

DANUBE WATCH

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FOCUS ON
DANUBE
STURGEONS

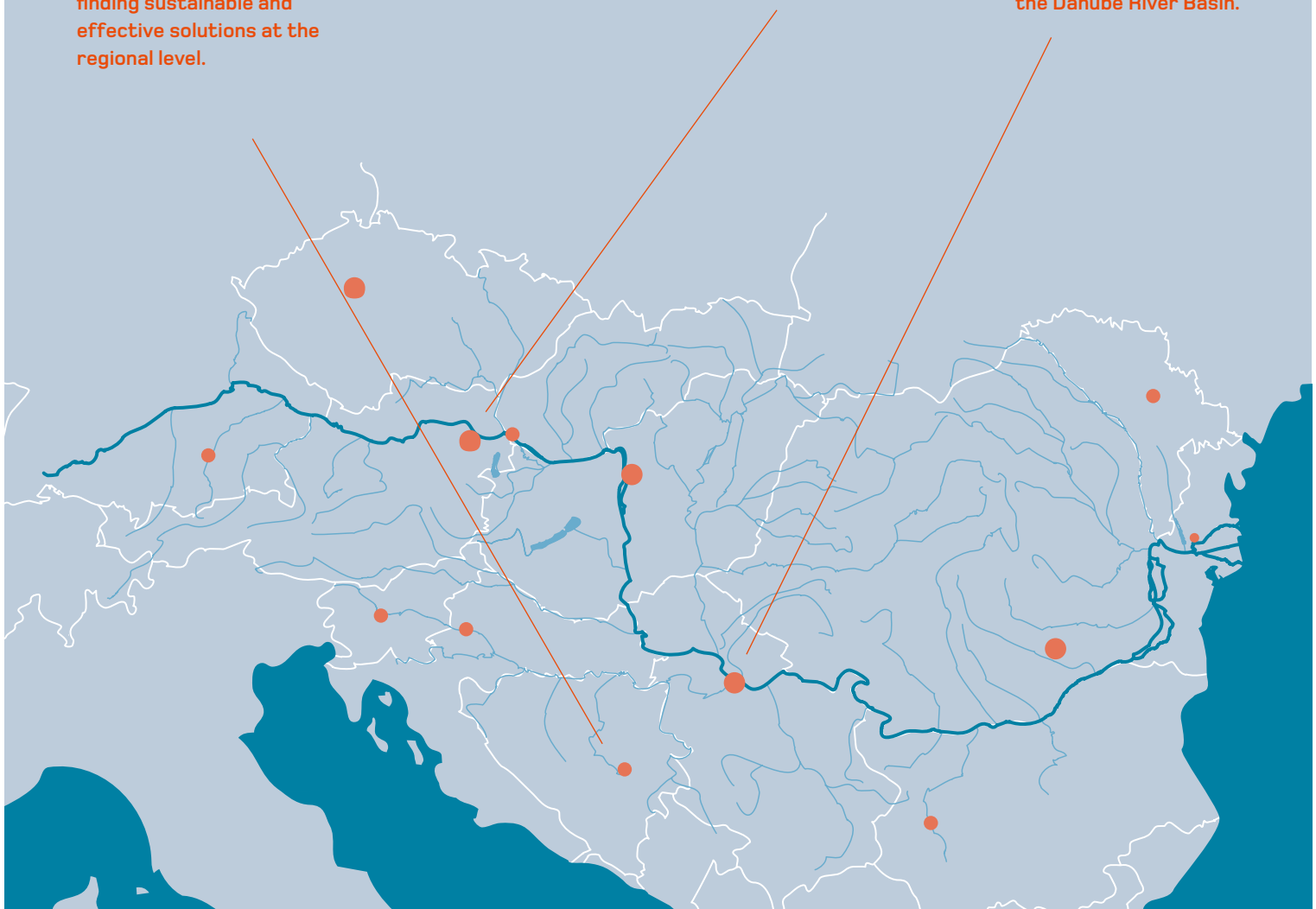
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zum Schutz
der Donau

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Credit: H. Rosenthal

Dear readers,

Sturgeons are ancient fish of the northern hemisphere, which have thrived for more than 200 million years on this planet. They have survived several climate changes more severe than anticipated today. Once well-thriving, sturgeons have become highly endangered and most species are on the brink of extinction. Because of their longevity, sturgeons are considered a model species, integrating short-term natural and man-made changes over a long life-cycle, thereby serving as an excellent indicator of the success of aquatic resource management. Any efforts to save this species require integrated and cross-border management approaches.

It is for this reason that the World Sturgeon Conservation Society (WSCS) was founded in 2003 as a non-profit organisation to act as an international forum of scientific exchange for sturgeon conservation. The Society links the few experts world-wide to join forces effectively, providing the expertise needed to prevent these species becoming extinct.

The Society's vision is to see sturgeon populations thriving once again in their entire native range. The Society hopes through its activities to enhance the understanding of species protection across borders to foster the survival and sustainable use of these natural treasures. The Society promotes cooperation with national, re-

gional, international, inter-governmental organisations, educational institutions and NGOs. To achieve its objectives, WSCS acts as a worldwide umbrella for local and national sturgeon organisations.

The Danube watershed and the Black Sea are model areas with five native sturgeon species in URGENT need of stringent and immediate conservation measures. The Society is particularly concerned about habitat degradation and severe river fragmentation, which critically blocks access to spawning grounds.

WSCS, therefore, welcomes the initiative by the ICPDR and the Danube Sturgeon Task Force (DSTF) to vigorously address these key issues. We are pleased to see these topics being addressed in this issue of Danube Watch.

The time for lip-services is over. Serious action is required now. We are fully prepared to join forces with all organisations and individuals in the Danube region to turn the tide.

For more information on the activities of the WSCS, please visit www.wscs.info.

Harald Rosenthal,
President, World Sturgeon Conservation Society



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Danube Watch is available on the web at www.icpdr.org

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



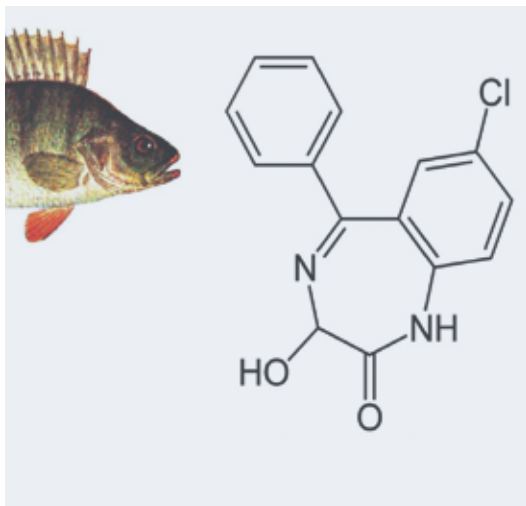
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PLATINA MANUAL: SUSTAINABLE WATERWAY PLANNING IN CROATIAN

A Croatian version of the Platina Manual has been published, aiming to provide practical guidance to sustainable waterway development for inland navigation. The translation was managed by the Croatian waterway agency 'Agencija za vodne putove'. The manual is based on the Platina Manual of the same name, first published in English in 2010 and developed through an EU-funded project for which the ICPDR and via donau acted as project partners. The main aim of the manual is the creation of win-win situations by ensuring that environmental considerations are built into inland waterway projects. The Croatian version is a big step in promoting the use of the guidelines in the Western Balkans and will hopefully help spread its contents. It can be downloaded from the ICPDR website.

Download the Croatian version of the Platina Manual here: www.icpdr.org/main/sustainable-waterway-planning-platina-manual-croatian



BEHAVIOURAL CHANGES IN FISH LINKED TO MICRO-POLLUTANTS

Environmental pollution by pharmaceuticals is increasingly recognised as a major threat to aquatic ecosystems. Varieties of pharmaceuticals enter waterways by way of treated wastewater effluents and remain biochemically active in aquatic systems. Several ecotoxicological studies have been carried out, but generally little was known about the ecological effects of pharmaceuticals. Swedish scientists have now demonstrated that an anxiolytic drug (*oxazepam*) alters the behaviour of wild European perch (*Perca fluviatilis*) at concentrations encountered in effluent-influenced surface waters. Individuals exposed to water with dilute drug concentrations exhibited increased activity, reduced sociality and a higher feeding rate, as reported in the magazine *Science*. The ICPDR's 'Joint Danube Survey 3' will sample a range of micropollutants along the Danube in its six-week sampling period later this year.

