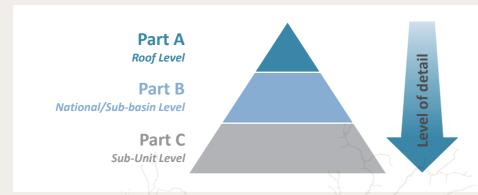




WHAT IS A RIVER BASIN?

A river basin is the area of land from which all the water flows into a particular river, and in the case of the Danube River into the Black Sea. Within a river basin various and partly contradicting uses, rights and claims emerge. These have to be coordinated and negotiated.

The International Commission for the Protection of the Danube River (ICPDR) serves as the coordinating platform to address multilateral issues at roof level (international and basin-wide level) in the Danube River Basin District (DRBD).



Three levels of management for Water Framework Directive (WFD) implementation in the DRBD showing the increase of the level of detail from Part A to Part B and C



The Danube River Basin

The Danube River Basin covers over 800,000 km² and 10% of continental Europe. It extends into the territories of 19 countries, making it the most international river basin in the world.

About 79 million people reside in the basin, with many depending on its diverse uses, such as drinking water, energy production, agriculture, and transport. Its ecological diversity, from plant and animals species to habitats, is also highly valued.











The International Commission for the Protection of the Danube River (ICPDR)

The basis for the ICPDR was formed with the signing of the Danube River Protection Convention (DRPC) on 29th June 1994. Today, the ICPDR comprises 15 members – 14 countries plus the European Union. The signing of the DRPC is celebrated every 29th June throughout the Danube River Basin on Danube Day.

Rivers are natural systems without borders, and the ICPDR is in a unique position, comprising as it does, EU and non-EU members alike. Thus, by facilitating the implementation of measures effectively across borders, the ICPDR has already helped better prepare the Danube aquatic ecosystem for the challenges of the future. The ICPDR's management plans are the result of working together with national governments and a broad range of stakeholders for the benefit of our shared river basin.

THE GOALS OF THE ICPDR

The work of the ICPDR is guided towards achieving three pillars of action:

- "CLEANER" waters for everyone to enjoy which means reducing pollution from settlements, industry, and agriculture.
- a "HEALTHIER" home for aquatic animals and plants which means protecting habitats for aquatic animals and plants, drinking water, and river recreation.
- a "SAFER" environment for people to live without the fear of floods which means living without the fear of major flood damage and accident risks.

These three pillars support our objectives to make the water environment of the Danube **cleaner, healthier, and safer** – not only for us, but for future generations too.



To achieve the third pillar, the ICPDR coordinates the establishment of the Danube Flood Risk Management Plan (DFRMP) and thereby supports the implementation of the EU Floods Directive (FD) in ICPDR member countries.

THE DANUBE RIVER BASIN MANAGEMENT PLAN UPDATE 2021: WHY & WHAT?

Why update this plan?

The EU Water Framework Directive (WFD), the EU Birds and Habitats Directive, the EU Floods Directive (FD) as well as the EU Biodiversity Strategy 2030, call for the development of our plans, and guide our work towards achieving the ICPDR's three key pillars.

The Joint Program of Measures, which is part of the Danube River Basin Management Plan (DRBMP), focuses on five Significant Water Management Issues (SWMIs) — Organic Pollution, Nutrient Pollution, Hazardous Substances Pollution, Hydromorphological Alterations, and Effects of Climate Change. These can affect the status of surface waters like rivers lakes, transitional and coastal water bodies, and groundwater bodies.

Importantly, our approaches to these issues require constant renewal. The ecological situation evolves, supranational policies continue to change, and our understanding of the possible causes of and solutions to imbalances in our shared basin's water status is always improving. This is why it's vital for us, the ICPDR, to review the DRBMP every six years.

Additionally, we included an emboldened programme of public consultation during this update process. Along with information initiatives aimed at keeping our stakeholders and the public well-informed, such as Danube Day, this forges a deep connection between the DRBMP and the public of the Danube River Basin.

Let us explain!

The Danube Management Plans

The DRBMP Update 2021 was created at the same time as the DFRMP Update 2021. The latter is a document providing rich and comprehensive information about flood risk management measures to be taken in the Danube River Basin. The two plans are coordinated and synergised in keeping with the environmental objectives as stipulated by the WFD.



Water Framework Directive (WFD)

The EU Water Framework Directive (WFD) is legislation that requires European Union Member States to achieve good ecological and chemical status for surface waters, plus good chemical and quantitative status for groundwaters.

