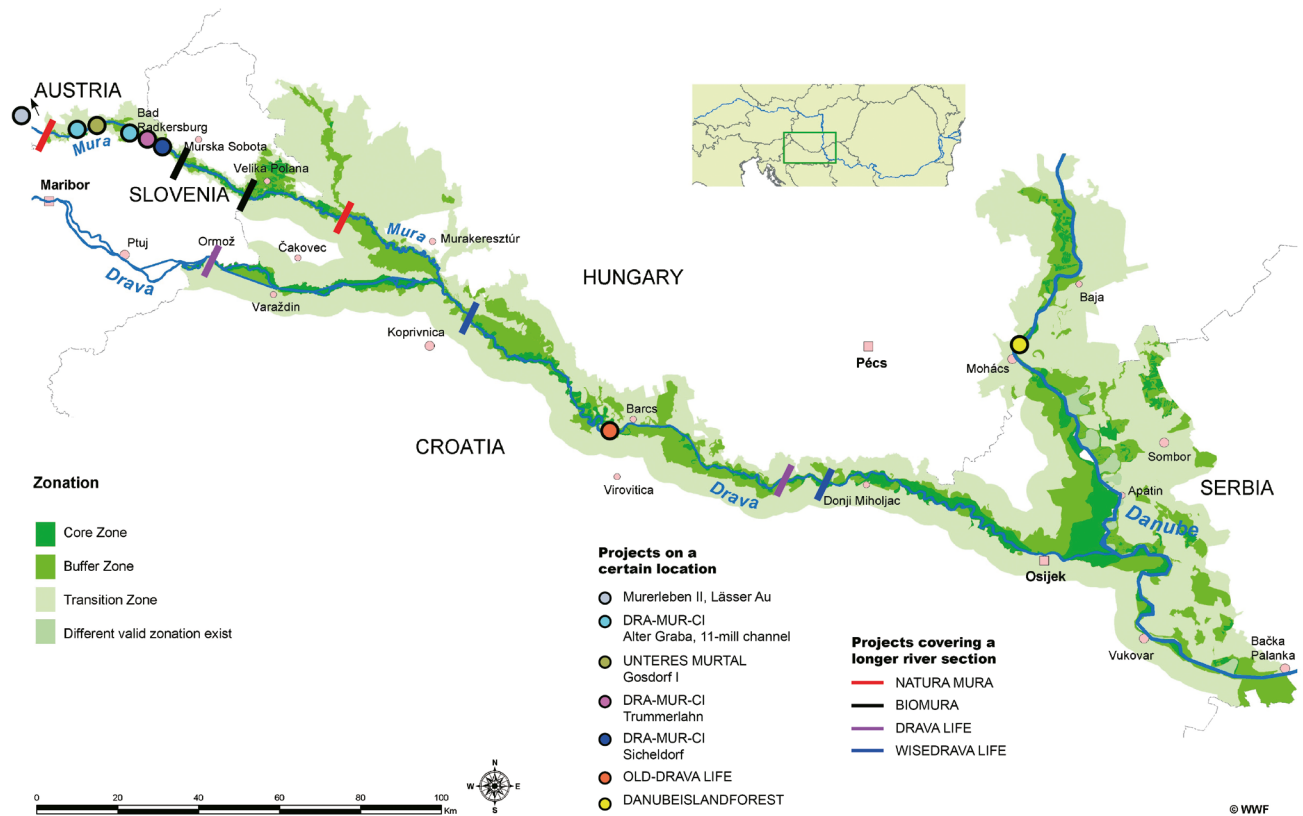
Three **pilot restoration measures** were implemented in the frame of the lifelineMDD project. Addressing different issues of connectivity and being located in different river types, they provided excellent practical cases for cross-sectoral learning, planning and joint review of results in the field. Simultaneously, the implementations benefitted from the transboundary partnership in the planning process, including the scientific input with state-of-the-art **laboratory modelling** in river engineering and a sediment mobilisation field study in Hrastje Mota (previously described). The **Hydrological Laboratory Model** which accompanied the pilot restoration site on the Mura in Austria provided answers to questions related to shape and size of restoration, and potential for sediment mobilisation in the modelled stretch of the river potential.