Access the original scientific paper in *Science* here: www.sciencemag.org/content/339/6121/814



2012 INTERIM REPORT ON IMPLEMENTATION OF 'JOINT PROGRAM OF MEASURES' PUBLISHED

The 2012 'Interim Report on the Implementation of the Joint Program of Measures in the Danube River Basin District' was published by the ICPDR. The objective of the report is to provide an overview of the state of play – as of the end of 2012 – regarding the implementation of the Joint Programme of Measures as included in the First Danube River Basin Management Plan and agreed upon by the Danube countries.

Download the interim report here: www.icpdr.org/main/2012-interim-report-implementation-joint-program-measures



PUBLIC PARTICIPATION FOR THE SECOND DANUBE RIVER BASIN MANAGEMENT PLAN

According to Article 14 of the EU Water Framework Directive, public participation in drafting River Basin Management Plans needs to be ensured. The ICPDR now provides a schedule for its public participation activities for the development of the Second Danube River Basin Management Plan (2nd DRBMP) until 2015 and the Danube River Basin Flood Risk Management Plan (1st FRMP). Comments on this schedule are being collected by the ICPDR Secretariat until June 2013. This should not be confused with comments on the Management Plans themselves, which are not yet available.

The schedule can be downloaded at: www.icpdr.org/main/public-participation-schedule-wfd-efd

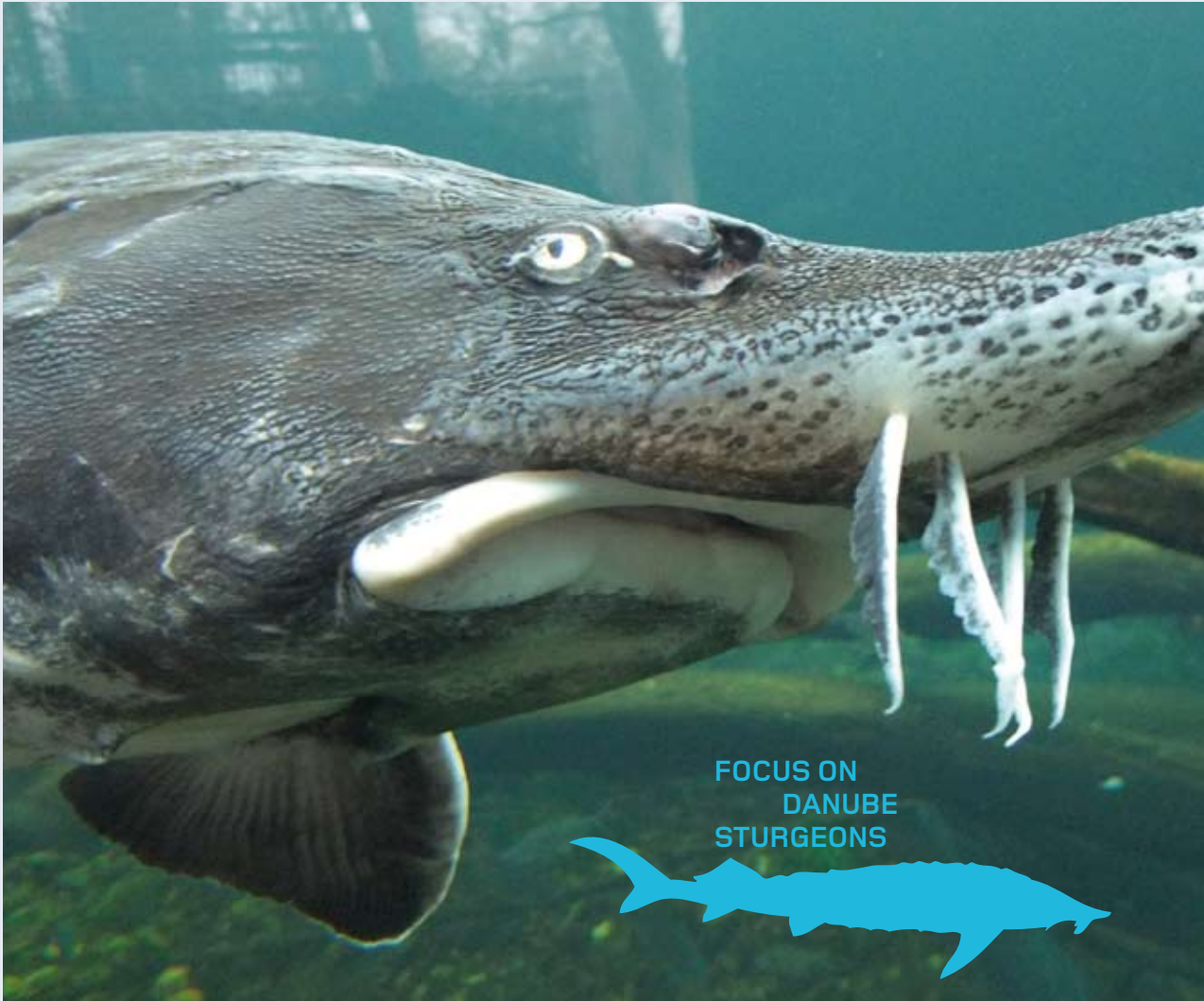


EUROPEAN WATER STEWARDSHIP: FIRST GOLD LEVEL CERTIFICATION

The first ever European Water Stewardship (EWS) Standard Certification was awarded to two bottling plants of The Coca-Cola Company, a 'Business Friend of the Danube'. The EWS, an initiative of the NGO European Water Partnership, focuses on practical guidance for industry and agriculture towards more sustainable water management. The EWS system helps industry and agriculture respond to the objectives of the EU Water Framework Directive to assess, improve, maintain and communicate sustainable water and ecosystem management. The ICPDR congratulates its 'Business Friend of the Danube' for this achievement.

Learn more about the European Water Partnership at: www.ewp.eu

Sturgeons are a flagship species, dependent on an interlinked network of habitats that provide them with suitable conditions for feeding, migration and spawning. By preserving the habitats and dynamics that satisfy the needs of this species, it is possible to protect the living spaces of many more species.



A home for living fossils – protecting the sturgeons’ habitats

A century ago, six species of sturgeon were native to the Danube River Basin. Today, five of them are critically endangered and one is already extinct, and action plans to conserve their habitats cannot be postponed.

Originating 200 million years ago, sturgeons are ancient migratory fish which today are close to extinction. They can grow up to six metres long and can live to be a hundred years old. Sturgeons have outlasted the dinosaurs, but today are among the most threatened species on the IUCN red list.

Sturgeons depend on an interlinked network of habitats that provide them with suitable conditions for feeding, migrating and spawning. Sturgeons are faithful to the same spawning sites year after year and are therefore very sensitive to habitat changes. River engineering changes – for hydropower, navigation, irrigation and flood protection – have seriously affected sturgeon populations because of the loss of suitable habitats in the Danube River Basin.

Indicators of ecosystem health. For the ICPDR, sturgeons are a flagship species – species that have complex demands on their habitats. They are excellent indicators of a range of improvements, such as river morphology, chemical water quality and permeability. By preserving the habitats and dynamics that satisfy the needs of this species, it is possible to protect the living spaces of many more species.

The EU Strategy for the Danube Region specifically mentions sturgeon conservation as a target in Priority Area 6 (Biodiversity). “If the sturgeons can obtain a long-term high quality status for their life so that they can recover in the Danube, then this will



Credit: Mibou/WWF

Fighting sediment transport and pollution. Hydro-power dams block the migratory routes of fish, and destroy important sturgeon habitats because stones are kept behind the dams. This causes problems not just for sturgeons, but also for navigation as well because of the resulting sediment. “You can dredge it here and you will have it ten kilometres downstream because it’s so fine. Recovering the sediment balance along the Danube will help the sturgeons and the environment, and it will also help navigation,” says Cristina Sandu, Coordinator of the Danube Sturgeon Task Force at the Institute of Biology Bucharest, Romanian Academy.

In addition, sturgeons are very sensitive to low oxygen, pollution and other poor water conditions, especially during spawning and their early life stages. Later on, they can accumulate high loads of contaminants because of their long lifespan. Pollution such as excessive nutri-



Credit: Cristina Sandu, IAD Romania

The narrow channels of the Danube Delta are extremely susceptible to the erosion of riverbanks, which alters sturgeon habitats.

show that the overall environmental and ecological state of the river system is well because they have such high demands on the ecological status,” says Florian Ballnus of the Bavarian State Ministry of the Environment and Public Health, and Priority Area Coordinator 6 for the EU Strategy for the Danube Region.

ents from sewage and agricultural fertilisers, substances known as endocrine disrupters which may decrease fertility, heavy metals and persistent organic chemicals affect not just sturgeons, but their food sources – not to mention other animals and humans too.

