

International Commission for the Protection of the Danube River

Internationale Kommission zum Schutz der Donau

Shared waters – joint responsibilities

ICPDR Annual Report 2023







The year 2023 marked a gradual return to postpandemic normalcy, with in-person meetings once again becoming part of our collaborative efforts.

The ICPDR remains a powerful testament to the unity and shared vision of its Contracting Parties, as we work together to safeguard the Danube River Basin. It is my privilege to present this Annual Report, which offers an overview of the diverse initiatives undertaken by the ICPDR in 2023. These activities underscore the organization's growing responsibilities in addressing the complex and interconnected challenges facing the Danube River Basin.

Serving as Executive Secretary during a time of global transition brought unique challenges and opportunities. With the basin experiencing increasingly severe climate pressures and the ever-present risk of droughts, this role carried immense significance and offered a pivotal chance to influence progress on issues critical to the region.

Throughout the year, the ICPDR demonstrated its exceptional capacity to unite national experts, stakeholders, and its community of observers in advancing river basin management. United, we will continue to build on the successes of this extraordinary organization for the benefit of our communities and the river basin we are all proud to call home.

Sincerely, Birgit Vogel



Birgit Vogel ICPDR Executive Secretary

ICPDR highlights in 2023

Introducing the new Danube Watch Newsletter!

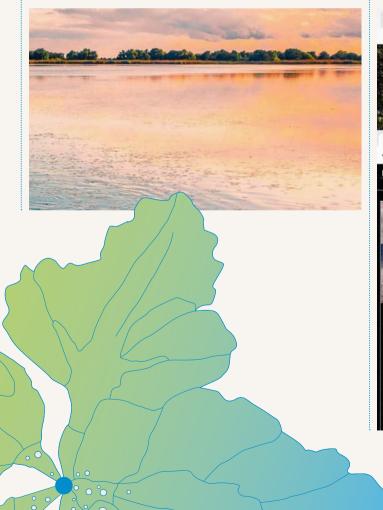
In 2023, the ICPDR launched the digital newsletter Danube Watch, replacing its print edition after two decades. This transition aligns with our environmental goals and a modern approach to sharing updates.

With up to four editions a year, the newsletter continues to connect and inform a diverse audience passionate about the Danube River Basin.

Fresh Look for ICPDR.ORG

In 2023, the ICPDR launched its revamped website, www.icpdr.org, featuring a user-centric, responsive design. The update enhances accessibility, usability, and navigation while ensuring compatibility with modern devices.

The redesign, a year-long collaborative effort, reflects the ICPDR's commitment to engaging and inclusive online outreach.





Serbia takes over ICPDR Presidency from Romania for 2023

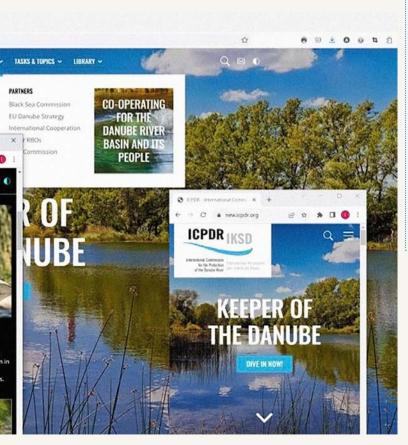
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Serbia assumed the ICPDR Presidency in 2023, prioritizing water scarcity, droughts, groundwater, and enhanced data-sharing.

Incoming President Vedrana Ilić emphasized Serbia's key role in addressing climate challenges. The handover ceremony honored traditions and celebrated the achievements of outgoing President Robert Eugen Szép of Romania.



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Working Together: The ICPDR's operational and institutional framework

Since its establishment in 1998, the International Commission for the Protection of the Danube River has brought together representatives from the highest ministerial levels, technical experts, members of civil society, and the scientific community, working toward a better future for the Danube and its tributaries.

The ICPDR is the largest international body of European river basin management experts. Its mission is to promote and coordinate sustainable river and water management methods for the benefit of all citizens of the Danube River Basin.

Structure of the ICPDR

On 29 June 1994, Danube countries came together and signed the Danube River Protection Convention (DRPC), coming into force in October 1998. Since then, the ICPDR has served as a forum for coordination and cooperation on fundamental water management issues, taking all appropriate legal, administrative, and technical measures to maintain and improve the quality of the Danube River Basin and its tributaries. The ICPDR is made up of 15 Contracting Parties: Austria, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Germany, Hungary, Moldova, Montenegro, Romania, Serbia, Slovakia, Slovenia, Ukraine, and the European Commission. The work of the ICPDR is guided by two group meetings: an Ordinary Meeting, which establishes policy and strategy, and a Standing Working Group, which provides guidance and prepares key decisions. Working alongside these are Technical Expert Groups, Task Groups, and representatives of stakeholder groups that provide the scientific and technical basis for ICPDR's work.

Expert groups (EG) are one of the most active and vital parts of the ICPDR structure. They assist in meeting the requirements specified under the DRPC and work along with the implementation of the EU Water Framework Directive (WFD) and the EU Floods Directive (FD).

There are currently seven Expert Groups:

- River Basin Management Expert Group (RBM EG)
- Pressures and Measures Expert Group (PM EG)
- Monitoring and Assessment Expert Group (MA EG)
- Accident Prevention and Control Expert Group (APC EG)
- Flood Protection Expert Group (FP EG)
- Information Management and GIS Expert Group (IMGIS EG)
- Public Participation Expert Group (PP EG)

Group Name	Name	Nominated by	Organisation	
RBM EG	Daniela Buzica	European Union EU	DG Environment	
PM EG	Christian Schilling	Austria	BML	
MA EG	Franz Wagner	Austria	BML	
APC EG	Yurii Nabyvanets	Ukraine	Ukrainian Hydrometeorological Institute	
APC EG	Janez Polajnar	Slovenia	Slovenian Environment Agency	
FP EG	Clemens Neuhold	Austria	BML	
IMGIS EG	Dragoș Ungureano	Romania	Romanian Waters	
PP EG	Susanne Brandstetter	Austria	BML	

List of Expert Group Chairpersons

Task groups were established under the responsibility of the permanent expert groups, and they are called upon to provide insights on specific tasks. They consist of delegates from existing expert bodies and additional affiliated experts and specialists.

