

DANUBE WATCH

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



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Dear readers,

Dear readers,

Not only is Slovakia situated at the heart of Europe and blessed with a capital on the banks of the Danube, it will also be the stage for European policy of highest importance for the Danube River Basin in the coming weeks and months.

Almost coinciding with Danube Day, Slovakia took the Presidency of the Council of the European Union on 1 July for a period of six months. Moreover, Slovakia presides over the EU Strategy for the Danube Region in 2016. In response to this role, Bratislava will host the 5th Annual Forum of the EU Strategy for the Danube Region (EUSDR) on 3 and 4 November.

In light of this, it is clear that water management in general and Danube matters in particular will play a special role in Slovakia's policies this year. Slovakia takes pride in being a part of the ICPDR, which we recognise as a particularly well-functioning river basin commission of global significance. The ICPDR and its contracting parties set standards in transboundary water management for which we are rightfully envied by many other international basins outside the Danube region.

This was last demonstrated by the endorsement of the Danube River Basin Management Plan Update 2015 and the Danube Flood Risk Management Plan at the Ministerial Meeting in February 2016. Through a Ministerial Declaration, the Danube Ministers added political steering beyond the management plans, aiming among other things at paying increased attention to the cross-cutting aspects of water such as climate change.

The inter-sectorial aspects of the declaration resonate strongly in the EUSDR. Together with Hungary, Slovakia coordinates Priority Area 4, Water Quality, which has strong synergies with the ICPDR. This is only one of several priority areas where interlinkages between the ICPDR and the EUSDR can be utilised to mutual benefit.

Speaking for Slovakia as an ICPDR contracting party, EU Council president and EUSDR president, I express my commitment to make use of this year to foster ties between these mechanisms – to the benefit of the Danube Basin and the 80 million people who call it home.

László Sólymos,
Minister of Environment of the Slovak Republic



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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 for the improvement of 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.



LOGO OVERHAUL: FRESHER LOOK FOR THE ICPDR

As you may have already noticed on the cover of this issue of Danube Watch, the ICPDR has revised its logo to modernise its appearance and improve its readability. The new version is in line with the fonts of the ICPDR's corporate identity. It will gradually replace the old version and newly published products of the commission.

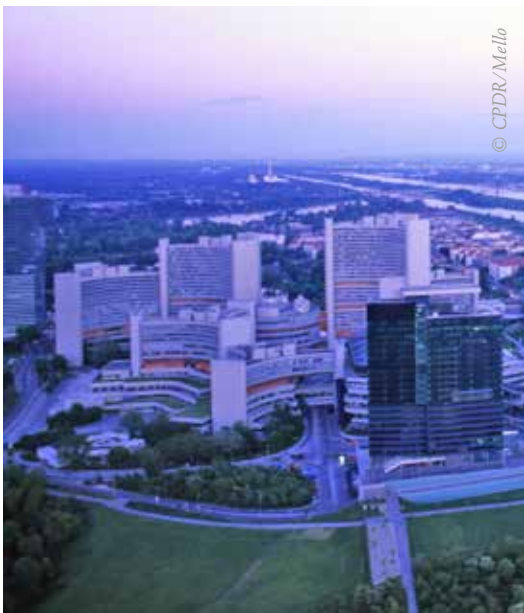
You can download the new version of the logo from:
<http://www.icpdr.org/main/revision-icpdr-logo>



SECRETARIAT OVERHAUL I: TWO PEOPLE OUT....

Two Technical Experts will be leaving the ICPDR Secretariat. After six years, **Raimund Mair** leaves his post as Technical Expert for River Basin Management to work for the European Commission. Mr. Mair will continue developing his career in transboundary water management at the Directorate General (DG) Environment's Water Unit, where his responsibilities will include work on hydromorphology, energy and transport policies. Also six years after joining the Secretariat, **Benedikt Mandl** will leave his post as Technical Expert for Public Participation and Communication. He will become Head of Communications at the Institute for Molecular Pathology (IMP), a basic research institute with scientists from 40 countries at the Vienna Biocenter.

Danube Watch thanks both colleagues for their work and wishes them all the best for their future.



SECRETARIAT OVERHAUL II: ...TWO PEOPLE IN.

As of September, the ICPDR Secretariat will welcome two new colleagues. **Edith Hödl** is the new Technical Expert for River Basin Management. A lawyer by training with a focus on environmental law, Ms. Hödl did an internship at the ICPDR Secretariat in 2004, and worked at the European Commission's DG Environment and the Austrian Ministry of the Environment before joining Austria's Umweltbundesamt. For the past ten years, she has worked on European water legislation issues in a range of national and international projects. **Hélène Masliah-Gilkarov** is the new Technical Expert for Public Participation and Communication. With a background in political science and international relations, Ms. Masliah-Gilkarov has worked for several years with various international corporations. For over ten years, she has worked in international communications and stakeholder management for viadonau, the Austrian waterway management company and ICPDR observer. In her position, she developed a broad portfolio of public information, stakeholder engagement and outreach activities in a Danubian environment.

Danube Watch welcomes the two new colleagues and wishes them all the best for their service to the Danube Basin.



DANUBE DAY 2016: GET ACTIVE!

Danube Day 2016 invited the more than 80 million people who call the Danube Basin their home to join in and get active. Hundreds of events were organised in the countries of the ICPDR and beyond – including environmental education fairs, sports events, creative competitions and other activities that linked people with their rivers. As every year, the intention of Danube Day was to highlight the incredible progress that has been achieved in making the water cleaner, healthier and safer than ever for everyone to enjoy. Especially nice this year were events that connected people from different countries – a delegation from Ukraine attending the Austrian event in Vienna, or a cross-border celebration on both the Ukrainian and Hungarian side of the Tisza. Over the course of the summer, country reports will be collected and a detailed review will be drawn up for the next issue of Danube Watch.

Read more about this year's Danube Day celebrations at:
www.danubeday.org



INTERNATIONAL DAY OF FISH MIGRATION

World Fish Migration Day (WFMD) was held on 21 May and brought together more than 1,500 organisations, featuring more than 450 events worldwide. The events included some in the Danube Basin, such as the conference in Bratislava 'Fish Migration and Barriers on the Stream' or a public lecture for children by the Danube Sturgeon Task Force in Bucharest. Organised by the World Fish Migration Foundation, WFMD is a one-day global initiative which calls attention to the needs of migratory fish to ensure that more natural river networks remain connected, and those already fragmented can be restored. It raises awareness of the needs of migratory fish such as catfish, eel, sturgeons, salmon and others which support the diets and livelihoods of millions of people worldwide. Of particular significance to the Danube are sturgeons, long-distance migratory fish that have become the flagship species of the ICPDR.

Read more about World Fish Migration Day at:
www.worldfishmigrationday.com



Examining the Danube experience: a case for global commitment

Of the world's 270 transboundary water bodies, the Danube is the most international, with 19 countries sharing in its catchment. By many accounts, the Danube is seen to demonstrate an example of good practices in regions where joint water management is challenging. The Danube should indeed help to pass on valuable lessons – and if some important limitations are taken into account, it will also benefit in turn.

The ICPDR has links to initiatives outside of the Danube basin that far exceed the global activities of other river basin organisations, which allows the ICPDR to give back to the global community some of the support that the ICPDR enjoyed in the 1990s and 2000s.