Hydrological Laboratory Model of the Gosdorf pilot restoration site (Austria) in the Hydrological Laboratory of the University of Natural Resources and Life Sciences © BOKU

As part of the international experience exchange, the partnership compiled a **Report about Experience Exchange on River Restoration**, a repository collecting information and description on 14 river restoration projects (completed, under implementation or planned) within the TBR MDD, as a learning and knowledge exchange tool.

Pilot River Restoration Sites



5-country Biosphere Reserve Mura-Drava-Danube (TBR MDD): Location overview of the projects, modified © lifelineMDD



Gosdorf, Mura (Austria)

Enhancement of an old Mura River branch reconnection in Gosdorf/Austria.

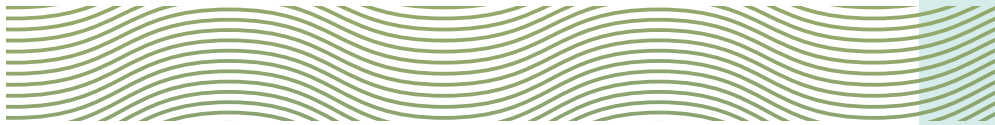
Aerial view of the pilot site during ongoing work in Austria, July 2022 © Ante Gugić

Hrastje Mota, Mura (Slovenia)

Mura Riverbed widening and lateral sediment mobilisation on the Mura at Hrastje Mota / Slovenia.



Aerial view of the widened riverbed at the pilot site in Slovenia, July 2022 © Saša Sobočan



Lovrenac Canal, Danube Floodplain (Serbia)

Bačko Podunavlje Biosphere Reserve

Improvement of water management and retention in the floodplain and oxbows in Lovrenac Canal, a side channel of the Danube/Serbia.



lifelineMDD team at the newly restored site, June 2022 © Ante Gugić

Aerial view of the pilot site Hrastje Mota, November 2022. Side erosion has advanced on the left bank and the gravel bar on the right bank has widened © Saša Sobočan



Local awareness for living rivers

“Through interpretation, understanding;
through understanding, appreciation; through
appreciation, protection.”

Freeman Tilden

Rivers symbolise various values for the community living in its vicinity - human connection with nature, health, but also a sense of pride since the river is a part of the cultural heritage for people living nearby. Implementing innovative approaches and building knowledge on ecological connectivity, nature protection and river restoration help to establish a network of real advocates for rivers.



The didactic materials and **training handbook** provide practical help for everyone who would like to learn and teach about rivers

Create a
good group
atmosphere!

Experience
nature with all
your senses!

Calm down
and focus your
attention!

Trigger
curiosity!

Actively explore
nature!

By applying a **train-the-trainer approach**, the knowledge on ecological connectivity, nature protection and river restoration including adequate didactic tools and methods, was safeguarded in the region and can be used for years to come. The international and national trainings for teachers, youth workers and nature education guides carried out in this project build the basis for continued education actions.

The main basis for all trainings was the **establishment of joint didactic materials and tools**, translated into six languages. The core of the didactic materials is the training handbook, which is built up like a natural river course - starting with teaching principles, the 5-country Biosphere Reserve and the RIVERS'COOLs established in former projects as the source and ending with the river mouth reaching out and connecting with the world. Between the source and the mouth, the river shapes a diverse landscape with different branches and forms. The training handbook adapts this concept by more detailed covering of different topics such as fish, river birds, climate change, river restoration and sustainable development in biosphere reserves.

One major learning outcome for all trainers was the application of the so-called 'rainbow flow'. Based on the educators' experience the rainbow flow serves as an easily applicable concept for all kinds of trainings and helps the trainers to focus children's attention, keep them interested and help them build a deeper connection with the river. Inclusion and obstacles in outdoor learning environments were also addressed by a barrier-free paragraph for each activity.

A total of three international train-the-trainer seminars were held as well as trainings in all five countries. The trainings aimed to provide a programme suitable for a wide range of generations and for people from different backgrounds and can be considered as one of the major outputs of this project. Teachers, guides and trainers from all five countries connected and got motivated not only to maintain but also to expand their learning network and transfer their knowledge. Furthermore, international friendships were formed to last.

