

DANUBE WATCH

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ICPDR IKSD

International Commission
for the Protection
of the Danube River

Internationale Kommission
zum Schutz der Donau

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Dear readers,

It is a great pleasure and responsibility for the European Union to hold the ICPDR Presidency once again. In 2004, during our previous Presidency, the implementation of the EU Water Framework Directive was in its early stage and the Floods Directive was yet to be adopted. Since then, a lot has been achieved. The EU itself has grown – it welcomed new Member States, many of which are part of the ICPDR family. What’s more, our EU water legislation has been further developed and the first River Basin Management Plans – unique tools under the EU Water Framework Directive – as well as the first Danube Flood Risk Management Plan have been adopted. These plans are the best evidence of successful cooperation in collectively adhering to the advanced EU water legislation in this most international river basin in the world.

We now need to focus our efforts on future tasks – such as implementing the Joint Programme of Measures that is to bring more water bodies in the Danube River Basin to good status. As this is a demanding task, the EU wants to use this year of its ICPDR Presidency to provide targeted

support to the work of the ICPDR. In addition, our Presidency is an opportunity to improve the coordination of various activities at the EU level with the activities in the Danube River Basin.

This is a very important year for the European Commission as it falls between the deadline for EU Members States to report the new plans and the deadline for the European Commission to publish the next Water Framework Directive and Floods Directive Implementation Report. This report will assess the plans and guide the evaluation of EU water legislation which is also approaching.

Clearly, very interesting times lie ahead of us! The EU cherishes its direct involvement in the work of the ICPDR as a unique forum comprised of many of our EU Member States and close neighbours. This Danube cooperation continues to be a model for other shared basins across the world, and it is a privilege to be part of such a successful cooperation which by its actions contributes to healthier and safer waters for European citizens to enjoy.

Bettina Doeser Head of Unit: Clean Water at the European Commission Directorate-General Environment, and Head of the European Union’s Delegation to the ICPDR

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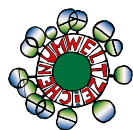
International Commission for the Protection of the Danube River
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Icy weather halted shipping on several sections of the Danube but didn’t keep away visitors to the snowy landscape.



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Danube Watch is the official magazine of 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.

News & Events

ICPDR releases report on the 2015 droughts in the Danube River Basin

In 2015, sections of the Danube River Basin were affected by droughts which negatively impacted various water-dependent economic sectors, vegetation and the aquatic environment. Significant drought phenomena were experienced in Austria, Bosnia and Herzegovina, Croatia, the Czech Republic, Germany, Hungary, Moldova, Serbia, the Slovak Republic, Slovenia and Ukraine. As a consequence of the combination of rain shortages and very high temperatures, plant water requirement levels rose dramatically. This is the latest of a series of drought events which have occurred in Europe in the last decade.

The report summarises the main impacts on water-related sectors and includes an overview of measures which were taken by the individual Danube countries. An analysis of the situation and the discussions derived from it, lessons learned and conclusions for the Danube Basin and at national level are summarised in the final chapter of the report.



For more information, visit:
<http://icpdr.org/main/issues/droughts>

JOINTISZA kick-off event



For more information, visit:
<http://www.interreg-danube.eu/approved-projects/jointisza>

The official kick-off meeting and first stakeholder event of the JOINTISZA project (Strengthening Cooperation between River Basin Management Planning and Flood Risk Prevention to Enhance the Status of Waters of the Tisza River Basin) took place on 1-2 March 2017 at the Conference Centre of the Regional Environmental Centre (REC) for Central and Eastern Europe.

The meeting brought together representatives of the project partners and associated strategic partners from the five countries (Hungary, Romania, Serbia, Slovakia, Ukraine) that share the Tisza River Basin. The meeting centred on: building a consortium spirit, agreeing on efficient internal management and communication processes, reviewing and detailing project activities and the project work plan, and deciding on immediate steps underpinning the next six months of the project.

New EU app to track invasive alien animals and plants



An online application to help citizens identify and share information about 37 invasive alien species in Europe, such as the American grey squirrel, has been developed by the EU's Joint Research Centre. 'Invasive Alien Species Europe', which contains detailed information about and photos of those animals and plants, makes it possible for citizens to use their phones' navigation system and cameras to capture images of invasive species. By sending the exact location of a sighting and a photo via the app, users contribute to crowdsourcing the maps showing where invasive aliens species occur, and help to build the European Alien Species Information Network. Users can record pictures of possible invasive alien species together with complementary information about their observation.

For more information, visit:

<http://digitalearthlab.jrc.ec.europa.eu/app/invasive-alien-species-europe>

Preparing for the oceans conference: ICPDR invited to share technical expertise

On 15-16 February 2017, Peter Thomson, President of the UN General Assembly, convened a two-day preparatory meeting at the UN headquarters in New York to consider the themes for the partnership dialogues and elements of a 'Call for Action' in preparation for the June 2017 high-level UN Conference to Support the Implementation of Sustainable Development Goal 14 (SDG14), known as the Oceans Conference. The preparatory meeting was open to a broad range of stakeholders including NGOs, civil society organisations, academic institutions, the scientific community, the private sector, philanthropical organisations and other groups.

Given the strong connection between SDG14 and SDG6, the ICPDR was invited to contribute to the discussion. ICPDR Executive Secretary Ivan Zavadsky was among the panellists on the Technical Panel of the side event on Achieving SDG 14 on Oceans: Strategies and Approaches for Accelerating and Scaling up SDG14 Implementation, and shared the Danube/Black Sea experience: Reversing large scale hypoxic areas caused by basin-wide nutrient pollution, an ICPDR success story.



