



EU Strategy for the Danube Region Priority Area 4 „Water Quality” activities

EUSDR PA4 HU & SK coordinators

22-23 November 2022 | Budapest | Steering Group meeting

<https://waterquality.danube-region.eu/>



PA4 finalised activities (I)



➤ EUSDR SK Presidency event:

Climate Change Adaptation Conference

27 September 2021, Bratislava – presentations available here: <https://waterquality.danube-region.eu/conference-climate-change-adaptation-challenges-and-opportunities-in-water-management/>

➤ Water retention in urban areas in the Danube Region

Deliverable: Study on facts, activities, measures and their financial assessment (DT1.1.5, 2020) – completed and **Leaflet (DT1.1.6, 2021) – completed**

<https://waterquality.danube-region.eu/water-retention-in-urban-areas-brochure/>

➤ Fish migration

Deliverable: Leaflet - Promote measures to enable fish migration in the Danube River Basin (D.T1.1.8, 2021) – completed <https://waterquality.danube-region.eu/promoting-measures-to-enable-fish-migration-in-the-danube-river-basin/>

Deliverable: Development of a study as background document for pilot e-learning material (D.T2.2.3, 2021) – the background study on water noise and waves measurements is finalised <https://waterquality.danube-region.eu/ship-noise-and-water-wave-measurement-on-the-hungarian-section-of-the-danube/>

➤ **Carpathian Convention – EUSDR – ICPDR Declaration on achieving functional biodiversity in the Danube-Carpathian Region by mainstreaming ecological connectivity - adopted**

PA4 finalised activities (II)

➤ Resource efficiency

Deliverable: Leaflet - Resource efficiency, effective water consumption and drinking water quality from source to tap (D.T1.1.10, 2022) – completed

<https://waterquality.danube-region.eu/new-brochure-on-drinking-water-quality-from-source-to-tap/>

➤ Waste water

Deliverable: Workshop on sewage sludge management in the Danube Region (DT1.1.1, 2021) – workshop was held in June 2021, its report was completed in

August 2021 <https://waterquality.danube-region.eu/workshop-report-on-sewage-sludge-management-in-the-danube-region-for-a-greener-eu/>

Microplastics in waste water – report finalised <https://waterquality.danube-region.eu/analysis-of-wastewater-treatment-plants-along-the-hungarian-stretch-of-the-danube-river/>

➤ Cooperation and Coordination of the PA

Deliverable: Funding workshop (D.T2.1.1, 2021) – workshop was held on 9

December 2021 <https://waterquality.danube-region.eu/financing-possibilities-for-eusdr-water-projects/>

Deliverable: Development of an educational tool (cards or short publication)

(D.T2.2.3, 2021) – Danube Cards completed <https://waterquality.danube-region.eu/danube-cards-are-available-online/>

Leaflets and publications: short movie on PA4 results – completed

<https://www.youtube.com/watch?v=jfqY92aUFbQ&t=10s>



Best Practice Examples of Water Retention in Urban Areas of the Danube Region



EUROPEAN STRATEGY FOR THE DANUBE REGION
Priority Area 4: To restore and maintain the quality of waters



Danube Cards



Danube Cards



Trilat ea - diamar766@gmail.com X (1,104 unread) - diamar766@gmail.com X ALL SHALL BE WELL by Shaun X W Reformáció - Wikipédia X Google Fordító X madarak és fák napja - Google X Danube Cards are available on X danube-cards.pdf X

https://waterquality.danube-region.eu/wp-content/uploads/sites/13/sites/13/2022/01/danube-cards.pdf

INTRODUCTION RULES DANUBE STORY TELLING CARDS

DANUBE STORY TELLING CARDS >

The story telling cards have been prepared in the frame of the DTP PAC2-PA04 (PA04 Water quality) project.

The Water Quality Priority Area (PA4) is one of the eleven priority areas of the EU Strategy for the Danube Regional (EUSDR) with the main objective to realize the integrated river basin management measures in the Danube Region in line with the EU Water Framework Directive and with the International Danube River Basin Management Plan (DRBMP) in order to save human health and freshwater ecosystems.

The EUSDR PA4 puts a strong emphasis on the protection of water resources and also to raise public awareness in this very topic.