There are currently four Task Groups:

- Hydromorphology Task Group (HYMO TG)
- Economics Task Group (ECON TG)
- Groundwater Task Group (GW TG)
- Nutrient Task Group (N TG)

List of Task Group Chairpersons

Group Name	Name	Nominated by	Organisation
Economics	Cristian Rusu	Romania	Romanian Waters
Groundwater	Andreas Scheidleder	Austria	Umweltbundesamt
Hydromorphology	Petra Repnik	Slovenia	Slovenian Water Agency
Nutrient	Franz Überwimmer	Austria	Office of the Upper Austrian Government



ICPDR Observers

The ICPDR strongly believes that environmental protection is a community responsibility and the active involvement of the public is a core principle in sustainable water management. So far, the following 25 organizations have taken the opportunity to become ICPDR observers:

- Black Sea Commission (BSC)
- Carpathian Convention
- Central Dredging Association (CEDA)
- CEEweb for Biodiversity
- Danube Civil Society Forum (DCSF)
- Danube Competence Centre (DCC)
- Danube Commission (DC)
- Danube Environmental Forum (DEF)
- Danubeparks
- Danube Sturgeon Task Force (DSTF)
- Danube Tourist Commission (DIE DONAU)

- Danube Youth Council (DYC)
- European Anglers Alliance (EAA)
- European Barge Union (EBU)
- European Water Association (EWA)
- Friends of Nature International (NFI)
- International Association for
 Danube Research (IAD)
- Global Water Partnership (GWP-CEE)
- International Association of Water Service Companies in the Danube River Catchment Area (IAWD)

- Intergovernmental Hydrological Programme of the UNESCO (IHP/Danube)
- International Sava River Basin Commission (ISRBC)
- RAMSAR Convention on Wetlands
- Regional Environmental Centre for Central and Eastern Europe (REC)
- VGB PowerTech e.V. (VGB)
- viadonau
- World Wide Fund for Nature Central and Eastern Europe (WWF-CEE)

River Basin Management: Securing a sustainable future for the Danube River

It is the responsibility of the River Basin Management Expert Group (RBM EG) to develop activities relevant to the implementation of the Water Framework Directive and the development of the Danube River Basin Management Plan. Furthermore, the Hydromorphology Task Group and Economics Task Group both report to the RBM EG.

In 2023, the ICPDR, under the guidance of the RBM EG, advanced the roadmap for the Danube River Basin Management Plan Update 2027, focusing on the start of the WFD implementation cycle 2022–2027. The Chairpersons' Meeting in January 2023 set key priorities, including inter-group coordination and stakeholder input. Additionally, the RBM EG continued its work on sturgeon conservation, sustainable hydropower development, climate change adaptation, and sustainable inland navigation. A draft concept for the Interim Report on the Joint Programme of Measures (2024) is also underway, designed as technical resource for the water-informed public.

A draft concept was finalized that includes the draft outlines of the chapters for the Interim Report on the Joint Programme of Measures (2024). Designed as a technical resource for the water-informed public, the report will be a visually appealing technical document published exclusively as a PDF on the ICPDR website at the end of 2024.

Preparation for the 2025 Interim Overview on SWMIs has begun, building on previous insights while incorporating public consultations and expert group contributions. Collaborative drafting across the RBM EG, HYMO TG, PM EG, GW TG, and PP EG is ensuring a robust and inclusive process. The HYMO Task Group focused on core activities for the upcoming Joint Danube Survey 5 (JDS5): HYMO segmentation, HYMO survey and assessment at JDS5 sites and the update of continuous 10rkm HYMO assessment along the whole Danube River. The HYMO-30 meeting (September 2023) focused on contributions to the Interim Report, plans for the Joint Danube Survey 5 (JDS5), and a new chapter on "nature-based solutions in flood risk management to be jointly prepared with the FP EG" for the WFD/FD discussion paper.

The ECON-27 meeting (September 2023) advanced input for the Interim Report. Most ECON TG representatives provided feedback on the WFD investment template.

The ECON Task Group discussed budget and investment needs for implementing the WFD, aiming to streamline reporting of investment figures across member countries.

TASKS & TREATS ~

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ECONOMICS



A proposal for the Danube Water Balance project passed its initial evaluation, and was approved by the Danube Region Programme in October 2023. Preparations for a full submission are underway. The Danube Water Balance project administrative clarifications and budget adjustments have been addressed, and the project kick-off is expected in February 2024.

Additionally, the group continued their efforts toward the issues of sturgeon conservation and sustainable hydropower development. Efforts continued to apply the ICPDR Hydropower Guiding Principles in the Danube River Basin, with plans to address emerging challenges in an upcoming workshop in 2024.

We Pass 2 (2021–2024): Focused project tasks related to migratory fish monitoring, hydraulic modelling, and preliminary designs for fish passages at the Iron Gates.

LIFE Boat4Sturgeons (2022–2029): Activities include broodstock creation, standardized monitoring, and awareness campaigns. Recent successes include the release of over 35,000 sterlets into the Danube and tributaries, as well as collaboration with BOKU and Slovak teams for population monitoring.

Close cooperation with the Danube Sturgeon Task Force (DSTF) ensures alignment on sturgeon population and habitat monitoring within JDS5 and other sturgeon conservation activities.

