



DANUBE WATCH

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THE MAGAZINE FOR THE DANUBE RIVER
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International Commission
for the Protection
of the Danube River

Internationale Kommission
zum Schutz der Donau

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On June 29th, 1994, the Danube River Protection Convention was signed by 11 Danube countries, establishing the ICPDR.





Dear readers,

At the United Nations Headquarters in Vienna, we feel privileged to be located so close to the River Danube, a vital resource for many countries. The river passes through 10 countries before flowing into the Black Sea, so protecting the river and its basin cannot be done by one country alone. The river, like an artery running through Central and Eastern Europe, illustrates perfectly the value of multilateralism. Through the valuable work carried out by the International Commission for the Protection of the Danube River (ICPDR) to protect the river, we see the importance of working together to protect a shared resource.

Through the Danube River Protection Convention, which provides the mandate for the ICPDR, the European Union and 15 Contracting States – Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Germany, Hungary, Moldova, Montenegro, Romania, Slovakia, Slovenia, Serbia and Ukraine – are brought closer together, reflecting the necessity of effective multilateralism.

The ICPDR's efforts to maintain the biodiversity and beauty of the Danube river, especially in times of rapid climate change, are crucial and neatly align with the Sustainable Development Goals – the thread that runs through all of the United Nations' work and serves as a universal framework for development.

As a result, having a strong relationship with the ICPDR is not only a rewarding experience but also brings us closer to reaching Sustainable Development Goals 6 "Clean Water and Sanitation", 14 "Life Below Water" and 17 "Partnership for the Goals".

In this spirit, on the 40th anniversary of the Vienna International Centre, we would like to congratulate the ICPDR for its continuous efforts and outstanding achievements over a quarter of a century. Although much has changed over the four decades since the Vienna International Centre opened its doors, the Danube river and its beauty remain the same. For this, we have to thank the countries involved for embracing the spirit of international cooperation and illustrating the pivotal role of transboundary water management, and the ICPDR for safeguarding the Danube river over the last 25 years.

Martin Nesirky, Director of the United Nations Information Service, Vienna

ICPDR IKSD

International Commission for the Protection of the Danube River
Internationale Kommission zum Schutz der Donau

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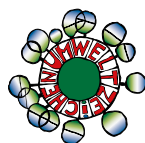
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Danube Watch is the official magazine of the ICPDR, the International Commission for the Protection of the Danube River. Danube Watch enhances regional cooperation and information sharing on sustainable water management and environmental protection in the Danube River Basin. It reports on current issues affecting the Danube Basin, and on action taken to deal with challenges in the river basin. Striving for scientific accuracy while remaining concise, clear and readable, it is produced for the wide range of people who are actively involved in the Danube River Basin and are working to improve its environment.

The ICPDR accepts no responsibility or liability whatsoever with regard to information or opinions of the authors of the articles in this issue.



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News & Events

Fourth Joint Danube Survey (JDS4) Kicks off in Budapest

Budapest, 27 June 2019 – The official kick-off for JDS4, the fourth Joint Danube Survey, took place in Budapest this year, starting up the Danube-wide survey in the heart of the Hungarian capital hosted by the City of Budapest and organised by the Hungarian Ministry of Interior and the General Directorate of Water Management (OVF).

The event included a series of introductory talks and presentations, a river sampling demonstration plus a press conference. This all took place on the Margitsziget (Margaret island) in Budapest and in the presence of the Deputy Mayor of Budapest, the Hungarian Deputy State Secretary for the Interior and several of the key members of the ICPDR team.

Along with ICPDR president, Péter Kovács, one of the key speakers at the JDS4 launch in Budapest, ICPDR Executive Secretary, Ivan Zavadsky and JDS4 co-ordinator, Igor Liska, were also in attendance. The presentation of JDS4 gave an outline of some of the methods and aims of the survey. Attendees were then able



to observe a live demonstration of a typical survey sampling, done right there on the banks of the Danube in Budapest.

While the event acted as an official start to JDS4, it was not the only public event tied to the survey taking place along the Danube. An array of interesting events were to be found throughout the basin. Further details can be found on pages 12-13.

Danube Day 2019: “Get active for a Safer Danube”



Vienna, 29 June 2019 – Over eighty million people in all 14 Danube countries were invited to ‘Get active for a safer Danube’ on the 29th of June as part of the celebrations for Danube Day.

The theme this year was a “Safer Danube”, inspired by the 2016 Danube Declaration. The declaration made it a priority for all

Danube Basin countries to work on making the Danube River Basin cleaner, healthier and safer for all citizens to enjoy.

Danube Day celebrates the Danube, the rivers that flow into it and the vital role they play in providing water, food, power, recreation and livelihoods. This year however, Danube Day was especially notable for commemorating the 25th anniversary of the signing of the Danube River Protection Convention in Sofia, Bulgaria, in 1994.

The President of the ICPDR, Péter Kovács, said, “This year, and on the momentous occasion of the ICPDR’s 25th anniversary, we would like to join all the citizens of our Danube River Basin in celebrating the convention that has given – and will continue to give – all of us the tools to ensure a safe River Basin for generations to come”.

Danube Day is the ICPDR's most widely known communications event and is a unique celebration stretching across 14 countries each year. To find out more about the numerous Danube Day events as well as the ICPDR and its work in general, please visit: www.danubeday.org and www.icpdr.org.

Danube Art Master 2019



We love the Danube!

Jointly organised by the Global Water Partnership Central and Eastern Europe (GWP CEE) and the International Commission for the Protection of the Danube River (ICPDR), this competition encourages children to have a closer look at their local river, to reflect on what the environment means to them and to create original artworks to celebrate the region.

Children from all schools, NGOs, clubs, day care centres or associations for children in the Danube Basin are invited to create a piece of art and take part in the Danube Art Master competition, which has been uniting thousands of children throughout the Danube River Basin since 2004. The competition not only brings children of the Danube region together, but also educates them about the river's intrinsic value and importance, and gives them a voice to comment on the future of their environment.

The contest invites young people from 14 countries to create artworks inspired by the rivers and their surroundings. The international winner will be announced in the fall. Participants must be between 6 and 18 years old and from a country in the Danube Basin. The competition exists at two levels: national and international. Once selected at the national level, national winners will then compete at the international level. The participants are encouraged to check the submission deadline with their national organiser. Categories include artwork, video, poetry, song or performance; allowing all artistic talents to be showcased!

New Agreement Puts the EU's Water Framework Directive Front And Centre

The member states of the ICPDR have solidified an agreement to implement the European Union's Water Framework Directive (WFD) with the objective to 'achieve good chemical and ecological status'. To meet this objective, the ICPDR and International Sava River Basin Commission (ISRBC) have developed fresh River Basin Management Plans to address the salient issues impacting water and ecological statuses.

Some of the analyses undertaken have identified that many significant pressures derive from 'hydromorphological alterations' in the Danube. These stem from over a hundred years of engineering alterations in the basin to improve navigation, hydropower, flood protection, etc., and the results include a reduction in the ability of fish to migrate, plus the loss of ecologically vital wetlands.

Aiming to both stem such problems and avoid future pressures, the relatively new concept of integrated planning is key. Overcoming the resources gap and aligning efforts between the Danube River Basin's EU and Non-EU states is thus more important than ever. The Global Environment Facility (GEF)'s Danube River Basin Hydromorphology and River Restoration (DYNA) project aims to support Bosnia and Herzegovina, Moldova, Montenegro, Serbia and Ukraine in developing the capacity necessary to monitor, assess and mitigate pressures, and harness the benefits of restoration measures.



The project is to be implemented through a variety of local and international institutions including the WWF, ICPDR, ISRBC, Udruuga Dinarica (Bosnia and Herzegovina), Svetska Organizacija za Prirodu (Serbia), Green Home and EcoTim (Montenegro), and will lead to newly agreed methods, techniques and integrated plans across borders, reducing pressures from hydromorphological alterations. It will also lead to the improved ecological status of the Danube River Basin.