For more information, visit:

<http://icpdr.org/main/preparing-oceans-conference-icpdr-invited-share-technical-expertise-sdg6-contributions>

Bottling the spirit of Danube cooperation

In the most international river basin in the world, Danube leaders recognise that they hold the future of the waters of the basin in their hands.

The ICPDR is a worldwide model for cooperation in river basin management, and the role of the Danube countries as guardians of the precious resources of the river basin is always at the heart of the ICPDR's work – as the waters of the Danube are literally passed on from one presidency country to the next.

Each president steers the ICPDR, acting as its captain for the year, while the expert groups – panels of specialists from the ICPDR's contracting parties and its observers – function as the crew, undertaking much of the work of the ICPDR. The technical secretariat supports the president during his or her mandate.

However, the president provides visibility



As part of a longstanding ICPDR tradition, Peter J. Kalas of the Czech Republic (right) presents a bottle of Danube Water to Peter Gammeltoft of the European Union (left).

passed from one contracting party to the next in alphabetical order, in English. The delegation representing the next contracting party nominates its representative to become President of the ICPDR. The President as a rule does not take the

the handover also symbolises the passing of the baton of responsibility, reinforcing the shared commitment each country has made to the ICPDR.

Beginning and ending with the Danube

The handover tradition began in 2000, and every year Igor Liska, ICPDR Technical Expert for Water Quality at the ICPDR Secretariat, has collected and sampled water for the ceremony.

While the bottle itself is passed to each president, a new water sample is collected each year from the same location at the Danube River at km 1930 at the Reichsbrücke (Imperial Bridge) in Vienna.

This enduring tradition gives a special continuity to the ICPDR as Danube cooperation and the integrated work of the ICPDR lives on, now and for the future.

ICPDR presidents

1999	Wolfgang Stalzer, Austria	2010	Mitja Bricelj, Slovenia
2000	Emil Marinov, Bulgaria	2011	Mykola Melenevskiy, Ukraine
2001	Stanko Nick, Croatia	2012	Wolfgang Stalzer, Austria
2002	Martina Motlova, Czech Republic	2013	Ermina Salkičević-Dizdarević, Bosnia and Herzegovina
2003	Fritz Holzwarth, Germany	2014	Atanas Kostadinov, Vladimir Dontchev, Emilia Kraeva, Bulgaria
2004	Cathrine Day, European Union	2015	Dražen Kurečić, Croatia
2005	István Őri, Hungary	2016	Peter J. Kalas, Czech Republic
2006	Constantin Mihailescu, Moldova	2017	Peter Gammeltoft, European Union
2007	Lucia Ana Varga, Romania		
2008	Saša Dragin, Serbia		
2009	Olga Sršnová, Norbert Halmo, Slovakia		

to his or her country during the year and leaves a mark on the work of the ICPDR by bringing a special focus on several issues. The Presidency is a symbolic torch reminding the ICPDR community of the original objective of the Danube River Basin Protection Convention – to improve the water quality in the basin for the countries which are the owners of the convention.

A tradition of responsibility

The presidency is held for one year, and

floor on behalf of that delegation within the meetings of the ICPDR.

At once a symbolic reminder of the custodial role of the Danube countries to protect and preserve the previous resources of the Danube and its tributaries, the handover also symbolises the passing of the baton of responsibility from one country to the next, reinforcing the shared commitment each country has made to the ICPDR.

with a bottle of Danube water. At once a reminder of the custodial role of the Danube countries to protect the previous resources of the Danube and its tributaries,

The transition is made in a ceremony held in January hosted by the outgoing president, at that country's embassy in Vienna. At the ceremony, the outgoing president presents the new president

Snapshot from the 2016 ICPDR Presidency

The ICPDR depends on the active role of the countries. When Peter J. Kalas took over the presidency for the Czech Republic, he pledged to visit as many of the contracting parties as possible. During his Presidency, Kalas went to Romania, Bulgaria and Slovenia, and his last visit in his function as ICPDR President was to Serbia.

In Serbia, Kalas met ministry officials and local experts; "It is my duty and honour as ICPDR President to convey the messages from the countries back to the Secretariat and the expert groups."

Reflecting on his visit to Serbia, during which the Danube was covered by heavy snow, he said:

"The mighty Danube River still reveals its surprises from time to time – not only the extremes of floods and droughts, but also sudden episodes of ice belong to its naturally related arsenal."

Deep freeze on the Danube: Cross-border actions avert danger

When frigid temperatures caused dangerous ice formation on the Danube, the hazards crossed political borders, much like the river itself. Only an international relief effort could keep the ice under control and the flood waters at bay.



Over what will be remembered as the big chill of late 2016 to early 2017, about 170 km of the Danube were entirely frozen. On the Hungarian section of the river, only a variable rate of ice drift was observed while, to the south, Serbia faced a much larger problem. In the most critical areas near Belgrade and Kladovo, the river froze to a depth of up to four meters. Shipping was suspended in Hungary and ice breakers were called out to clear the waterway, but the worst of the ice just over the border remained, with no concerns about which nation it endangered.