Filling knowledge gaps. One of the biggest difficulties in protecting sturgeons is that much information about key habitats is still missing. “There are still huge gaps in knowledge on the exact location and the characteristics of the most important life cycle habitats for the remaining five species of the Danube River,” says Ralf Reinartz, consultant for fisheries and aquatic ecology in Germany.

Some notable progress in identifying wintering habitats on the Borcea and Bala branches of the Danube have come as part of the ongoing programme Instrument for Structural Policies for Pre-Accession (ISPA) I construction project. Although the environmental impact assessment for the project has been criticised, monitoring revealed previously unknown habitats on these branches. “It was used by sturgeons long in the past, and we were able to demonstrate that today

THE STURGEON ACTION PLAN

The Sturgeon Action Plan was adopted in 2005 under the Bern Convention. The Plan calls for:

- Reducing the pressure on sturgeon populations by supporting fishing bans and at least reducing catch quotas
- Ceasing illegal sturgeon fishing and illegal caviar trade
- Making the Iron Gates dams passable to sturgeons
- Conducting research into key sturgeon habitats, behaviour and stocks
- Implementing restocking programmes
- Harmonising international legislation.

it is used as a passage route and a wintering place for long-distance migrants,” says Radu Suciuc, head of the Sturgeon Research Group at the Danube Delta National Institute.

In addition, sturgeons spend most of their lives in the Black Sea but little is known about what happens to them there. Though conservation efforts focus on the Danube River Basin now, sturgeon experts agree that activities in the future will have to include the Black Sea.

Raising public awareness. The most critical knowledge missing may be the public’s awareness of these endangered species. A recent Bulgarian survey revealed that the public have little understanding of the threats sturgeon face. “Very few people knew that the sturgeon is a fish, and very, very few of those knew that it is an endangered species,” says Stoyan Mihov, freshwater expert at WWF Bulgaria.

Actions to raise public awareness for sturgeons are vital to securing sustainable fish stocks.

Through activities like Danube Day, countries across the region are uniting to raise awareness for sturgeons and take action to protect their habitats. The theme of this year’s Danube Day celebrations will be, ‘Get active for the sturgeons’, and the celebrations will highlight the threats sturgeons face and the efforts being made across the region to protect them.

“The sturgeons are as old as the Danube and they are unique in that they are witnesses to the existence of the river,” says Suciuc. “By understanding and protecting these species, we are protecting our history, and our future.”

Kirstie Shepherd is a freelance journalist living in Vienna and has called the Danube River Basin home since 2000.



Credit: Reinartz

In January 2012, The Danube Sturgeon Task Force was established by a group of sturgeon experts, NGO delegates, representatives of the ICPDR and national governments. The Task Force aims to coordinate and foster the conservation of highly endangered native sturgeon species in the Danube River Basin and the Black Sea by promoting the implementation of the Program ‘STURGEON 2020’. Key measures encompass habitat protection, restoration of migration routes, supportive stocking programmes, economic alternatives to sturgeon fishery, fighting the caviar black market, ecological education, harmonisation of legislation and law enforcement.

Danube Sturgeon Task Force drives conservation measures

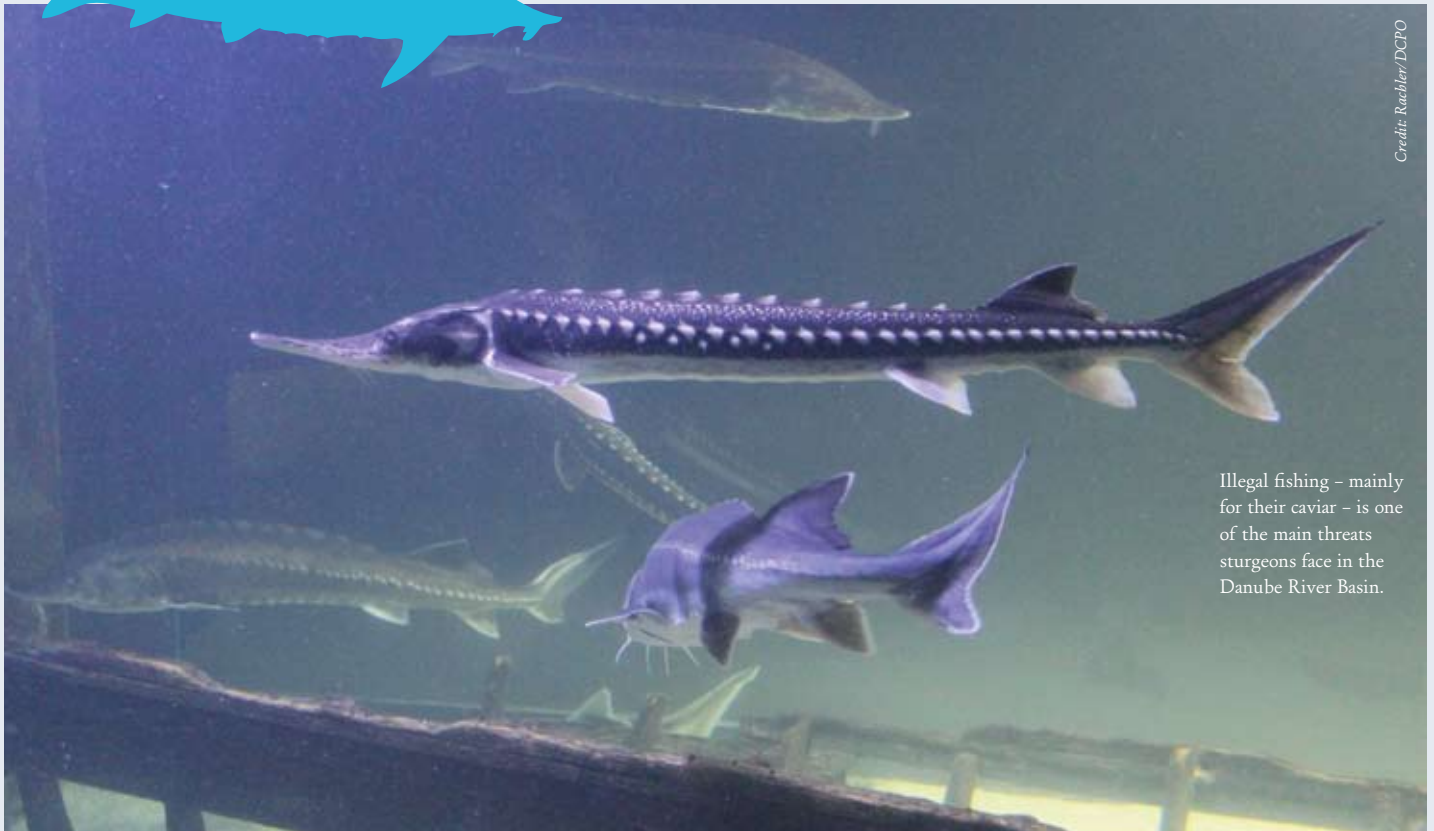
The DSTF is open to participants who are actively involved in sturgeon conservation and want to contribute to the Sturgeon 2020 programme. Both ICPDR and the EU Strategy for the Danube Region (Priority Area 6 Biodiversity) are among the main partners and so are NGOs such as WWF and IAD as well as renowned scientists. For more information on the activities and strategies of the Danube Sturgeon Task Force, please visit www.dstf.eu.

Irene Lucius is the Head of Policy at the WWF Danube-Carpathian programme.

A high price for survival: fighting the illegal caviar trade in wild sturgeon

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Efforts to curb overfishing are under way across the Danube River Basin to restore dwindling sturgeon populations – which will ensure sustainable sturgeon fishing for future generations.



Credit: Raichter/DCPO

Illegal fishing – mainly for their caviar – is one of the main threats sturgeons face in the Danube River Basin.

Throughout history, human civilisations in the Danube River basin have been tied to the existence of sturgeons. Archaeological discoveries show that Roman settlements all along the Danube were mainly located in areas where people could easily fish for sturgeons, and fishing has remained an important livelihood in the region.

However, decreasing stocks in previous decades signal the continuing decline of Danube sturgeons, which face threats from habitat destruction, blocked migration routes and especially overfishing. Today, communities, enforcement agencies and governments are working together to stop overfishing and preserve the last viable populations of wild sturgeons in Europe.

An important break for sturgeons.