25 Years of ICPDR



A selection of covers from a quarter of a century of Danube Watch

“The ICPDR is the principle international body for the promotion of a sustainable and balanced use of water resources in the Danube River Basin”, says Bosko Kenjic, Bosnia & Herzegovina's Head of Delegation to the ICPDR.

Around the world, the ICPDR is seen as a leader in river basin management, providing valuable lessons for the managers of other transboundary water systems from the Orange River to the Amazon. The ICPDR is also actively cooperating with global organisations such as the Global Environment Facility (GEF), the World Bank, United Nations Development Programme (UNDP), UN Environment and the Organisation for Economic Cooperation and Development (OECD), to ensure that other programmes can learn from the experiences of managing the Danube River Basin.

The Danube River Protection Convention (DRPC) was signed in 1994. Its signatories agreed to cooperate on crucial water management issues, including the conservation of surface and groundwater, controlling hazards from accidents and floods and reducing pollution entering the Black Sea from sources in the Danube River Basin. The Convention takes a holistic approach, based on the understanding that water resources play an essential part in ecosystems as well as in human societies and economies. In essence, the ICPDR was created to act as an organisation that works to ensure the sustainable and equitable use of freshwater resources in the Danube River Basin for the benefit of the over 80 million people who call the area home.

In the 25 years since then, the ICPDR has provided a means for countries to assess the health of the river and develop basin-wide plans to address priority issues such as pollution, hydropower, navigation and adaptation to climate change. By bringing together representatives from the highest ministerial levels, technical experts, members of civil society and the scientific community, the ICPDR has contributed greatly toward improvements in the state of water bodies in the Danube River Basin. This can be seen in the EU Water Framework Directive and Flood Directive. The Water Framework Directive (WFD) established a framework for community action in the field of water policy in 2000. Conceived of in 2004 and implemented in 2007, the EU Flood Directive aims to reduce and manage the risks to human health, the environment, cultural heritage and economic activity posed by floods.

The ICPDR serves as an important learning hub and platform for the exchange of experiences and innovation between countries faced with vastly disparate economic and environmental challenges. It also continues to pioneer inter-sectorial cooperation and structured dialogue among those who benefit from the Danube's water resources. This includes 24 observer organisations which are the Black Sea Commission, Carpathian Convention, Central Dredging Association, Danube Civil Society

Forum, Danube Competence Center, Danube Commission, Danube Environmental Forum, DanubeParks, Danube Sturgeon Task Force, Danube Tourist Commission, European Anglers Alliance, European Barge Union, European Water Association, Friends of Nature International, Global Water Partnership, International Association for Danube Research, International Association of Water Supply Companies in the Danube River Catchment Area, International Hydrological Programme of the UNESCO, International Sava River Basin Commission, RAMSAR Convention on Wetlands, Regional Environmental Center for Central and Eastern Europe, VGB PowerTech e.V., viadonau and the Worldwide Fund for Nature – Danube-Carpathian Programme.

According to Heide Jekel – Germany's head of delegation to the ICPDR – the ICPDR is "providing global leadership as one of the first river basin commissions to have developed a climate change adaptation strategy".

The continuous goal of the ICPDR is to implement the Danube River Protection Convention and make it a living tool for coordinating sustainable and equitable water management. This includes conservation as well as the improved and rational use of water resources for the benefit of the Danube River Basin.

The ICPDR has achieved much in 25 years of existence toward tackling its key goals while growing, expanding and cooperating with an increased number of actors in the region. Below is only a small sampling of such achievements.



Addressing Pollution

Having cooperated in numerous joint efforts, the GEF Strategic Partnership, ICPDR, the European Commission and Danube countries can take credit for recent measurable improvements in the Black Sea's north-west shelf. Nowhere on Earth have such demonstrable water quality and ecosystem improvements been observed in a large river and adjacent sea as in the Danube and Black Sea ecosystems over the last decade. The Black Sea is showing initial evidence of recovery. This is only one of many notable examples of cooperative success in the region.

Flood Risk Prevention

In 2004, the Action Programme for Sustainable Flood Protection for the Danube was released by the ICPDR. In 2015, the Danube Flood Risk Management Plan, which is based on the EU Floods Directive, was released. It focuses on the strategic management of flood risk across the entire river basin and compliments national flood risk management plans. The main goal of both of these actions has been to increase communication, cooperation and solidarity among the individual countries of the Danube region, which may be affected by flooding.

Sustainable Hydropower

In 2010, Ministers from the Danube countries mandated the ICPDR to trigger a broad discussion process with the hydropower sector and all relevant stakeholders with the aim of integrating environmental considerations into the management of

new and existing hydropower plants. This led to the creation of Guiding Principles on Sustainable Hydropower Development, which in turn has put in place a common vision and practical recommendations for countries to improve the efficiency and environmental management of hydropower plants. The Guiding Principles document is also currently available in eight languages: Bosnian, Croatian, Czech, English, German, Slovak, Slovene and Ukrainian.

Climate Change

In 2012, the ICPDR was the first river basin commission in the world to develop a climate change adaptation strategy. At the 2010 Danube Ministerial Conference, Ministers asked the ICPDR to develop a Climate Change Adaptation Strategy for the Danube River Basin and Germany was nominated to be the lead country for the activity, thus setting things in motion. The ICPDR's basin-wide approach to climate change is now helping to provide water management information at the catchment scale so that countries can determine the most likely impacts and cooperate on suitable adaptation measures. This strategy was again updated in 2018 with several research studies, expert workshops on adaptation based on these studies and the broad cooperation of ICPDR experts, nominated experts and observer organisations.

Joint Danube Survey

The first JDS was carried out by the ICPDR in 2001 and was the most homogeneous

analysis of the water quality and the ecological status of the Danube River ever conducted. Every six years since then, a JDS has taken place on ever broader and deeper scales, providing a wealth of valuable data from which informed high-level decisions regarding environmental measures can be made. These collaborative surveys have shown that the water quality is progressively becoming healthier and safer, in large part thanks to efforts supported by the ICPDR. 2019's JDS4 was kicked-off in June with ambitious goals and new methods including a more active role for national authorities and individual countries, effect based methods/ non-target screening, environmental DNA (eDNA) testing and information gathering on micro-plastic contamination levels in the Danube.

Outreach

From the beginning, the ICPDR recognised the importance of reaching out to and informing the public about its important work. Danube Watch magazine was first published in 1994 and has acted as the voice of the organisation ever since. In addition to Danube Watch, the ICPDR has taken full advantage of the internet by regularly publishing reports and information on its website while also utilising social media outlets to better reach the public. Public outreach also means physically bringing people together. To this end, the ICPDR regularly organises activities like the annual Danube Day – a tradition since 2004. See page 22-23 for an in-depth look.

From Convention to Action

The ICPDR celebrates its 25th year of existence this year, with its foundation and work directly tied to the Danube River Protection Convention of 1994. The efforts and steps required to accomplish the signing of the convention and to then begin action based on this founding document were tremendous and deserve to be highlighted.

In 1985, Danube countries had agreed in the 'Bucharest Declaration on Water Management of the Danube River' to coordinate water management activities. The goals were ambitious but the political and economic situation in the region at the time hindered effective implementation.

Not long after massive regional political changes affected Central and Eastern Europe (CEE), the idea of creating a 'Danube River Protection Convention (DRPC)' was supported by Danube countries at the first UNECE 'Environment for Europe' conference held at the Dobris Castle in the Czech Republic in June 1991.

Building on this momentum, 24 countries, Global Environment Facility (GEF)/United Nations Development Programme (UNDP),



Joachim Bendow, first Executive Secretary of the ICPDR and Ursula Schmedtje, first Technical Expert for River Basin Management at the ICPDR Secretariat (right).

the European Commission and NGOs met in Sofia, Bulgaria in September 1991 to plan the next steps. The result was the birth of the jointly agreed upon 'Environmental Programme for the Danube River Basin (EPDRB)', a framework initiative for regional cooperation in water management that would initiate priority studies and actions supporting the establishment of the DRPC.

programme ever to be approved by both organisations.