Organised cooperation among countries is almost always a matter of resources – when a country is doing well economically, its commitment to partnering with others is usually higher than in times of hardship. No wonder that we currently see a trend towards decreased international activities as many countries are facing relative decline, especially in the developed world. While in some sectors and some parts of the world local hegemons push to expand their interests via national means, many international organisations struggle to keep their members committed. Trans-boundary water management is no exception.

A model of good practices. The Danube experience is a popular 'good practice' example and the ICPDR as the main cooperation mechanism for countries in



the official partner of the Global Environment Facility's (GEF) IW:learn project; cooperates closely with international bodies such as the UNECE Water Convention (Helsinki Convention), the German development agency GIZ (see page 8) and the OECD Water Governance Initiative; and is a founding member of the Source-to-Sea platform established by key global players in the international water arena.

Learning from the ICPDR. The design of the organisation has proven to be very successful: a lean structure with a small, professional secretariat that concentrates highly technical and administrative capacities on one hand; on the other, it has national experts in expert groups to ensure that the organisation is firmly anchored in its members who have full control over it. This gives countries a strong sense of ownership, also expressed most importantly by the financing of the organisation through equal membership contributions.

The design of the ICPDR has proven to be very successful: a lean structure with a small, professional secretariat that concentrates highly technical and administrative capacities on one hand; on the other, it has national experts in expert groups to ensure that the organisation is firmly anchored in its members who have full control over it.

Furthermore, the ICPDR is very technically minded and not constrained by diplomatic protocol; it is also very inclusive as shown by the strong integration of external stakeholders in its every-day work. With this structure as a basis, the ICPDR has evolved over the past 20 years into a body that delivers some of the most advanced river basin and flood risk management products in the world – most significantly the two recent management plans.

Of course, using the ICPDR as a model for other regions does have its limitations. The role as a cooperation mechanism at the intersection between EU and non-EU member states with the framework of EU directives is unique, and so is the high diversity of countries, economies and societies within the Danube Basin. Many other river basin organisations have broader portfolios than the ICPDR and also deal, for example, with navigation or development issues.

Benefiting from global activities. There is much the ICPDR can learn from other organisations dealing with different circumstances. The field of water scarcity and drought management, for example, is just emerging in Europe, but has been a significant pressure in many other regions for quite some time. In addition, global exposure helps the ICPDR raise its profile and maintain its reputation. This allows actors in the ICPDR family to stay tuned to the newest developments and trends, which is a prerequisite if we want to continue to set standards. It is also an important way to give back to the global community some of the support that the ICPDR enjoyed in the 1990 and 2000s in the form of projects and financial support from the UN GEF, EU and other international donors.

In the global context, even the world's most international river basin is a mere puddle if viewed in isolation.

It is through activities in the global network that we get access to resources such as information, grants, and the personal networks of water professionals. Each of these resources is absolutely vital for the entire ICPDR family – delegations, expert and task group members, secretariat staff and observer community – to maintain the highest quality in its work, to continue to define standards and, most importantly, to keep learning continuously. In short: to avoid falling into provincialism. For in the global context, even the world's most international river basin is a mere puddle if viewed in isolation.

Ivan Zavadsky is the Executive Secretary of the ICPDR. *Benedikt Mandl* is the ICPDR's Technical Expert for Public Participation and Communication.

the Danube Basin is one of the strongest brands of any river basin organisation. This is seen not only in the strong identification of ICPDR contracting parties with the Commission, but also through third-party endorsements.

The ICPDR has evolved over the past 20 years into a body that delivers some of the most advanced river basin and flood risk management products in the world.

The ICPDR has links to initiatives outside the Danube basin that far exceed the global activities of other river basin organisations. Not only is the Secretariat based at one of the UN headquarters, the organisation also acts very globally. For example, the ICPDR won the Thies International River Prize in 2007; acts as



By partnering with the ICPDR to share its experiences in river basin management at events such as workshops in Bangkok in 2013 and 2014, GIZ is strengthening the dialogue between basins and supporting cooperative management of transboundary water resources.

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Learning from Danube cooperation for transboundary water management

The ICPDR's experience in river basin management helps GIZ support transboundary river and lake basins around the world to manage their shared water resources cooperatively and sustainably.

Transboundary river and lake basins cover almost half the earth's land area and are home to nearly half the world's population. Therefore, the cooperative and integrated management of transboundary waters is crucial for the sustainable development of communities, countries and even entire regions. At the same time, such cooperative management faces a number of challenges, ranging from unilateral development considerations and related conflicts between countries, to overexploitation and insufficient water infrastructure as well as the consequences of climate change. Therefore, many countries – including Germany – have decided not only to engage in the cooperative management of river basins they share with their neighbours, but also to support joint management efforts in other parts of the world.

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), on behalf of the German Government and other funding partners, currently supports close to 20 transboundary river and lake basins around the world to manage their shared water resources cooperatively and sustainably. With 20 years of experience, GIZ supports activities to negotiate shared water resources, establish legal and institutional bases for long-term cooperation (especially in the form of international treaties and river basin organisations as well as through harmonising water laws and policies), develop planning capabilities for water resources, develop and implement river basin management plans or to strengthen capacities to adapt to climate change.

Spotlight on the Danube River Basin. In the context of its work, GIZ has increasingly seen a keen interest from riparian

The cooperative and integrated management of transboundary waters is crucial for the sustainable development of communities, countries and even entire regions.

states in the Danube River Basin, at both the political and the technical level. In fact, in many basins around the world, water managers and politicians strive to replicate the Danube experience. The inspiration is both the ICPDR itself – as a model

river basin organisation with its effective structure and its well-established links to member states – and the ICPDR's work ensuring the cooperative and sustainable management of the Danube River Basin.

GIZ has therefore cooperated with the ICPDR on a number of projects, in the hopes of transferring Danube experiences and knowledge to other basins around the world. The ICPDR has already been involved in two GIZ projects on sustainable water management in 2016. A workshop held in June 2016 brought together African river basin organisations supported by GIZ and the ICPDR. The workshop focused on river basin management and planning, with a particular focus on the management cycle and the development, implementation and monitoring of river basin management plans.

In many basins around the world, water managers and politicians strive to replicate the Danube experience.

The Danube River Basin Management Plan provided an insightful example for representatives of African institutions – particularly in the way the different member states and respective stakeholders contributed to the drafting of the plan, in how implementation of the plan is financed at different levels and how it is monitored over time. The ICPDR also benefited from discussions about experiences in other basins – such as under drought conditions or with regards to integrating newly emerging issues into existing cooperation structures – thus ensuring true there is mutual learning between different basins.

Helping develop a framework for national management. The Danube experience is also relevant for water resources management at the national level – especially for countries, such as Iran, with a strong federal system that face challenges managing and developing water resources between provinces. Iran has therefore, in the context of its re-integration into the international community, asked for the support of the German government in developing a sustainable water resources management framework.

Iran struggles with various water resources and river basin management challenges – from severe water shortages

because of inadequate legal and governance arrangements, to insufficient water infrastructure development due to a lack of dispute-resolution mechanisms addressing conflicting interests in water use. To share German and European experiences in river basin management with Iran, in March 2016, ICPDR Executive Secretary Ivan Zavadsky participated in a workshop organised jointly by GIZ – on behalf of the German Ministry for the Environment, Nature Conservation, Nuclear Safety and Building – and the Iranian Ministry of Energy.