Its full name is Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy.

What is the Danube River Basin Management Plan (DRBMP)?

Since the publication of the first Danube River Basin Management Plan (DRBMP) in 2009, the ICPDR updates the DRBMP every six years. This management plan offers rich and comprehensive information about water management issues. The 2021 update identifies the priorities for joint water resources management throughout the Danube River Basin for the coming six years. They include assessments of the current situation and measures towards the achievement of "good status" in waters of the Danube River Basin until 2027.

The DRBMP received its first update in 2015 followed by its second update in 2021. The third update is due for 2027.

A closely related strategic document focusing on the assessment and management of flood risk in the Danube River Basin – the DFRMP – was first published in 2015, and received its first update concurrently with the DRBMP in 2021.

We, the ICPDR, act as a joint platform for the implementation of the Danube River Protection Convention, our founding legal document, along with the European Union's Water Framework Directive (WFD) and Floods Directive (FD). The benefits of these important pieces of legislation are for the entire basin and its people.



OUR VISION FOR THE FUTURE

The key question at the heart of the DRBMP Update 2021 is essentially: what does the ICPDR hope to achieve for the future of the Danube River Basin and how will this be achieved?

In the context of the European Green Deal the recent international mood has further heightened its focus towards the future, not only for the Danube, or for Europe, but globally. Against this backdrop, the ICPDR's many aims seem all the more relevant — and urgent.

Significant Water Management Issues (SWMIs)

Significant Water Management Issues, or SWMIs, are key issues that are jointly identified and reviewed as part of the river basin management cycle. SWMIs can affect the status of surface waters like rivers, lakes, transitional and coastal water bodies, and groundwater.

The ICPDR's "SWMI Report" from 2019 defined several key issues to be addressed by the DRBMP Update in 2021. Previous SWMI reports in 2007 and 2013 respectively had already focused on four key issues affecting the status of the Danube River Basin's waters:

- 1. Pollution by organic substances
- 2. Pollution by nutrients,
- 3. Pollution by hazardous substances and
- 4. Hydromorphological alterations (also including since 2019 alteration of sediment balance)
- ... then in 2019, the ICPDR agreed to add a new, fifth SWMI:
- 5. Effects of climate change (drought, water scarcity, extreme hydrological phenomena and other impacts).

The process of jointly identifying and describing SWMIs provides a consensus beneficial to the creation of a shared language and focus, not simply for public information and participation purposes, but primarily for basin-wide action.



Our Vision

Zero emissions of untreated wastewaters into the waters of the Danube River Basin.

Our Vision

Management of nutrient emissions via point and diffuse sources in the whole Danube River Basin ensuring that neither the waters of the Danube River Basin nor the Black Sea are threatened or impacted by eutrophication.

Organic Pollution

Wastewater contaminated with organic pollution — feces and household, agricultural, or industrial waste that can be digested by microorganisms — has caused big changes to the waters of the Danube and its tributaries, creating an unfriendly and unhealthy environment for many aquatic creatures. Efforts to clean up this waste to ensure much CLEANER waters for people to enjoy and HEALTHIER ecosystems for a better life began decades ago and are still underway.

Nutrient Pollution

When wastewater or fertilizer nutrients such as nitrogen or phosphorus get into surface waters, they encourage algae growth, which can block sunlight from other aquatic plants with disastrous knock-on effects. Nutrient pollution entering water bodies via so-called point sources (urban and industrial wastewater discharges), and diffuse pathways (polluted runoff, sediment input and subsurface flow from agricultural fields, urban areas and natural land) can lead to massive algae blooms. A comprehensive international effort is currently underway to enhance wastewater treatment and establish good agricultural practices that will balance the needs of water and agriculture to make water CLEANER and ecosystems HEALTHIER.





Hazardous Substances Pollution

When we hear the word "pollution", we think of hazardous substances, such as toxic chemicals and metals that come from industry, mining, farming, and everyday household activities, including the use of garden pesticides, cosmetics, or medicines/pharmaceuticals. Chemical pollutants can find their way into the environment through municipal wastewater, runoff from agriculture, industrial facilities, air pollution, sewer overflows, and accidental events. Depending on their concentration, they can either cause immediate toxicity or slowly accumulate in the ecosystem over time. Both pose a serious threat to human and aquatic life. Aiming for CLEANER waters that are HEALTHIER and SAFER for both people and aquatic life, new technologies, updated regulations, scientific projects and practical measures are being implemented to reduce or halt the spread of hazardous substances in the waters of the Danube River Basin.