The most important break for sturgeons came in 2006 when Romania announced a ten-year ban on commercial fishing of wild sturgeons, as well as in the trading of products obtained from sturgeons captured in Romania. Following this, the Convention of International Trade in Endangered Species of Wild Fauna (CITES) banned sturgeon caviar exports from wild sturgeons in the Lower Danube in 2007. Serbia introduced legislation in 2009 which closed seasons for some sturgeon species, increased a minimum size for sturgeon and banned unbaited hook lines. Then in 2011, Bulgaria added its own one-year ban on sturgeon fishing, and Ukraine set export quotas to zero for all wild sturgeons and products derived from them.

“The fishing bans are quite an amazing achievement,” says Radu Suciu, head of the Sturgeon Research Group at the Danube Delta National Institute. “It has made a difference and drawn needed attention to the issue.”

The high cost of living. Sturgeons are particularly vulnerable to overfishing, as they reach maturity relatively late (up to 20 years) and they have long life cycles so it takes stocks many years to recover.

Driving this overfishing is the extremely high prices paid for sturgeon caviar. Among the sturgeon species native to the Danube is the Beluga sturgeon, famous for its expensive caviar. Retail prices for caviar can reach 6,000 Euros and up per kilo.

Sturgeon meat is also in demand as a delicacy and it commands higher prices than any other local fish sources. Add to this the low income of locals and few alternative sources of revenue, and the difficulties in curbing overfishing are clear.

A black market in caviar. “There is a big and brazen black market for caviar in Romania and abroad,” says an unnamed source who worked as an Undercover Surveyor for a market survey on illegal caviar trade to be published later this year by WWF Austria and TRAFFIC.

“In a restaurant in Tulcea, Romania, the head waitress had an ‘in-your-face’ attitude, not only ignoring the law, but literally expressing her contempt for it. In posh restaurants in Bucharest, the law is at least carefully considered and not despised. However both cases express a general permissive attitude of authorities and a rather ‘easy’ market for caviar,” says the Undercover Surveyor.

Advanced enforcement. Illegal caviar trade is not only an issue of the protection of endangered species, but it is a matter of contraband and likely organised crime. Furthermore it results in lost tax revenues for the countries involved. Effective enforcement is a vital prerequisite for a successful fight against poaching and illegal wildlife. This should include strong inter-agency and transborder coordination and employment of modern technology such as DNA analysis.

In most cases, it is not possible to determine the species origin of caviar by visual inspection. However, DNA analysis of caviar or other sturgeon products has proved capable of identification at the species level. On a large scale, DNA testing of caviar in trade could provide indications of which sturgeon species are most traded and which are most affected by poaching. While DNA analysis cannot identify different populations of the same species (such as Black Sea vs Caspian Sea sturgeons), nor distinguish between wild and farmed fish, looking at fatty acid compositions (reflecting differences in feed sources between wild or farmed sturgeons) or analysis of isotopes could be effective in further identifying sources.

Getting into the field. Alternative sources of income for fishermen might lie with species other than sturgeons, the refinement of fishery products, aquaculture or even eco-tourism. “However, there are no general off-the-shelf solutions,” says Ralf Reinartz, consultant for fisheries and aquatic ecology in Germany Reinartz. “Finding the correct answers for specific questions here will have to also involve research in the field of socio-economics.”

The WWF project Saving Danube Sturgeons, funded by the EU Life+ programme, in Austria, Bulgaria and Romania has placed small teams of sturgeon advocates

in Bulgaria and Romania to create a communication network and catalyse debates on sturgeon conservation issues. “Tourism or even sustainable caviar production could provide alternative sources of income, but who knows what is best for those communities than the communities themselves?” says Alexandra Panait, Sturgeon Advocate in Romania. “The region is formed from a fascinating cultural tapestry, which, I believe, has a multitude of inner creativity resources that could stimulate the social and conservation sustainable grass roots reforms. Therefore, one of the roles of our presence is to facilitate in part this valuable process, providing access to information and creating a dialogue space,” says Panait.

Solutions for boosting sturgeon stocks. Sturgeon farming is a fast growing sector in the region. When operating in compliance with nature conservation, this

“The fishing bans are quite an amazing achievement,” says Radu Suci, Head of the Sturgeon Research Group at the Danube Delta National Institute. “It has made a difference and drawn needed attention to the issue.”



Bottom drift nets for larvae set downstream of spawning site for Beluga sturgeons and sterlets at Danube River Km 310 (May 2009).



industry can be positive for local livelihoods and for wild sturgeons. However, sturgeon farming requires high investments and has a long payback time until caviar can be harvested and profits made. As of now, six companies in Bulgaria and three in Romania are officially registered as licensed exporters, processing or repackaging plants.

Furthermore, sturgeon breeders have been critical in restocking efforts. Bulgaria has restocked over 15,000 sturgeons since 2006, and Ukraine released 50,000 sturgeons in 2009. The largest supportive stocking programme began in Romania in 2006, which stocked over 430,000 during its four-year run. Most of these were individually tagged with coded-wire tags which provide information about the fish. An evaluation programme of the restocking is expected to begin this year to gather information about the distribution of

the tagged fish and collect data about their growth and adaptation in the wild.

Coming to a common understanding. The most important progress may be that the work achieved at the national level has been matched with grassroots efforts to fight poaching on the local level. “Quite a few fishermen question the fate of future generations if the sturgeons will be extinct. This could represent the common ground for both people and biodiversity, relating people’s long term socio-economic vision with the scientific reality of sturgeons’ long life span,” says Panait. “In short, learning from sturgeon’s biology, people can learn something about how they can make sustainability happen.”

Kirstie Shepherd is a freelance journalist living in Vienna and has called the Danube River Basin home since 2000.



Credit: Rada Suciu/DONI Tulcea

Cut off from the river – reconnecting sturgeon migration routes

As most sturgeons are confined to the Lower Danube by dams and other structures, their populations are mere remnants of what they once were. One of the most urgent tasks now is to link the historic spawning grounds in the Middle Danube to the surviving sturgeons in the Lower Danube and the Black Sea.

Hydropower constructions along major tributaries prevent sturgeons from reaching historical spawning grounds.



Cristina Sandu, IAD Romania

FOCUS ON DANUBE STURGEONS



Until well into the 20th century, sturgeons migrated from the Black Sea up the Danube as far as Germany to reach their spawning grounds and were important mainstays for many fishing communities. Today, because of dams and other obstacles, sturgeons are restricted to just over half that length in the Lower Danube.

Spawning migration is an integral part of the natural life cycle of all Danube sturgeons. This makes them especially sensitive to the impacts of physical barriers such as dams. With their numbers dwindling under the threats of overfishing and habitat loss, to protect this valuable species we need to identify and understand the main migration routes and patterns and restore migration by establishing places where the sturgeons can pass and prevent further fragmentation of the current distribution areas.

Getting around the Iron Gates. The Iron Gates dams located just below the Iron Gates gorge between Romania and Serbia are the largest obstacles on the Danube for sturgeons. Constructed in the 1970s and 1980s, they make up the largest hydropower dam and reservoir system along the entire Danube. The dams restrict migratory sturgeons to 863 kilometres of the river and cut off important spawning sites in the Middle Danube. By installing appropriate fish passes in the Iron Gates dams, an additional 800 kilometres of the Danube could be reopened to migratory sturgeons (for more information, see Danube Watch 3/12).

Building fish migration aids at this site is a challenge, however. There is a 35-metre difference in water level at Iron Gate I alone and there is little space around the structure of the dam – both problems that can not be solved easily with standard solutions for fish migration.

In May 2011 an ICPDR mission, together with FAO, took place at the Iron Gates and allowed experts to further investigate the possibilities for fish migration at these sites. The next step is a feasibility study for the restoration of river continuity, and the ICPDR is working on securing funding for the study. Prepara-

tory work is now under way to have such a project developed in the European Union's next financing period from 2014 to 2020.



Tagging the fish, like these young beluga sturgeons being tagged by scientists from the Danube Delta National Institute, helps gather critical information needed to understand migration routes and identify spawning grounds.

Creating migration routes. If artificial migration routes can be constructed, they still have to be accepted by the sturgeons, since wild populations are genetically bound to the habitats where they were born. There are examples from other river systems that sturgeons may accept artificial solutions at migration barriers. "However, even the best passing solution will always be selective and therefore inferior to the free flowing river when it comes to supporting sturgeon migration," says Ralf Reinartz, consultant for fisheries and aquatic ecology in Germany.