There was great interest in the Danube River Basin from Iranian officials – both from the ministry and other agencies, including the Iranian National Water Resources Management Company (the agency charged by the government with managing water resources) or the Iranian Farmers' Association. In particular, they appreciated learning about the Danube experience of bringing differing water uses and interest groups together to ensure mutually beneficial resource management as well as the lessons learned on river basin planning.

Foundation for future cooperation. GIZ is eager to further strengthen cooperation with the ICPDR and the Danube River Basin based on these and earlier joint activities, including workshops in 2013 and 2014 in Bangkok, when the ICPDR shared its experience of setting up and developing a functioning river basin organisation and an efficient secretariat with the Mekong River Commission and other organisations from Asia and Africa.

Presenting the Danube experience can not only provide important insights to water managers and politicians in various basins around the world, but also strengthen dialogue between basins and their riparian states thus fostering exchange and mutual learning for all – which is at the core of GIZ's approach and a prerequisite for sustainable development.

For more information on the GIZ's transboundary water management work, please visit: <https://www.giz.de/de/downloads/giz2011-en-transboundary-water-resources-management.pdf>

Susanne Schmeier is the Coordinator for Transboundary Water Management at the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).

Sustainable agriculture to reduce nutrient pollution

After successfully integrating river basin management with sector policies such as energy, transport and adaptation to climate change, the ICPDR will develop a guidance document to balance the needs of agricultural production and economic sustainability with the environmental needs of the river basin.

The ICPDR has achieved significant progress in cross-cutting issues – such as inland navigation, sustainable hydropower and climate change adaptation – resulting in key strategic documents adopted by the Danube countries. Agriculture, however, has not yet been fully addressed at the basin-wide level, although its strong relation to water management issues in the Danube River Basin has been long recognised.

To appropriately tackle this issue, the Danube Declaration (adopted at the ICPDR Ministerial Meeting in February 2016) asks the ICPDR “to organise in close cooperation with the agricultural sector and all relevant stakeholders a broad discussion process with the aim of developing an ICPDR Guidance document on agricultural practices towards the reduction of water pollution caused or induced by nutrients from agricultural sources and the prevention of such pollution in the Danube River Basin”.

Agriculture and the environment. Careful balancing between social, economic and environmental interests is essential when common issues of water and agriculture are addressed. Past experiences have clearly showed that improving the socio-economic situation in the agricultural sector is a prerequisite to successfully implement agro-environmental policies. Although agriculture is substantially subsidised by the EU and the national governments, the sector is facing socio-economic challenges. In many regions, agricultural production intensity

is low due to the unfavourable economic situation. In areas where land productivity is low, farmers often face socio-economic difficulties as agriculture in these regions may not be competitive at all.

Environmental concerns are also related to agriculture since nutrients have been released from agricultural areas of the basin in significant amounts during past decades. Currently, agriculture is responsible for 42% and 28% of the basin-wide total nitro-

Creation of a guidance document on sustainable agriculture would bring a shift from the traditional approach of regulative enforcement against farmers to a new perspective of economic benefits for farmers.

gen and phosphorus emissions of the surface waters, respectively, and the share is expected to grow in the near future as more enhanced technologies are put in place at urban waste water treatment plants. The Black Sea, which ultimately receives the waters of the Danube Basin, is sensitive to eutrophication and the severe eutrophic conditions of the late 1980s might arise again if agriculture is intensified without being managed sustainably.

Environmental solutions to benefit farmers. Although there are a variety of legislative and economic tools in place which aim to protect the environment from agricultural pollution while supporting sustainable agricultural production, a sound strategic guidance document on sustainable ag-



riculture for the Danube River Basin is still missing. This guidance document would disentangle the intensification and development of agriculture from increasing nutrient emissions into surface waters. In addition to ensuring an effective protection of the Danube River Basin water bodies and the Black Sea coastal waters, it would also promote the sustainable development of agriculture, thus avoiding economic disadvantages for farmers.

As a first step towards these guidelines, the ICPDR Nutrient Task Group (NTG) – in close cooperation with the agricultural sector and all relevant stakeholders – will organise a broad discussion process to develop a guidance document on sustainable agriculture to reduce nutrient pollution in the basin. This activity would shift the traditional approach of regulative



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The ICPDR guidelines on agriculture would promote two main development options according to land productivity: sustainable intensification of agricultural production in the favourable areas, and ecological landscape management in less favourable areas.

in the basin are taken into consideration. The guidelines would promote two main development options according to land productivity: sustainable intensification of agricultural production in the favourable areas, and ecological landscape management in less favourable areas.

From the beginning of the discussions, it will be essential to have the participation of concerned partners and stakeholders within the Danube River Basin, including national and EU administration bodies and other competent organisations, the farming community, academia, international organisations, soil and agriculture experts, agro-economists, and other river basin or marine commissions. The elaboration of the docu-



enforcement against farmers to a new perspective of economic benefits for farmers. The ICPDR guidance paper would recommend good agricultural practices and sound policy instruments for decision makers in the agro-environmental policy field in order to protect the waters in the Danube River Basin.

The recommendations would not duplicate the provisions of existing legislation regarding the implementation of basic measures (such as the Nitrates Directive or the cross-compliance of the Common Agricultural Policy) but would help countries to better identify, target and finance efficient supplementary measures to combat diffuse nutrient pollution. This would ensure the effective protection of both the surface and ground water bodies of the Danube River Basin and the Black

Sea coastal waters as well as a balanced agricultural production and economic sustainability for the farmers in the Danube countries.

A joint process for inclusive results. The guidance document could help Danube countries to better tailor national policies in order to be more efficient in reducing nutrient load and in preventing new pollution hot-spots. It could also facilitate dialogues between water and agricultural sectors to jointly develop and implement sustainable agricultural practices. The Danube countries should be able to adopt the recommendations provided by the guidelines in an inclusive way, ensuring that the interests of differing groups of stakeholders and the substantial natural and socio-economic regional differences

ment will be supported by a specific study to develop a knowledge base on agriculture as well as by regular expert meetings, broad stakeholder workshops and a public consultation and dissemination process. The guidance paper is expected to be finalised in 2018.

Adam Kovacs is the Technical Expert on Pollution Control at the ICPDR.



Tailing ponds: still a risk in the Danube basin?

Tragic environmental accidents around the world serve as a call for more caution with tailing ponds and mining sites, and the need for greater preparation for the unforeseeable – at the local, national and international level.

A wave of caustic red mud from a burst tailing pond at a bauxite mine in Hungary devastated the villages of Kolontár and Devecser, where the flow was powerful enough to move cars. The disaster, which occurred in 2010, is the most recent accident in the Danube Basin.

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A few months ago, on 5 November 2015, the huge tailing pond of an iron mining company collapsed in Bento Rodrigues, Brazil, contaminating the Doce River with 62 million cubic metres of poisonous sludge for 600 km to the mouth at the Atlantic Ocean. The accident destroyed 158 homes, devastated 15 km², disrupted drinking water supplies, and killed at least 17 people.

A tailing pond is the wet storage area for the waste and by-products left over from mining – such as sludge or liquid chemical waste of mining plants. Such tailing ponds are often very large. The long list of tailing dam failures shows that tailing ponds are hazardous and offers a chilling reminder of Murphy’s Law: whatever can go wrong will go wrong.