Hydromorphological Alterations

Over centuries, human activities and constructions have led to fundamental changes in the physical structure and appearance of our rivers, lakes, and coastal waters. Along the course of the Danube and its tributaries, natural habitats have been substantially decreased which is reflected in deteriorated water status and significantly reduced biodiversity. Migration routes for fish species have been blocked by diverse barriers. Today, however, Danube countries are working hand-in-hand to make our waters a HEALTHIER home for aquatic life once again, with great benefits for society.



Our Vision

No risk or threat to human health and the aquatic ecosystem of the waters in the Danube River Basin and Black Sea waters impacted by the discharge of hazardous substances.

Our Vision

Danube waters managed in such a way as to eliminate the negative impacts on hydromorphology and further on to the aquatic ecosystem and its natural development and distribution.



Our Vision

To make full use of our wealth of knowledge to adapt, achieve resilience, reduce vulnerability, and ultimately sustain the inherent ecological and cultural value of the aquatic environment of the Danube River Basin.

Our Vision

To avoid any deterioration of groundwater quality due to emissions of polluting substances in the Danube River Basin.

Where groundwater is already polluted, restoration to good quality will be the ambition.

Effects of Climate Change

Climate change is already taking its toll on rivers such as the Danube, leading to increased water scarcity, and other meteorological and hydrological extremes. In 2019, the ICPDR added "Effects of climate change (drought, water scarcity, extreme hydrological phenomena and other impacts)" to its list of SWMIs, indicating it as a top priority issue for the Danube River Basin. Whilst preventive measures will be taken to mitigate impacts of climate change, it remains essential to adapt to its unavoidable impacts and minimise the related risks, thus increasing the resilience of aquatic and water-dependent ecosystems.



Goran Safarek

The Issue of Groundwater

Over 59 million people in the Danube River Basin get their drinking water from groundwater – that's 72% of the total population. Yet groundwater is extremely vulnerable to over-abstraction, i.e. when more water is used than can be replaced by nature. What's more, agricultural pollution caused by nitrates from fertilizers or pesticides entering groundwater via the soil or connected surface water has also become a major problem. Since groundwater renewal is typically a slow process, once the supply deteriorates or is contaminated it can stay that way for decades. This combination of demand and sensitivity has created a serious problem.

Our goal therefore, is to restore and maintain CLEANER groundwater while managing its use for an ecologically balanced and HEALTHY water supply.

The ICPDR is already undertaking various projects throughout the region to tackle these challenges head on. Measures include improved farming techniques, water use regulation, pollution clean-up, and a wide range of innovative economic activities. New legislation, for example, has established protected areas and banned activities that contribute to water contamination.

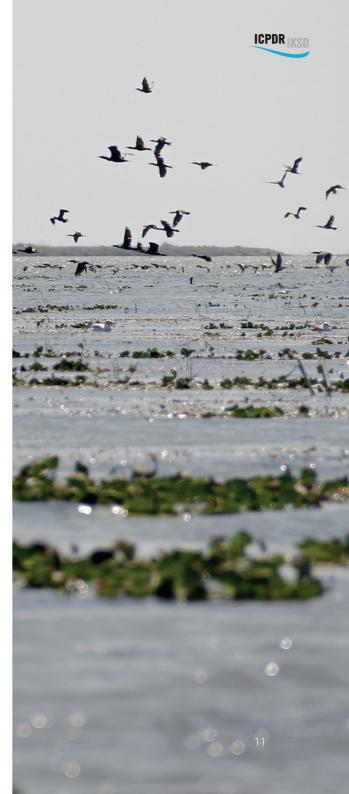
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The Sturgeon Issue

Sturgeons have existed for more than 200 million years, and remain an essential part of the Danube region's natural ecosystem. However, having weathered seismic changes across thousands of generations, the species are being driven closer and closer to extinction by human activity. A coordinated effort is now underway to turn this situation around and restore water bodies to a HEALTHIER state, and create better habitats for sturgeons — so they have a fighting chance of survival. Additionally, sturgeons are also a key indicator for the health of the ecosystem in the Danube River Basin, and their conservation and survival is to the benefit of all Danubian inhabitants.

The DRBMP Update 2021 proposes manifold sturgeon-specific actions under the umbrella of basin-wide coordination.