The need for a DRPC was further driven by Danube countries becoming Parties to the new UNECE Convention on the Protection of Transboundary Rivers and Lakes signed in Helsinki in March 1992. It obliged Parties to prevent transboundary impacts on watercourses and encouraged them to cooperate through river basin management agreements. In effect, the 'Helsinki Convention' would become the basis for the DRPC.

On the 29th of June 1994 in Sofia, Bulgaria, 11 Danube countries (Austria, Bulgaria, Croatia, the Czech Republic, Germany Hungary, Moldova Romania, Slovakia, Slovenia and Ukraine) and the European Commission (EC) signed the Danube River Protection Convention (DRPC). It has become the overall legal framework for protecting and sustainably using water and other shared ecological resources.

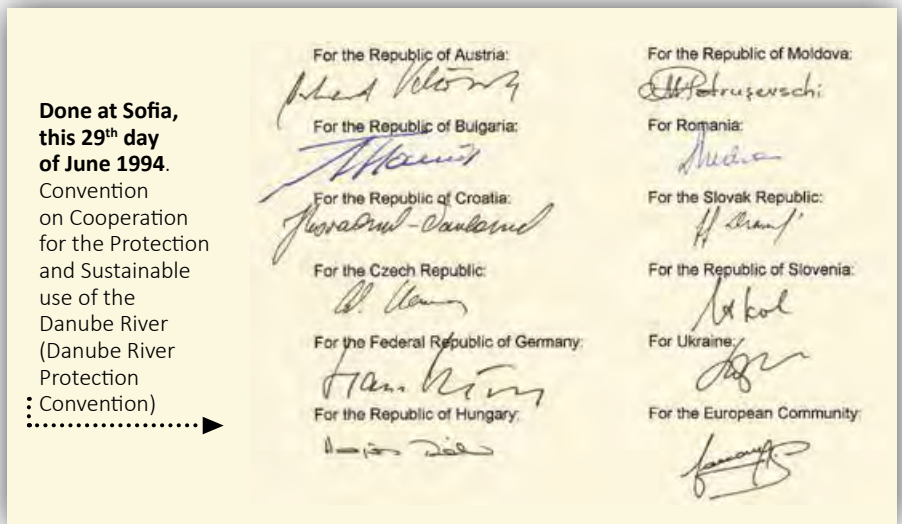
The foundational text at the core of the ICPDR's raison d'être, the Danube River Protection Convention, continues to lay the groundwork for multilateral cooperation between all Danubian states necessary for the preservation of the river and its tributaries



The EPDRB was managed and mainly funded by the EU Phare Multi-Country Programme for Environment and UNDP, which planned to draw funds from the emerging Global Environmental Facility (GEF) to implement EPDRB activities. The EPDRB was extremely important in that it was the first regional

The main objective of the Danube River Protection Convention is to ensure that surface waters and groundwater within the Danube River Basin are managed and used sustainably and equitably. This involves:

- the conservation, improvement and rational use of surface waters and groundwater.
- preventive measures to control hazards originating from accidents involving floods, ice or hazardous substances.
- measures to reduce the pollution loads entering the Black Sea from sources in the Danube River Basin.



The signatories to the DRPC have agreed to co-operate on fundamental water management issues by taking "all appropriate legal, administrative and technical measures to at least maintain and where possible improve the current water quality and environmental conditions of the Danube river and of the waters in its catchment area, and to prevent and reduce as far as possible adverse impacts and changes occurring or likely to be caused".

The DRPC came into force on the 22nd of October 1998. Days later, the International Commission for the Protection of the Danube River (ICPDR) and its Permanent Secretariat were established. Between 1998 and 2000, the ICPDR, mainly through its Expert Groups, cooperated with the GEF/UNDP and the EC in implementing the 'Environmental Programme for the Danube River Basin' (EPDRB).

In 2000, the EPDRB officially ended. This proved to be a major milestone whereby the lead in managing the Danube Basin shifted from donors to the ICPDR and the Danube countries themselves, with continued and targeted GEF/UNDP support.

Also in 2000, the ICPDR Heads of National Delegations agreed that the implementation of the EU's Water Framework Directive (WFD) should become the highest priority for the ICPDR for the coming years. Ministers from all of the Danube countries gave their full commitment to back the decision, including members of the EU, prospective members and non-members. They further pledged to develop a single, Basin-wide Danube River Basin Manage-

ment Plan (DRBMP) and nominated the ICPDR as its coordinating body. The decision made sense given that both the WFD and ICPDR were based on using integrated river basin management (IRBM).

In 2000, the EU adopted the Water Framework Directive (WFD), which acts as an effective tool for water management and is one of the strongest pieces of water protection legislation in the world. ICPDR Heads of Country Delegates decided that the implementation of the WFD should be of the highest priority and all Danube countries agreed, both EU member states and potential member states. Since then, the ICPDR has worked to strengthen the capacity of Danube countries to meet the EU's accession requirements. This leads to a positive outcome for all sides as political and economic incentives for environmental compliance resulting from the EU accession process promote the speedier implementation of the Danube River Protection Convention's objectives.

The five-year Danube Regional Project (DRP) was launched in 2001 and constituted the last phase of GEF/UNDP long-term support for IRBM in the Danube Basin. Its main goal was to strengthen the capacity of the ICPDR and Danube countries to cooperate in fulfilling their commitments to implement the Danube Convention, to reduce nutrient pollution entering the Black Sea and to the WFD. It built on the GEF Transboundary Diagnostic Analysis to help develop the 2004 Danube River Basin Analysis and eventually the Danube River

Basin Management Plan. The DRP and significant involvement of the GEF/UNDP in the Danube Basin then ended in 2007.

The first Joint Danube Survey was conducted in 2001 with the goal of providing comparable and reliable information on the water quality of the entire course of the Danube River. The survey (and its subsequent iterations) help Danube governments implement the Danube River Protection Convention as well as the EU Water Framework Directive. The data collected, cooperation fostered and awareness raised by these surveys has proven to be incredibly valuable for the work of the ICPDR and the achievement of the Convention's vision.

With this key groundwork in place, ICPDR and its partners have been able to make great strides in securing the future of the Danube River, its tributaries and the 80 million people who depend on the Danube's waters. The future growth of cooperation and action stems from the work leading to the Danube River Protection Convention and the subsequent path toward action that took place over its first decade of existence. The DRPC truly shows what can be accomplished with clarity of vision and dedication to action.

Hélène Masliah-Gilkarov, Technical Expert for Public Participation and Communication in the ICPDR Secretariat, and the Executive Editor of Danube Watch

Joint Danube Survey 4

The Joint Danube Survey is the most extensive investigation of a large river and its tributaries in the world. After the official start on the 27th of June 2019 in Budapest, sample-taking and testing began at predetermined sampling locations around the Danube River Basin. Its goal: to capture biological, chemical, and water structures; to examine Danube fish; to implement new methods of examination; and to test for micro-plastics along the entire Danube. The value of this river examination, the largest of its kind globally, lies in the high quality of the data and the Danube-wide comparability of the findings. Aside from the pre-existing parameters, 2019 brings in an additional focus on state-of-the-art methods.

The examination of invasive species will provide information about the effects of foreign plants and animals that have moved (or were brought) into the Danube. Invasive species often pose a serious threat to the well-being of native plants and animals. Therefore, understanding the depth of the threat they pose, as well as where they are predominantly found, can lead to the formulation of ways to combat

their spread and prevent future introductions into the Danube's ecosystem.