River flow and rainbow flow of the training handbook © lifelineMDD

**Repeat and
process
information!**

**See things at a
larger scale!**

**Imagine
solutions and
prepare to get
active!**

Goodbye!



The first **TBR MDD Nature Academy**, based in RIVERS'COOL Velika Polana, offered the local community the opportunity to learn about nature – in nature. The educational programme was focused on biodiversity and ecological connectivity in the TBR MDD and the benefits that people get from preserving them.

Another pilot action within this project was the **development study of didactic programmes in Varaždin County**. The study described the natural assets within the TBR MDD and provided suggestions for didactic programmes based on them. The results were an important input for training participants from this part of the biosphere reserve as well as for all international trainings.

Local people are often the best guides in their own culture, environment, nature and society. However, strong government support and international resources can also be crucial to reinforce the locals who may lack the capacity to implement actions needed to improve their natural heritage. Through combined efforts from both communities and bigger organisations in setting up and maintaining nature conservation projects and awareness-raising activities, the initiative can benefit from the varied expertise of all stakeholders involved.

Local support for the restoration measures is the key for implementation success. Local communities were given the opportunity to **become active for their rivers** and to learn about river dynamics and connectivity through educational and different volunteering activities, such as clearing steep banks, preparing nesting sites for river birds and other actions with direct involvement.



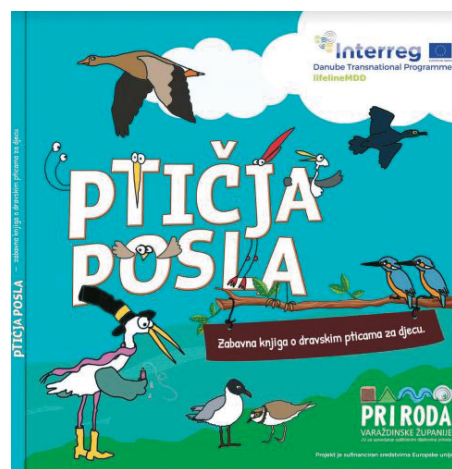
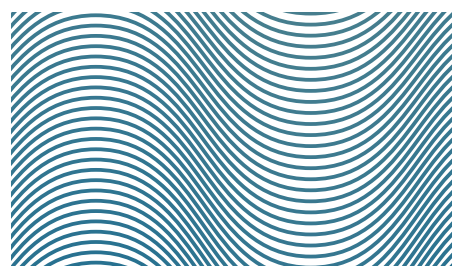
TBR MDD Nature Academy, held in June 2022 in Velika Polana ©MVP



Volunteers in Slovenia: clearing a steep bank of the Mura in order to prepare nesting habitats, March 2022 © IRSNC



Volunteers get a short introduction in Gornje Podunavlje Special Nature Reserve in Serbia, June 2022 ©INCVP



Educational picture book on river birds © JU ZDP VZ



Participants of the lifelineMDD final conference in Bad Radkersburg, September 2022 © IRSNC

Final project conference

In the framework of the lifelineMDD project it was possible to gather more than 100 scientists, nature conservationists, people working in public institutions, NGOs and local stakeholders in Bad Radkersburg and Gornja Radgona for a **3-day conference “5-Country Biosphere Reserve Mura-Drava-Danube”**. The first birthday of the Biosphere Reserve was celebrated and the need for bold future actions in large scale river restoration was recognized.



Field trip on the Mura in Gornja Radgona (Slovenia), during the final conference, September 2022 © Aleksandar Popijač



Participants of the lifelineMDD final conference sign the Call for Action for the TBR MDD; Gornja Radgona (Slovenia), September 2022 © IRSNC

Stakeholder platforms for sustainable cooperation

To secure the integrated approach and transboundary cross-sectoral cooperation in the long term, a **Roadmap for proactive cooperation of stakeholders** in the TBR MDD has been prepared. This approach opens the possibility to ensure transboundary cooperation with stakeholders from several relevant sectors in and around the TBR MDD.

Different communication tools, measures and organisational forms are presented, some of which are given by UNESCO and some of which are to be assigned to the regional structures. The Roadmap is based on a detailed literature review and expert input via interviews, workshops and a questionnaire.