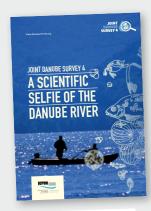






JDS4

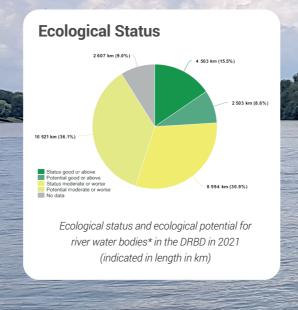
The Joint Danube Survey – the most comprehensive investigative surface water monitoring effort in the world – harmonises water monitoring practices across the Danube countries, in support of the implementation of the WFD. The Joint Danube Survey has taken place every six years since 2001.



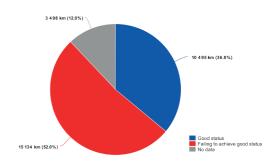


http://www.danubesurvey.org/jds4/

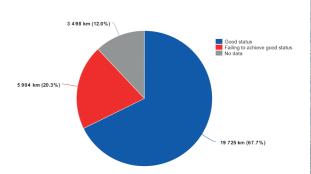
THE DANUBE IN 2021: A SNAPSHOT



Chemical Status



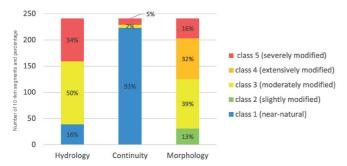
Chemical status of river water bodies* in the DRBD in 2021 displaying overall chemical status in water and biota (indicated in length in km)



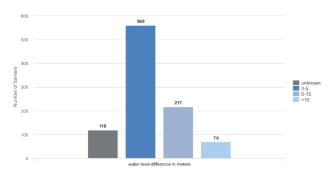
Chemical status of river water bodies* in the DRBD in 2021, based on priority substances in water (indicated in length in km)

* Rivers with catchment areas > 4,000 km²

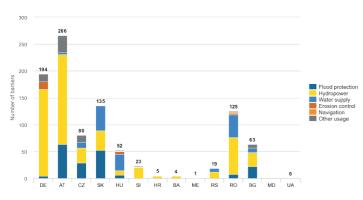
Hydromorphology



Overall results JDS4 3Digit assessment describing the extent of hydromorphological alterations for the entire Danube

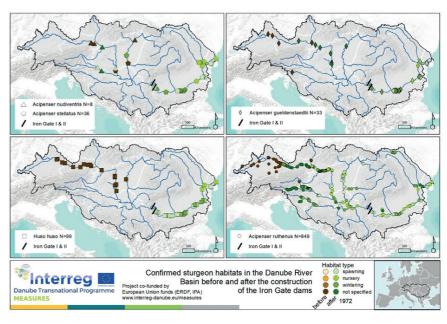


Number of interruptions of river continuity for fish migration classified by their height *