Specially developed collection tools for micro-plastics ascertain the amount of plastic particles that are transported in the water flow of the Danube. With increased concern over the amount of micro-plastics contamination in the Danube and the recognition that nearly all of the Earth's water systems have been contaminated, systematic testing of the river for micro-plastics for the first time will secure a base-line understanding of the extent of the problem. This will allow for further testing in the future that can be compared in order to understand the developing state of the issue. The tests, as part of JDS4, will also provide vital information on the type of micro-plastics pollution, problem locations, possible origins and relative amounts – all of which will inform future policy decisions designed to address this troubling problem. See pages 18-19 for a more in-depth look.

A microbiology programme under Austrian leadership is concerning itself with the potential dangers from faecal germs and antibiotic-resistant bacteria. This

programme seeks to track the number of dangerous faecal-related germs and bacteria, especially E.coli, found along the Danube. Sampling and testing in areas immediately downstream from large metropolitan areas is especially important as sewage waste-water released in these areas is a major source of faecal contamination. Tied to this investigation is sampling to detect the number and varieties of antibiotic-resist bacteria in the river in order to discover how they develop as well as potential solutions. See pages 20-21 for more information.

For the first time in a major river, the largest investigation of eDNA (environmental DNA) will be undertaken. Within the scope of this, DNA will be examined in the water and compared to DNA information in a databank. What species live in the Danube can be determined through a water sample with this method and without the need to remove the plants and animals themselves from the river. These modern techniques will revolutionise and streamline ecological investigations in the future. Biological research and monitoring for the assessment of ecological quality could also very well become greatly advanced through the use of this method. It will have further serious positive effects on more specific research, such as the investigation of invasive species as mentioned above.



www.danubesurvey.org

In addition to the targeted investigations of a number of pollutants, the technique of non-target-screenings will be put to use. Through this method, a digital fingerprint of the chemical make-up of the water will be created that will contain more than several tens of thousands of substances in small concentrations. From this fingerprint, the levels of natural and man-made substances can be ascertained, thereby providing information about the health of the river and the theoretical sources of unwanted pollutants. Samples are being taken from a total of 51 sampling locations as part of JDS4.

The goal of the Joint Danube Surveys is to fulfil the strong requirements of the EU Water Framework Directive in order to achieve good standing for all Danube River Basin waters. It is assumed from this that the findings of JDS4 will be able to reaffirm the positive trends created through the cooperative efforts of the Danube countries. The last JDS showed a consistently good water quality in the Danube for many stretches of the river and improved water quality among all of the Danube countries. The findings of JDS4 will provide an important decision-making basis for further necessary measures along the Danube.

Along with all of the new methods, focuses and equipment in play for JDS4, a vigorous communications and public outreach strategy has been put in place

to make information on all aspects of the Joint Danube Survey and its findings not only available to the public, but also relevant. The concept of science communications is extremely important in that it provides a bridge between scientific experts and the general public. Making sure that the public has access to scientific findings and, more importantly, understands the importance of any findings offers potentially massive positive effects for both parties. See a more detailed explanation of science communications on pages 16-17.

Clean water does not mean an absence of all other substances. This is also true for river systems like the Danube. Lifestyles and business practices are reflected by the waters' general health. On the basis of new analytical processes, a number of substance groups are detectable these days. The difference between dangerous and non-dangerous substances is what is important. Therefore, the current controls on the quality of the Danube are vital. These controls are regularly carried out in the national monitoring programmes of various Danube River Basin countries and often in cooperation with one another.

The ICPDR has organised the Joint Danube Survey, with renowned scientific teams, every six years since 2001. Thirteen states of the Danube River Basin, from Germany to Ukraine, cooperate on its implementation. With sampling and testing well under way, the full findings of JDS4 are expected to be released in by the end of 2020.

**JOINT
DANUBE
SURVEY 4**



[Re] Discover Danube: Public Involvement/ Awareness JDS4

In addition to scientific and technical goals related to water quality monitoring, JDS4 is an opportunity to increase public awareness of water protection and conservation issues throughout the Danube River Basin. The ICPDR's experience with local, national and international outreach is informed by its three previous surveys over the last 18 years. During that time, news of the JDS has been featured in many of the most widely distributed newspapers, listened to radio programmes and watched TV stations in the Danube countries.

In 2019, ICPDR's outreach goals are significantly greater as a result of new processes JDS activities are engaged in at the national

level, increasing the responsibility of those who best know the local regions, cultures and opportunities. This year, more people than ever could discover the importance of the Danube and the national and international protection efforts, and genuinely come out for a good time on the Danube!

The JDS4 website (www.danubesurvey.org)

is continuing its commitment to sharing its results online, along with various stories and pictures, updated for the more international, more locally-sensitive and more educational style adopted in 2019.

JDS4 Events

With this increased focus on communications and public engagement, this year's Joint Danube Survey has already started off on the right foot with JDS4- related events taking place all along the sampling site route.



Austria

JDS4 launched in Austria on the 10th of July 2019 in two different locations along the Danube. At the sampling station in Wolfsthal, presentations and discussions with scientific experts were held. Later on, in Hainburg, a key location for the 2019 action for sampling Macrozoobenthos (small animals living on or in sediment), demonstrations of the sampling procedure and equipment were undertaken. These demonstrations were complemented by various discussions and talks from JDS4 experts on Phytobenthos, Phytoplankton and Zooplankton.



Hungary

The official kick-off for JDS4 took place in Budapest this year, beginning the Danube-wide survey with an afternoon press conference held in the heart of the Hungarian capital. Among others, the deputy mayor of Budapest and the Hungarian State Secretary for the Interior were in attendance for this event that was held on the 27th of June on Margatsziget (Margaret Island).



Czech Republic

On the 20th of June 2019, the Open Door Day of the Water Research Institute in Prague was held from 9:00- 17:00. This event kicked off JDS4 in the Czech Republic, and included a lecture and Q&A session about JDS4, as well as some takeaway materials available to any and all interested members of the public.

Ukraine

In 2019, the launch of JDS4 in Ukraine went hand in hand with the launch of Danube Day and the celebration of the Danube Herring Festival on the 29th of June in Kiliya, on the Danube Delta. Water managers at national and regional levels presented and answered questions in Kiliya regarding a new national WFD-compliant system of surface water monitoring, which entered into force in 2019. Experts from the Dnipro basin, within the framework of the EU's Water Initiative project, shared information on the status of the Dnipro RBMP preparation. The connection of the JDS4 and Joint Black Sea surveys was also highlighted, the latter also due to take place in 2019, within the framework of the EU/UNDP project, "Improving Environmental Monitoring of the Black Sea: selected measures" (EMBLAS-Plus). Speakers at the event included:

- ◆ Mykola Kuzyo – Deputy Minister of Ecology and Natural Resources of Ukraine
- ◆ Iryna Ovcharenko – Head of State Agency of Water Resources of Ukraine
- ◆ Johannes Baur – First Counsellor, Head of Operations Section, Economic Cooperation, Energy, Infrastructure and Environment, Delegation of European Union to Ukraine
- ◆ Yunona Videnina – Thematic Communication Leader EUWI+
- ◆ Jaroslav Slobodnik – Coordinator of the Joint Danube Surveys 4 and Joint Black Sea surveys



Romania

An article about JDS4 will be published in a special edition of the magazine *Hidrotehnica*. This special issue was also dedicated to Danube Day 2019. To raise awareness of JDS4, the Romanian Ministry of Waters and Forests published a press release on national media channels, presenting the survey to the general public on the 27th of June and circulated further press information a month later. Looking forward, a special press release due to cover the first results of the micro-plastics analysis from the Giurgiu sampling area is expected on the 26th of August and an additional press release on national media channels in September will cover the five month (April-September) special monitoring of micro-plastics carried out in the Galați section of the river.



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Germany

This year, Bavarians also celebrated JDS4 in conjunction with Danube Day on the 29th of June and in close partnership with their Austrian neighbours. The festivities took place at the "Haus am Strom" in Untergriesbach, very close to the Austro-German border in Jochenstein, a short distance from Passau.