The involved stakeholders, many of whom are under the umbrella of the TBR MDD, should be shown possibilities to network in a coordinated way in the future. This can be done in projects, in a regional context, on an international, bilateral, personal and virtual level. The Roadmap supports the connection of partners from the five countries (Slovenia, Austria, Croatia, Hungary, Serbia), aiming to establish a scientific knowledge base, to raise ecological awareness among locals and to develop a sustainable cooperation approach connecting stakeholders across sectors.

Graphic recording by Housatonic of the keynote speech of the first stakeholder workshop for the TBR MDD (online), November 2021 © WWF

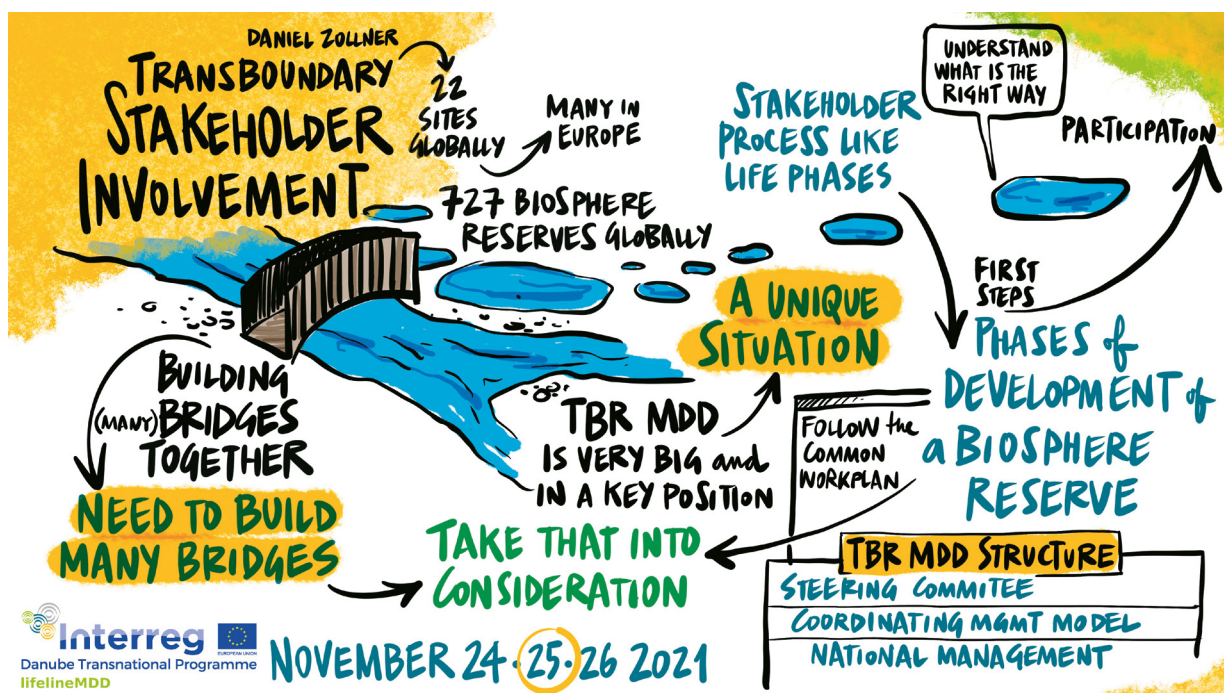


Photo competition

Facebook posts by **photo competition** winner Ivor Fischer. The project launched a social media photo competition in summer 2022. In an effort to raise awareness of the amazing wilderness and *exotic nature close to home*, people were invited to post photos of the Mura, Drava and Danube rivers and

share their favourite riverine locations with a wider audience. To bring benefits to the protected areas, local communities and businesses, but also to bring nature closer to people, the winning prize was a stay in Kopački rit Nature Park.



Kingfisher © Pixabay



Future outlook

A lot has been achieved during the two-and-a-half years of this project. The vision of a 5-country Biosphere Reserve Mura-Drava-Danube, on which the project was built, turned into reality in September 2021 when the UNESCO MAB Committee officially accepted the area's nomination as a biosphere reserve. The TBR MDD thus became the world's first five-country biosphere reserve. Lifeline MDD continued the transboundary efforts of its predecessor project coop MDD to harmonise the protection and management of the five-country area spread across Austria, Hungary, Slovenia, Croatia and Serbia. It kept cooperation alive and continued the efforts to establish a project-independent structure and basis for joint work towards the TBR MDD goals even outside of projects.