Accidents in the Danube River Basin. The Danube Basin has also seen serious accidents related to tailing ponds, with the last reported accident in Hungary at Kolontár in 2010. In that incident, a tailing pond at a bauxite mine burst, devastating the villages of Devecser and Kolontár with approximately 700,000 cubic



© General Directorate of Water Management of Hungary

metres of caustic red mud. Ten people were killed and about 120 people injured.

The long list of tailings dam failures shows that tailing ponds are hazardous and offers a chilling reminder of Murphy's Law: whatever can go wrong will go wrong.

In March 2000 at Baia Borsa, Romania, the tailing dam (decantation reservoir) at a lead, zinc and copper mining company collapsed and about 22,000 tons (with some sources reporting closer to 100,000 tons) of waste contaminated with heavy metals was released into the Vaser River, a tributary of the Tisza River. Although the Baia Borsa tailing pond has since been successfully rehabilitated and removed from the list of accident risk spots (see Danube Watch 1/2005 for that story), that accident was the second major environmental disaster

in 2000 after the devastating cyanide spill from the Baia Mare tailing pond only a few weeks before.

Cyanide spill at Baia Mare. The 2000 Baia Mare accident has been called the greatest environmental disaster in the Danube Basin, severely affecting Romania, Hungary and Serbia. Some 100,000-300,000 m³ of cyanide-contaminated wastewater spilled into an 800-km stretch of the Sarsar, Lapus, Szamos and Tisza rivers, contaminating drinking water supplies and killing many tons of fish.

Cyanide had been used at the Aurul gold mining company in Baia Mare, north-west of Romania, to recover gold from deposits of gold-bearing ore. To manage mining waste at the site, a tailing pond of 93 hectares was created with a water capacity of 1,600,000 cubic meters. The dam of the tailing pond collapsed in the evening of 30 January, the breach probably caused by a combination of design defects in the facilities, unexpected operational problems and unfavourable weather conditions.

The cyanide pollution plume was highly concentrated in the region of Szamos River and Tisza River. However, the pollution was also easily detected in the Danube River from the mouth of the Tisza River near Titel, Serbia, to the Danube Delta – a distance of around 1200 km.

The plume of cyanide had a load of 50-100 tons total mass, and the velocity of the cyanide plume was between 2.1 and 2.4 km per hour in the Tisza River and 2.4 – 2.9 km per hour in the Danube River. It took 14 days for the pollution plume to reach the mouth of the Tisza River – a distance of 814 km – at the Danube River in Serbia.

Learning from the effects. The highest concentration of cyanide detected in the rivers was at Baia Mare with about 400,000 parts per billion (ppb), while at Csenger on the border to Romania the concentration was 32,600 ppb, at the Tisza mouth into the Danube at Titel it was 2280 ppb, the 180 ppb at Belgrade and at Galați close to the Danube mouth – four weeks after the accident – cyanide concentrations were still 90 ppb.

Many fish were killed – and planktonic species completely killed off – as the cyanide plume travelled downstream. Soon after the plume passed, however, plankton

and aquatic micro-organisms recovered relatively quickly – within a few weeks – thanks to unaffected water flowing from upstream and from the tributaries.

Because of the huge dimensions of the spill, the United Nations Environment Programme (UNEP)/United Nations Office for the Coordination of Humanitarian Affairs (OCHA) organised an international task force. A team of 20 scientists – including this author – investigated affected areas from 23 February to 6 March 2000. The complete report of the Baia Mare Task Force was published in April 2000. The assessment report after the incident influenced revised EU regulations on mine safety and environmental protection, and the Baia Mare experience resulted in major changes in the way accidents and emergency are responded to.

The assessment report after the incident influenced revised EU regulations on mine safety and environmental protection, and the Baia Mare experience resulted in major changes in the way accidents and emergency are responded to.

Legislation to manage mining waste. Under EU legislation (Directive 2006/21/EC on the management of waste from the extractive industries, the so called Mining Waste Directive), Member States are obliged to ensure that mining waste is managed without endangering human health and without using processes or methods which could harm the environment – in particular without risk to water, air, soil, fauna or flora. Care must also be taken to avoid causing a nuisance through noise or odours and without adversely affecting the landscape or places of special interest. Member States must also take necessary measures to prohibit the abandonment, dumping or uncontrolled depositing of mining waste, even after the closure of a waste facility, taking every precaution to limit risks to public health and the environment related to the operation of mining waste-processing facilities.

Karl Wachter is a Senior Danube Expert in Austria.

Restoring vital wetlands for nature and people alike

The first results can be seen from the Living Danube Partnership, a seven-year, six-country programme to reconnect floodplains in the region.

The Danube, which is the European Union's longest river, has seen 80% of its floodplains and wetlands disappear due to human interventions over the past 150 years. The result has been plummeting fish stocks and wildlife populations, and decreasing water quality and ability to absorb floodwaters.

On the eve of Danube Day, 29 June, WWF and The Coca-Cola Company announced the annual progress of their seven-year Living Danube Partnership to restore vital wetlands and floodplains along the Danube River by 2020. The Living Danube Partnership directly contributes to one-third of the objectives of Danube countries to restore 151.3 km² of floodplain and wetland areas by 2021.

Over the restoration period, measures such as opening dykes and dams to reconnect former floodplains and improve flooding capacity, restoring the wetland habitats of animal and plant species and building a fish pass will be funded with a grant from The Coca-Cola Foundation.

Over the restoration period, measures such as opening dykes and dams to reconnect former floodplains and improve flooding capacity, restoring the wetland habitats of animal and plant species and building a fish pass will be funded with a grant from The Coca-Cola Foundation.

“Together, WWF and The Coca-Cola Foundation – alongside local authorities and organisations in the countries that the Danube River passes through – have begun restoring these vital wetlands and

A WWF expert holds a Danube sturgeon, one of the species that has benefited from the programme's aim to restore habitats and remove migration obstacles.



floodplains for the benefit of people and nature, with first results at Neusiedler See in Austria and Siroki Rit in Serbia,” said Andreas Beckmann, Director of the WWF Danube-Carpathian Programme.

To raise awareness of the importance of wetlands and their conservation and restoration, the Living Danube Tour of WWF and Coca-Cola has visited more than 36 locations across Austria, Bulgaria, Croatia, Hungary, Romania, Slovakia, Slovenia and Serbia, reaching over 60,000 people directly.

“We recognise that water is a scarce resource. It's also the primary ingredient in our products. That's why we are committed to continually improving how efficiently we use water, working with WWF to set ourselves ambitious global targets,” said Sofia Kilifi, Public Affairs & Sustainability Manager at Coca-Cola Central & Southern Europe. “We've been working with the WWF since 2007 to

help conserve freshwater resources around the world and to make meaningful changes to our business.”

What has been achieved so far in each of the six countries:

Austria

In Austria, the project has restored some of the last soda lakes, a unique habitat next to the Neusiedler See, threatened by poor drainage channels and consequently by lower groundwater levels. The aim of the project was to build weirs to raise the groundwater table to former levels, bringing up to 1,000,000 m³ of water back to nature. The activities benefit local tourism, dependent on the abundance of birds, as well as agriculture, which has also suffered from the low groundwater level.

Bulgaria

In Bulgaria, the project focuses on the



The partnership is working with local fishermen to sustain biodiversity.

Lower Danube Green Corridor, one of Europe's most ambitious wetland protection and restoration initiatives. The aim is to restore over 30 km of river habitats that are home to six threatened and endangered fish species by removing migration obstacles and building a fish pass. Other conservation activities include marking and restocking to help improve the river's ecological status. Anglers have been educated about the value of river connectivity. Another wetland restoration project in Bulgaria is in the pipeline.