<https://waterquality.danube-region.eu/wp-content/uploads/sites/13/sites/13/2022/01/danube-cards.pdf>

PA4 Flagship processes nominated

1. Flagship process on emerging substances

Tid(y)Up project and its potential continuation

PlasticFreeDanube project

CleanDanube project

MapRiverPlastic project proposal

Plastic brochure

Small project on microplastic at WWTPs

bo-DEREC-CE project

Study on occurrence of pharmaceuticals in the waters of the Danube region

Pharmaceuticals cooperation with the Baltic Strategy

Planned pharmaceuticals conference

2. Flagship process on migratory fish

MEASURES project

We Pass project and its planned continuation

Leaflet on promoting measures to enable fish migration

Fish migration restoration document

Study on effects of noise and waves on fish species

3. Flagship process on adaptation to climate change

Climate Change Adaptation conference under the EUSDR SK Presidency

Study and leaflet on water retention in urban areas

Deepwater-CE project

FramWat project

OPTAIN project

DanubeFloodplain project

IDES project

LIFE LOGOS 4 WATERS project

Danube water balance planned project

PA4 upcoming activities

PAC 2 Project SK plans for 2022

Hazardous and emerging substances in the Danube Region

- Deliverable: International workshop as platform for knowledge and best practice sharing related to pharmaceuticals in the Danube Region (DT1.1.3, 2021) – *shifted to 2023 onwards when the related legislation will have been finished – substituted by Fish migration restoration document*

Promote measures to enable fish migration in the Danube River Basin

- Deliverable: Working meeting on migratory fish (DT1.1.7 , 2020); *SK-ICPDR – 12 October 2022*
- Fish migration restoration document *prepared instead of the pharmaceutical workshop*

Promote measures for sustainable agriculture in the Danube Region

- Deliverable: Brochure on case studies of sustainable agriculture measures implementation in the Danube Region (DT1.1.9 , 2022) – *to be prepared in 2022*

Fish Migration Working Meeting

Organizer

EUSDR Priority Area 4 Coordination team, Water Research Institute and Ministry of Environment of the Slovak Republic

➤ **12 October 2022**

➤ **Bratislava/online - 27 participants** in total (out of it only 3 online)

representatives of EC, ICPDR, PA6/DSTF/WWF, WePass and WePass2 projects, EUSDR PA5 and PA7, Széchenyi István University, Ministry of Environment SR, WRI, State Nature Protection, Water Construction, Slovak Water Management Enterprise, Slovak Fishing Association, ZSI Vienna and EUSDR PA4

➤ **Purpose**

Share relevant information on migratory fish restoration, e.g. methodologies and investigation results on behavior of fish species; overview of ichthyocenoses in Middle and Upper Danube; technical solutions of fish pass designs, and experience and knowledge transfer from the Iron Gates to Gabčíkovo Water Structure.

Fish Migration Working Meeting

- The participants got information in two blocks:
- *1st block*
 - information on fish migration from EU and ICPDR perspectives;
 - historical data on movement and habitats of sterlet and other migratory fish in the Danube River;
 - coordination between environmental risks management and hydro-morphological elements of the good water status;
 - activities and future vision of Danube Sturgeon Task Force;
 - goals and achievements in WePass and WePass2 projects
- *2nd block*
 - protection of fish migration stated in Slovak Water Policy by 2030
 - importance of fish conservation and connectivity restoration from biological viewpoint
 - technical proposals for fish passes and practical and financial aspects of fish migration measures

Fish Migration Working Meeting

Further steps:

- Organize a workshop for SK and HU experts on the new guidelines for fish passes construction - updated technical solutions (contribution offered by Mr. Marq Redeker)
- Search for synergies with WePass projects in Gabčíkovo fish pass construction and look for the most proper place for fish pass to be attractive for fish, i.e. effective for passing
- Uphold PA4 fish migration activities (planned WS/meeting in 2024, 2027)
- Support fish migration projects

The meeting was held in open and constructive atmosphere.