Cross-border ice control has a long history on the Danube River. Beyond navigation concerns, the risk of flooding from accumulated ice is a looming threat to the population. Devastating, fast-rising ice-jam floods between the Hungarian border and Vukovar, Croatia, in particular require a strong alliance of Serbian, Croatian and Hungarian protection efforts. The three countries manage this protection through an international trilateral agreement to address events – such as floods, ice-drift, or pollution – on the part of the river known as the 'section of common interest', where such events affect all three countries.

With such deep ice jams floating menacingly off shore, Serbian water authorities declared an emergency situation and the trilateral partners swung into action. The Hungarian water management directorates and the General Directorate of Water Management played key roles in the intensive operations that followed, cooperating smoothly with their Croatian and Serbian counterparts.

Coming to a neighbour's rescue

Altogether four Hungarian ice-breakers

were deployed to smash ice blocks and prevent damage to bridges and ships moored along the waterway. Two of the ships – *Jégtörő XI* and *Jégtörő VI* (*Jégtörő* means icebreaker in Hungarian) – broke through the ice jam in Dalj and kept the ice discharge lane clear for traffic.

The other two ships – *Széchenyi* and *Jégtörő VII* – moved to the Serbian section of the Danube between Novi Sad and Belgrade, technically outside the area covered by the trilateral agreement. However, given the emergency situation, Serbia and Hungary agreed that the ice-breakers had to be deployed beyond the common interest section. Hungary didn't hesitate, and its ships set off to destroy the ice threatening its neighbours.

These actions were a demonstration of smooth transboundary partnership and are also reminders of the importance of cross-border cooperation and solidarity, principles at the core of ICPDR actions.

Cross-border cooperation

"Most importantly, we saved water-works facilities, and the good relations between Serbian Prime Minister Vučić and Hungarian Prime Minister Orbán greatly eased the deployment of Hungarian ice-breakers. Ice-breakers from Hungary were expected to arrive in Serbia within 72 hours, yet they were already deployed after 15 to 16 hours – a true illustration of the importance of political support." Branislav Nedimović, Serbian Minister of Agriculture and Environmental Protection

"The ice breaking greatly aroused the public's interest in the Republic of Croatia. The progress was broadcast daily on national TV, with journalists reporting directly from the ice breakers. These activities demonstrated an excellent example of successful cooperation between three countries, and we specially appreciate and thank Hungary for its willingness to share ships with the neighbouring countries." Elizabeta Kos, Assistant Minister, Ministry of Environment and Energy, Croatia



The two most powerful ships, Jégtörő XI and Széchenyi, have two engines for a total of 2000 horsepower each. Icebreaker VI and VII have one main 600 horsepower engine. The small vessels, tasks are to shred the ice broken by the big ships, ensure their further floatage, and keep the channel made by the big vessels open.

Balázs Horváth is the Coordinator of Priority Area 4 of the EU Strategy for the Danube Region at the General Directorate of Water Management (OVF), Hungary.

Presidency 2017: European Union – Finding solutions together

The European Union has taken over the ICPDR Presidency for the year, and taken up the challenge of meeting both environmental and economic goals through better integration of differing water users.



In 1991, Peter Gammeltoft played a key role in setting up an interim Danube Task Force, the precursor of the ICPDR. Today, the former Head of Unit for Water and Marine Environment at the Directorate-General Environment of the European Commission – and ICPDR President for 2017 – is focusing on meeting the goals of the region through a closer cooperation than ever before.

“ **Danube Watch:** *You helped lay the cornerstone of the ICPDR back in 1991 – How does it feel to be back after so many years?* ”

It is great to see how the foundations laid in 1991 are now supporting a solid structure of cooperation. Before 1991 there was no framework for water and environmental management in the Danube Basin and I remember requests coming in daily from Danube riparian States with conflicting transboundary issues asking for intervention by the European Commission. The subsequent establishment of an interim secretariat, the drawing up of a Convention and its entry into force in 1998 created a coherent institutional framework and cooperation across national borders on all important water related issues in the basin, catalysing a cooperation which – to the benefit of all – has overcome traditional historical or political differences between the countries in the basin.

Danube Watch: *You have said, “Agriculture is a big mountain to climb”; why make it one of the main priorities of your Presidency?*

Agriculture and land-use practices and development have had and will increasingly have important impacts on pollution with nutrients and pesticides, on flood risks and on biodiversity in the basin if no measures are taken to control their impacts. But agriculture is also a potential victim of water scarcity and droughts, which will become more of an issue with continued economic development and climate change, so it is important to find solutions that will work for both the river and agriculture. Therefore, we need to intensify the dialogue between management of water and of other important sectors such as agriculture, energy and industry.

We have many examples of this cooperation already. For the transport sector we have the Joint Statement on Inland Navigation and Environmental Sustainability in the Danube River Basin, agreed with Danube Commission and the Sava Commission, with a joint transport and environment expert team – METEET – to advise us.