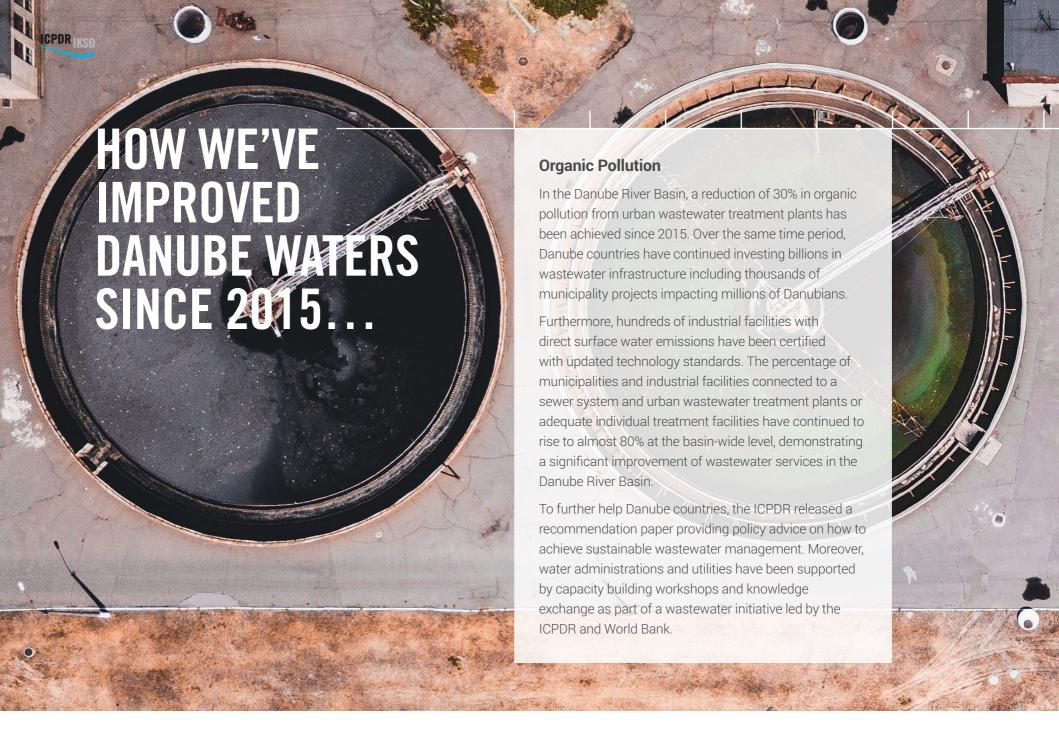


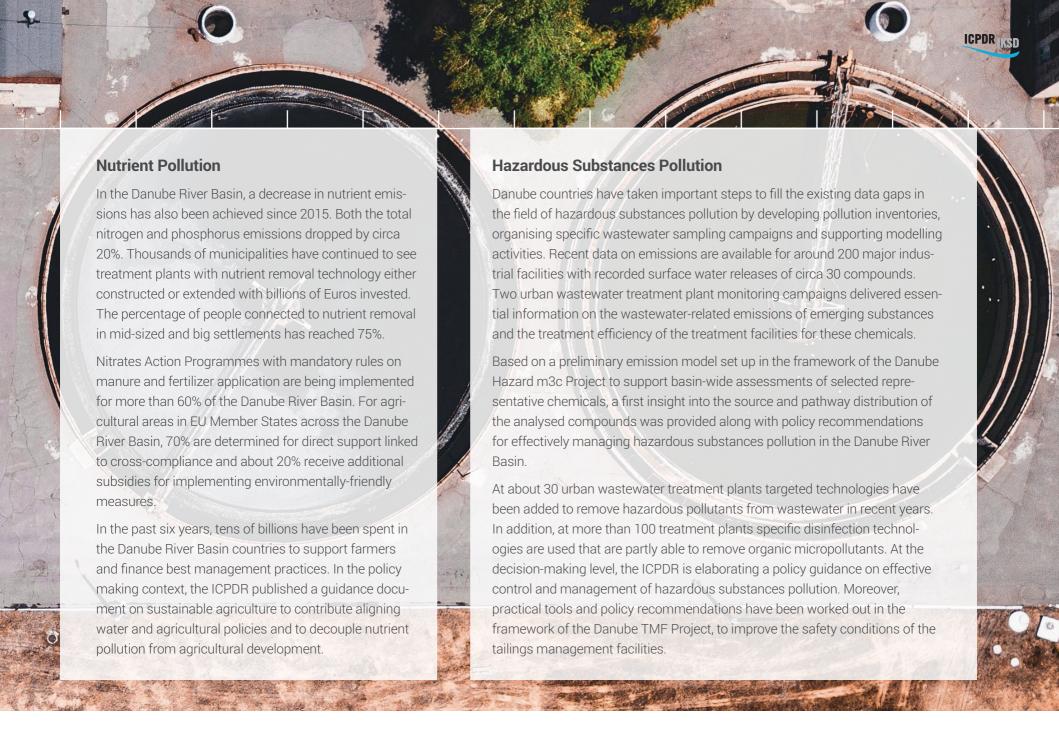
Number of interruptions and associated main uses in Danube River and tributaries per country *

Sturgeon Habitats



Confirmed Sturgeon Habitats in the Danube River Basin before and after the Construction of the Iron Gate dams (Outcome of MEASURES Project, Interreg, Danube Transnational Programme, co-funded by European Union funds (ERDF, IPA), as of August 2020)







Hydromorphological Alterations

Numerous hydromorphological measures have been implemented in the period between 2015 and 2021 to improve hydromorphological conditions and achieve environmental goals. The main aim of those measures was the mitigation of hydrological alterations like impoundments, water abstractions and hydropeaking, improvement of river continuity (building of fish passes), reconnection of wetlands/floodplains, and improvement of morphological conditions (river restoration projects).