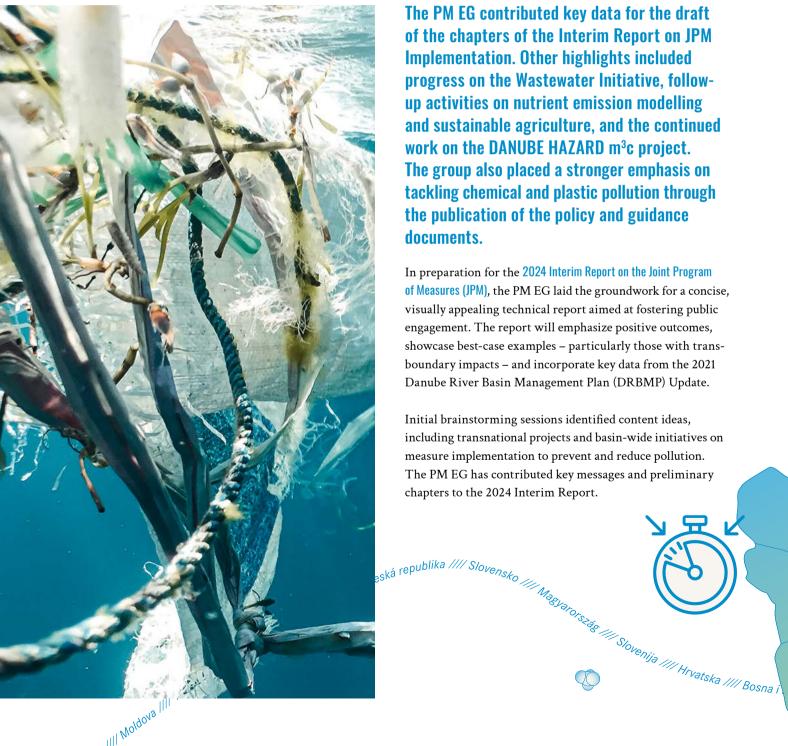
Sub-basin initiatives (Tisza, Sava) and alignment with the EU Strategy for the Danube Region were prioritized to ensure cohesive regional management. Regular updates on Tisza, Sava, and Prut sub-basins ensure robust coordination with RBM EG. As for the EU Strategy for the Danube Region (EUSDR), a close cooperation with Priority Areas (e.g., PA1a for Navigation, PA4 for Water Quality) reinforces alignment on shared objectives.

The 14th Meeting on the Joint Statement on Inland Navigation and Environment took place on 13–14 September 2023 in Zagreb, jointly organized by the DC, ICPDR, and ISRBC.

The commitment to collaboration across expert groups, innovative projects, and integration with broader sector policies ensures that the Danube River Basin remains a model of sustainable water management. The next major event, the RBM-59 meeting (April 2024, Romania), will set the stage for advancing these goals.

Pressures and Measures: Assessing pollution-related and targeting priorities

The Pressures and Measures Expert Group (PM EG) plays a vital role in understanding pollution-related pressures facing our Danube River Basin. This understanding is essential for our long-term sustainable development – as is assessing the efficacy of proposed alleviating measures.



The PM EG contributed key data for the draft of the chapters of the Interim Report on JPM Implementation. Other highlights included progress on the Wastewater Initiative, followup activities on nutrient emission modelling and sustainable agriculture, and the continued work on the DANUBE HAZARD m³c project. The group also placed a stronger emphasis on tackling chemical and plastic pollution through the publication of the policy and guidance documents.

In preparation for the 2024 Interim Report on the Joint Program of Measures (JPM), the PM EG laid the groundwork for a concise, visually appealing technical report aimed at fostering public engagement. The report will emphasize positive outcomes, showcase best-case examples - particularly those with transboundary impacts - and incorporate key data from the 2021 Danube River Basin Management Plan (DRBMP) Update.

Initial brainstorming sessions identified content ideas, including transnational projects and basin-wide initiatives on measure implementation to prevent and reduce pollution. The PM EG has contributed key messages and preliminary chapters to the 2024 Interim Report.

The ICPDR Secretariat continued collaborations with the World Bank and EUSDR PA4 to chart the next steps for knowledge exchange events. Future workshops will address emerging and regionally relevant topics, including rural/ small-scale wastewater management, nature-based solutions, the removal of emerging chemicals, and wastewater management in the context of circular economy practices, such as sludge utilization and energy recovery. Once the revised Urban Wastewater Treatment Directive (UWWTD) is adopted, a workshop dedicated to the new requirements will be organized.

The PM EG actively supported the finalization of the Danube Hazard m³c project, aimed at transnational control and reduction of hazardous substances pollution. Concluding in March 2023, the project delivered significant outputs, including a policy guidance document, technical manual, an emission model and online database, which are available on the Danube Hazard m³c project website.

A Hazardous Substances Pollution guidance document will incorporate recommendations from the Danube Hazard m³c project, outlining monitoring, emission control, and management strategies. This document is expected to be published in Spring 2024. The follow-up Danube Hazard m³c project has been awarded funding by the Danube Regional Programme and will focus on management tools, monitoring, and capacity building. The PM EG continued collaborating with the Tid(y)Up project, which focused on reducing plastic pollution in the Tisza River. Completed in December 2022, the project delivered research insights, cleanup initiatives, and policy recommendations, which were transformed into a draft ICPDR guidance document. Following PM EG inputs, this guidance document will provide policy recommendations and best practices. Publication is expected by the end of 2023.

The NTG proposed reorienting MONERIS model applications toward assessing management interventions and climate change impacts, moving away from solely updating reference conditions. A "living document" summarizing input data and changes will enhance transparency and inform future applications. The Secretariat is exploring partnership opportunities with IGB Berlin for further model development and project funding.

Building on existing guidance, the Secretariat presented a concept note and roadmap for follow-up initiatives on sustainable agriculture. Discussions emphasized fostering dialogue with the agriculture sector, supported by an updated stakeholder list and a mapping exercise to prioritize key partners with over 200 stakeholders identified, prioritizing engagement based on influence.