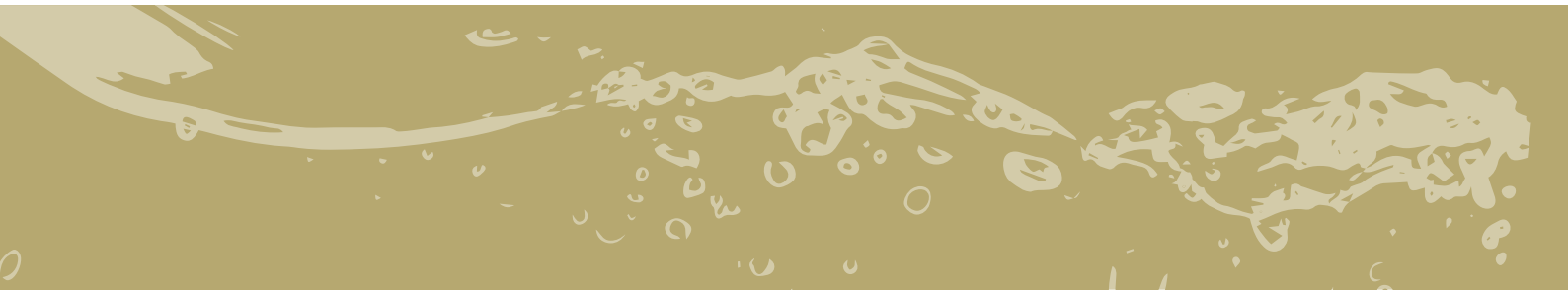
For the energy sector we have the Guiding Principles on Sustainable Hydropower Development in the Danube Basin, which are now in the process of implementation by the national authorities. The EU ICPDR Presidency has therefore identified agriculture as one of its three cross-cutting priorities. We will promote an integrated approach to water management and agriculture and provide input from the EU to the ongoing development of an ICPDR guidance document on sustainable agriculture. This input will draw on ongoing and planned discussions between those responsible in the European Commission and the EU Member States for water and agricultural policies to improve the coherence of approaches, including discussions to follow up on the water related commitments in the G20 Agriculture Ministers' Action Plan 2017.

This will also take into consideration one of the other cross-cutting priorities of the EU ICPDR Presidency: better coordination of EU funding mechanisms for ICPDR countries, EU Member States and non-Member States alike. This means looking at synergies with funds under the EU's Common Agricultural Policy, Regional Policy, Accession Policy and Eastern Neighbourhood Policy, and of regional strategies such as the EU Strategy for the Danube Region.

Danube Watch: *Do you see a way to make sturgeons more visible on a global level?*

The six Danube sturgeon species are all part of the biological heritage and diversity of the Danube Basin. Sadly, the conservation status of all these species is decreasing and five are on the 'red list' of the International Union for Nature Conservation of species under threat – one species is already extinct in the basin, while four others are 'critically endangered' and one is 'vulnerable'.

There are several factors impeding sturgeon conservation:



poaching/overfishing, pollution, changes in river flow regimes and physical barriers to migration of the sturgeons. A concerted effort is therefore necessary if we want to ensure a future for our flagship species. And I believe that this will be necessary to attain the target of Good ecological status of the EU's Water Framework Directive in 2027 at the latest.

It is clearly linked to some of the Aichi targets for 2020 under the Convention on Biological Diversity (CBD). Although freshwater biodiversity in river systems is by definition local or regional, I believe that this and similar issues in other parts of the world are relevant for the CBD. Ignoring such issues will not help achieve the Aichi targets by 2020, which is – figuratively speaking – tomorrow. As the Danube is the largest EU river basin, I believe this is a wider European issue that requires concerted action between the countries concerned.

As President of the ICPDR I believe that we need to start thinking now about a coherent set of actions to improve the conservation status of the sturgeon in the Danube Basin. We appreciate the tireless effort and activities of the Danube Sturgeon Task Force in this respect. The ICPDR is currently looking at the feasibility of re-establishing sturgeon migration across the Iron Gates barriers, but more is definitely needed if we are to turn our ambitions into reality.

Danube Watch: How does the ICPDR's work fit in with the UN Sustainable Development Goals for 2030?

The UN's 17 Sustainable Development Goals (SDGs) for 2030 were adopted last year and the ICPDR and its contracting parties are therefore all bound by them and have to work for their implementation. Importantly, the adoption underlines the indivisibility of the SDGs and that win-win solutions must be identified

to implement them – in plain language this means that sacrificing one goal to attain another goal is not an acceptable way forward. In fact, if you look at the preparatory work underpinning the SDGs you will find that some goals cannot be attained without attaining all the others.

The lesson here is that we must stop talking about choosing between economic goals and the environmental quality goals of the convention. We need to find ways of doing it all. I think this confirms that we are right in putting integration and the financing of improved policy integration at the top of the ICPDR's agenda, and that in the light of SDG targets on water-related

ecosystems, we need urgently to consider the measures needed to restore the Danube sturgeon populations.

We all look to water management to contribute to the provision of good quality drinking water, water for agriculture and industry, water for nature, good quality water for tourism and leisure purposes, and, last but not least, water to conserve biodiversity. We also need it to reduce water related risks, whether flood risk or water scarcity, or other risks arising from economic and demographic developments and climate change. In short, water management brings a key contribution to social and economic development and to securing jobs and welfare. If we don't address the water management challenges, we risk losing welfare and jobs.



A common bond for a common future:

Water and agriculture connect to protect the Danube River Basin

Although conditions have always been favourable for agriculture in the region, sustainability and environmental issues have suffered. However, now that the priorities of competitive agriculture and clean water are fully aligned, the Danube River Basin is well on its way to meeting goals for both sectors.

While agriculture has a long tradition in the Danube River Basin, in the 1970s and 1980s there was a steep decline in water quality in the region, partly as a result of agricultural practices. Discharges from urban areas and, emissions from agricultural activities caused an increase in nutrient pollution, a situation that, despite considerable improvement, remains one of the most significant water management issues in the region today, according to the Danube River Basin Management Plan, Update 2015. Cooperation between the agricultural sector and the water sector is crucial to achieve both sets of priorities, and several efforts already under way are building that connection.