Slovakia

In Slovakia, JDS4 was launched in conjunction with Danube Day 2019's celebration with an event on the 22nd of June 2019 at the Gabčíkovo Dam. Researchers participating in the JDS4 project were on hand to provide information about the JDS event to members of the public. JDS4 was further promoted on ships during cruises on the Danube on the 27th of June as part of the Danube Day 2019 celebrations organised by the Ministry of Environment SR. Furthermore, the story of the Joint Danube Survey was covered in the press, along with a short summary published in the journal for water managers titled *Vodohospodársky spravodajca*.

What's Getting Through?

Wastewater Treatment Plant Testing as Part of JDS4



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This year, the fourth Joint Danube Survey (JDS4) is being undertaken with an expanded scope and new areas of testing to determine the health of the Danube River Basin. Among the many new and exciting testing parameters being implemented is the testing of water quality of inflow and outflow waste water at wastewater treatment plants (WWTP) within the region. Inadequate management of municipal wastewater is one of the core problems in the Danube River Basin. The contamination of groundwater and rivers with untreated wastewater can be harmful in many ways and the long-term effects of such pollution reduce biodiversity in aquatic ecosystems and affect human water uses – especially drinking water. Microorganisms can spread disease, the decomposition of organic materials can cause oxygen depletion in rivers and lakes and toxic substances in wastewater can accumulate in living organisms.

Of the many countries within the Danube River Basin, 11 reacted positively to the idea of monitoring at wastewater treat-

ment plants and proposed specific plants at which testing and monitoring could take place. These locations are:

- ◆ Germany: Donauwörth
- ◆ Austria: Linz-Asten
- ◆ Czech Republic: Hodonin
- ◆ Slovakia: Bratislava
- ◆ Hungary: Győr
- ◆ Slovenia: Novo mesto (Ločna)
- ◆ Croatia: Županja
- ◆ Serbia: Šabac
- ◆ Romania: Giurgiu
- ◆ Bulgaria: Vratsa
- ◆ Ukraine: Uzhgorod

ment plants and proposed specific plants at which testing and monitoring could take place. These locations are: Sampling took place at both inflow and effluent (already treated water) and was carried out by flow-proportional or time-proportional automatic samplers according to local conditions. Manual sampling may also be necessary in certain cases. Sampling was performed over one day to get composite samples at the WWTP for organic target parameters, heavy metals and general parameters.

Once all of the necessary samples have been collected, they will be sent to JDS4-designated laboratories for in depth analysis. The raw data acquired through this process can then be compiled, analysed and the findings will be published. The specific findings will expand on previously gathered data on water quality at other wastewater treatment plants.

With this data collected as part of JDS4, ICPDR can better advise countries and industry in the Danube River Basin on steps that may need to be taken to better the health of the region's waterways. Gauging the efficiency of wastewater treatment as well as what harmful substances may be bypassing the plants' systems is extremely important, an exciting new area of testing for ICPDR's Joint Danube Surveys and a source of information on the quality of wastewater, particularly in terms of hazardous substances.

Happy 40th, VIC!



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This year marks the 40th anniversary of the Vienna International Centre (VIC), seat of numerous United Nations, UN-affiliated and non-profit organisations. Vienna is one of the four UN headquarters world-wide, alongside New York City, Geneva and Nairobi. Vienna is also the only city within the European Union to host one of these UN headquarters. Furthermore, as the seat of around 40 international organisations and well over 300 bilateral and multilateral diplomatic representations - with around 3,800 diplomats and more than 6,000 international officials - Vienna is a major hub of international diplomacy even outside of the United Nations presence.

History of the Vienna International Centre

Vienna was selected as a location for a United Nations seat due to its historic significance, the large number of international organisations and non-profit organisations already located in the city and because of Austria's neutrality. This neutrality and Vienna's geographic location already made it a vitally important centre of international diplomacy during the Cold War. Therefore, it only made sense for its diplomatic importance to be expanded and reinforced with the addition of a United Nations centre.

In 1966, the Government of Austria offered to construct an international centre in Vien-

na for the United Nations system. A site on the left bank of the River Danube was then chosen for the proposed international centre. Hundreds of architects from all over the world competed to design the new UN centre, and Austrian architect Johann Staber's submission was eventually selected. In 1972, construction of the VIC finally began and took seven years to complete. Once finished, the Austrian government handed over the VIC complex to the United Nations and IAEA for the symbolic rental sum of one Austrian schilling (the equivalent of € 0.07 today) per year for 99 years. The VIC complex, as it stands today, covers an area of 180,000 m² and has extraterritorial status.

The VIC has emerged as a hub for the promotion of peace, security, sustainable development, disarmament and non-proliferation of nuclear weapons. Notably, the VIC is also where the ICPDR Secretariat has called home for its 25 years of existence.

Commemorating 40 Years

To celebrate four decades of the United Nations in Vienna and the Vienna International Centre, UN Secretary-General António Guterres visited the VIC during his first official visit to Vienna on May 27th. The Secretary-General was welcomed by the Directors General of the UN organisations based here, by Mayor Michael Ludwig, by Austria's Minister of Foreign Affairs at

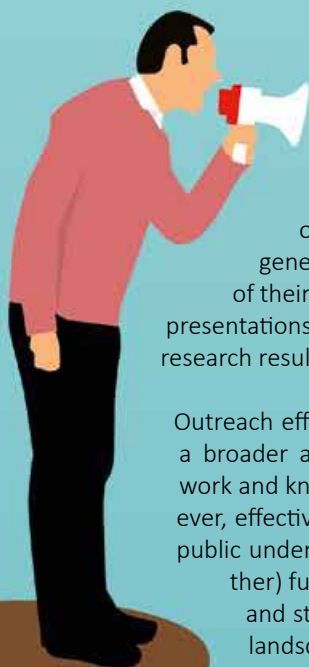
the time, Karin Kneissl, and by the President of the Vienna Provincial Parliament, Ernst Woller. In an official ceremony, Secretary-General Guterres signed Vienna's Golden Book of Honour at the City Hall and attended a reception hosted by the City of Vienna to honour the anniversary.

Aside from the official events, a wide range of activities have been planned throughout Austria and in Vienna specifically including an Open House Day on 8th of September at the Vienna International Centre itself. The open house highlighted the 40th anniversary with exhibitions, films and presentations about the work of the UN organisations that call the VIC home. The wide-ranging spectrum of topics covered by Vienna-based UN organisations was well represented by information stands manned by official staff who were excited to address the general public and provide information about their organisations. The ICPDR also took part in the festivities, spreading the word of transboundary water resources management to a highly engaged public. The open house was an unmitigated success with over 3,000 visitors taking the opportunity to tour the VIC and to learn all about the work of the UN in Vienna, and that of the ICPDR. Our organisation definitely made its mark with our custom-made Joint Danube Survey bags and hundreds of Danube Basin overview maps hungrily picked up.

Clash of titans: Science and Communication

By Catherine Buchwald

Even though science and communication are separate fields, both have much in common: they study aspects within their subject matter and make use of analysis. Ideally, science and communication go hand in hand to serve each other's purpose, sharing obtained information with the public.



Why communication matters and is crucial to every scientist

Communication offers scientists the chance to share news within their field of expertise, their knowledge and what they are, or were, working on with their peers, the media and the general public. For many scientists, it is part of their job to write proposals and papers, give presentations and talks as well as to share facts and research results.

Outreach efforts can be a useful tool to share with a broader audience and to promote a scientist's work and knowledge. Beyond self-promotion, however, effective communication can help to increase public understanding of a matter and allocate (further) funding for projects, research equipment and staff, and, therefore, shape the scientific landscape and its further development. In a nutshell, communication has the potential to make a difference and help push scientific work to reach its full potential.

What makes communication good and effective and why professional communicators are needed

Traditional media, online and social media offer plenty of ways to address target groups and to share scientific topics. Merely getting the relevant messages out whenever will not do the job though. At their best, communication and outreach efforts are built strategically to conform to their target audience, which is defined in every communication plan.