Fish Migration Restoration Document

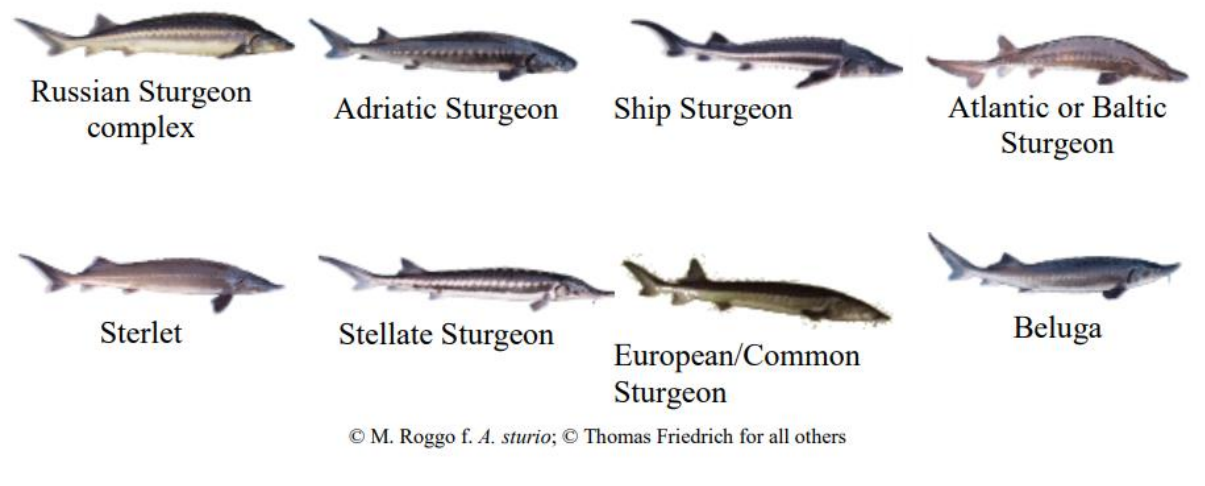
Purpose of the Document

is to provide a database of relevant information on migratory fish restoration, e.g.

- to list investigation on behaviour of fish species;
- to present an overview of ichthyocenoses in Middle and Upper Danube;
- to assess alternative technical solutions of fish pass design for specific migratory fish at Gabčíkovo Water Structure as the case study.

The Document will take into account previous and current fish migration restoration activities in the Iron Gates (especially WePass I and II projects) and at other Danube barriers.

IUCN Red List of Threatened Sturgeons



Fish Migration Restoration Document

Table of content

1. Introduction
2. Strategic documents overview (WFD, Habitats Directive, Natura 2000, EU Red List of Threatened Species, EU Species Action Plan, Pan-European Action Plan for Sturgeons),
3. Overview of different types of migration behaviour
 - **Spawning migration:** migration for the purposes of reproduction
 - **Feeding migration:** for seeking food resources or minimizing competition
 - **Refuge migration:** for seeking refuge from unfavourable conditions
4. River ecosystems
 - 4.1 *Four- dimensional nature of lotic (running water) ecosystems*
Longitudinal, lateral, vertical, time dimensions
 - 4.2 *Flood pulse concept*
5. Negative impacts of human induced changes on fish migration
Construction of barriers, limited dispersion, changed character of upstream river, impact on flow regime caused by large dams, hydropeaking, channelizing of rivers, lateral connectivity spans
6. Danube River ichthyocenoses overview
also other fish species than sturgeon (barbel, common bream), umbrella species