Austria shows us the way forward

In Austria, environmentally friendly farming is both accepted and effective. Without compromising farmers' ability to compete in the marketplace, new agricultural methods are slowing and reversing the decline in water quality observed just a few decades ago.

The Nitrate Action Programme provides the legal foundation for basic measures which have to be applied throughout the country. However, the agri-environmental programme 'ÖPUL' allows farmers to participate in voluntary measures tailored to specific regional needs, and compensates them when agricultural practices go beyond the legal requirements of the Nitrate Action Programme. ÖPUL has been widely adopted throughout roughly 80% of the farming community and has made a major contribution to water resource protection.

In addition, education and advisory services have been fundamental in raising awareness. In all provinces of Austria, regional advisory services are in place to support farmers in all aspects of nutrient and pesticide management at local farm level.

Impactful support from the EU

The legal requirements for the protection of waters against agricultural pollution is defined by the EU Nitrates Directive. The

European Commission provides an implementation report every four years, which spurs Member States to revise their action programmes regularly and drives ongoing analysis and improvement.

Unfortunately, consistency in the implementation of the Nitrates Directive and the Water Framework Directive is a continuing challenge. Currently there are ongoing infringement procedures against eight Member States due to inappropriate implementation of the Nitrates Directive. At the same time, countries with intensive agriculture apply for derogations to the 170 kgN/ha limit almost regularly.

The European Commission is eager to persuade the Member States to improve their action programmes regularly. This is supported by initiatives to connect financial support for farmers with improved environmental performance using the Common Agricultural Policy (CAP) and the rural development programmes. "Austria strongly focuses on the compatibility of economic viability and ecologi-



cal issues of agriculture production,” said Thomas Neudorfer, Deputy Head of the ÖPUL unit at the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management. “Agri-environmental measures within the Common Agricultural Policy support farmers to produce in a sustainable way, without income losses from additional costs of more sustainable practices. Austrian farmers are very willing to deliver environmental services to society, but these efforts have to be honoured by society. Besides these area-related payments, knowledge transfers and training are essential for combining economic and environmental demands.”

Mutual goals, cooperative solutions

The ICPDR Nutrient Task Group deals with nutrient management issues and was considerably involved in the 2015 update of the Danube River Basin Management Plan. Using modelling activities, they analysed nutrient emissions, evaluated different solutions in different regions of the basin, and distributed a questionnaire on agriculture to Danube countries. This

spring, they are compiling data from that effort to create a guidance document on sustainable agriculture, including potential policy tools that can help decouple agricultural production from emissions to waters.

The Danube Declaration 2016 has called for closer cooperation between the water sector and the agricultural sector. Since a similar process was recently initiated successfully at the European level, the EU’s presidency of the ICPDR in 2017 is an excellent opportunity to engage a productive dialogue at the Danube river basin level.

“Water and agriculture are intrinsically linked by their shared interest to produce quality food in a competitive way without polluting our waters, which agriculture needs in times of prolonged droughts,” said Karl Schwaiger, Head of the Austrian Delegation to the ICPDR. “So both sectors are simply destined to cooperate; a reliable partnership with mutual trust is for me a prerequisite for success.”

Programmes in the Danube River Basin are proving that environmentally friendly agricultural methods can reverse the decline of water quality without compromising farmers’ ability to compete in the marketplace.



Christian Schilling works on water policy issues related to agriculture at the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management and is the Austrian representative of the water sector on the Nitrates Committee.

Franz Überwimmer chairs the ICPDR Nutrient Task Group and is responsible for water management planning in Upper Austria.

ICPDR focus: Supporting the EU accession

EU water legislation prompts ICPDR development as the Danube region benefits from the obligations of EU member states to fulfil requirements while non-member states benefit from the ICPDR and its support towards meeting the goals of EU water legislation.

The European Union has been one of the main drivers for river basin management planning in the Danube since 1991. The European Commission is also an original Contracting Party to the Danube River Protection Convention. As time has gone by, EU accession and the fulfilment of the EU's environmental directives have become the main driving force for environmental change in the Danube Basin.

In December 2000, the EU adopted the Water Framework Directive (WFD) – a new and effective tool for water management, a holistic legal and policy framework, seen by many as the strongest water protection legislation in the world. In the same year, the ICPDR Heads of National Delegations agreed that implementing the WFD should become the highest priority for the ICPDR for the coming years. Ministers from all Danube countries gave their full commitment to the decision – including EU members, prospective members and non-members alike.

Benefits on both sides

ICPDR membership is a real boost for Danube countries. In addition to developing its programmes and activities, the ICPDR serves as a knowledge and capacity building tool for all Danube countries. However, the work of the ICPDR and its Expert Groups and Task Groups has also

significantly strengthened the capacity of the Danube countries to continuously meet the EU's accession and Acquis Communautaire challenges.