Among other things, such a plan defines, for example, the famous "5 Ws" (who, what, when, where, and why) as well as the "how", and is complemented by social media usage statistics and press reviews. Timing, frequency, quality, format, community involvement and press contacts too have an important impact. Furthermore, collaborations with partner organisations and institutes can foster the promotion of relevant topics but also general branding. Imagine scientists had to deal with all outreach efforts on top of their work? Overloaded, the chances of one of the two parts getting (unintentionally) cut short would be very high.

Challenges for science and communication

All too often, scientists and communication professionals can experience mild clashes when working together. The reasons can be quite diverse, from scientific topics being cut short or simplified too much, to timing issues, wording, lacking photo quality, information sharing and/or general misunderstandings between the two fields. In the end, both fields need to realise that they need each other: the scientists, to get the word out, and the communication experts for something to talk about and stories to share. In the best case, this means material relevant to a big group of people yet also easy enough to understand for every reader.

Let's imagine how a typical misunderstanding could play out: a scientist writes about the Danube, but without further elaboration, that: "the water quality in Germany improved all the way to Ingolstadt".

As a scientist and anybody familiar with the flow of the Danube, this makes sense. Europe's second-largest river indeed passes Ingolstadt, and its water quality would have been of



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How communication helps with JDS4

good quality further upstream from this Bavarian city. However, this stand-alone sentence with no further explanation may lead the general reader to ask whether the author of such a sentence was tipsy, as Germany and Ingolstadt were mentioned as though the latter were not located in the same country. What's more, it states 'water' in general (so groundwater, sewage, etc. right?) For this reason, the communications person will suggest adding or editing this sentence for the benefit of readers who do not know the Danube's route.

Even though this sounds like peanuts to most readers, in reality, such little things keep science and communication staff busy and make their joint work quite cumbersome. The more often such situations occur, the more the scientists may feel teased, while the communications person might wonder at what point in life the scientist started to forget how to write for non-scientists.

Another example: imagine our staff working together and trying to involve the public. Press releases including photos and contacts are getting passed to media outlets, reports and publications are going online and yet the efforts still don't bring the desired results... No coverage in newspapers, TV or radio; no one expressing their interest through calls, emails or online comments; expert talks are barely attended and, if so, just by other specialists in the field. So, how does one get other people engaged? That is where campaigning needs to be re-thought, to translate scientific work into media capital: could a partnership with another organisation or governmental body improve the situation? Would a testimonial or famous personality as ambassador help? Perhaps a new approach of this kind could be of benefit to our projects. Let's look at how it worked with one of our flagship collaborations between science and communication: the fourth Joint Danube Survey (JDS4).

The goal of JDS4 is to collect data on special parameters, not normally analysed and certainly not in such a comparable way across the Danube River Basin. Additionally, raising awareness of the Danube's water quality, ongoing protection efforts and full implementation of the EU's Water Framework Directive (WFD) are vital to the project. But how to harmonise communication and science?

Along with a unified international social media campaign (under the hashtag #JDS4), this year's survey's new approach at the local level keeps local scientists and local communicators in close touch. National teams deal with both scientific methodologies and their own communication contact points, creating a synergy that's increasing public relevance and accessibility while assuring scientist the final say over accuracy when portraying their work. JDS4 has seen unprecedented local media coverage in Hungary and Serbia, above average public turnout at events in Romania and piles of social media posts in Austria and Ukraine. It is a testament to just how mutually beneficial closer synergies between science and communication staff can be.



JDS4 website:

<http://www.danubesurvey.org/jds4/about>

What is the Magic Silver Box Telling Us?

How we test for micro-plastics in the Danube by Philipp Hohenblum,
Expert for Plastics and Micro-plastics at the Environment Agency Austria



With an increased concern about the presence of micro-plastic contaminants in global water sources ranging from the oceans to rivers to lakes around the world, there is a more urgent need for testing.

A study in the Austrian stretch of the Danube River led by the Environment Agency Austria revealed a certain contamination of micro-plastics and other studies show that micro-plastics are ubiquitous in freshwater systems. Pollution is a trans-boundary issue and needs to be tackled at an EU (or even global) level. For these reasons, it was necessary to include micro-plastics in the recent fourth Joint Danube Survey (JDS4). With this investigation, consistent data along the entire river and some of its tributaries will be produced to get a first baseline overview of both micro-plastic contamination within the Dan-

ube River and of the real pressure on the environment.

Regarding JDS4 itself, there will be a more active role for national authorities to carry out monitoring. This enables participating countries to further engage with the project, adopting new, innovative and tailor-made approaches that work best for them. It is expected that this approach will lead to a more flexible and effective process and, most importantly, to better results. We want to foster more coordination and even more improvements for JDS, helping countries to share their experiences, exchange ideas and harmonise their processes.

The surveys were conducted along the entire river at 15 sampling sites that have been chosen by the participating countries (Germany, Austria, Slovakia, The Czech Republic, Hungary, Serbia and

Romania) to measure the presence of micro-plastics. Samples were taken by means of passive samplers, which were originally designed for the sampling of suspended particulate matter. By this principle, suspended material is allowed to settle in a specialised box that has been placed in the river which can be analysed later on. This analysis will be carried out in a centralised location. Sampling for micro-plastics in Austria was carried out by experts from the Environment Agency Austria and the Austrian activities were coordinated by the Ministry for Sustainability and Tourism. Samplers were developed and built by funds of the German Environmental Agency and ownership has graciously been transferred to the users.

At this stage, the results of this investigation are not yet available. Therefore, we do not know the precise nature or concentration of



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the plastic and micro-plastic contaminants in the Danube. The material which has been collected was made up of very fine particles indistinguishable to the naked eye from other natural material. From a previous study, carried out by the Environment Agency Austria on behalf of the Ministry for Sustainability and Tourism, we know that micro-plastics are found in the entire water column. Larger items can be stopped and removed by hydropower plants, others pass through and generally end up at the river banks.

There are several main sources of micro-plastic contamination. One way these contaminants enter the river system is due to the fact that micro-plastics are deliberately added to consumer products like cosmetics and detergents and then make their way into waterways through wastewater. Another way is abrasion of tires and road particles or the result of industrial processes such as production, conversion and transportation, loss of artificial turfs or construction sites and finally secondary micro-plastics which break away from degraded plastic waste in the environment.

One important aspect of testing is determining where the highest concentrations of micro-plastics appear in the Danube. We do not have clear data on whether the concentrations of these materials differ between urban, rural and industrial stretches of the river yet but do expect to get answers through this survey. However, urban areas and areas with high anthropogenic activity (roads etc.) are, of course, prone to having higher concentrations of plastics and micro-plastics in general.

JDS4 also hopes to get a better understanding of what the proportion of micro-plastics as a part of general plastic pollution is.

Generally speaking, around 5-13 Million tons of macro- and micro-plastics enter the oceans annually on a global scale, of which 1.5 Million tons are micro-plastics. In the EU, some 75,000 to 300,000 tons of micro-plastics are emitted into the environment every year. Almost all of the micro-plastics come from land-based sources via run-off or waste water treatment, which end up in rivers and, ultimately, reach the oceans. Rivers are major contributors to marine micro-plastic levels and this fact is why the data currently being collected and analysed is critically important.

Once the samples have all been tested and the data analysed, the results will be able to be put to use to inform current river management and environmental policies. At the EU level, the Network of Environment Agencies has already contributed actively to the development of the EU Plastic Strategy, a vehicle to reduce plastic leakage into the environment. The Environment Agency of Austria has already contributed to the strategy within the Network of European Environment Agencies and will assist with its full implementation.

Moreover, reports on bio-plastics and on littering have been developed to assist the European Commission in its decision making processes. Results have been disseminated in dedicated conferences addressing all stakeholders along the value chain. The Environment Agency of Austria will take a leading role in the network and continue consulting with the European Commission.

Further steps that could add to a collective solution to the very serious threat that micro-plastic contamination poses are varied but very achievable with concerted and coordinated efforts.