The lifeline MDD consortium acted proactively on the premise that the TBR MDD will become a reality through concrete actions and took the first steps to implement the Transboundary Cooperation Programme defined within the coop MDD project. The project produced first joint monitoring data for biotic and abiotic factors relevant to the riverine ecosystem and created a metadata base of relevant scientific data for the area, both as starting puzzle pieces of a future joint database and science-based conservation and restoration activities in future. The jointly developed River Restoration Strategy formulates shared understanding and recognition of the need for restoration, while also representing a joint commitment to future cooperation in applied restoration. The three pilot restoration sites and the learning process that accompanied their implementation naturally develop partnership and support building up know-how that has long-term effects and enables implementation of the TBR's long-term vision well beyond the individual projects' life cycle.

Common terns (*Sterna hirundo*) © Goran Šafarek



The lifelineMDD project is just one in a series of present and future projects based in this area that focus on promotion, valuation, protection and sustainable development of the biosphere reserve. During the lifelineMDD period, consortium members submitted two further project applications aiming to implement different aspects of nature restoration (LIFE) or joint research (Austrian National Committee of UNESCO's Man and Biosphere Programme (MAB) Call). The nature and biosphere reserve trainers and guides who participated in the project's train-the-trainer seminars, are now connected in a partly informal network and continue their exchange and development across the region. They reach a large number of people and promote their knowledge and understanding of the biosphere reserve. The TBR MDD has received a suggested way and a starting point for building formalised stakeholder platforms, i.e. opportunities to express opinions or make progress in specific areas including communication tools, measures and organisational forms. All these examples of project activity continuations or follow-up project applications bear witness to Interreg DTP's role as a networker and enabler of effective cooperation. At the same time the submitted projects indicate an on-going and growing commitment of stakeholders in the region to partner in and contribute to protection and development of the transboundary story that brings us together along the lifeline Mura-Drava-Danube. The variety of project topics reflects the goals of biosphere reserves, encompassing implementation of projects that benefit people, support research, enable and improve protection or allow for a soft tourism development to the benefit of the local people and nature.

Tourism is developed on the Šebešfok channel © Ante Gugić



Quick Facts

2,462 stakeholders identified for the roadmap for proactive cooperation

A total of **2,300 river training structures** were recorded

Around **1,500 hours** of online meetings

132 teachers and nature guides have been reached during the trainings in 2022

74 people have been directly working on the project over the two and a half years

up to **55 different species** were recorded during fish sampling in 2021

experience on **14 past and ongoing river restoration projects** was collected and discussed

7 scientific studies were carried out

3 pilot restoration measures improve habitats in the MDD river corridor and serve as learning cases for river restoration

1 joint River Restoration Strategy across five countries serves as a guiding document for future restoration activities

European pond turtles (*Emys orbicularis*) © Ante Gugić



Success through cooperation

It would have been impossible to achieve success on such a complex transnational project, in a period marked entirely by Covid-19 related restrictions and other challenges, without a strong and motivated partnership. The cooperation within the partnership, although entirely banned into the online space during the first project year, has been a wonderful opportunity to exchange experiences and knowledge, and has proven to be highly motivational for all parties involved.

On the following pages you can find short information about our partners, should you want to contact them.

Austria

WWF Austria

For over 50 years, WWF AT has focused on conserving critical places and species that are particularly important for the conservation of the Earth's biodiversity, as well as on reducing the negative impacts of human activities. Since 2000, WWF AT has had a leading role in the international promotion of the Mura-Drava-Danube region as a Transboundary Biosphere Reserve and has facilitated the 5-country nomination of the Biosphere Reserve (TBR MDD). Building on its long-term conservation commitments and networking experiences in the region, WWF Austria led the lifeline MDD project implementation and partner coordination, as a natural continuation after the completion of the coop MDD project.