Though more than 100 fish migration aids are planned to be built by 2015, the problem cannot be solved at once. To ensure the most effective implementation of these measures, the ICPDR has developed an ecological prioritisation approach for continuity restoration in the Danube River Basin. This approach provides information about where measures would be most efficient ecologically and where they will offer the

biggest benefit for fish, letting river managers know where to start first. The results of the prioritisation assessment show that continuity interruptions among others in the Lower Danube at the Iron Gates dams should be given the highest priority.

Finding joint solutions. The EU Strategy for the Danube Region uses a 'macroregional' framework to produce more effective coordination to address issues. The Strategy focuses on eleven priority areas, and Priority Area 6 (Preserve biodiversity, landscapes and the quality of air and soils) specifically mentions the conservation of sturgeon.

Furthermore, the ICPDR is leading efforts to bring stakeholders together to protect the sturgeons. As the administrating platform for the Danube River Basin Management Plan – which includes issues on sturgeons – the ICPDR coordinates work on river and habitats continuity to meet the requirements of the EU Water Framework Directive.

Most importantly, however, reconnecting sturgeon habitats and ensuring river continuity will require all countries to work together, and the ICPDR provides the link between countries to focus work at the basin-wide level.

Kirstie Shepherd is a freelance journalist living in Vienna and has called the Danube River Basin home since 2000.

FOCUS ON DANUBE STURGEONS



WWF project for the protection of Danube sturgeons

For the WWF Danube-Carpathian Programme, the conservation of sturgeons in the Danube – where five of the six originally native species are critically endangered – is of special importance.

In Bulgaria, a three-year project funded by the EU's Environment Operational Pro-

gramme aims to identify and protect key sturgeon spawning sites in the Bulgarian part of the Danube, as these crucial habitats are still largely unknown and under threat of destruction by water engineering or gravel extraction. The project will also facilitate the release of 50,000 young sturgeons, bred from genetically pure Danube stocks, to support wild populations. The project will compile scientific information and evaluate relevant legislation, and together with stakeholders design efficient protection measures for sturgeons in Bulgaria by 2015.

Another three-year project, focusing on Romania and Bulgaria and financed by the

EU's LIFE+ programme, aims to fight over-exploitation of sturgeons. Unsustainable or illegal fishing and caviar trade are the main direct threats to the survival of Danube sturgeons, despite bans on sturgeon fishing in both countries. Therefore the project works with fishing communities – most affected by the fishing bans but yet rather neglected – and supports the efforts of enforcement authorities.

For more on the project, please visit:
www.danube-sturgeons.org.

Jutta Jabrl is the sturgeon expert at WWF and the project manager of the Life+ project Saving Danube Sturgeons.

The future of our waters: the Austrian Presidency of the ICPDR

2012 was the year of the Austrian presidency. Although it focused on the core business of the ICPDR, it also pursued a number of new initiatives, some of which will influence and benefit the work of the Commission.

The 2012 presidency of the ICPDR was held by Austria, represented by the former water director Wolfgang Stalzer – serving in this office for the second time after already being president in 1998. This second term was a unique arrangement in the history of the commission, which could benefit from Mr. Stalzer's wealth of experience on national and international stages.

“Every ICPDR presidency has its own flavour,” said Stalzer at the dawn of his second term. “This year’s focus was first of all on the core activities of the ICPDR, the work done by the expert groups and the many activities linked to the implementation of the Danube River Basin Management Plan.” However, new initiatives were cleverly intertwined with the core business of the Commission to complement them.

This included enhancing the cooperation with the EU Strategy for the Danube Region, and continuing the interdisciplinary work called for by the Danube Declaration of 2010. Major advances were achieved in all four relevant areas: for navigation, the ICPDR became actively involved in stakeholder forums in Austria and Serbia and served as a partner in a Joint Statement Meeting; for agriculture, a forum was held in Budapest to bring large corporations together to discuss more sustainable means of production; for climate change, a basin-wide adaptation strategy was adopted in December, with strong support from Germany; and for hydropower, there were major advances in the development of guiding principles to balance economic and environmental concerns.

Cooperating with partners across the region. In the area of awareness raising, 2012 was a highly successful year: in the frame of the presidency, Austria hosted a social media workshop related to water; Danube Day

was celebrated with 350 events involving 900 partner organisations in the entire Danube Basin – a steep increase in recent years, making it the biggest Danube Day of all times; and the public participation schedule for the development of the Danube River Basin Management Plan 2015 was published for comments.

In cooperation with partners, the ICPDR was pleased to see the formation of the Danube Sturgeon Task Force (see article p.8); it made major decisions on the creation of the European RiverPrize, to be awarded for the first time this year in September; and a new Business Friend of the Danube, General Electric, was welcomed to the ICPDR family.

In 2013, Stalzer will continue to be in the realm of the ICPDR – through the troika arrangement of the presidency, he will support the current president Ermina Salkičević-Dizdarević of Bosnia-Herzegovina and the future presidency of Bulgaria.

The achievements of 2012 were celebrated through a brochure that Austria published in English. It can be ordered at the ICPDR Secretariat: Vienna International Centre, Room D0412, Wagramer Strasse 5, A-1220 Vienna, Austria, icpdr@unvienna.org.

Benedikt Mandl is the Technical Expert for Public Participation and

“Every ICPDR presidency has its own flavour,” said Wolfgang Stalzer at the dawn of his second term. “This year’s focus was first of all on the core activities of the ICPDR, the work done by the expert groups and the many activities linked to the implementation of the Danube River Basin Management Plan.”



Communication in the ICPDR Secretariat, and the Executive Editor of Danube Watch.

In order to be prepared for accidents it is necessary to watch the river continuously. The new AEWS integrates a database of dangerous substances to help national authorities put environmental protection and public safety measures into action.



Protecting the Danube from accidental pollution

The ICPDR's Accident Emergency Warning System has been improved and upgraded to provide better information to countries about dangerous pollution in the event of an emergency.

The morning of 4 October, 2010 began as a typical Monday: alarm clocks and cups of coffee – stories about the weekend. But just 20 minutes after noon, all of that changed and this ordinary day in the Danube River Basin turned dangerous. A dam broke at Mal Ltd, an aluminium factory near Kolontár, Hungary, releasing 1.5 million cubic metres of alkaline red sludge, killing ten people and contaminating hundreds of hectares of agricultural land.

“We were fortunate in our country that we could hear about it right away,” says Septimius Mara, senior councillor at the Ministry of Environment, Romania. “The mass media hadn’t yet reacted and I remember we were

THE ACCIDENT EMERGENCY WARNING SYSTEM

The Danube Accident Emergency Warning System (AEWS) is a web-based messaging tool for international coordination organised by the ICPDR. In the event of an accident on surface waters with a possible transboundary impact, Principal International Alert Centres (PIACs) share relevant information: the respective PIAC submits a message by filling in a form for the specific situation. All relevant PIACs – primarily those located downstream of the accident site – are then automatically and instantly notified by SMS and e-mail and can view the full message on the web. Automatic translations of predefined boiler plate phrases and structured forms enable all users to create or view messages in their own national language. The system can also be used for further communication on the accident.

trying to locate the site and find out where it was going. We sent a request for information to Hungary and then we immediately sent warnings to all the downstream countries that were going to be affected.” Mara and his colleagues kept in touch with their counterparts all along the river through the ICPDR’s Accident Emergency Warning System (AEWS).

Sending a warning downstream. The AEWS provides early information about river pollution accidents to all countries that will be potentially affected. The AEWS is activated whenever there is a risk of transboundary water pollution, or when threshold danger levels of hazardous substances are exceeded. The system’s warning messages to downstream countries help national authorities put environmental protection and public safety measures into action. After being informed by Hungary over the AEWS, by the morning of 5 October, most downstream countries (Slovakia, Croatia, Serbia, Romania and Bulgaria) began extensive monitoring

of the Danube River and over 70 messages about the status of the river were shared through the AEWS in the following two months.

“The AEWS was very effective not just to overcome language barriers, but this event also proved that the system needed a bigger capacity to exchange information – reports or other data about river quality,” says Mara.

The warning system, launched in 1997, was upgraded to a web-based system in 2003, but after serving well over ten years, the application became technically outdated and unmaintainable. It was necessary, therefore, to re-implement the system, and this re-implementation provided an opportunity to make some improvements

first affected country to a second country and is expected to impact a third country, the second country must add their report for the same incident. All reports are available on the same incident page, and the incident can be closed only when the reports for each country have been closed.

Easier to use. The new AEWS has a simpler start page for easy navigation and highlights the relevant information and required actions for each PIAC. The report forms have been streamlined and simplified giving focus to essential information. Finally, the new system integrates a database of dangerous substances and interactive maps to display incident locations and help understand the potential impact of an incident.