Fish Migration Restoration Document

7. Case study

7.1 Description of existing barriers in the Middle Danube

7.2 Design of target fish species and derived parameters of fish passes

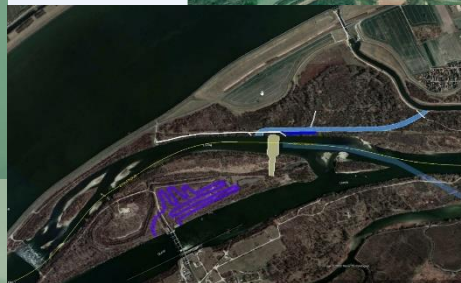
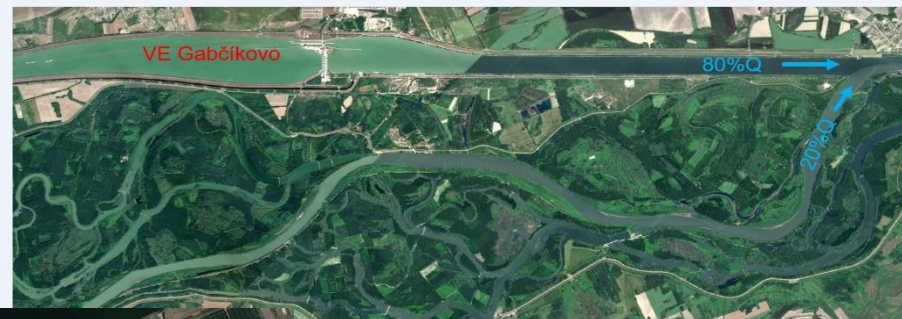
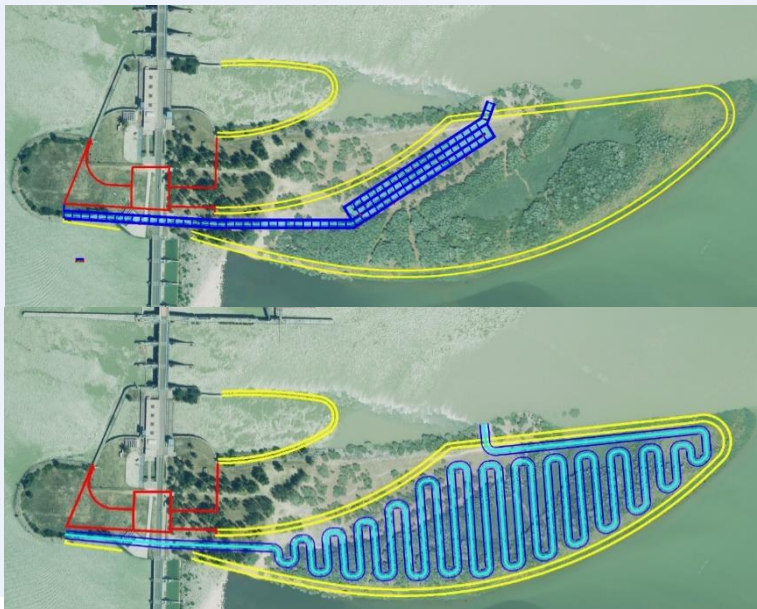
7.3 Design of the fish pass at the Čunovo HPP

7.4 Design of the fish pass at the Dunakiliti HPP and the stone dam

7.5 Design of the fish pass to the Gabčíkovo HPP

8. Next steps

9. References



Brochure on case studies of sustainable agriculture measures implementation in the Danube

Promote measures for sustainable agriculture in the Danube Region:

- Agriculture is expected to be productive, competitive and economically attractive, resilient, and environmentally sustainable.
- Decoupling of agriculture intensification from water pollution is inevitable.

EUSDR Priority Area 4 Coordination team is preparing the brochure about the best agricultural practice in the Danube Region.

Brochure will be ready by the end of 2022 and will include so called „green measures“

Structure of the brochure:

- Related legislation
- Measures included in the Action Programmes of the Member States
- Practical examples of implemented measures in the Danube countries compared to EU MS

Brochure on case studies of sustainable agriculture measures implementation in the Danube

➤ Related legislation:

- Council Directive of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources 91/676/EEC (**Nitrate Directive**)

The Nitrates Directive forms an integral part of the Water Framework Directive and is one of the key instruments in the protection of waters against agricultural pressures.