To strengthen leadership, the PM EG introduced a rotational chairperson system. Starting in 2024, Austria will serve as Chair, with Bosnia and Herzegovina as vice-Chair. The vice-Chair will assume the Chair role the following year, ensuring continuity and equitable representation.

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Monitoring and Assessment (MA EG): **Quantifying problems** and monitoring progress

The Monitoring and Assessment Expert Group (MA EG) is responsible for all water quality and assessment issues, including the Joint Danube Survey (JDS). The group's scope covers the Trans-National Monitoring Network (TNMN) operations, including its Analytical Quality Control (AQC) programme.

In 2023, top priorities included the dissemination of the last results of the 4th Joint Danube Survey (JDS4), the preparation of JDS5, and preparation of the Aquatic Biodiversity Report. The groundwater related activities focused on JDS5 and on a better visuaisation of groundwater management.

In 2023, the Monitoring and Assessment Expert Group (MA EG) focused on several key priorities, including the dissemination of results from the 4th Joint Danube Survey (JDS4), preparatory work for the 5th Joint Danube Survey (JDS5), the preparation of the Aquatic Biodiversity Report, and activities related to groundwater monitoring and management.

Results from JDS4 are being finalized for publication, with manuscripts submitted to various international scientific journals. The article by JDS4 experts, titled "Microplastics in the Danube River Basin: A First Comprehensive Screening with a Harmonized Analytical Approach," has received the prestigious 2022 American Chemical Society Environmental Science & Technology Water Best Paper Award. Only 10 papers were chosen from a pool of over 900 manuscripts, making this honour truly remarkable.





Building on the methodology of JDS4, preparations for JDS5 are well underway. Forty-eight sampling sites have been nominated by 11 countries to ensure comprehensive coverage across the Danube Basin. National coordinators, supported by the national teams and the JDS5 Biology and Chemistry Core Groups, play a central role in this process, managing logistics and bridging communication between the national teams and scientific groups.

The JDS5 Biology Core Group was established to maintain scientific coherence, focusing on fish, sturgeon, macrozoobenthos, eDNA, and invasive alien species (IAS). Notably, eDNA monitoring will complement traditional methodo-

 Image: Solution and States
 <t logies, and it is driven by the newly established eDNA group. This innovative approach highlights the survey's commitment to integrating cutting-edge techniques.

The Aquatic Biodiversity Report, will incorporate data from Joint Danube Surveys, producing operational taxa lists and offering policy-relevant insights.



Groundwater-related activities included contributions to the 2021 TNMN Yearbook, which highlighted quality assessments of basin-wide important aquifers. Groundwater sampling for JDS5 will include hazardous substances analyzed in surface water, ensuring comparability between JDS4 and JDS5 results. Additionally, public engagement efforts are underway, with visual content such as photos of springs, caves, and wells being curated by member states to promote the importance of groundwater. Looking ahead, JDS5 represents a significant step forward in harmonizing monitoring methodologies and integrating innovative approaches, such as eDNA and IAS tracking, into traditional practices. Groundwater monitoring efforts will align closely with surface water analyses to enhance comparability.





Accident Prevention and Control Expert Group: Reducing risks and responding to water emergencies

The Accident Prevention and Control Expert Group (APC EG) focuses on testing and maintaining the Danube Accident and Emergency Warning System (Danube AEWS) and updating inventories of accident hazard sites (AHS).

In 2023, the Accidental Pollution Control Expert Group (APC EG) made significant advancements in strengthening preparedness, response mechanisms, and prevention strategies for accidental pollution incidents in the Danube River Basin (DRB). Key activities included updates to the Danube Accident Emergency Warning System (AEWS), the finalization of a technical report on accidental pollution hazards, and the initiation of new projects to address tailings management facilities (TMFs) and chemical spill modelling.

On 9 May 2023, the ICPDR Secretariat conducted a systemwide test of the Danube AEWS to evaluate its functionality, confirm the 24/7 operability of Principal International Alert Centres (PIACs), and assess the system's overall usability. The results demonstrated the technical reliability of the AEWS, with all 14 PIACs meeting the required three-hour response time. Impressively, nine PIACs responded within 10 minutes, and 13 responded within 40 minutes, showcasing their readiness and efficiency. These results reaffirmed the system's robustness and the commitment of PIACs across the basin. Based on the findings, the APC EG recommended that PIACs continue to prioritize their 24/7 operational readiness, and Contracting Parties were urged to ensure adequate equipment and staffing to support these functions effectively.



To further assess and enhance the AEWS, a comprehensive multinational test was carried out during the 15th APC EG Meeting on 5 October 2023. This test simulated five distinct incidents and required all PIACs to respond actively, both as alert initiators and recipients. The system functioned seamlessly throughout, with smooth server connectivity and effective information flow. A total of 1,544 email and 908 SMS notifications were sent during the test. Building on these successful exercises, additional AEWS tests are scheduled for spring and autumn 2024, maintaining a focus on system reliability and operational readiness.

Between November 2022 and October 2023, an alert in the AEWS was triggered three times, all involving incidents of oil pollution. These events underscored the importance of maintaining an efficient and reliable early warning system to protect the Danube's water quality and safeguard downstream riparian countries.

The AEWS Operations Manual is being updated to broaden its scope to include extraordinary situations with potential transboundary impacts on water quality, as proposed by Austria. Revisions to the manual will incorporate new explanatory clauses for PIAC activities and informal messaging, and the updated version will be reviewed at the next APC EG meeting.

The APC EG emphasized maintaining an up-to-date inventory of accident hot spots, particularly in light of risks from the ongoing conflict near the DRB. Updates to inventories of Accident Hazard Sites (AHSs) and TMFs will follow harmonized criteria, including site capacity, proximity to rivers, and material hazards. Challenges such as confidentiality issues and frequent changes in production data will be considered. Risk assessments similar to those used for TMFs may also be applied to AHSs.