“We can see the capabilities of devices like tablets and smart phones and it is easy to share what you’re doing in real-time,” says Mara. “The next step would be great to integrate the system into the overall activity of the ICPDR, including identifying pollution hotspots.”

The AEWS is activated whenever there is a risk of trans-boundary water pollution, or when threshold danger levels of hazardous substances are exceeded.

to the software. The new version, which launched on 1 March 2013, is developed using Open Source software components, which enhances the system with modern web technology and simplifies it for users.

Consolidating information. One of the major changes to the AEWS is how all the relevant information is brought together. In the old system, messages were scattered and users had to go through all the incident messages to find the information they needed. In the upgraded system, reports can be updated with additional information, while keeping everything in one incident report. In addition, the new system allows users to comment on reports, and upload attachments (such as photos, maps or spreadsheets) which can all be found in the report itself.

The upgraded AEWS includes specific functions for transboundary incidents. If pollution moves from the

and the readiness of all PIACs to use it. It also helped fine-tune the user-interface. Regular tests of the system will continue to take place in the future.

“The system evolves and everything can be made better, not just the software,” says Mara. “The experience and the performance throughout the years and the lessons learnt from previous accidents show us that without prevention and preparedness for these kinds of accidents, the warning system itself wouldn’t work very well.”

Kirstie Shepherd is a freelance journalist living in Vienna and has called the Danube River Basin home since 2000.

Climate change adaptation strategy for the Danube Basin adopted

Last December, the ICPDR adopted its climate change adaptation strategy for how Danube countries will respond to future trends in temperature, precipitation and other climate-related phenomena. This puts the ICPDR among the most advanced river basins to develop such a strategy.

With the Climate Change Adaptation Strategy for the Danube River Basin, countries can prepare for and respond to changes in temperature, precipitation and other climate-related phenomena.

The ICPDR adopted its long-prepared Climate Adaptation Strategy for the Danube River Basin in December 2012. It follows a study convened through lead country Germany and months of intense preparation. The strategy is based on a thorough assessment of the possible impacts of climate change and suggests possible means to adopt to them.

Understanding future trends.

A temperature increase during this century, both annually and in every season, is expected for the Danube River Basin. While there are considerable differences among regions, the main future trends suggest that the highest temperature increases will be in the south-east of the Danube River Basin; annual precipitation is expected to change in many countries, resulting in increased precipitation in the north and decreased in the south. Lower precipitation in summer and higher in winter is expected in most areas. More extreme events such as torrential precipitation and widespread droughts will probably be more common, the latter mainly in southern and eastern parts of the Danube River Basin. These expectations are based on an analysis of the latest projects and studies with statements regarding climate change scenarios or trends available.

Preparing for change. Possible adaptation measures

for water management include preparatory measures for adaptation such as improving forecasting warning systems, ecosystem-based measures such as the restoration of water-retention areas, managerial measures such as the promotion of water-saving behaviour, technological measures such as the development of more efficient irrigation systems in agriculture, and policy approaches such as supporting institutional frameworks to coordinate all of these activities.

Learning from other river basins. Meanwhile, other river commissions are pursuing similar endeavours, of which some “transboundary pilot projects on adaptation to climate change” are presented on the website of the United Nations Economic Commission for Europe. These include the Danube, but also the Rhine, Sava, Dniester, Neman and Meuse River Basin. In January, the International Commission for the Protection of the Rhine held a workshop to discuss the effects of climate change on the Rhine and what action can be taken to adapt to it.



With the climate change strategy for the Danube on hand, countries now have a tool that enables them to decide on adaptation measures that will be part of the 2nd Danube River Basin Management Plan and the 1st Floodrisk Management Plan by 2015.

The Climate Change Adaptation Strategy for the Danube River Basin can be downloaded from www.icpdr.org/main/publications/programmes. A high-quality print publication is under preparation.

Benedikt Mandl is the Technical Expert for Public Participation and Communication in the ICPDR Secretariat, and the Executive Editor of Danube Watch.

UNECE Water Convention opens up for worldwide water cooperation

The groundbreaking international framework agreement on transboundary freshwater became a global water instrument just in time for the UN International Year of Water Cooperation.

The United Nations Economic Commission for Europe Convention on the protection and Use of Transboundary Watercourses and International Lakes (UNECE Water Convention) has influenced many river basin agreements, including the Danube River Protection Convention, which specifically mentions the UNECE Water Convention in its preamble. Now, 21 years after its adoption in 1992, the UNECE Water Convention is going global.

At the sixth session of the Meeting of the Parties (MoP) held in Rome 28 to 30 November 2012, some 330 participants – representing parties to the convention and non-parties from countries outside the region as well as NGOs – adopted a decision to simplify the procedure for non-UNECE countries to join the Water Convention.

Any future request for accession will be considered as approved by the MoP once the relevant amendments to the Water Convention enter into force for all the parties that adopted them in 2003, which is expected to happen by the end of 2013. Nearly all ICPDR countries are parties to this convention, and several countries outside the UNECE region, including Iraq, have already expressed their interest in becoming parties. Two further decisions on cooperation – with the GEF and UNESCO – will strengthen synergies with global partners.

Guiding the future of the convention. The MoP session also established an implementation committee to render practical case-tailored assistance to prevent water-related disputes and support parties in their efforts to implement the convention. The nine committee members represent a good balance of water management and legal competences, and the Danube region is represented by members from Bulgaria, Germany and Slovakia.

Italy will chair the UNECE Water Convention for the next three years, and the newly elected Bureau, the steering body between the MoPs, includes three members from Danube countries: Hungary, Germany and Serbia.



Looking at today's challenges. At the MoP session, parties adopted the new programme of work for 2013–2015. Work on support to implementation and accession, national policy dialogues as well as adaption to climate change in transboundary basins will remain the cornerstones of the work under the convention. In addition, to answer today's challenges, new areas of work were included such as quantifying the benefits of transboundary cooperation and a thematic assessment on the water–food–energy–ecosystems nexus.

There is potential for further mutually beneficial cooperation and transferring ICPDR experience in these fields, for example in the Task Force on Water and Climate, where experiences and lessons learnt will be exchanged and promoted including the development and implementation of the ICPDR adaptation strategy.

Heide Jekel (Germany) and *Maria Galambos* (Hungary) are both members of their countries' ICPDR delegations as well as Bureau members of the UNECE Water Convention.

In his address to the sixth session of the Meeting of the Parties on 28 November 2012, UN Secretary-General Ban Ki-moon said, "Your experience and the lessons you have learned will be invaluable. I encourage countries outside the UNECE region to join the Convention and contribute to its further development."

"I will focus on harmonising the diversity that characterises the region shared by 19 states and over 81 million people, people from different language families, landscapes and culture. This diversity is not the region's weakness but, on the contrary, its advantage."



Presidency 2013: Bosnia and Herzegovina – diversity for the river basin

In its continuing series, Danube Watch presents portraits of the leaders whose passion and commitment help determine the future of our river basin. In this issue, we speak to the ICPDR President for 2013, Deputy Minister Ermina Salkičević-Dizdarević.

High-level representatives from the Danube Basin countries, observer organisations and the corporate world of the Business Friends of the Danube joined outgoing president Wolfgang Stalzer as he presented a bottle of Danube water to Ermina Salkičević-Dizdarević on 15 January 2013. Through this ceremony, the ICPDR Presidency for 2013 has been passed to Bosnia and Herzegovina.

Danube Watch: What activities will mark your presidency?

Ermina Salkičević-Dizdarević: The current crisis seen in the fields of finance, energy and the environment reinforce the idea that sustainable and effective solutions can be found at the regional level. I will focus on harmonising the diversity that characterises the region

shared by 19 states and over 81 million people, people from different language families, landscapes and culture. This diversity is not the region's weakness but, on the contrary, its advantage.

During the presidency of Bosnia and Herzegovina, one of our priorities will be the successful finalisation of the Joint Danube Survey 3, the main objective of which will be to produce highly comparable and reliable information on water quality and pollution.

I will also emphasise activities such as: finalising guiding principles for the development of hydropower in the Danube Basin which balance environmental and economic needs; continuing to work towards balancing the needs of the environment and the economy in the management of inland navigation; implementing



measures laid down in the climate change adaptation strategy for the Danube Basin and continuing to cooperate with other international water organisations.

I plan to continue developing the policy lines that have already been initiated and to follow the positive experiences made during Austria's presidency. The great advantage of the ICPDR is the fact that the Secretariat is a permanent body which guarantees continuity and ongoing support.