- **Water Framework Directive** 2000/60/EC
- Directive 2006/118/EC of the European Parliament and of the Council of 12 December 2006 on the protection of groundwater against pollution and deterioration (**Groundwater Directive**)
- **European Green Deal** - group of policy initiatives of the European Commission with the aim to reach climate neutrality in Europe by 2050
- The European Commission has adopted proposals for a **new Regulation on the Sustainable Use of Plant Protection Products**, including EU wide targets to reduce by 50% the use and risk of chemical pesticides by 2030, in line with the EU's Farm to Fork and Biodiversity *National Action Plans*
- **New Common Agricultural Policy** will be key to securing the future of agriculture and forestry, as well as achieving the objectives of the European Green Deal (2023-2027) *National Action Plans on implementation of CAP*

Brochure on case studies of sustainable agriculture measures implementation in the Danube

➤ Measures included in the Action Programmes of the Member States:

The measures shall include rules relating to:

- 1 . periods when the land application of certain types of fertilizer is prohibited;
2. the capacity of storage vessels for livestock manure;
- 3 . limitation of the land application of fertilizers

➤ Practical examples of implemented measures in the Danube countries compared to EU MS



PA4 dissemination activities



HU part 2022

Hazardous waste

Deliverable: Contributing to the implementation of the Danube Hazard m3c project (D.T1.1.4, 2022) – **assisting in Laymen's Report of the project Autumn 2022**

WPT2: Cooperation and Coordination of the PA

Deliverable: Funding brochure (D.T2.1.2 , 2021) – **as several EU funding calls are in delay, we plan to issue the brochure with the latest information in Autumn 2022**

WPT3:EUSDR strategic Projects and other Projects of the PA

Deliverable: Study/brochure on relevant water projects (D.T3.1.1, 2022) – **planned for Autumn 2022**

Deliverable: Study on sub-basin activities (D.T3.1.2, 2022) – **planned for Autumn 2022**

Assisting Danube Hazard m3c Laymen's report design

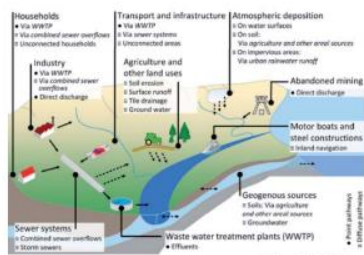
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3. Monitoring and modelling to provide a sufficient knowledge base (1.5 p)

The basis of policies for efficient management of hazardous substances is a sound system understanding. Persistent substances are released into the environment via several human activities and can be transported into ground and surface waters via different pathways as shown in figure 3-1.

Monitoring provides data on concentrations of these substances in different emission pathways and environmental compartments (e.g. atmospheric deposition, soils, wastewater, ground and surface water). Surface and groundwater data

are firstly used to check the compliance with environmental quality standards. Secondly, combining the data set on emissions pathways with cross-sectoral information on infrastructure (e.g. municipal and industrial water management), hydrology (e.g. river net, river flow), land use (agriculture, mining) and landscape morphology leads to a pollution inventory. Inventories feed into emission models through which – in case they can be validated against surface water data – we can extrapolate local information to regional or (sub)-



(Fuchs et al., 2017)

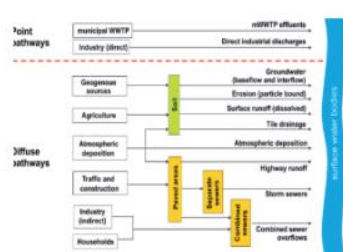


Figure 3.1: Sources and pathways of hazardous substances into water bodies in the environment (left) and the model conceptualization (right)



Tackling hazardous substances pollution in the Danube River Basin by Measuring, Modelling-based Management and Capacity building



Online Funding brochure



EU Danube Strategy Priority Area Water Quality Water-related funding

2022

THE EUROPEAN UNION STRATEGY FOR THE DANUBE REGION

The Danube Region represents one fifth of the European Union's total area and is home to more than 115 million inhabitants. The region is comprised of 9 EU (Austria, Bulgaria, Croatia, Czech Republic, Germany, Hungary, Romania, Slovakia, and Slovenia) and 5 accession/candidate countries (Bosnia and Herzegovina, Montenegro, Republic of Moldova, Serbia, and Ukraine). The states show significant regional disparities in economic and social development. To increase growth and strengthen cooperation at a macro-regional level, the European Union in 2011 established the Danube Region Strategy (EUSDR.) Nine years after the adoption of the EUSDR, the Danube Strategy was revised to align it with the new priorities and challenges of the region and better link the Danube strategy's actions with the new EU priorities like the European Green Deal, SMEs, as well as tourism and cultural heritage.