Croatia

The project focuses on restoration activities along the Drava River, part of the future five-country Mura-Drava-Danube Trans-Boundary Biosphere Reserve, referred to as 'Europe's Amazon'. The aim is to restore or recreate seven side-arms that will improve natural river dynamics and habitats, flood risk mitigation, ecotourism and recreation.

This is Croatia's first EU LIFE Nature project. It was officially launched on 17 June 2016.

Hungary

The project focuses on restoration work along the Barcs-Old-Drava former meander, in cooperation with Croatia. The area is also part of the future five-country Mura-Drava-Danube Trans-Boundary Biosphere Reserve. This is the longest natural riverside lake in Hungary, spanning 15 km. The restoration demonstrates a relatively simple and cost-effective way of improving the ecological status of the wetlands and surrounding forests, and developing recreation with new angling platforms. Another restoration project along the Danube is also envisaged.

Romania

The project will restore the former Garla Mare Fish Farm along the Danube. WWF

has already become one of the custodians of the Natura 2000 site there. The aim is to connect the transformed wetlands to the natural flood pulse of the river Danube. This will improve the river's retention capacity in the event of future flooding and provide ground for sustainable land use such as grazing or bee keeping. Further wetland restoration projects in Romania are also planned.

Serbia

The project restores the Siroki Rit wetland which will be finished in 2017. The area lies on the Danube floodplain, but was disconnected from the river by dykes. The aim is to improve the water regime throughout the year. The team has already received a government award for the restoration works implemented.

Konstantin Ivanov is Regional Head of Communications at WWF Danube-Carpathian Programme.



From reactive to proactive drought management

The need for regional and national drought policies has prompted the Global Water Partnership and the World Meteorological Organisation to create seven-step guidelines to support authorities responsible for national drought planning in Central and Eastern Europe.

Countries in Central and Eastern Europe are sensitive to variability and changing precipitation patterns when managing water resources and adapting to climate change. Furthermore, future climate scenarios in the region forecast increased frequency and severity of extreme weather events, which will result in an increase of droughts. Each time a drought occurs, many of the same issues are raised in the region, such as: How much damage was inflicted, on whom, and where? Who is going to pay for it? How can we prevent, or at least reduce damages and their costs in the future?

From reactive to proactive drought management. In 2013, the Global Water Partnership (GWP) and World Meteorological Organization (WMO) launched the joint Integrated Drought Management Pro-

gramme (IDMP) to improve the monitoring and prevention of droughts. In the same year, the IDMP was launched at the regional level for Central and Eastern Europe (IDMP CEE). The IDMP CEE aims to support stakeholders at all levels by providing policy and management guidance and by sharing scientific data and best practices for integrated drought management. During Phase 1 of the IDMP CEE, the overall drought situation was analysed in the ten CEE countries of Bulgaria, Czech Republic, Hungary, Lithuania, Moldova, Poland, Romania, Slovakia, Slovenia, and Ukraine. The results confirmed that drought and water scarcity issues were widely recognised as a relevant phenomenon in the CEE region.

The IDMP CEE focuses mainly on current gaps in the implementation of the EU Water Framework Directive

As part of an IDMP CEE demonstration project on measures to increase soil water-holding capacity in June 2014, experts estimate soil compaction with a soil penetrometer at the experimental field of Slovak University of Agriculture in Kolinany

(WFD). One of the WFD requirements for a River Basin Management Plan is to develop a Drought Management Plan as a supplementary measure, in case obligatory measures are not sufficient to avoid water scarcity. This was not pursued in the participating CEE countries. "Without coordinated national drought policies, nations will continue to respond to drought in a reactive way," says Michel Jarraud, Secretary-General of the World Meteorological Organization.

Therefore, the IDMP CEE aimed to develop Guidelines as a support tool for public bodies and authorities to prepare

Drought Management Plans in each participating country. The IDMP CEE Guidelines use a step-by-step approach to develop Drought Management Plans in accordance with WMO/GWP Guidelines and EU Guidelines.

The objective of the Guidelines. The general objective of the Guidelines is to support the timely production of national Drought Management Plans within the development of the River Basin Management Plans. In addition, the Guidelines encourage broader commitments to integrated water management systems, according to the WFD, that provide a better understanding of how to integrate drought management into the planning and development of River Basin Management Plans. What's more, the Guidelines provide information on other issues related to drought that are included in the WFD, such as quantitative status, prolonged drought and climate change.

The Guidelines can help shape the integration of vertical planning and decision-making processes at different levels using a multi-stakeholder approach, including three key sectors agriculture, energy, tourism and others. "Reflecting the regional

conditions of Central and Eastern Europe, the Guidelines present seven clear steps on how to prepare the drought management plan in a participatory way," says Richard Müller, GWP CEE Regional Coordinator.

To date the Guidelines have been translated into six Central and Eastern European languages – Hungarian, Lithuanian, Slovak, Slovenian, Romanian and Ukrainian.

A bottom-up approach. An essential part of IDMP CEE was involving the main end-users at the policy level through conducting more than 20 national consulta-

The Guidelines for drawing up Drought Management Plans can help shape the integration of vertical planning and decision-making processes at different levels using a multi-stakeholder approach, including the key sectors agriculture, energy, tourism and others.

tion dialogues in ten countries. The main purpose of the dialogues was to discuss the current status of drought management in the country, the strong and weak areas, and how IDMP CEE results could be used at the national level to help improve all aspects of drought management. The first round of dialogues opened a discussion among key actors in each country dealing with drought issues at multiple levels including for policy makers (ministries, state agencies); professionals (hydrometeorologi-

cal services, universities); and stakeholders (farmers, households, energy companies, fisheries, and others).

The second round of dialogues aimed to gather national practical experiences and other information relevant to drought planning, and to give comments, corrections, suggestions, and amendments to the draft guidelines according to the specific conditions and drought planning experiences of countries.

In some countries, a third round of dialogues was organised, where stakeholders had the chance to provide feedback on the Guidelines and to look for further steps to take for planning in the country. "We believe the National Consultation Dialogues and the Guidelines helped strengthen the cross-sectorial cooperation in most countries and will ensure the participation of interested stakeholders in the preparation of Drought Management Plans," says Sabina Bokal, IDMP CEE Programme Manager.