Danube Watch: Coming from both a Danube and Sava country, how do you see the coordination between the Sava Commission and the ICPDR?

Ermina Salkičević-Dizdarević: The Sava River is the biggest tributary of the Danube River by water content. The condition of this water has

a perceptible influence on settlements, transport, agriculture, energy and industrial development. From its beginning in 2002, the International Sava River Basin Commission – with our fellow Member States Croatia, Montenegro, Serbia and Slovenia – has promoted cooperation with the Secretariat of the ICPDR, the Danube Commission and the United Nations Economic Commission for Europe. The Commission has tackled issues which are of crucial importance for transboundary development in the Sava River Basin; examples of this are the 2008 feasibility study for reconstruction and development of inland navigation in the Sava River Basin, the 2009 protocol on water pollution caused by navigation, the 2010 protocol on flood protection and the Sava River Basin Management Plan in 2012.

The experiences and results of the Sava initiative represent a good model for the Danube. By working on these complex issues, the Sava countries have learned how to develop the measures for the EU Strategy for the Danube Region. I believe that the International Sava River Basin Commission is approaching the next step that will provide the additional push to the Danube Strategy.

Danube Watch: 2013 is the UN's 'International Year of Water Cooperation' – what is the significance of

the ICPDR in fostering international cooperation on water?

Ermina Salkičević-Dizdarević: The ICPDR is a positive, internationally recognised example of cooperation in a transboundary river system. The ICPDR acknowledges that countries cannot solve water issues alone; they need to cooperate with business. The Danube countries have been doing so through cooperation arrangements with the ICPDR's Business Friends of the Danube.

The countries of the Danube have historically benefitted from support from international organisations and have a sense of obligation to share their experience with other river basins. A good example of this is the twinning arrangement with our colleagues from the Orange Senqu River Commission (ORASECOM) in Southern Africa where both commissions can learn and profit from each other.

Implementation of agreements such as the Danube Protection Convention, as well as the EU Water Framework Directive and the EU Flood Directive are the reason why the ICPDR is a bright example for all water organisations. We are all working to achieve international cooperation in the conservation of our planet's natural heritage – which we have only borrowed from future generations.

Benedikt Mandl is the Technical Expert for Public Participation and Communication in the ICPDR Secretariat, and the Executive Editor of Danube Watch.

"The great advantage of the ICPDR is the fact that the Secretariat is a permanent body which guarantees the continuity and ongoing support."

**ERMINA SALKIČEVIĆ-DIZDAREVIĆ,
ICPDR PRESIDENT 2013**

Since 2012

Ministry for Foreign Trade and Economic Relations, Deputy Minister

2007-2012

Raiffeisen Bank Bosnia and Herzegovina
Relationship Manager

2002 – 2006

ASYCUDA-UNCTAD Project Coordinator
EU Customs and Fiscal Assistant

Since 2004

University of Sarajevo, Department of Marketing
Master thesis in progress

2001

Georgetown University, Washington DC
Certificate of 'American Political and Economic System of Organization'

1997 – 2002

University of Sarajevo, Department of International Economics, Bachelor Degree in Economics



Credit: SC Apa Nova Bucuresti SA

The Aeration tanks, combined heating power unit, primary settlement tanks and digesters of the Bucharest Wastewater Treatment Plant, the capacity of which was enlarged to about 2.2 million population equivalent.

A hotspot no more: a wastewater treatment plant for Bucharest

One of the most important environmental projects in Romania is providing wastewater treatment for the tenth largest city in Europe, thus solving one of the major pollution sources in the Danube River Basin.

The River runs through the city of Bucharest, after which it crosses the Romanian Plain to join the Argeş River and then the Danube. Until 2011, Bucharest – with nearly two million inhabitants in the urban area – discharged its wastewaters directly into the river. These wastewaters had seriously deteriorated the Dâmboviţa and Argeş Rivers and made Bucharest the largest polluter of the Danube in the region. Now, thanks to one of the most ambitious environmental projects in Romania, one of the major pollution hotspots in the Danube River Basin can be eliminated.

Construction of a wastewater treatment plant in Bucharest began in 1985 but was abandoned in 1996 because of lack of funds. By 2000, the need for an

WATER BLUEPRINT

In November 2012, the European Commission released its Water Blueprint, a new strategy designed to improve responses to water quality challenges. The Blueprint aims to make water use sustainable in the EU and to ensure that there is enough good quality water available for human needs, economic activities and the environment. The Blueprint is related to the EU's 2020 Strategy, and is the water milestone for the 2011 Resource Efficiency Roadmap.

The Blueprint aims to address lagging achievement towards the WFD target for reaching 'good' ecological status in European waters by 2015. To achieve this, the Blueprint proposes a three-tier approach: to improve implementation of EU water policy, especially the EU Water Framework Directive (WFD); to integrate water policy into agriculture, fisheries and other policy areas; and to fill the gaps in the current water policy framework.

The strategy doesn't propose a 'one size fits all' approach, but instead proposes a tool box which Member States can use to improve water quality at local, regional and national levels. The Blueprint proposals are the result of a process that involved extensive public and stakeholder consultations, and will continue to rely on an open participation process involving Member States, NGOs and businesses – as covered by the Common Implementation Strategy of the WFD. The Blueprint is expected to cover activities up to 2050 and to drive EU water policy in the long term.

operational wastewater treatment plant became increasingly obvious. Furthermore, Romania declared its whole territory a sensitive area, which requires

all agglomerations of more than 10,000 population equivalents to have wastewater treatment plants with the highest degree of treatment, the removal of nitrogen and phosphorus.

In 2004, the European Commission and the Romanian government co-financed a project to finish the Bucharest wastewater treatment plant. The main objective of the project, 'Rehabilitation of wastewater treatment plant Bucharest', was to enlarge the urban wastewater treatment plant capacity (to about 2.2 million population equivalent) and to improve the technology using two lines built in two stages.

Putting the plant to use. The first stage of the project began in 2007 and was completed in 2011. This included rehabilitating mechanical treatment and extending biological treatment to include nitrogen removal. A biological and chemical phosphorus treatment installation was built, and construction was completed on sludge anaerobic digesters as well as the necessary capacity for thickening and dewatering the sludge, including biogas reservoirs. In addition, the project included the construction of a drainage system and storm water storage capacities. The budget for the project, € 108.3 million, was financed through grants from the Instrument for Structural Policies for Pre-Accession (ISPA) programme, loans from the European Bank for Reconstruction and Development and the European Investment Bank as well as state budget funds.

Today Line I of the wastewater treatment plant is operated by SC Apa Nova București SA. It ensures that 55% of the area's wastewater is treated in compliance with the standards of the EU Urban Wastewater Treatment Directive for discharge to sensitive water bodies. Rehabilitating and extending the wastewater treatment plant has reduced the amount of the pollutants - mainly organic, suspended solids and nutrients (total nitrogen and total phosphorus). The project significantly reduces the impact of Bucharest's urban wastewater on surface water resources.

A major model for progress. The benefits of the new wastewater treatment plant can be seen beyond the improved water quality. The project has contributed to

increasing the public's awareness of the pollution effects of wastewater and the responsibility to protect river ecosystems.

In addition, the project serves as a model for implementation of measures in the Danube River Basin. The wastewater treatment plant was highlighted as a 'Lighthouse Project' in the ICPDR's Interim Report on the Implementation of the Joint Programme of Measures to provide examples of projects of basin-wide relevance. Furthermore, the wastewater treatment plant project is an excellent example of the type of projects proposed by the European Commission's Water Blueprint strategy, the EU's response to the continuing challenge of meeting the EU water policy goals.

Cutting pollution for good. The second stage of the project is planned for 2013 to 2017 and will build Line II of the wastewater treatment plant to increase the treatment capacity. The project aims to increase the capacity of fermentation for sludge treatment, adding thickening and drying equipment. In addition, an incinerator will be built to ensure the entire process of sludge management. The investment value of the project is estimated at approximately €350 million, to be financed through Cohesion Funds.

After completing both stages, the plant will ensure the treatment of the entire wastewater flow of the Bucharest urban area and will discharge an effluent which will meet the requirements of national and European legislation, thus eliminating one of the major pollution hotspots in the Danube River basin.

Kirstie Shepherd is a freelance journalist living in Vienna and has called the Danube River Basin home since 2000.

Reconstruction of the Bucharest wastewater treatment plant eliminates one of the major pollution hotspots in the Danube River Basin.

The digesters' access tower in 2007, and in 2011 after the reconstruction.