1



FINANCIAL INSTRUMENTS FOR TRANSNATIONAL WATER PROJECTS TIPS COLLECTED BY DANUBE REGION STRATEGY WATER QUALITY PRIORITY AREA

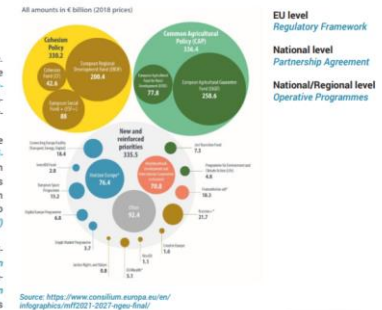


FINANCING WATER NEEDS IN THE EU *Usually no specific heading for water*

There are no specific programmes financing exclusively water needs in Europe. However, several funding possibilities exist that could be appropriate to finance different water-related projects, under different headings from different *Environmental Operational Programmes* available in Member States to sector-specific programmes or within different decentralized funding programmes via regional, inter-regional or national channels.

The starting point for the financing possibilities that is establishing the frame for EU financing is Council Regulation 2020/2093 laying down the *Multinational Financial Framework* (MFF) for the years 2021 to 2027. As a result, €1.074 trillion [in 2018 prices] is available for beneficiaries of EU funding during the seven years period of 2021-2027. Agreements to be signed between the European Commission and individual EU countries to set out the national authorities' plans on how to use EU funds in shared management in 2021-2027, in line with the *Regulation (EU) 2021/1060 on Common Provisions*.

Funds from the ERDF are allocated in three categories of regions (less developed, more developed, in transition), some countries benefit from the *Cohesion Fund*, some regions with specific needs receive dedicated funding (outermost regions and sparsely populated), and all countries benefit from the *Just Transition Fund*. In the ERDF investments aiming at reducing every form of pollution, such as air, water, soil, noise and light pollution, should be supported.



7

Water project brochure



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EUSDR and ICPRD experts in 2022 September

Events since last meeting

- **EUSDR NC-PAC meeting** – 19 May, online
- **NC-PAC meeting** – 19 May, online
- **Coffee with the Presidency** – 23 May, online
- **20th Slovak hydrogeological conference** – 23-26 May, Tatranská Javorina
- **A greener, low carbon Danube Region** – 30 May, online
- **Round Table “Plastics and Microplastics in Our Rivers”, Sava Day** – 1 June, online
- **PA5 SG** – 14 June, hybrid
- **GWP-CEE Summer School** – 14 June, Poroszló (HU)
- **ICPDR Standing WG** – 21-22 June, online
- **23rd PA7 SG meeting** – 22 June, online
- **“Local governments and their impact on water quality in Žitný ostrov” workshop** – 23 June, hybrid
- **“Achieving functional biodiversity in the Danube-Carpathian region by mainstreaming ecological connectivity” workshop** – 28 June, online
- **EUSDR Priority Area Coordinators’ needs assessment and communication workshops** – 28-30 June, Oradea
- **ICPDR Tisza Group meeting** – 6-7 July, Szolnok

Events since last meeting

- **EUSDR embedding week, online, 11.-15.7.2022**
- **Discussion on improvement fish migration in the Danube river system, 3.8.2022, Hungary**
- **PA4 Trilateral meeting – 8.9.2022, Budapest**
- **National training Danube Hazard m3c – 19.-20.9.2022, Bratislava**
- **ICPDR HYMO TG – 28-29 September, Vienna**
- **EUSDR NC-PAC meeting – 29-30 September, Vienna**
- **IDES project final workshop – 4-5 October, Budapest**
- **ICPDR ECON EG – 6.-7.10.2022, Bratislava**
- **Migratory fish working meeting – 12 October, Bratislava**
- **Water4all kick-off meeting – online, 13.10.2022**
- **Ecological connectivity declaration event – online, 18.10.2022**
- **ICPDR RBM EG – 18-19 October, Vienna**
- **EUSDR Annual Forum – 19-20 October, Kosice and hybrid)**
- **Tid(y)Up project final conference – 8-9 November, Budapest**
- **Unfolding EUSDR: harmonise knowledge and capacity workshop – online, 16.11.2022**