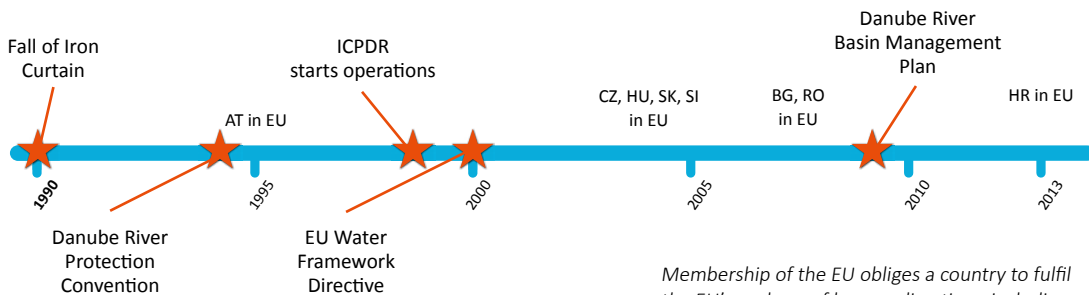
Moreover, political and economic incentives for environmental compliance resulting from the EU accession process actually fosters a speedier implementation of the Danube River Protection Convention's objectives. As more Danube countries move closer to the EU the Danube becomes safer, cleaner and healthier because the countries' expertise is growing and more lessons are being learned. As the 2014 ICPDR President Dražen Kurečić said in his address at the third EUSDR Annual Forum in Venna in June 2014, "Being a member of the ICPDR felt like being a member of the EU ten years ago already."

Ivan Zavadsky is the ICPDR Executive Secretary.

Jelena Krstajic is an intern at the ICPDR Permanent Secretariat.

Status definitions

- Candidate country status does not give the right to join the EU automatically. The Commission examines the application in light of the accession criteria (Copenhagen criteria) and draws up an opinion, while the European Council decides whether to open accession negotiations with the candidate country.
- Since the June 2000 European Council of Feira, all EU partners in the Western Balkans involved in the Stabilisation and Association process which are not yet recognised as candidates are considered potential candidates for EU membership. Currently, Bosnia and Herzegovina is a potential candidate.
- Countries that have signed the treaty of accession obtain the status of 'acceding countries' and are expected to become full member states on the date set out in the treaty.
- Both candidate countries and potential candidates receive EU funding and support through a single instrument – the Instrument for Pre-Accession Assistance.
- The EU promotes regional cooperation with the aim of enhancing regional stability and security. Regional cooperation is an essential element of the Stabilisation and Association process.



Membership of the EU obliges a country to fulfil the EU's package of laws or directives, including environmental directives, which continue to be the most expensive.

ICPDR contracting parties that are non-EU members:

Bosnia and Herzegovina:

Potential candidate

Moldova:

EU Association Agreement in force

Montenegro:

Candidate country

Serbia:

Candidate country

Ukraine:

EU Association Agreement under partial implementation

The Black Sea's angels are back: A key indicator species rebounds

After decades of pollution, a legendary sea creature returns to the Danube Delta, bringing with it some welcome good news about the area's biodiversity.

Ukrainian children have created a new legend: an angel lost its wings to combat pollution in the Black Sea and a mollusc with magical powers was born from them. The mollusc, known locally as 'Angel's wings', can prevent natural disasters and grant wishes to those who touch it. It's a nice story with a hearty helping of truth; while not necessarily magical, the mollusc is an ecological sentinel, thriving when pollution is down and biodiversity is restored. And for environmental decision-makers in the Danube region, its recent return is certainly a wish come true.



The bivalve mollusc *Barnea candida*, commonly known as piddocks, gets its more poetic name 'angel's wings' from the strange characteristic structure of the valves, which are white and, when opened, look like wings. The species is often found in southern Norway in the Mediterranean and West Africa. Their closest location to the Danube Delta – about 100 km along the shore – is the eastern border of the Tuzlovsky Iymans National Nature Park of Ukraine near the village of Lebedivka.

In the upper part of its valves, one can observe crossings of radial and concentric edges where the mollusc's sharp teeth are located. These are useful tools it uses to bore deeply into limestone, clay and wood. The shell is very fragile and if the mollusc is washed out from the substrate, where it lives, its valves are easily damaged by the crashing waves.

An ecological sentinel

This rare species reacts rapidly to the pollution of the Black Sea, which causes an oxygen-choking density of nutrients and plant life. Its sensitivity to high concentrations of organic matter in marine water make it a prime indicator species; its presence (or lack thereof) tells us much about pollution levels in the aquatic ecosystem.

Angel's wings were first registered in Ukraine in 1949, during surveys conducted in the Ukrainian part of the Danube Delta. They thrived for decades, according to the scientific data of the Danube Biosphere Nature Reserve, until a decline in the 1980s. The Institute of Marine Biology of the National Academy of Sciences of Ukraine confirmed last year that it has returned, after years of countless wishes made on the legendary creature's 'wings'.

For more information about the ecological sentinels of the Black Sea, visit:
http://emblasproject.org/wp-content/uploads/2016/09/21_09_2016_ua_eng_Environmental-Sentinels-of-the-Black-Sea2.pdf



Mykola Kuzyo, Deputy Minister for the European Integration Ministry of Ecology and Natural Resources of Ukraine (left) and Gigla Agulashvili, Minister of Environmental Protection and Natural Resources of Georgia (right) with the model for the metallic sculpture commemorating the 20th anniversary of the signature of the Black Sea Strategic Action Plan. This sculpture is made of two shells or 'angel's wings', which were presented to the city of Batumi; an identical sculpture will be placed in Odesa. It symbolises joint efforts by Ukraine and Georgia to protect the Black Sea.

- Dr. Boris Aleksandrov** is the Director of the Institute of Marine Biology, National Academy of Sciences of Ukraine
- Olena Marushevsk**a is the Public Relations expert for the EU/UNDP project, Improving Environmental Monitoring in the Black Sea (EMBLAS II).

Restoring the magic playground: Nutrient pollution victories in the Danube

Nutrient pollution threatens the quality of water depended on by more than 80 million people in the Danube River Basin – but a 20-year effort to reverse this trend that began in 2002 is working wonders for the river’s delicate ecosystem.