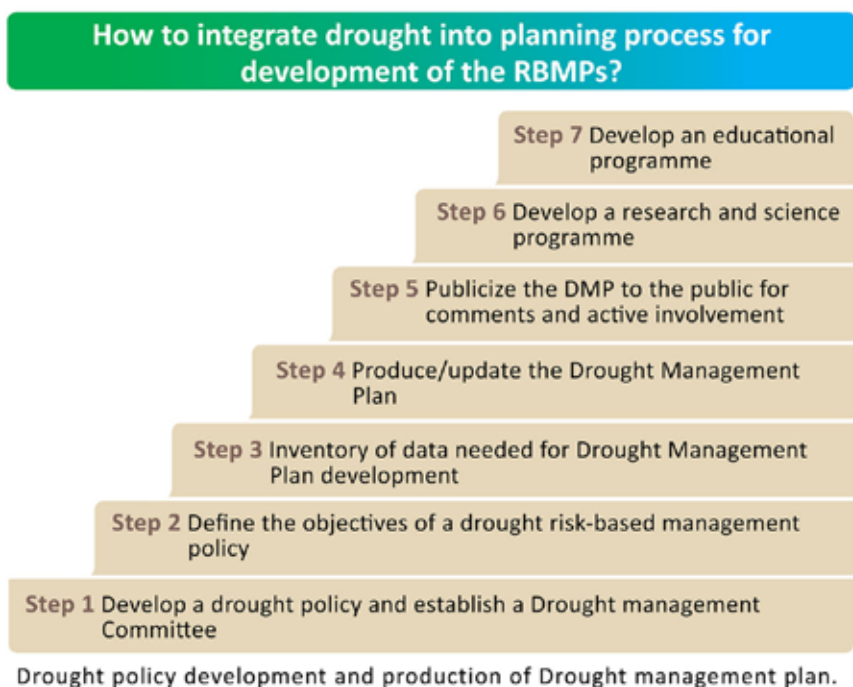
The Guidelines for preparing the Drought Management Plans can be downloaded at www.gwpcee.org.

Gergana Majercakova is the Communications Officer at Global Water Partnership Central and Eastern Europe.

Based on well-known approaches from EU and GWP/WMO guidelines, a team of experts developed seven steps – specific to Central and Eastern European countries – to be used by public bodies and authorities responsible for national drought planning. Credit: IDMP CEE



Extreme droughts cause economic losses, ecological damage and threats to human health. The Integrated Drought Management programme was launched at the regional level for Central and Eastern Europe to provide policy and management guidance and to share best practices for integrated drought management.



DanubeGIS provides public access to Danube data

The DanubeGIS platform supports the ICPDR in its tasks related to spatial data, and it is now open to public users as well – providing access to data and maps for the whole Danube Basin.

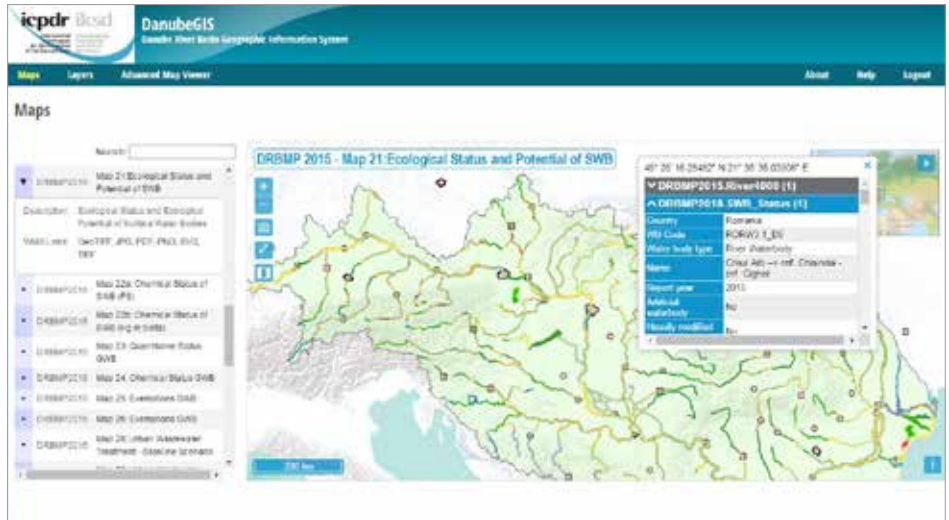


Fig. 1

In the GIS web map viewer one can select any of the over 40 maps prepared within the DRBM Plan and DFRM Plan, zoom into them and find out about the detailed data of each feature on the map by simply clicking on it. (Fig. 1)

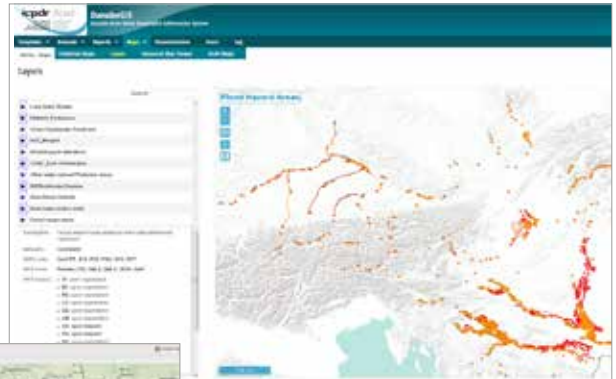


Fig. 2



Fig. 3

In addition to Web Map Service, the Web Feature Service allows download of the datasets in various formats, including Geography Markup Language (GML – an open interchange format for geographic data) and shape files. (Fig. 2)

The INSPIRE-compliant metadata of the DanubeGIS maps and layers make it easy to integrate ICPDR datasets into other web portals, such as the portal of the Danube Reference Data Service Infrastructure, maintained by the Joint Research Centre (JRC), which provides scientific support to the EU Strategy for the Danube Region. (Fig. 3-5)



Fig. 5

The Danube River Basin Geographic Information System – or simply DanubeGIS – is now open for public access. This comprehensive web-based tool has been used by the ICPDR during the last years for data collection, management, and reporting, most notably the recently published Danube River Basin Management Plan Update 2015 and the Danube Flood Risk Management Plan 2015. The maps of these reports and the underlying data are now easily available online.

Development concept, goals and target groups. The DanubeGIS was developed as a tool for ICPDR tasks related to spatial data. A truly in-house product, it was developed by the staff of the ICPDR Secretariat under the guidance of the ICPDR Information Management and GIS Expert Group (IMGIS EG). The geographical area covered by the DanubeGIS is the territory of the Danube River Basin District shared by 19 countries, of which 14 are ICPDR Contracting Parties.

In cooperation with the relevant ICPDR expert groups, the IMGIS EG defined data specifications and templates for all the various topics covered in the system. Where appropriate, it takes into account the relevant EU reporting formats as well as the specific reporting possibilities of non-EU Member States. This approach makes DanubeGIS a tool for integration and storage of the Contracting Parties' relevant data resources in a harmonised format, and a common basis for data usage in the ICPDR. The national members of the IMGIS EG coordinate data collection in their countries and provide those datasets to the DanubeGIS. In this context, a jointly accepted data policy has been developed.

The DanubeGIS is built to provide a Danube Basin-wide platform to support the ICPDR in its reporting tasks – such as the implementation of the EU Water Framework Directive (WFD) and the EU Floods Directive (FD).

The DanubeGIS content management platform facilitates data collection, quality assurance, analysis, visualisation and mapping. The system architecture is based on open-source software components, which ensures that it remains as flexible as possible to be able to meet the long-term needs of the ICPDR.

“Impressive data and information on the WFD and FD from both EU and non

EU Member States have been collected via DanubeGIS,” says Dragana Ninkovic of the Jaroslav Cerni Institute and Chair of the IMGIS EG. “Availability of this data online, as well as the corresponding metadata, will provide more opportunities to prepare for the Danube Strategy and other Danube related projects.”

The target groups, which all benefit from the existence of the DanubeGIS platform, are mainly experts working either directly with the ICPDR or in projects related to water management. This includes the 23 observers to the ICPDR, research institutions, universities, other stakeholders and the general public.

“Stakeholder involvement in river basin management and flood risk management planning is stressed as a crucial part of the planning process both in EU WFD and the FD,” says Ninkovic. “The more possibilities for data access, the better stakeholders' understanding of management issues and corresponding measures.”