Events planned for 2022

- **European River Symposium and Danube Hazard m3c project closing event – 27-30 November, Vienna**
- **NC-PAC informal meeting – 1-2 December, Bled**
- **ICPDR OM – 13-14 December, Vienna**

PA4 related projects

Finalized:

- **1st DTP call:** JOINTISZA (LoR), DanubeSediment (LoR), DriDanube, Camaro-D
- **2nd DTP call:** MEASURES (migratory fish species), DAREFFORT (Danube HIS preparation), SIMONA (LoR; sediment quality), Danube Floodplain
- **3rd INTERREG Central Europe call:** DEEPWATER-CE (Managed Aquifer Recharge), boDEREC-CE (pharmaceuticals), TEACHER-CE (water adaptation to CC)
- **ATSK:** PlasticFreeDanube

Winner:

- **HORIZON EUROPE:** DALIA (Danube Lighthouse Innovation Action)

Under implementation:

- **3rd DTP call:** Danube Hazard m3c (LoR), IDES (ecosystem services and water quality), Tid(y)Up (LoR; microplastics), lifelineMDD (Mura-Drava-Danube ecological corridor), SaveGreen (transnational ecological corridors)
 - **HORIZON2020:** OPTAIN (LoR; Retain and reuse water and nutrients in small agricultural catchments)
 - **LIFE:** LIFE LOGOS 4 WATERS (LoR; Local water retention measures)
 - **HUSKROUA:** REVITAL I. (LoR; UA Solotvyno saltmine exploration)
 - **ATHU:** AquaPinka (LoR; Water solutions at the Pinka creek)
- **LoRs 2022:** MapRiverPlastic (macroplastic), What-A-Way (sustainable services at local waterways), DANUBELIGHT (water innovation), WETNUBE (demonstrations of wetland and floodplain restorations), RESTORIVER (restoration of urban riversides), AquaticPlastic (plastic waste reduction), Danube Water Balance (Danube model and data repository)
- *Capitalisation – DTP + other financial mechanisms projects*

CleanDanube Project

- **Project duration:** 2 months in spring 2022
- **Project is funded by:** Perspektive DONAU, Baden-Wurtemberg Stiftung and Deutsche Postcode Lotterie
- **Project is implemented by:** Association for Wildlife Protection and Hochschule Furtwangen University
- **Project area covers** the entire length of the Danube – from the Black Forest to the Black Sea
- **Project objective:** attracting media attention to highlight the issues of plastic pollution.
- **Project activities** - Andreas Fath, Professor of Chemistry at Furtwangen University of Applied Sciences, is set to swim the entire length of the Danube. He will be in the water nearly every day for 2 months and is expected to garner media attention at every stretch of the river. The association for wildlife protection (AWP) is planning the journey, aiding Andreas Fath in coordination efforts and designing the various project modules to accompany his odyssey from the rivers source to its estuary.
- **Andreas Fath** is a professor of chemistry at Furtwangen University. He has published numerous articles based on his findings on micro-plastics in scientific journals and textbooks
- **May 7 in Bratislava** welcome by the Minister of Environment <https://fb.watch/cSjTa4ELP6/>
- **May 14 in Budapest** – public event <https://waterquality.danube-region.eu/pa4-experts-welcome-swimming-professor-in-budapest>
- **Research part of the project** - analyzing water samples daily to put together a comprehensive overview of the degree of pollution impacting the Danube. A documentary accompanying Andreas Fath's journey will provide additional coverage, as well as to ensure the findings continue to reverberate long after the project's completion.

<https://www.cleandanube.org/>






May 14 in Budapest – public event


- CleanDanube in Budapest:
- More than 100 people rowing through the Danube with the swimming professor,
- Public event organized by VALYO

PA4 HU
experts
joined the
event and
handed over
PA4
materials to
Professor
Fath,
awaiting
project
results later
this year.




<https://waterquality.danube-region.eu/>


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Pharmaceuticals ONLINE




NEWS FROM THE DANUBE REGION
September 2021



Ministerial Conference on Marine Litter
and Plastic Pollution

About Us



Upcoming Events

19 OCT	22ND STEERING GROUP MEETING 19 OCTOBER 2021	EVENT DETAIL
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Thank you for your attention!