To improve response capabilities, the APC EG discussed the potential of a basin-wide contaminant spill model to forecast spill propagation and impacts. Although few countries currently use such models, many see their value for water management and disaster response. A model developed under the WACOM Project for the Sava River could be scaled to the DRB, with feasibility and operability discussions ongoing.

The final Report on Accidental Pollution Hazard in the DRB was published on the ICPDR website in November 2023. This document provides comprehensive insights from hazard and risk assessments based on updated inventories, accident early warning, disaster management and decision-making.

Efforts to enhance TMF safety included the preparation of the SAFETY4TMF project, aimed at improving prevention, preparedness, and disaster management for TMFs in the DRB. The project was awarded funding in October 2023 and will begin implementation in 2024. Additionally, the UNECE Joint Expert Group will host an international workshop in April 2024 on preventing and responding to accidental water pollution from TMFs, with APC EG members invited to contribute.

ACCIDENT PREVENTION & CONTROL

Flood Protection: Sustainable solutions for the entire Danube River Basin

The task of the Flood Protection Expert Group (FP EG) is to assess, map, manage and mitigate flood risks, and thus it forms the foundation for integrated basin-wide flood risk management in the Danube River Basin.

In 2023, the Flood Protection Expert Group (FP EG) focused on advancing flood risk management planning, integrating new tools and methodologies, and fostering cross-sectoral and international cooperation. This year, key activities included Preparations for the Danube Flood Risk Management Plan (DFRMP) Update 2027 and advancements in the Danube Hydrological Information System (DanubeHIS).





As part of the DFRMP Update 2027, the FP EG agreed to include a new sub-chapter on the implementation of measures. This addition will detail national methodologies for evaluating progress and achievements, and the proportion of green measures implemented. Addressing climate change was also a central theme for the FP EG. While countries incorporate the climate change adaptation into flood risk management planning, uncertainties in hydrological models limit local-scale climate impact assessments. The group also initiated discussions on pluvial floods, emphasizing their growing relevance due to climate change.





The Danube Forecasting Forum (DAFF), a key legacy of the DAREFFORT project, continued under the joint leadership of EUSDR PA5, the ICPDR, and the EC JRC. DAFF 2023 was held back-to-back with the 44th FP EG Meeting in Budapest, fostering collaboration on flood forecasting and management. This arrangement will continue on a biennial basis, rotating leadership among the three organizations.

The Danube Hydrological Information System (DanubeHIS) advanced significantly. Following extensive review and agreement on data policies, the system was finalized for launch at the ICPDR Ordinary Meeting in December 2023.

A new chapter on nature-based solutions (NBS) and flood protection measures is being incorporated into the WFD-FD Discussion Paper, thanks to the close cooperation between the HYMO TG and the FP EG. The chapter is emphasizing the importance of NBS in mitigating flood risks and enhancing resilience. /// Bosna i Hercegovina //// Србија //// Crna Gora //// România //// България //// Moldova //// Україна //// Deutschland //// Österreich //// Сезка геоцирика Source

The Preliminary Flood Risk Assessment (PFRA), as required by the EU Floods Directive, is under review and update.

The DAREnet Project, which concluded in February 2023, established a robust network of flood management practitioners, policymakers, and civil protection organizations. The ICPDR played a vital role as the sole flood risk management partner, highlighting the need for enhanced cooperation between flood and disaster management sectors. The project's final policy panel reinforced the importance of integrating disaster resilience into flood risk management, with the ICPDR's basin-wide mandate under the EU Floods Directive (FD) and Water Framework Directive (WFD) providing a strong platform for collaboration.

Information Management and Geographical Information System: Mapping out a brighter future for the Danube

The Information Management and Geographical Information System Expert Group (IMGIS EG) plays a vital role in conceptualising, informing, presenting and supporting the tasks of the ICPDR. It's responsible for the development and maintenance of datasets, maps and online systems, such as the ICPDR DanubeGIS.

GIS maps provide a detailed picture of the state of the basin, its utilization and management to present future scenarios and pinpoint areas with optimal potential. In 2023, the IMGIS Expert Group (EG) focused on advancing data systems, improving interconnectivity between platforms, and supporting the preparation for the Danube River Basin Management Plan (DRBMP) Update 2027.

In 2023, the IM GIS EG held its 36th meeting on 19 and 20 April 2023 in Prague and the 37th meeting online on 10 October 2023. Key topics included follow-up actions from the ICPDR Chairpersons Meeting, updates to the DanubeGIS and Danube Hydrological Information System (DanubeHIS), and discussions on enhancing data reporting and presentation tools.

ICPDR LAUNCHES DANUBE HYDROLOGICAL

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INFORMATION SYSTEM

The ICPDR Chairpersons Meeting discussions centered on the upcoming DRBMP Update 2027. The IMGIS EG recommended placing greater emphasis on tracking progress between consecutive plans, explaining methodological changes and their impacts, and simplifying the main document by shifting detailed methodology descriptions to a background document. The group also proposed integrating innovative presentation tools, such as online dashboards and story maps, to make the plan more accessible while maintaining comprehensive information.

In collaboration with the Flood Protection Expert Group (FP EG), the IMGIS EG supported updates to datasets for Water Gauging and Precipitation Stations in DanubeGIS. This data will enhance linkages with corresponding stations in DanubeHIS. Challenges with data synchronization were identified and addressed, and national experts were urged to finalize the dataset review and initiate synchronization promptly.