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The unique quality of the DanubeGIS is that it provides combined datasets for the whole Danube Basin, that are relevant for the full range of tasks of the ICPDR such as industrial and urban pollution sources, waste water treatment, continuity interruptions for fish migration, hydrological alterations, and the status assessment of water bodies.
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Data viewing, analysis and access. The important component of the DanubeGIS for public users is the GIS web portal. It enables GIS data viewing and access, showing pre-designed thematic maps as well as individual spatial layers.

In the GIS web map viewer one can select any of more than 40 maps prepared within the DRBM Plan and DFRM Plan, zoom into them and find out about the detailed data of each feature on the map by simply clicking on it (Fig. 1).

Each map can also be exported as a geo-referenced image file or accessed directly as a Web Map Service (WMS) – this allows GIS experts to use the map in any software supporting these standard services.

Users who are interested in more in-depth work with the available data can sign-up for a user account to reveal more expert system features. An advanced web map viewer allows those users to compose

maps by combining any individual layers. In addition to WMS, the Web Feature Service (WFS) allows download of the datasets in various formats, including Geography Markup Language (GML – an open interchange format for geographic data) and shape files (Fig. 2).

DanubeGIS linking to other geo-information systems. The advanced viewer also enables users to import the geographic data web services from other accessible GIS servers, for example from the Joint Research Centre (JRC) of the European Commission or other relevant data providers.

All maps and layers of the DanubeGIS are equipped with INSPIRE-compliant metadata which is discoverable via the Catalog Services for the Web (Fig. 3-5). This standardised service makes it easy to integrate the ICPDR datasets into other web portals. A first example of such integration is the visibility of DanubeGIS datasets on the portal of the Danube Reference Data Service Infrastructure, which is maintained by the JRC. This portal aims to provide scientific support to the European Union Strategy for the Danube Region in close cooperation with key scientific partners of the Danube Region.

The DanubeGIS doesn't aim to provide the whole range and full detail of all of the datasets that may be available on related systems nationally, as it only covers rivers with a catchment size larger than 4000 km. On the other hand, its unique quality is that it provides combined datasets for the whole Danube Basin, that are relevant for the full range of tasks of the ICPDR such as industrial and urban pollution sources, waste water treatment, continuity interruptions for fish migration, hydrological alterations, and the status assessment of water bodies.

DanubeGIS is online. The DanubeGIS is now open for public access. Go to <https://www.danubegis.org> and view the maps of the Danube River Basin Management Plan and the Danube Flood Risk Management Plan 2015 in a new and interactive way.

Alex Höbart is the Technical Expert for Information Management and GIS in the ICPDR Secretariat.

Zoran Major is the Technical Expert for GIS in the ICPDR Secretariat.

Taking inspiration from the river

The Danube is the link that connects all of us in the basin, especially decision makers who are motivated by their shared experiences of living along the banks of the most international river in the world.

The Danube is of huge significance to Romania: covering 237,391 km² and with nearly 22 million inhabitants, the country is almost entirely within the Danube Basin.

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In water management, the river is the biggest influence. Simona-Olimpia Negru, Romanian Secretary of State in the Ministry of Environment, Water and Forest speaks about how a childhood spent along the banks of the Danube inspires a career in water management and how the field of river basin management is providing equal opportunities for everyone in the Danube region

Danube Watch: What is your personal relationship to the Danube?

Simona-Olimpia Negru: I was born on the banks of the Danube River in the town of Turnu Magurele. As a child the Danube fascinated me, in particular during the hot summers when I would walk along its banks with a lot of willows to cool off. But restless waters during floods used to frighten me.

What caused my childhood fear later became my profession – to manage floods. Before becoming Secretary of State I worked in the flood protection directorate

first as an expert, then as director and general director. In these positions I was involved in the ICPDR activities related to flood management, particularly in the development of the Danube Flood Risk Management Plan.

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“What caused my childhood fear later became my profession – to manage floods.”
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Danube Watch: Gender issues are often seen as a key aspect in water management especially in developing countries. Do you see links between gender issues and water management in the Danube region?

Simona-Olimpia Negru: In developing countries, such as those in Africa, women are the ones responsible for carrying water over large distances. And as they often bring home a small quantity of water, it is women who take care to conserve water when using it in the household for cooking, bathing and cleaning.

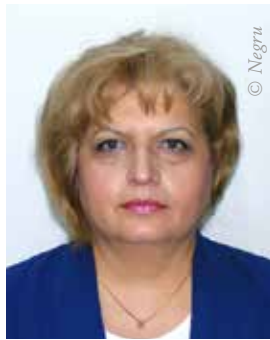
In the Danube region the problems are less important concerning water quantity but more important regarding the water quality. However water deprivation is a major concern involving both the quality and the availability of water.

The trend in the Danube region is to involve women and men equally in all professions related to water. This is certainly the situation in river basin management, where women are numerous in planning actions, including legislation, in deciding policies or programmes, in all areas and at all levels water management.

Vocational training, free access to university education under current conditions, the ability to occupy key positions in decision making and management in various economic and social fields are no longer the exclusive domain of men. At present, society offers everyone equal access to a career, a voice in leadership and the opportunity to really change something for the future.



In the new interview series **People of the Danube**, Danube Watch presents personal portraits of individuals who passionately relate to the Danube Basin and its waters.



Simona-Olimpia Negru, Secretary of State within the Ministry of Environment, Waters and Forests, Romania

Women are certainly becoming more and more central in water management. In the Romanian Ministry responsible for water management, women hold more than 50% of the positions and I can assure you that they are doing a very good job!

"The Danube Delta is also a place that I personally consider one of the most beautiful on Earth."

In addition, women are also more involved in education as mothers or teaching in schools and thus are very much involved in educating children on the importance of safeguarding water.

In this context, I hope that through positive examples and the available options, we can convince a larger number of young women to join the water management field contributing towards sustainable green development at the national or river basin level, in Danube countries and around the world.

SIMONA-OLIMPIA NEGRU

Secretary of State, Ministry of Environment, Waters and Forests, Romania

Simona-Olimpia Negru, Secretary of State within the Ministry of Environment, Waters and Forests, Romania, was born on 18 January 1973. She graduated from the Geography Faculty in Bucharest in 1998. In 1999-2000, she pursued post graduate studies in the management and sustainable use of waters and the impact of flooding and other extreme events. She began her career with the Ministry of Environment in 2000. In 2007 she became the head of the unit managing the assessment and prognosis of water resources, and in 2011 she was named Director of the Risk Management and Floods Directorate and Director General when the Directorate was enlarged.

Danube Watch: What possibilities do you see to make the Iron Gate dams between Romania and Serbia passable for sturgeon migration?

Simona-Olimpia Negru: Conservation and protection of sturgeons is one of the most important tasks to be undertaken within our cooperation in the Danube River Basin. From this point of view, ensuring sturgeon migration upstream of the Iron Gates dams will be one of the most difficult challenges. Despite this difficulty, Romania – together with our Serbian neighbours – has already started to explore possibilities for fish migration on the Danube. In this respect, with the support of the Dutch Government and the ICPDR, we developed a pre-feasibility study on the possible solutions. Based on the results of this first study we will develop a feasibility study starting this year to establish the necessary measures needed to ensure the migration upstream of Iron Gates dams. We hope that implementation of these measures will be supported with EU Funds.