The Danube River flows through ten nations and the lives of countless people, bringing life to farms large and small. The river means different things to everyone, and it’s especially crucial to the agricultural workers who feed and sustain Europe along its banks. Naiana Milea is the Project Management Unit Director of the Integrated Nutrient Pollution Control Project (INPCP), which aims to reduce nutrient pollution in Romania. As part of the *‘People of the Danube’* interview series, we present personal portraits of individuals who bring their passion to the Danube Basin and its waters. Here, Naiana Milea tells us about the project’s many successes, and her unique personal connection to the river she is working to save.

Naiana Milea, Project Management Unit Director of the Integrated Nutrient Pollution Control Project

“ **Danube Watch:** *What is your personal relationship to the Danube and what would you call your favourite place on the Danube?*

I was born and raised in a small city in Southern Romania, on the banks of the Olt River, one of the main Romanian tributaries to the Danube. The river was part of my everyday life and one of our favourite playgrounds.

We grew up learning about the Danube River in school, as the river crosses the four capitals of Europe and (now) ten countries. As a child, I was so proud of this natural legacy and when I went on holidays to the Danube – in the mountain area where the Danube enters Romania – I used to think about how the water I saw in front of me had also passed in front of so many other people, cities, buildings and stories.

Later, when I first went to the Danube Delta, I went to Letea region, which is, in my opinion, one of the most beautiful virgin areas in Europe. There is a fairy-tale like forest there, growing literally from waters, as the Danube deposits the sand that forms the ground for the trees. Also, wild horses live freely in Letea forest; if you are patient and lucky, you can have a fair glimpse of them. I was struck by the beauty and wilderness, as well as the in-

credible diversity that nature created in such an uncommon place. This is an area of deep silence and real communion with nature. That is my favourite place on the Danube, even though it is actually on the grounds created by the Danube, which is even more fantastic.

Since I started my work on projects protecting the Danube River and the Black Sea, I have developed a more complex personal

understanding of the Danube. It brings life, as water always brings life – let’s think, for instance, about how many beautiful cities and cultures in the world were built along river banks. It also creates land – and the little story of the Letea wood is perhaps a good example. It generates energy – the flow of the Danube is a huge force of nature, and sometimes, with full responsibility and respect for nature, we can transform this into useful energy. The Danube waters carry the history of the places they have

Milestones of the Integrated Nutrient Pollution Control Project

Construction of communal platforms in compliance with the enforced legislation, and supplied with machines and equipment allowing the transport and integrated management of manure

- 2011: 14 communal platforms in nine localities
- 2016: 83 operational and equipped communal platforms, two under construction and 1,166 individual platforms in use

Harmonisation of pollution control actions assisted by a communications campaign

- 2012-2016: 11 sewerage systems and communal wastewater treatment plants built, seedlings planted on 182 hectares in 57 communities, and laboratory equipment secured for water quality testing

First Romanian pilot plant for biogas production from manure

- 2016: launched in Seini, Maramures county



crossed, from the stories and places I imagined as a child to actual facts of the recent past. If one day we see the waters are less clear, it means that some kilometers upriver, it rained.

Danube Watch: *When you started your work with INPCP, what environmental challenges faced Romania with respect to nutrient pollution?*

Because of the combination of underdeveloped sanitation, poor livestock management, and a large number of small farms, a significant nitrate and microbial contamination of shallow groundwater had been flowing into the Danube River all over Romania. And past decades have seen the Black Sea suffer severe environmental damage from eutrophication, partially caused by increased nutrient runoff from agriculture. The manure from animal breeders, both individual breeders and large livestock farms, was rarely stored in compliance with environmental protection rules or hygiene standards.

Another issue was that individual households were causing a diffused pollution. When aggregated, this usually exceeded the pollution coming from large livestock

farms. Improper storage had allowed a series of chemical compounds from the aerobic decomposition of manure (nitrates, nitrites, phosphates) to infiltrate the underground water. This is the source of well water, which people were drinking every day, not knowing the dangers they were exposed to.

Danube Watch: *How are you working with farmers to address these issues and to implement the EU Nitrates Directive in your country?*

Romania has a very large agricultural workforce, which means there are many people working at very small scales. In many cases, this leads to outdated and improvised agricultural practices, and farmers have difficulty developing resources, gaining new equipment, and building proper infrastructure.

The INPCP supports these communities mainly by building the infrastructure they need to prevent nutrient pollution, along with grassroots awareness campaigns. We actually went from village to village, explaining to farmers what nitrate pollution means, showing them what polluted water is (which sometimes looks crystal clear), and talking about the dangers of nitrate

The combination of underdeveloped sanitation, poor livestock management, and a large number of small farms has resulted in a significant nitrate and microbial contamination of shallow groundwater flowing into the Danube River all over Romania.


pollution for them and their families. Now we are preparing a financing scheme to help public authorities build infrastructure to protect water from nitrate pollution.