Waste management in countries with less developed systems should obviously be improved. European industry is encouraged to transfer knowledge, technology and good practices to other industrial sites, thus addressing the global market and increased producer responsibility. Adding to this, the concept of a circular economy as leverage to reduce plastic emissions into the environment is a promising idea. By closing the circle, waste would be re-integrated into the value chain and therefore emissions to the environment would be reduced.

Littering appears to be a relevant source of plastic entering the environment. Anti-litter actions need to be implemented by waste associations in order to prevent waste and litter from entering the environment through the careful use of resources. Austria's planned 2020 ban on plastic grocery bags is another example of how to help prevent plastic litter from entering the environment.

Regarding traffic and tire wear as well as building/construction, need for action has been identified and appropriate measures have to be developed.

Finally, a ban of micro-plastics as primary materials would be necessary. The European Chemicals Agency (ECHA) is about to propose such restrictions on the use of micro-plastics intentionally added to consumer products.

Through the combined efforts of research and action, the threat of micro-plastic contamination can be addressed and, eventually, solved in a sustainable way. National and international actors across the Danube River Basin are working together toward this goal and the conclusions drawn from JDS4 will provide the knowledge needed to direct informed action.

Cooperation and Testing:



All along the Danube, as part of the fourth Joint Danube Survey and in cooperation with the Medical University of Vienna (MedUni Wien), the Medical University of Graz (MedUni Graz), the Technical University of Vienna (TU Wien) and the Karl Landsteiner Private University for Health Sciences in Krems, researchers have taken samples and conducted tests to determine the levels of contamination by faecal matter in the river and its main tributaries.

A general goal of JDS4 is to determine the chemical and biological standing of the entire river from its headwaters in Germany to its mouth at the Black Sea. This means systematic testing at predetermined sites along the roughly 2,600km of waterways within the Danube River Basin. To achieve this daunting task, scientific experts from the above-mentioned universities worked together to take samples and test these for faecal bacteria contamination.

Testing the levels of faecal contaminants within the Danube River Basin allows experts to determine the existence of dangerous bacteria such as E.coli and whether these bacteria are present in amounts that could potentially be a detriment to the health of the people who use the river as a source of drinking water or even as a place for recreation. These tests also enable spe-

cific problem zones along the flow of the Danube to be identified and addressed via concerted efforts.

The results, as released so far, look positive and underline a trend toward better water quality that has been progressing forward for years now. Relative improvements in faecal contamination were detected in the waters of Serbia, Hungary and Romania. "Happily, the situation in Hungary has improved immediately downstream from Budapest". Says Professor Alexander Kirschner from the Institute for Hygiene and Applied Immunology at the Medical University of Vienna, where the Inter-university Centre for Water and Health is located.

Kirschner further clarified that "the main goal of the microbiological examination this time lies with the first linkage of the

analysis of proportions and origin of faecal contaminants along the entire Danube with the emergence of antibiotic-resistant, clinically highly-important bacteria as well as their resistance genes". To this end, an entirely new concept was developed for the first time also making possible quantitative statements about the expansion of antibiotic resistance among the main water pollutants in such a large river. Water and microfilm tests (of stones and branches) were taken along the Danube and eight of its most important tributaries, and then processed and analysed in six partner laboratories in Germany, Austria, Hungary, Serbia and Romania. Testing took place at these river locations in the centre as well as along the right and left banks of the river in cooperation with external fish experts.

The most important results concerning the levels of faecal-germs (E.coli) are al-

A Faecal Matter

© all photos, Thomas Kirschner



ready available and further analysis is underway. As was the case with the previous surveys, the highest levels within the Danube were in Serbia, Romania and Bulgaria. “In Serbia, levels of faecal contamination in the Danube ranged from critical to strong, especially downstream from large cities like Novi Sad and Belgrade”, clarified Project Partner Gernot Zarfel from the Diagnostic and Research Institute for Hygiene, Microbiology and Environmental Medicine at Med Uni Graz.

Strong faecal matter contamination was also found in the Rusenski Lom (Bulgaria) and Arges (Romania) tributaries, though levels in the Arges (an outlet channel for sewage from the capital Bucharest) showed a marked improvement compared to previous years. “That is likely due to the building of the main water treatment plant in this city of over a million inhabitants”, explained Zarfel. The strong contamination within the Danube as a result of sewage that was diagnosed in previous years in Hungary downstream from Budapest could not be found this

time, a positive result likely due to the building of a central water treatment plant in the Hungarian capital, according to the experts.

From the beginning, there was the assumption that there could be high levels of contaminants in Austria due to river-borne freight and navigation on the Danube. However, this was not found to be the case in the investigation. As the results of a measurement programme implemented by Lower Austria since March 2019 already showed, the faecal contamination levels at the testing locations along the Austrian Danube sections – with one exception – were all within the low to moderate scale. The single case that was slightly over the highest value allowed for moderate levels (1000 E.coli/100ml) was in a sample taken directly downstream from the water treatment plant Abwinden/Asten (1050 E.coli/100ml). According to Kirschner, “This is absolutely at a level that is to be expected for a river of this size in areas near sewage treatment plants following current standards”.

Aside from the expansion of fundamental scientific knowledge, this work will also provide national and regional authorities with some important decision-making tools. This will lead to better Danube management, and enable an improved focus on microbiological water quality. The data collected will also deliver important information that can be put to use in activities defined by the World Health Organisation within the framework of the Global Action Plan on Antimicrobial Resistance as well as the EU Action Plan Against Antimicrobial Resistance, in which special surveys of antibiotic resistance in water will be called for.

Celebrating 16 Wonderful Years of Danube Day!

Danube Day has become the largest river festival in the world, with huge festivities on the riverbanks, public meetings and educational events. It is also a basin-wide celebration reflecting the diversity of the region. It pays tribute to the vital role the Danube and its tributaries play in people's lives: providing water, food, power, recreation and livelihoods. Coordination is carried out by the ICPDR's Public Participation Expert Group (PP EG) at the international level – providing branded goods, give-aways such as the Danube Day bags, hotly tipped fashion items; nationally, member countries and partners organise the events with support from local corporate partners.

When the ICPDR began planning the first Danube Day, it was never dreamt that it would grow into the massive event that it is today. Back then, active partners numbered around 150 and there were 100 events taking place. Now, the ICPDR and more than 450 partner organisations plan and coordinate over 200 events in 14 countries around the Danube region. The ICPDR would like to take this opportunity to highlight an array of the wide-ranging events that take place every year to give an idea of the fantastic versatility of Danube Day!



2004

The first Danube Day in history. A strong start with more than 100 individual events throughout the Danube River Basin. The celebration highlighted the 10th anniversary of the Danube River Protection Convention, signed on 29 June 1994 in Sofia, Bulgaria.

2005

Greet the Danube. A wave of sound united Danube peoples as ships throughout the basin sounded their horns in tribute to the river. Organised by Global Water Partnership.

2007

AD International "Waters Unite" Bicycle Tour. An annual event, the bicycle tour took cyclists on a mammoth journey from Krems to Győr, travelling through the floodplains of Austria, Slovakia and Hungary, and getting a chance to explore the landscape, animals and plants across the basin.

2006

Swimming the Danube. American Mimi Hughes swam the 2,850km of the Danube River from its source in Donaueschingen, Germany. Mimi, a 49 year-old wife and mother of four children, swam the Danube on a personal mission of social and environmental stewardship. Using the experience of her previous swims (from Alaska to Russia and the length of the Tennessee River, USA), her journey raised awareness of the importance of international cooperation for social responsibility and the preservation of the environment.

2008

Vukovar Film Festival. Spectacular Danube scenes were on-show at the 2008 Vukovar Film Festival, the result of a new collaboration between the ICPDR and the Danube-focused international film event.