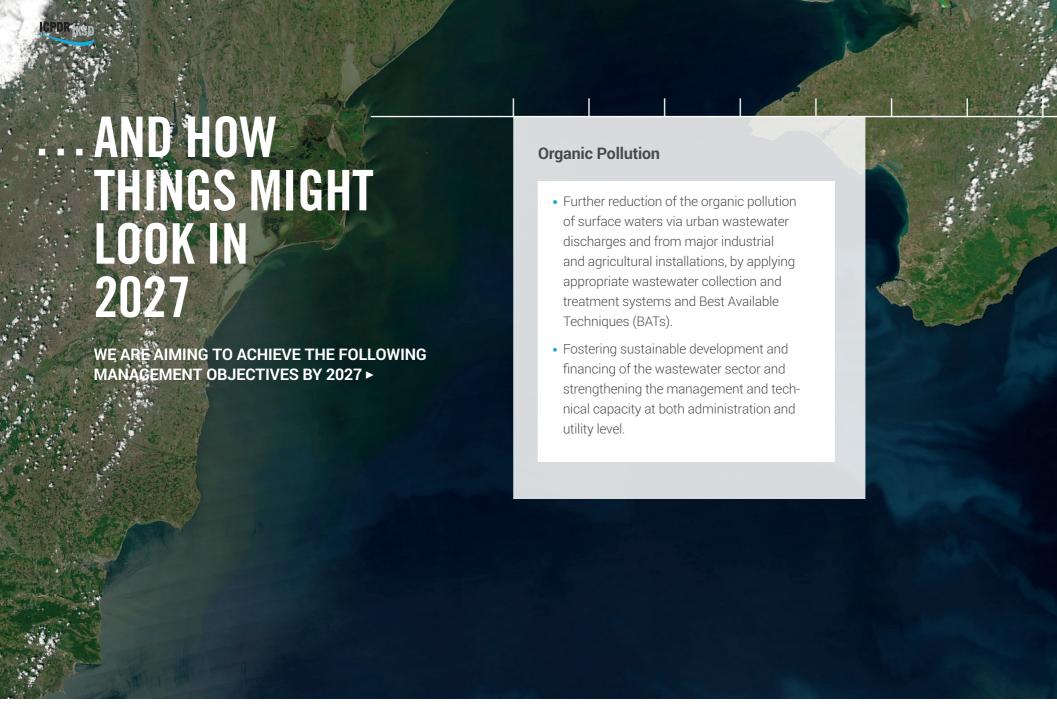
The following hydromorphological measures were implemented:

- 14 different measures addressing hydrological alterations, mainly improvement of impoundments, minimising of water abstraction and minimising negative impacts of hydropeaking
- 47 fish migration aids
- 28 river restoration projects
- Partial or total reconnection of nearly 10,000 ha of floodplains/wetlands.

While within the DRBMP only measures on rivers with a catchment area larger than 4,000 km² are presented, it is important to emphasize that Danube countries are implementing hydromorphological measures also on other (smaller) rivers, where diverse hydromorphological pressures were assessed.

Besides implementation of listed technical measures, there were also many other research projects implemented until 2021, including the Danube Floodplain Project, the Danube Sediment Project, the MEASURES Project and others, that are bringing new developments also related to hydromorphology and serve as a basis for preparation of further research and also technical measures. In the period between 2015 and 2021 various ICPDR activities were realized, supporting further developments in the field of hydromorphology and better implementation of hydromorphological measures in the Danube River Basin.





Nutrient Pollution

- Further reduction of the amount of nutrients entering the Danube and its tributaries from urban wastewater treatment plants, industrial facilities, agriculture and rural land management as well as the nutrient loads transported into the Black Sea, by introducing nutrient removal technology and best management practices.
- Supporting the alignment of water and agricultural policies and contributing to capacity development and knowledge transfer in the agricultural sector.