Contact: Ottakringer Straße 114-116, 1160 Vienna, Austria

Phone: +43 1 488 170

E-mail: wwf@wwf.at

Website: <https://www.wwf.at>

BOKU - University of Natural Resources and Life Sciences

BOKU has a leading role in sediment transport and hydrobiological research in Austria and prepares, among other things, guidelines that are applied by policy makers and practitioners. The participating institutes "Institute of Hydraulic Engineering and River Research" (IWA) and "Institute of Hydrobiology and Aquatic Ecosystem Management" (IHG) provide the knowledge of an interdisciplinary group of river engineers, aquatic ecologists, landscape ecologists, mathematicians, biogeochemists and historians. BOKU holds the UNESCO Chair for Integrated River Research and Management and played a key role in the Europe-wide development of assessment systems for rivers compliant with the EU WFD (EU projects AQEM, FAME, EFI+, WISER). BOKU is in close cooperation with stakeholder organisations like ICPDR to align management, restoration and conservation of riverine ecosystems and has taken part in all Joint Danube Surveys. BOKU is also part of the Danube Sturgeon Task Force.

Contact: Muthgasse 18/V, 1190 Vienna

Phone: +43 1 488 170

E-mail: b.steinbauer-walcher@boku.ac.at

Website: www.wau.boku.ac.at

Regional Management Southeast Styria

Regionalmanagement Südoststeiermark Steirisches Vulkanland (RMSO) and its predecessor have been leading a process of regional development since 2009. With its members, the RMSO represents 25 communities with all their mayors, most of the regional representatives in the provincial government, as well as the heads of the chambers and regional associations. It thus has the legitimacy to represent the region and has a broad acceptance among the population and stakeholders in the region.

Contact: Grazertorplatz 8, 8490 Bad Radkersburg

Phone: +43 31 52 83 80 11

E-mail: office@vulkanland.at

Website: <https://www.vulkanland.at>

Office of the Styrian Government – Department 14 Water Management, Resources and Sustainability

Department 14 is a public body, part of the Office of the Styrian Government. The organisation represents the interface between the municipalities in Styria and the (national) political level. The relevance and thematic competences are the coordination of the water management in Styria, the coordination and the implementation of water-relevant EU guidelines (especially the EU-WFD and EU-FD) from a technical point of view, implementation of water management measures in connection with the national water management plan, and water management affairs and coordination of flood risk management in Styria. They also represent Styria in the cross-border water committee between Austria and Slovenia for the Mura River.

They are therefore an important partner in Styria when it comes to river management for the Mura-Drava-Danube on the transboundary scale.

Contact: *Wartingergasse 43, 8010 Graz*

Phone: *+43 31 52 83 80 11*

E-mail: *abteilung14@stmk.gv.at*

Website: *<https://www.wasserwirtschaft.steiermark.at>*

Slovenia

IRSNC -Institute of the Republic of Slovenia for Nature Conservation

Since its founding in 1999, the Institute of the Republic of Slovenia for Nature Conservation (IRSNC) has been responsible for conservation of Slovenian nature with a special attention given to the most valuable areas covering the entire territory of Slovenia. It is the professional body of the Republic of Slovenia responsible for the implementation of national and international laws, conventions and obligations regarding the protection of nature. Aspiring to achieve the best possible cohabitation of people and nature, the Institute is also dedicated to educating a wide professional and general public ensuring a fruitful dialogue between nature and people. IRSNC with its tasks is a key organisation in the management of the Natura 2000 site in the project area, which also represents the core and buffer zone of the Mura River Biosphere Reserve in Slovenia.

Contact: *Tobačna ulica, 1000 Ljubljana*

Tel. št.: *+386 (01) 2309 500*

E-mail: *zrsvn.oe@zrsvn.si*

Website: *<https://www.zrsvn.si>*

Municipality of Velika Polana

The Municipality of Velika Polana is located in a beautiful floodplain area, entirely part of the Mura Natura 2000 site and the Biosphere Reserve Mura-Drava-Danube. As such, it has a rich natural and cultural heritage. In 1999, the villages of Velika and Mala Polana were awarded the title European Stork Village by the EuroNatur Foundation. It also coordinates the Mura Development Partnership as the manager of the Biosphere Reserve Mura and is a member of the 5-country Biosphere Reserve Mura-Drava-Danube Steering Committee.