In 2023, the development of the Danube Hydrological Information System (DanubeHIS) went into its final phase. The prototype platform was made accessible to ICPDR users and data providers for testing. Latest updates introduced the ability to display multiple properties at a station and visualize Q100 and low-water levels through charts. Eventually, the DanubeHIS was launched for the public in December 2023. Continuous improvements are being implemented to enhance functionality and user experience. In preparation for the DRBMP/DFRMP Update 2027, the IMGIS EG reviewed its data templates and identified simplifications, structural improvements, and necessary clarifications. This process, which includes consultation with other ICPDR Expert and Task Groups, is set to be finalized in 2025, ahead of the next reporting cycle. Concurrently, the group explored integrating datasets related to MONERIS modelling into DanubeGIS to enhance data visualization capabilities.

Additionally, online maps reflecting the 2021 updates of the DRBMP and DFRMP were finalized and published, alongside maps presenting outcomes of the MEASURES and Danube Floodplain projects. Following a review by the IMGIS EG, these maps were made accessible to all DanubeGIS users, including the public. These maps, accessible to all DanubeGIS users, underwent careful review and correction before their release, ensuring accuracy and usability. The IMGIS EG also began exploring "story maps" as an innovative tool for future reporting cycles to present data in a more interactive and engaging format. The group also actively responded to external requests for ICPDR data and maps. For example, data collected for DRBMP/DFRMP 2021 was shared with the NaturaConnect project, and Elsevier was granted permission to use selected maps in a forthcoming book, with proper attribution to the ICPDR.

Usage of ICPDR information systems continued to grow in 2023, with an overall 9% increase in visits across ICPDR websites. Notable increases were observed for the Danube-Adventure website (+ 31%), DanubeGIS (+ 36%), and the DanubeAEWS platform (+ 46%). The ICPDR main website also saw an 11% increase, reaching over 359,000 visits. The relaunch of the ICPDR website in September 2023 included a restructuring that improved accessibility, with the Library and Search functions emerging as popular features.





Public Participation: Promoting public participation and communication in the Danube

The Public Participation Expert Group (PP EG) is responsible for outreach activities and publicizes information about the Danube River Basin through both online and offline channels. Its key role is to encourage involvement and enhance visibility, which are central to the ICPDR's activities.

In 2023 the PP EG advanced the public participation process towards the 2027 updates of the DRBM and DFRMP, contributed to the Interim Report on the Joint Programme of Measures (JPM), and formalized a partnership with Erste Group Bank. This collaboration marks a significant step in the ICPDR's strategy to engage the private sector, fostering shared benefits and support for key river basin management goals.



The 33rd PP EG meeting took place 27–28 March 2023, in Regensburg, Germany, hosted by the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection, and the Bavarian State Ministry for Environment and Consumer Protection. It provided a platform to discuss key milestones, public participation activities, and partnerships.

In 2023, the PP EG has actively contributed to the development of the Interim Report on the Joint Programme of Measures (JPM), drafting its key message: "Danube Together: A Shared Vision through Public Engagement." Alongside this, the PP EG will create a dedicated social media campaign, coordinated with the ICPDR social media agency, Raffeiner Reputation, to amplify the message of the report, and disseminate concise and impactful messages aligned with the ICPDR's pillars: a cleaner, healthier, and safer Danube. Countries are encouraged to provide success stories, which will be featured in posts using the "Country Takeover" approach. This initiative will highlight personal narratives from each member country, supported by a digital branding strategy. The campaign will be multilingual, with content shared in national languages and English, accompanied by detailed information on the ICPDR website.

In parallel, the PP EG finalized the draft WFD & FD Public Participation Plan for developing the 4th DRBMP and 3rd DFRMP. Covering the 2021–2027 cycle, the plan ensures alignment with public participation requirements under Article 14(1) of the WFD. To streamline timelines, the PP EG proposed combining the publication of the timetable, work programmes, and consultation measures with the interim overview on Significant Water Management Issues (SWMIs). This approach, adopted by the ICPDR, enables an efficient yet comprehensive consultation process. The final draft will be presented for adoption at the ICPDR Ordinary Meeting in December 2024. Recognizing the need for a more user-friendly platform, the ICPDR.org website, operational since 2012, is undergoing a comprehensive redesign. LMP Visuelle Kommunikation was selected to lead the project, with EOR Digital handling the implementation of the latest Drupal-based Content Management System (CMS). The new layout and content structure were unveiled at the 33rd PP EG meeting, receiving overwhelmingly positive feedback. Test users from Germany and Hungary were involved to provide additional feedback during the implementation phase. The relaunch is planned for Danube Day 2023, with expectations of improved accessibility and a visually engaging design.

In 2023, many ICPDR activities, including flagship events like Danube Day and Danube Art Master, returned to in-person formats. The Danube Day motto, "Keep the Danube Blue," was reflected in the event's colour scheme and promotional materials. A new roadmap for Danube Art Master 2023 introduced a "photography" category, replacing the traditional "map" category. The winners of the Danube Art Master competition are set to attend the ICPDR OM-26, with plans for a small exhibition and award ceremony accompanying the presentation of PP EG activities.

Danube Day 2023 featured a wide range of activities, including a solidarity campaign for Ukrainian youth affected by the war. Highlights from the celebrations are detailed in the Danube Day 2023 Report of Activities and on the dedicated website. Looking ahead, 2024 marks the 20th anniversary of Danube Day and the 30th anniversary of the Danube River Protection Convention. To commemorate these milestones, the motto "Keep the Danube Blue" will continue, accompanied by a new festive design and a limited-edition anniversary-themed bag. Preparations for Danube Art Master 2024 have already begun, building on the success of the 2023 competition, whose winners will be announced at the upcoming Ordinary Meeting.

A partnership between the ICPDR and Erste Bank Group, formalized through a Memorandum of Understanding, underscores the importance of shared objectives, including fostering sustainable practices and public engagement. The partnership with Erste Bank Group has advanced, with a roadmap outlining outreach activities funded by the bank. These include annual events like Danube Day and Danube Art Master, as well as dedicated social media campaigns and enhanced digital outreach. The cooperation underscores the importance of strategic partnerships in amplifying ICPDR's mission.