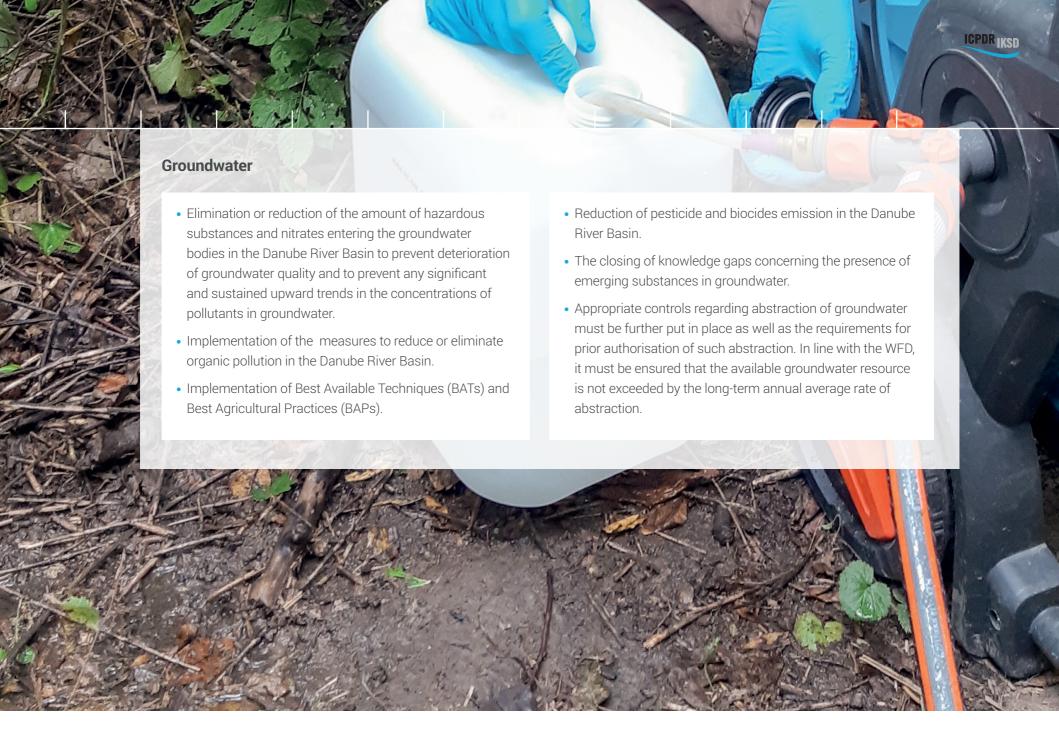
Hazardous Substances Pollution

- Further reduction of point source emissions from urban wastewater treatment plants and industrial facilities, as well as a reduction in the diffuse pollution of agricultural chemicals and harmful substances used in rural land management activities. Furthermore, elimination of priority hazardous substances entering the Danube and its tributaries.
- Closing knowledge gaps on the hazardous substances of relevance to the Danube River Basin and supporting policy making towards and effective control of hazardous substances pollution.
- Further mitigation of the risk of accidental pollution events at industrial and mining sites by implementing adequate safety measures, including capacity building for facility operators and authority inspectors.
- Further maintenance and enhancement of the Danube Accident Emergency Warning System (AEWS).

Hydromorphological Alterations

- Restoration/mitigation of hydrological regime and habitats to ensure improvement of water status/water potential and aquatic ecosystems.
- Construction of fish migration aids and other measures at existing migration barriers as well as removing (e.g. obsolete) barriers to achieve/improve river continuity in the Danube River and in respective tributaries to support free-flowing river sections and ensure self-sustaining sturgeon populations and specified other migratory fish populations.
- Restoration of habitats and ecological corridors for migratory fish species, in particular sturgeons.
- Further investigations of sediment balance alteration and measures for its improvement.

- Restoration/mitigation of river morphological conditions/ alterations and habitats to ensure improvement of aquatic ecosystems and water status/water potential.
- Implementation of further measures for the protection and restoration of existing and the restoration of former (potential) wetlands/floodplains with reconnection potential with aim to achieve environmental goals (related to water status and biodiversity).
- Further prevention of deterioration of water status/ potential from new infrastructure projects.
- Closing of knowledge gaps in the field of assessment of hydromorphological alterations, improving of monitoring programme, and exchanging of good practice examples between Danube countries.





INTEGRATION

Stakeholder dialogues around inter-sectoral issues, including inland navigation, hydropower, and adaptation to climate change, proved especially valuable when drafting the Danube River Basin Management Plan (DRBMP) Update 2021.

Inland Navigation

Inland navigation can contribute to making transport more environmentally sustainable, particularly where it can act as a substitute for road transport. It can, however, also significantly influence river ecosystems, with potentially jeopardizing effects on WFD goals. Recognising this potential conflict, the ICPDR was one of the initiators of a cross-sectoral discussion process involving all relevant stakeholders and NGOs, which led to the Joint Statement on Guiding Principles for the Development of Inland Navigation and Environmental Protection in the Danube River Basin, finalised in October 2007.