Danube Watch: *What do you think has contributed to these successes, and what's the next stage?*

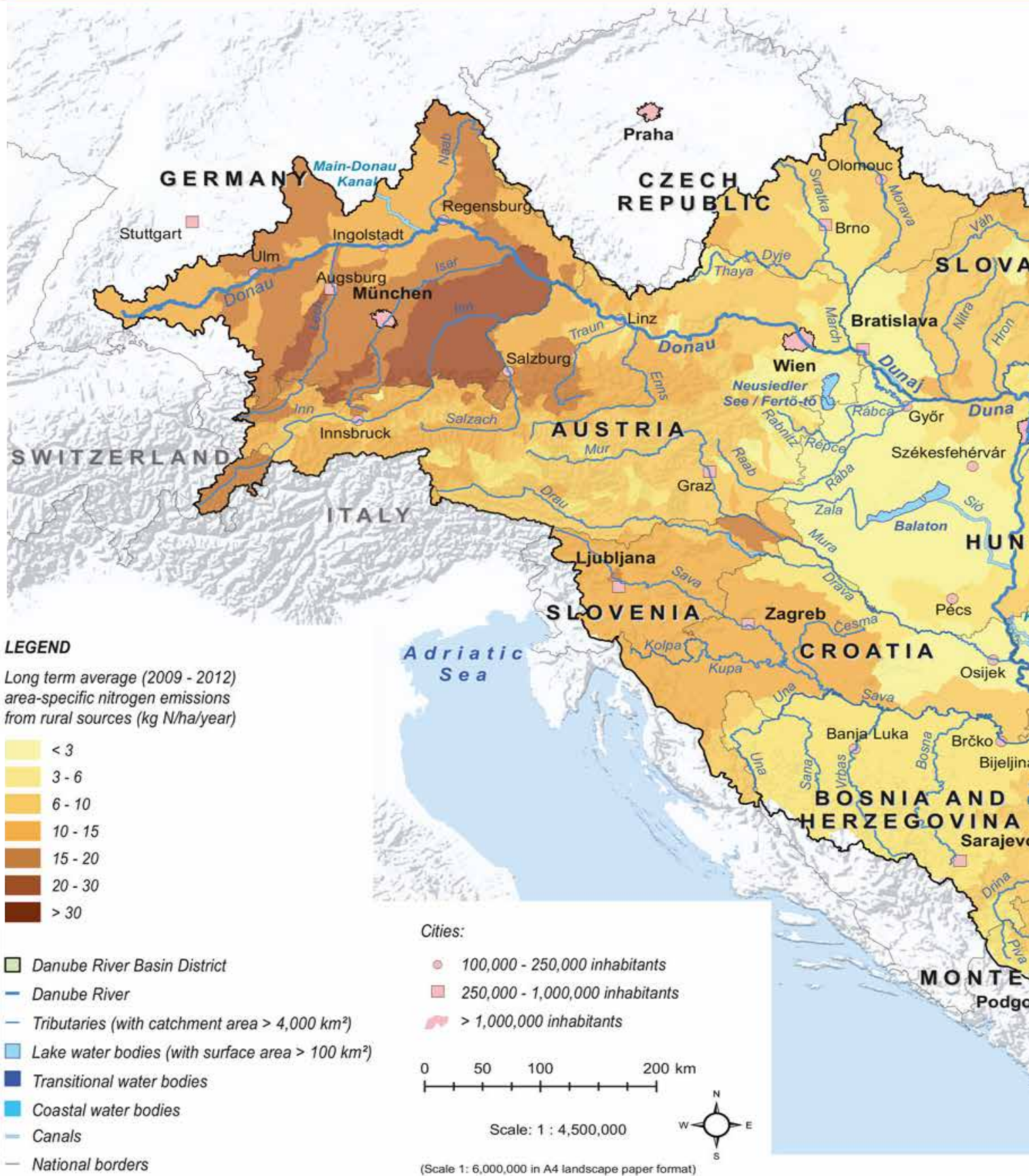
I think the success of this journey comes from different sources, but respecting and understanding community needs has been crucial – we do not make projects for some abstract entities. It is important to understand each community's unique problems and to support them in the most adequate way for their lives as well as for the environment.

I am delighted that we will continue the project's implementation until 2022, with new innovative action on clean air, unpolluted waters, organic food, and, of course, a healthier Danube.



 Nutrient pollution is a serious problem throughout the Danube River Basin and can put areas at risk of not meeting the objectives of the EU Water Framework Directive. Fold out to learn more about nutrient pollution from rural sources.

Nutrient Pollution from Rural Sources – Reference Situation: Nitro



This map illustrates nitrogen emissions entering the surface water bodies from catchment areas. The emissions were calculated according to long-term average hydrological conditions using the most recent available data within the same period. Calculation was implemented using the MONERIS model (Venohr et al., 2011).

This ICPDR product is based on national information provided by the Contracting Parties to the ICPDR (AT, BA, BG, CZ, DE, HR, HU, ME, MD, RO, RS, SI, SK, UA) and CH. EuroGlobalMap data and ESRI World Countries was used; Shuttle Radar Topography Mission (SRTM) from USGS Seamless Data Distribution System was used as elevation data layer; data from the European Commission



ons over the period of 2009-2012.

ia from EuroGeographics was used for all national borders except for AL, BA, ME where the data from the ion (Joint Research Center) was used for the outer border of the DRBD of AL, IT, ME and PL.

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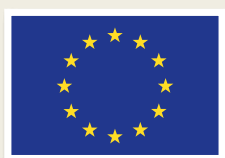
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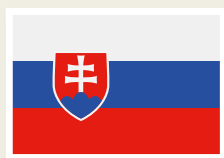
Montenegro



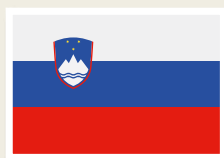
Romania



Serbia



Slovakia



Slovenia



Ukraine

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