The PP EG contributed significantly to the development of the Interim Report on the JPM, proposing a digital-first approach emphasizing storytelling and public engagement. Key recommendations included publishing best-practice stories from member countries online, supported by a targeted social media campaign in English and national languages. The traditional printed report could be replaced with an interactive digital format featuring success stories, challenges, and the ICPDR's commitment to action.

The Country Takeover social media strategy, now in its third edition (Country Takeover III), provides member countries and the EU with the opportunity to manage ICPDR's social media accounts for a week. Representatives promote the report's messages using unique branding and minimal advertising budgets for wider reach. This initiative has evolved into a more interactive and personalized experience, enabling countries to showcase national activities and share insights with a broader audience. Feedback from participants has been overwhelmingly positive, underscoring its effectiveness in fostering basin-wide engagement.

During the 34th PP EG meeting, the group addressed emerging challenges such as water scarcity and floods. A presentation emphasized the need for broader public outreach on these topics to bridge information gaps as such events become more frequent and gain more media attention. Members were invited to contribute examples from their countries to refine the ICPDR's approach to communicating these critical issues.



Partnership and cooperation: Planning with the Danube's sub-basins

Forging strong, successful partnerships at the local, national, and international levels makes the work of the ICPDR a model for the rest of the world.

The ICPDR supports the development of sub-basin programmes within the DRB, as well as partnerships with our neighbouring regions. This cooperation, as well as a close relationship with the EU's Strategy for the Danube Region, is vital for sustainable integrated river basin management.

Sava River Basin

The 3rd "Sava" planning cycle began at the 49th PEG RBM meeting in February 2023 to address gaps in river basin management. Discussions on the next steps are ongoing. Parties have shared their 2022 dredging activities report under the Protocol on Sediment Management. Meanwhile, the WACOM project is improving the APC module to address data gaps on pollution and river access, with information accessible via SavaGIS.

The implementation of structural and non-structural measures under the Sava Flood Risk Management Plan (FRMP) is progressing well, with countries reporting on their efforts. A revised Sava Preliminary Flood Risk Assessment (PFRA) has streamlined data collection from national flood maps, focusing on hazards and risks to health, the environment, cultural heritage, and the economy. The Flood Protection Working Group, supported by SavaGIS, is preparing a joint flood data exchange report. The Sava Flood Forecasting and Warning System (FFWS), used by ten national organizations, recently trained 16 forecasters in probabilistic forecasting. Upgrades to the FFWS are planned to enhance modeling tools and the warning system.

At its 14th meeting on 13–14 September 2023, in Zagreb, the Sava Commission adopted new Navigation Rules to enhance navigation and reviewed updates to the Joint Statement and PLATINA manual. The meeting, attended by 65 participants, including the European Commission, NGOs, and the World Bank, supported the proposal as part of SDIP Phase I. A recommendation on recreational navigation for the CRO-SLO border section of the Kupa River was also published and well-received.

The Sava GIS system, now serving around 3,000 users, has added new features under the SHELTER project, including data on cultural heritage in flood-prone areas, and integrated APC and NAV module upgrades from the WACOM project. The Sava HIS, with 1,400 users, provides real-time and historical data from over 500 stations and plans to connect with the WMO Hydrological Observing System. The revamped ISRBC website offers enhanced functionality and security in English and national languages. The Sava-Drina River Corridor Integrated Development Program (SDIP) continues to focus on sustainable development and integrated water management, with activities ongoing until mid-2026.

The ISRBC highlighted its work at UNECE events and supported the UN Water Action Agenda through initiatives like the Advanced System for Floods and Low Flow Forecasting in the Sava River Basin, contributing to SDGs 6, 11, 13, 16, and 17. In April 2023, an Iraqi delegation visited to learn about transboundary water cooperation. The 11th Sava Youth Parliament, themed "Let's Work with Nature," was held in September 2023, and involved high school students from four Sava Basin countries. The "Can You Hear Our Rivers" project addressed climate change impacts on the Sava and Scheldt Basins and included a study trip to Croatia for 20 students from seven countries in April 2023.

Tisza River Basin

The ICPDR Tisza Group has advanced the JOINTISZA2 project proposal, circulating a revised version to its members in mid-September 2023 for feedback. Following the launch of the Danube Region Programme's second call for proposals on 2 November 2023, which remains open until March 2024, the group is finalizing the proposal to meet the call's requirements for resubmission.

Prut River Basin

On 1 June 2023, the ICPDR engaged with "EU4Environment: Water Resources and Environmental Data" and UNECE to enhance trilateral cooperation in the Prut River Basin among Moldova, Romania, and Ukraine. Discussions included forming a Prut Expert Group under the umbrella of the ICPDR RBM EG to address transboundary challenges effectively. The 21st STWG meeting encouraged trilateral efforts and recommended reporting progress on the Terms of Reference (ToRs) and Expert Group formation at OM-26.

On 20 October 2023, in Kyiv, the three countries signed the "Declaration Regarding Cooperation on the Management of International Water Issues in the Prut River Basin," supported by EU4EnvWD. Signed by environment ministers, the declaration establishes a framework for shared water governance, data exchange, climate adaptation, public participation, and harmonized RBMPs. It also emphasizes the need for expert-level dialogue under ICPDR to facilitate decisions and align bilateral agreements.

At OM-26, participants discussed the ToRs for a Prut Expert Group, modelled after the Tisza Group, with EU4EnvWD offering support for organising meetings and implementing related activities.





Cooperation with the Black Sea Commission

At its 32nd Regular Meeting in October 2016, the Black Sea Commission adopted the Black Sea Integrated Monitoring and Assessment Program (BSIMAP) for 2017–2022, requiring annual data on Danube pollution loads based on the TNMN water quality yearbook. Monitoring at Romania's Reni station has effectively represented these loads, and an annual report assessing the Black Sea ecosystem is submitted to the ICPDR, synthesizing data from the Black Sea Commission's Advisory Groups.