Climate Change Adaptation

Arguably no issue is as intersectoral or cross-cutting as climate change. In 2018, the ICPDR updated its Climate Change Adaptation Strategy. The 2018 revision took into account new scientific results and implementation steps taken in Danube countries. This document builds upon the 2012 strategy, and features guidance on the integration of climate change adaptation into ICPDR planning processes. It promotes action in a multilateral and transboundary context and serves as a reference document influencing national strategies and activities

Sustainable Hydropower

Since 2013, the Guiding Principles on Sustainable Hydropower have helped to show hydropower's positive contribution to renewable energy production and minimise negative environmental impacts, for example on connectivity. New findings on integration were presented at the ICPDR Hydropower Workshop in March 2021.

Nature Protection and Sturgeon Conservation

There is significant potential for synergies between the WFD, the EU Natura 2000 Directives, the EU Biodiversity Strategy 2030, and the ICPDR Sturgeon Strategy. Dialogue with ICPDR Observers and other relevant stakeholders in the Danube River Basin will continue to play a central role, along with the objectives set out in the DRBMP Update 2021.

Sustainable Agriculture

The ICPDR initiated a dialogue with the agricultural sector to help the national agri-environmental policy-making of the Danube countries and published the Guidance Document on Sustainable Agriculture in 2021. The guidance offers Danube countries additional support for the preparation and implementation of their national agri-environmental policies and Common Agricultural Policy Strategic Plans in good synergy with their respective river basin management plans.





Why Public Consultation?

The DRBMP lies at the core of the ICPDR's central work programs – so it should be developed with strong involvement of civil society and stakeholders at all possible levels from the beginning and throughout the entire cycle of all activities.

The public is therefore invited to get involved in a variety of activities, ranging from developing policies, to implementing measures and evaluating impacts.

Additionally, public consultation is a legal requirement of the WFD.

The ICPDR aspires to work ever closely with the public to reach our goals together. Only with adequate public participation, will we be able to make the Danube CLEANER, HEALTHIER and SAFER.

#HAVEYOURSAY: PUBLIC CONSULTATION ON THE DRBMP UPDATE 2021

Doing the work is only the first part of the job. We, the ICPDR, also care about public participation, and especially during the drafting of these plans we make sure that the voice of the public gets heard. Involving the public in conferences and workshops — as well as providing regular information through magazines and websites — is an essential part of sustainable water conservation. The ICPDR supports the active involvement of stakeholders and civil society on all levels of its work. During the process of updating the DRBMP in 2021, the ICPDR included a range of public consultation measures along the way.

As a result of our work, public participation in water management matters is in fact increasing throughout the Danube River Basin, and those living in the region are signing up more and more to be a part of the solution.

Throughout 2021, the ICPDR engaged in the following public consultation activities as part of the process of drafting the DRBMP Update 2021:

- On 30th March 2021, the draft text of the DRBMP 2021 Update was published on ICPDR.org for the public to access. The public was invited to comment or mail in their comments over a six-month period, ending on 30th September 2021.
- An Online Questionnaire was published and made available to the public on the same date as the draft plans. Available in 10 Danubian languages (plus English), the questionnaire aimed to engage with and receive input from a broader public on the issues of the DRBMP.



And even for members of the public without any prior knowledge of the plan, it was possible to fill in the guestionnaire.

- An Online Stakeholder Workshop, *Our Opinion Our Danube*, open to the public along with various ICPDR stakeholders and observers, was held on 29th & 30th June 2021. The workshop was the biggest single event of the consultation process and provided a forum for direct contact between the public, ICPDR, and several key stakeholders.
- A dedicated social media campaign also took place throughout the process to promote and encourage public consultation on the plan.
- The ICPDR's regular in-house magazine, *Danube Watch*, also featured several articles on the topic of the Public Consultation Process.

The 5 key Thematic Areas under discussion during Our Opinion – Our Danube; various workshop participants and Danube experts throughout the two-day online event.



Information

Consultation Outcomes and Public Reach

165 comments were received in writing on the DRBMP Update 2021 from Danubians.

Written statements from 10 institutions on the DRBMP Update 2021 were received.

The social media campaign for the public consultation process involved over 13,000 online interactions and made over 300,000 impressions!

The entire Public Consultation Process, including a record of all the comments received throughout from a wide variety of stakeholders, can be found on the ICPDR home page.