Credit: Bucharest Municipality

2013: International Year of Water Cooperation

As the UN focuses a spotlight on water cooperation, we examine the ICPDR's successful cooperation with partners across the Danube River Basin.



In December 2010, the United Nations General Assembly declared 2013 as the United Nations International Year of Water Cooperation. The objective of this International Year is to raise awareness, both on the potential for increased cooperation, and on the challenges facing water management in light of the increase in demand for water access, allocation and services.

The year also aims to highlight the history of successful international water cooperation initiatives. Therefore, Danube Watch takes a look at one of the most important examples of such an initiative: the ICPDR. We wanted to see our work and achievements through the eyes of partners and friends from past and present – and so we asked a simple question: what makes the ICPDR excel in international water cooperation for you?

The year also aims to highlight the history of successful international water cooperation initiatives. Therefore, Danube Watch takes a look at one of the most important examples of such an initiative: the ICPDR. We wanted to see our work and achievements through the eyes of partners and friends from past and present – and so we asked a simple question: what makes the ICPDR excel in international water cooperation for you?

“Partnering with the ICPDR greatly amplifies our water protection and conservation efforts in all of our Danube countries as we pursue system-wide sustainability goals.”

Ulrike Gebmacher, Coca-Cola Hellenic, is partnering with the ICPDR through the Green Danube Partnership with the Coca-Cola system, nationally and through the Business Friends of the Danube. *Credit: Gebmacher*

“The involvement of the ICPDR in our Stakeholders’ Forum helped us understand the importance of public participation in a decision-making process.”

Ivan Mitrovic, project manager and chairperson of the Stakeholders’ Forum, Directorate for Inland Waterways, Republic of Serbia. *Credit: Mitrovic*



“The ICPDR is a binding link between all water-related Priority Areas of the EU Strategy for the Danube Region and therefore a key strategic partner for Priority Area 06.”

Florian Ballnus, Priority Area Coordinator 06 ‘To preserve biodiversity, landscapes and the quality of air and soils’ of the EU Strategy for the Danube Region, working at the Bavarian State Ministry of the Environment and Public Health in Munich, Germany. *Credit: Ballnus*



“To work on the implementation of the Danube Convention in Moldova under the aegis of the ICPDR was for me like gaining advanced environmental knowledge at an international university.”

Tatiana Belous, Head of the Delegation of Moldova to the ICPDR of many years, Institute of Ecology and Geography under the Ministry of Environment and Academy of Sciences of the Republic of Moldova. *Credit: ICPDR/Schedl*



“Due to the work of the ICPDR, floodplain restoration, fish passages and sturgeon conservation have become issues of basin-wide cooperation.”

Irene Lucius is the Head of Policy of the WWF’s Danube Carpathian Programme, an ICPDR observer organisation that has partnered the Commission on many projects and activities for years. *Credit: Lucius*



“The ICPDR is world renowned for its leadership in river basin cooperation. Through the partnership with the IRF, we will work towards extending the reach of the ICPDR and champion best practice river basin management in Europe and beyond.”

Matthew Reddy, CEO of the International River Foundation (IRF), the ICPDR’s main partner in establishing the European Riverprize, presented for the first time on 12 September 2013. *Credit: Reddy*

"What is essential basin-wide? The legal basis, the willingness to cooperate, a common understanding of terms, and actual acting. ICPDR put all this into reality!"

Hellmut Fleckseder, active in the ICPDR Secretariat between November 1995 and end of March 2001, and from then on in the Austrian Ministry in charge of ICPDR issues till the end of September 2008. *Credit: Fleckseder*



"The ICPDR to me is a true role model for how to deal with different cultures and economic levels in the Danube region. In my function I am facing similar challenges; working with the ICPDR is therefore most inspiring."

Christof Habn, Executive Editor of the bi-lingual water magazine aqua press International, is a long-standing media partner of the ICPDR. *Credit: Habn*



"We were inspired by the ICPDR's efforts and capacity in garnering the cooperation of the people and countries along the Danube. We are grateful for the agreement to maintain this cooperation, which will benefit both the Danube and the Sungai Perak Rivers."

M.N. Mobd Adnan is Managing Director at Corak Zaman Sdn. Bhd., Malaysia, implementing a sustainable river management project with the Perak State Government. Representatives conducted two study visits to the ICPDR Secretariat in 2010.

Credit: Adnan



"Having been involved in the Danube cooperation development for ages, I had the privilege of witnessing the evolution of a river basin cooperation, stakeholder involvement and institutional development that earned international recognition."

Maria Galambos, Ministry of Rural Development, is a member of the Hungarian delegations to ICPDR and UNECE and a national expert in the ICPDR's Public Participation Expert Group.

Credit: ICPDR/Schedl



"Many aspects of cooperation under the ICPDR umbrella are also applied in bilateral cooperation and at the national level. Experiencing this helped me a lot in national activities concerning public participation processes in the RBMP [River Basin Management Plan] elaboration."

Elvira Marchidan works for Romania's national water administration Apele Romane and is a national expert in the ICPDR's Public Participation Expert Group. *Credit: Marchidan*

"Through our twinning programme with the ICPDR, we were empowered to improve some of our initiatives such as the development of awareness through the Orange Senqu River Learning Box, or monitoring of river health through the Joint Basin Survey."

Lenka Thamae is the Executive Secretary of the Orange River-Senqu Commission in Southern Africa, which collaborates with the ICPDR on a range of projects since 2007. *Credit: ICPDR/Schedl*

Cooperation on an international scale is the only way to address the region's pressures, such as the irruptions to river and habitat continuity faced by Danube sturgeons and other migratory species. Fold out to see a map of the current obstacles in the Danube River Basin.



"Good policy is based on sound scientific evidence. The cooperation between our two institutions ensures that the management of the Danube River considers both science and society."

Milan A. Dimkic is the Director of the Jaroslav Cerni Institute for the Development of Water Resources (JCI), which has cooperated with the ICPDR in research and projects. *Credit: ICPDR/Schedl*



Danube River Basin District: River and Habitat Continuity Interruption - Current Situation (2009)



This ICPDR product is based on national information provided by the Contracting Parties to the ICPDR (AT, BA, BG, CZ, DE, HR, HU, MD, RO, RS, SI, SK, UA) and CH, except for the following: EuroGlobalMap v2.1 from EuroGeographics was used for national borders of AT, CZ, DE, HR, HU, MD, RO, SI, SK and UA; ESRI data was used for national borders of AL, ME, MK; Shuttle Radar Topography Mission (SRTM) from USGS Seamless Data Distribution System was used as topographic layer; data from the European Commission (Joint Research Center) was used for the outer border of the DRBD of AL, IT, ME and PL.

ICPDR MEETINGS

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

4-5/4/2013	VIENNA, AUSTRIA JOINT PROGRAMME OF MEASURES WORKSHOP
9-10/4/2013	BUDAPEST, HUNGARY 20TH TISZA GROUP MEETING
10-11/4/2013	BANJA LUKA, BOSNIA AND HERZEGOVINA 5TH ACCIDENT PREVENTION AND CONTROL EXPERT GROUP MEETING
11-12/4/2013	MUNICH, GERMANY DANUBE STURGEON TASK FORCE MEETING
16-17/4/2013	LINZ, AUSTRIA EUSDR – 4TH WORKING GROUP MEETING OF PRIORITY AREA 1A INLAND WATERWAYS
18-19/4/2013	SINAIA, ROMANIA 18TH PRESSURES AND MEASURES EXPERT GROUP MEETING
18-19/4/2013	BELGRADE, SERBIA 13TH PUBLIC PARTICIPATION EXPERT GROUP MEETING
9-10/5/2013	SARAJEVO, BOSNIA AND HERZEGOVINA 37TH RIVER BASIN MANAGEMENT EXPERT GROUP MEETING
23-24/5/2013	TO BE DETERMINED SEDNET STEERING GROUP MEETING
4/6/2013	SAVA BASIN INTERNATIONAL SAVA DAY
4-7/6/2013	BRUSSELS, BELGIUM GREEN WEEK BRUSSELS
13-15/6/2013	ZAGREB, CROATIA 3RD INTERNATIONAL CONFERENCE: WATERS IN SENSITIVE & PROTECTED AREAS
18-19/6/2013	SARAJEVO, BOSNIA AND HERZEGOVINA 11TH ICPDR STANDING WORKING GROUP MEETING
29/6/2013	DANUBE BASIN DANUBE DAY

DW 02/13**UPCOMING ISSUE**

Danube Challenge: Outreach in Austria
Joint Danube Survey 3
Danube Day 2013