In November 2023, the Black Sea Commission submitted its Summary Report to the ICPDR, indicating no deterioration of the Black Sea's status due to the Danube River, based on Romanian and Ukrainian data. Romania noted climate change impacts on nutrient variability and water mixing, while Ukraine reported rising air and seawater temperatures, with limited sampling due to the war.

The 2022 TNMN data from Reni was submitted to OM-26 for approval and will be forwarded to the BSC. Due to its proximity to the war zone, Romania shifted its TNMN monitoring site from Reni to Isaccea in summer 2023 to ensure continued monitoring of the Danube delta.

Regular Budget and Financial Contribution

Regular Budget for the Financial Year 2023

Three independent auditors, appointed by the Contracting Parties, audited the consolidated financial statement including the accounting records of the ICPDR for the financial year from 1 January–31 December 2023. The Audit Team certified that the Statement of Accounts is correct, and the contents, structure and details are in accordance with ICPDR rules and regulations and accounting principles assuring transparency of financial management.

Contributions – Financial Year 2023

Contracting Party	Contribution in %	Contribution in EUR	Actual payment in EUR
Austria	8.22%	105,630.05	105,630.05
Bosnia & Herzegovina	4.90%	62,914.52	62,914.52
Bulgaria	8.22%	105,630.05	105,630.05
Croatia	8.22%	105,630.05	105,630.05
Czech Republic	8.22%	105,630.05	105,630.05
Germany	8.22%	105,630.05	105,630.05
Hungary	8.22%	105,630.05	105,630.05
Moldova	1.84 %	23,630.60	0.00
Montenegro	3.65%	46,822.36	46,822.36
Romania	8.22%	105,630.05	105,630.05
Serbia	8.22%	105,630.05	105,630.05
Slovakia	8.22%	105,630.05	105,630.05
Slovenia	8.22%	105,630.05	105,630.05
Ukraine	4.90%	62,914.52	0.00
European Union	2.50%	32,117.50	32,117.50
Total	100.00%	1,284,700.00	1,198,154.88

Expenditure – Financial Year 2023

Budget Line	Approved Budget in EUR	Expenditure in EUR	Balance in EUR
1. Staff	902,690.00	875,742.06	26,947.94
2. Office Running	131,100.00	124,841.98	6,258.02
3. Public Participation, Communication and Outreach	94,000.00	81,768.66	12,231.34
4. Travel & Meetings	44,000.00	41,717.84	2,282.16
5. Services	112,910.00	110,591.38	2,318.62
Total	1,284,700.00	1,234,661.92	50,038.08
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Contracting Parties and Heads of Delegation

Austria

Günter Liebel. Federal Ministry of Agriculture, Regions and Tourism www.bml.gv.at

Bosnia and Herzegovina

Mirza Hujić, Ministry of Foreign Trade and Economic Relations www.mvteo.gov.ba

Bulgaria

No head of delegation nominated in 2023 www.moew.government.bg

Croatia

Elizabeta Kos, Ministry of Economy and Sustainable Development www.mingor.gov.hr

Czech Republic

Lukáš Záruba, Ministry of Environment www.mzp.cz

Germany

Heide Jekel, Federal Ministry for the Environment, Nature Conservation and Nuclear Safety www.bmu.de

Hungary

Peter Kovács, Ministry of Interior www.kormany.hu/hu/belugyminiszterium

Moldova

Radu Cazacu, Waters of Moldova www.mediu.gov.md

Montenegro

Zorica Djuranovic, Ministry of Agriculture, Forestry and Water Management www.gov.me

Republic of Serbia

until April 2023: Natasa Milic, from April 2023: Maja Srbić, Ministry of Agriculture, Forestry and Water Management

Romania

until 31 Aug. 2023: Gheorghe Constantin, from Sept. 2023: Adriana Petcu, Ministry of Environment, Waters and Forests www.gov.ro

Slovakia

until 23 Nov. 2023: Roman Havliček. from 24 Nov. 2023: Vladimír Novák, Ministry of Environment www.minzp.sk

Slovenia

Mitja Bricelj, Ministry of the Environment and Spatial Planning www.gov.si

Ukraine

Oleksandr Krasnolutskyi, Ministry of Environmental Protection and Natural Ressources www.mepr.gov.ua

European Union

until Sept. 2023: IV L... III Österreich //// Česká republika //// Slovensko //// Мавзагоззаве /// Slovenija //// Hrvatska //// Bosna i Hercegovina //// Србија //// Сгла Gora //// România //// Бъл Hans Stielstra,

Germany

Stutteart

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety www.bmu.de

A

Czech Republic Ministry of Environment www.mzp.cz

European Union

European Commission, DG Environment www.ec.europa.eu/environment

Austria

Federal Ministry of Agriculture, Regions and Tourism www.bml.gv.at

> Adriatic Sea

> > Croatia Ministry of Economy and Sustainable Development www.mingor.gov.hr

DYP

Slovenia

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Bulgaria Ministry of Environment and Water www.moew.government.bg

Montenegro

Ministry of Agriculture, Forestry and Water Management www.gov.me

Republic of Serbia

Ministry of Agriculture, Forestry and Water Management www.minpolj.gov.rs

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Imprint

Editor. Text: Hélène Masliah-Gilkarov

Layout & Illustrations: Barbara Lewall

Photos: page 2: Cristian Ungureanu / unsplash, page 7: Stephy Miehle / unsplash, page 9: Karthikeya gs/unsplash, page 10: Naja Bertolt Jensen/unsplash, page 13: MSphotos/pixabay, page 14: Vadim Karnakhin / unsplash, page 16: Hans / pixabay, page 17: Caspian Dahlstrom / unsplash, page 19: Vincent van Zalinge / unsplash, page 20: pixabay, page 23: Andrei Prodan / pixabay, all others: © ICPDR.

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