2016

Opening of the International Danube Festival Ulm/Neu-Ulm. A riot of colour was unveiled at the festival's opening ceremony, when 650 hand-painted flags were proudly paraded along the riverbank. The flags provide a stunning symbol of the historical, political, economic and cultural diversity of the Danube Basin. Each was designed by Serbian artist, Dragan Matic, working with the Novi Sad Art Academy.

2017

International Workshop on Flood Protection Education in Bucharest. Organised by Hungary's EUSDR Priority Area-5 Coordination Office and the Faculty of Water Science at the National University of Public Service, the event promoted the Flood Protection Education Network amongst universities and vocational schools in the Danube region.

2018

Pirates' Plastic Regatta on the Borzhava River. As part of Ukraine's festival in Kvasovo, children designed and built magnificent model boats using recycled plastic, which were later launched onto the river. The initiative was a joint project of Hungary's PET CUPA, the All-Ukrainian Ecological League and the Uzhgorod Regatta.

2009

2nd ICPDR Stakeholder Forum, Bratislava. A major stakeholder conference that brought together organisations from across the agricultural, industrial, commercial and environmental sectors to discuss the management of the Danube River.

2015

Sava 2015 Cycling Tour. Six cyclists took on the gruelling 870km 4-country tour in 2015 to promote Danube solidarity. Travelling the length of the Sava Basin, from source to mouth, the trek began in the Slovenian mountains of Kranjska Gora and continued through Croatia and Bosnia-Herzegovina to Belgrade in Serbia.

2014

WWF Caravan for a Living Danube. WWF and Coca-Cola teamed up to highlight the world's most international river and its floodplains in a 7-year project to renaturalize and restore floodplain areas in 6 countries. As part of this, WWF launched a 'Caravan for a Living Danube' in Belgrade on Danube Day. Providing educational workshops, it toured Austria, Bulgaria, Croatia, Hungary, Romania and Serbia until the end of summer 2015.

2013

Danube Camp at Dunasziget Eco Park. 30 young researchers from across the region gathered in Hungary for the inaugural IAD Danube Camp to promote international cooperation and knowledge sharing.

2012

International Blue Week. Blue Week is an initiative of the Danube Competence Centre working with city/municipal authorities to celebrate the Danube through music, carnivals, theatre, workshops, sport and exhibitions. The three Danube-dedicated days took place in Vidin and Donji Milanovac in Bulgaria and Kladovo in Serbia.

2011

Danube Day at European Parliament. An initiative of MEPs from Romania, Germany, Bulgaria, Hungary, Slovakia and Austria resulted in the opening of a Danube Day photo exhibition - Treasures of the Danube - at the European Parliament.

2010

UNDP-GEF Workshop on Land and Water Management in the Upper Tisza. Dilove, in Western Ukraine, saw a joint Ukrainian-Romanian workshop examining progress on the Tisza management plan, pollution control, flood management and restoration. 200 children undertook river bank clean-up and tree planting

DANUBE DAY 2019: GET ACTIVE FOR A HEALTHIER DANUBE!

The ICPDR would like to thank everyone involved in Danube Day 2019. Read about events and organisers at www.danubeday.org.

GERMANY 1

Bavarians celebrated in close partnership with their Austrian neighbours with at the border, including demonstrations of taking and analysing samples. Baden-Württembergers on the other hand, held an afternoon of Danube-related activities for kids, including handicraft workshops with kids, book-reading sessions, the creation of a 'Danube fish tank' (built inside a shoe box) and a 'raft' (made of recycled wine corks)!



THE CZECH REPUBLIC 2

As in previous years, Czech festivities were focused in 2019 in the Moravia-Silesia region, centred in the village of Mosty u Jablunkova. The village dedicated its annual 'Children's Day' to the Danube River, with river-themed puzzles and creative eco activities. Events were also hosted in Prague and Brno, educating the public on Austro-Czech transboundary cooperation.

AUSTRIA 3

Vienna's Stadtpark hosted over a dozen stalls presenting the biodiversity, cultural diversity, and natural importance of the Danube to the public. Over 1,000 local schoolchildren were also invited to test their knowledge in an exciting 'puzzle rally', experiment with water, or get creative at one of the many drawing and crafting stations.

SLOVAKIA 4

2,000 people attended Danube Day events at the Gabčíkovo Dam in June featuring river cruises on the Danube, a 'dog rescue squad' demonstration, a huge foam show, environmental quizzes, a show by Slovak singer Karmen Pál-Baláz, and more. People could also take the chance to visit the hydropower plant during free tours.



HUNGARY 5

Three days of events reached thousands of people across Hungary for Danube Day 2019. These include a host of activities including a fireboat demonstration and firefighter orchestra on Budapest's Margaret Island; races, music and cooking in the city of Győr; and a "Safer Danube" focus at the annual Györkőc Kid Festival.

SLOVENIA 6

Danube Day 2019 in Slovenia was celebrated with the International Conference 'Live with Water' in Odsreda/Bistrica ob Sotli, on 31 May–1 June 2019. The main aim of conference was to enhance education (focused on primary and secondary schools) for sustainable use of water resources and to promote climate change adaptation measures in local river basins. More than 80 teachers from Slovenia and Croatia participated in the event. The event was also joined by Péter Kovács, president of ICPDR. The participants formed and confirmed a resolution named 'Live with water', which was also presented and applauded at the 8th Sava Youth Parliament.

CROATIA 7

Hrvatske Vode celebrated Danube Day 2019 along the riverbanks in the form of children's education with picture books and a workshop. Employees from Croatia's Main Water Management lab also showed the kids how to perform water analysis, measuring dissolved oxygen and nutrients in river water, and comparing samples of polluted and clean water.

BOSNIA-HERZEGOVINA 8

Educational workshops throughout Bosnia-Herzegovina introduced schoolchildren and adults to the plant and animal life of the river on Danube Day 2019, raising awareness about conservation and river protection.

SERBIA 9

Serbia hosted swathes of Danube Day 2019 celebrations across the country, organised with the support of the Republic Water Directorate. The core central event took place in Belgrade however, aiming to reach elementary schoolchildren and young Serbians with workshops on the importance of rivers and methods for their sustainable use and long-term preservation – plus a program of ballet and other performances!



DANUBE DAY



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MONTENEGRO

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This year, Danube Day was held in the mountaintops area of the Tara River Canyon, Đurđevića Tara. The event was held in cooperation with the the Ministry of Agriculture and Rural Development, and the ŽABLIJK tourism organisation. Games and information were there to help the young public learn about the importance of protecting and conserving rivers of habitats and the need for rational use of water resources.

BULGARIA

12

Bulgaria hosted over 30 initiatives for Danube Day 2019. The event-packed program included festivals, open air events, environmental events, exhibitions, triathlon racing, discussions and town celebrations. More than 5,700 people participated in all the initiatives, including events in Vidin, and a fish festival in Kozloduy and Nikopol, river stone painting in Oryahovo they painted on river stone, and a Danube quiz in Gulyantsi.

UKRAINE

14

At the Danube Delta in Kiliya, an event was hosted featuring a variety of voices a faces regarding water management. Experts from the Dnipro basin within the frame of the EU's Water Initiative project shared information, while the Joint Danube and Black Sea Surveys were presented to the public. A live sampling also took place, demonstrating how the process works right there on the banks of the Danube.

MOLDOVA

13

At the centre of 2019's Danube Day events in Moldova was the Folc Festival in the village of Giurgiulesti located just on the confluence of the Prut and Danube, involving overt 100 artists in traditional music, dance, and art. Other activities included the presentation of some 50 artworks for the Danube Art Master competition, plus a bike tour along the Prut river, from Ungheni to its confluence with the Danube (around 220 km).

ROMANIA

11

Each of Romania's 11 water basin authorities hosted events, including boat cruises, educational activities, riverbank cleaning actions, riverdam field visits, and more. "I would like not to remember the importance of Danube River only during the anniversaries. Moment by moment, citizens, specialists, all of us, must be responsible. We must be active for a Safer Danube!" - Mr. Ioan Denes, Minister of Waters and Forest of Romania at Danube Day in Braila.

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