Contact: *Velika Polana 111, 9225 Velika Polana*

Phone: *+386 2 57 76 750*

E-mail: *obcina@velika-polana.si*

Website: *<https://www.velika-polana.si>*

Pomgrad - Water Management Company

VGP is a private construction company, with a license granted by the Slovenian Water Management Authority for the management of the Mura River making it the only company contracted to carry out regular maintenance, regular river management as well as crisis management on the Mura until 2026. VGP brings important local water management and policy knowledge, including practical construction know-how, to the partnership.

Contact: *Lipovci 256/B, 9231 Beltinci Gunduličeva 63*

Phone: *+386 2 530 45 10*

E-mail: *vgp@pomgrad.si*

Website: *<https://www.pomgrad.si>*

Croatia

WWF Adria

WWF Adria was officially founded in 2015, but has been working in the Dinaric Arc region for over 20 years. Activities of WWF Adria cover eight countries in the region: Albania, Bosnia and Herzegovina, Croatia, Kosovo, Montenegro, North Macedonia, Serbia and Slovenia. Its goal is to make a significant contribution to preservation of the biodiversity in the region, closely cooperating with many organisations to achieve this goal. WWF Adria collaborates with different stakeholders in order to support nature conservation while focusing on improvement of freshwater status, governance, marine, fisheries and forestry issues. WWF Adria has been closely involved in the initiative to proclaim the 5-country Biosphere Reserve Mura-Drava-Danube.

Contact: *Gunduličeva 63, 10 000 Zagreb*

Phone: *+385 1 5509 623*

E-mail: *info@wwfadria.org*

Website: *<https://www.wwfadria.org/hr>*

Public Institution for Management of Protected Parts of Nature in Varaždin County

The Public Institution is the management body for all protected nature areas in Varaždin County. It manages the protection and promotion of the protected areas and is oriented towards nature conservation, ensuring the natural balance in sustainable usage of natural resources. It is part of the Steering Committee for the management of the 5-country Mura-Drava-Danube Biosphere Reserve.

Contact: *Stanka Vraza 4, 42 000 Varaždin*

Phone: *+385 42 300 640*

E-mail: *zastita.priode@vzt-com.hr*

Website: *https://priroda-vz.hr*

Hungary

WWF Hungary

WWF Hungary actively supports the implementation of relevant EU Directives such as WFD, Bird and Habitat Directive in Hungary and has been active in developing and implementing field projects related to nature conservation or water management with the participation of the relevant directorates and authorities in Hungary. WWF HU is an excellent communication reference point towards relevant sectoral and policy stakeholders in Hungary and part of the WWF CEE network, thus well-connected across the whole Danube Basin. WWF HU has good experience in education programs' implementation and has observer status in the TBR MDD Steering Committee.

Contact: *Álmos vezér útja 69/A, 1141 Budapest*

Phone: *+36 214 555 4*

E-mail: *panda@wwf.hu*

Website: *https://wwf.hu*

Serbia

WWF Adria Serbia

WWF Adria Serbia's thematic focus is advocating for the sustainable use of natural resources and nature protection in Serbia with an emphasis on biodiversity, climate change, education and awareness raising. The organisation has significant in-house expertise in wetlands restoration as a climate change adaptation measure, protected areas management, education for sustainable development and competences in public outreach and communications. WWF Adria Serbia initiated and promoted the establishment of the UNESCO Bačko Podunavlje Biosphere Reserve on site (part of the TBR MDD in Serbia).

Contact: *Đure Jakšića 4a/8, 11000 Belgrade*

Phone: *+385 1 5509 623*

E-mail: *info@wwfadria.org*

Website: *https://www.wwfadria.org/sr*

Institute for Nature Conservation of Vojvodina Province

The Institute for Nature Conservation of Vojvodina Province is a provincial expert institution responsible for all aspects of nature protection in the Autonomous Province of Vojvodina (Republic of Serbia). Among other responsibilities, INCVP has been the administrative coordinator of the Serbian part of the 5-country Biosphere Reserve Mura-Drava-Danube since its establishment and is also part of the TBR MDD Steering Committee.

Contact: *Radnička 20a, 21101 Novi Sad*

Phone: *+385 1 21 4896 301*

E-mail: *novi.sad@pzzp.rs*

Website: *https://pzzp.rs*



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