At the same time, together with the Minister of Agriculture and Rural Development, I have issued a prohibition order for fishing sturgeons for the next five years.

"I hope that through positive examples and the available options, we can convince a larger number of young women to join the water management field contributing towards sustainable green development at the national or river basin level, in Danube countries and around the world."

Danube Watch: Do you have a favourite place on the Danube?

Simona-Olimpia Negru: I think that Danube is a majestic river and a life spring for cultures and biodiversity. My favourite place of course is my birth place, but the Danube Delta is also a place that I personally consider one of the most beautiful on Earth. I very much like to visit the areas which are untouched by any human changes and to enjoy nature and the peace of these places. I invite all those who like wilderness to visit the Danube Delta – I am sure that you will fall in love with it!



The population of the Lower Inn Valley was kept informed about flood protection through a special edition of the local newspaper.

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Flood protection in Tyrol – acceptance through communication

Plans are under way to make the densely populated, and economically strong, Lower Inn Valley in Tyrol flood-proof. But achieving this will require a dialogue-based planning process.

The Inn River is one of three rivers contributing the most water to the Danube and therefore one of the tributaries with a significant flood risk. The last flood on the Inn in 2005 caused €30 million in damage in the Tyrolean Unterland. According to the current hazard zone plan, 360 hectares of settlement and business zones, including 4,400 residential and industrial buildings from the east of the provincial capital of Innsbruck to the Bavarian/German border, may be affected by a 100-year flood.

To plan flood protection for these areas, the Province of Tyrol and the Federal Water Engineering Administration are relying on a strategy of communication and dialogue. Raising awareness of flood risks and winning acceptance for flood protection is critical in the affected municipalities – because ultimately the municipalities (in the form of water associations) will implement the flood protection project.

Compensation in the region. Flood control in the project area must not lead to an aggravation of the flood situation in downstream areas. This means that any aggravation because of protective measures in the form of retention actions in the region has to be compensated. Flood protection, therefore, is only possible when it is inter-municipal. The municipalities will have to coordinate their efforts and achieve compensation through the means of a water association which still has to be founded.

To implement flood protection measures, the Province of Tyrol launched a multi-year inter-municipal dialogue process in the Lower Inn Valley.

“The Province of Tyrol is carrying out extensive preparatory work, because in the Lower Inn Valley only inter-municipal flood protection will work,” says Deputy Province Governor Josef Geisler, responsible for water management in the region.

However, not all municipalities and residents along the 75 km river will benefit to the same extent from the flood protection. The population groups who will benefit from the protection in future do not correspond to those groups who provide land for protection. Frequently, the two groups are not even located in the same municipality – and this in a region which, apart from natural hazards, is also characterised by conflicting uses and extremely high land prices.

Dialogue-based planning process. In view of the complex initial situation, it will be necessary to make all stakeholders aware of the objective and to pursue an inclusive dialogue. Therefore to implement flood protection measures, the Province of Tyrol, together with the consulting firm wikipreventk, launched a multi-year inter-municipal dialogue process in the

Lower Inn Valley. Various target groups will participate during the planning process: the Austrian Federal Ministry for Agriculture and Forestry, Environment and Water Management (BMLFUW), the Tyrolean provincial government and the specialist departments of the province, lobby groups, mayors and councillors of the affected municipalities, land owners, in particular farmers, the population at large, and the media.

“The complex technical and hydraulic planning is a tremendous challenge,” says Project Manager Markus Federspiel from the water management department of the Province of Tyrol. “We are, therefore, asked to translate technical topics in such a way that the stakeholders can understand why and how we arrive at our planning results.”

Structured information and a regular exchange are intended to ensure that all parties involved look for common solutions and do their best to deal with the imminent conflicts step by step. Consequently, different formats of exchange are required for different target groups.

Systematic involvement of stakeholder groups. The entire provincial government will be continuously informed about the planning both personally and through a newsletter. In addition, bi-weekly internal discussions of the provincial government will coordinate all activities across all departments.

Flood planning meetings will be held regularly where experts will update representatives of the municipalities about planning progress, provide background information, and coordinate public communication and involvement activities. Another task force composed of mayors will exclusively deal with the creation of the new water association and will use the planning as the basis for the required compensation.

In a situation where one's own interests are threatened it is a tremendous challenge to foster a dialogue.

An advocacy and lobby group of farmers will be kept informed about the newly designed compensation model for the utilisation of land for optimised retention areas, and retention area meetings will present planning details to the land owners

concerned. In addition to all the structured formats, comprehensive individual meetings will be held with stakeholders and multipliers in the region.

The public participation process will be moderated and continuously adapted and, ideally, would lead to a result that is acceptable to all. However, while the outcome of the controversial dialogue will surely not satisfy everybody, it will contribute to creating an atmosphere in which solutions can be found.

Open and transparent information. However, dialogue alone is not enough; communication and media work regarding flood protection is necessary. For this purpose the Province of Tyrol produces its own publications and using traditional media. Important findings of the planning meetings as well as milestones of the project are communicated in form of press releases and press conferences, and any opportunities are used to make the public even more aware of flood protection, for example by publishing the national flood risk management plan.

In 2015, more than 30,000 households in the Lower Inn Valley received a 24-page special edition of the regional newspaper *Tiroler Landeszeitung*, which focused on flood protection. The subjects ranged from the drafting of the hazard zone plans to the presentation of possible protection measures.

In a situation where one's own interests are threatened it is a tremendous challenge to foster a dialogue. However the imperative of all these activities is the same: to provide open communication and transparent information. This contributes to keeping the focus on the ultimate objective – flood protection for homes and buildings and the safety of everyone living in the region.

For more information, please visit: www.tirol.gv.at/hochwasserschutz.

Sabine Volgger is an expert for strategy, communication and participation processes, and is the head of the business activity process design of www.wikipreventk.com. *Crista Entstrasser-Müller* is responsible for communication in the Deputy District Governor's office, which is responsible for water management in Tyrol.

ICPDR MEETINGS

For final dates, please consult the ICPDR calendar, available at www.icpdr.org.

14-15/9/2016	SOFIA, BULGARIA 30TH FLOOD PROTECTION EXPERT GROUP MEETING
28-29/9/2016	SOFIA, BULGARIA 25TH PRESSURES AND MEASURES EXPERT GROUP MEETING
TBD (SEP/OCT 2016)	VIENNA, AUSTRIA 16TH HYDROMORPHOLOGY TASK GROUP MEETING
TBD (SEP/OCT 2016)	TBD 13TH ECONOMICS TASK GROUP MEETING
4-6/10/2016	BERLIN, GERMANY EU WORKING GROUP FLOODS
12-13/10/2016	CHISINAU, MOLDOVA 24TH MONITORING AND ASSESSMENT EXPERT GROUP MEETING
13-14/10/2016	PRAGUE, CZECH REPUBLIC 20TH PUBLIC PARTICIPATION EXPERT GROUP MEETING
20-21/10/2016	VIENNA, AUSTRIA 23RD INFORMATION MANAGEMENT AND GIS EXPERT GROUP MEETING
25-26/10/2016	BUDAPEST, HUNGARY 44TH RIVER BASIN MANAGEMENT EXPERT GROUP MEETING
3-4/11/2016	BRATISLAVA, SLOVAKIA 5TH EUSDR ANNUAL FORUM

DW 03/16**UPCOMING ISSUE**

Danube Day 2016
Projects in the Danube Basin
People of the Danube: Interview