

DANUBE WATCH

THE MAGAZINE OF THE DANUBE RIVER / WWW.ICPDR.ORG 2 / 2008



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International
Commission
for the Protection
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Internationale
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zum Schutz
der Donau

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Credit: ICPDR/Stögmüller

Dear readers,

As this issue of Danube Watch is being prepared a number of key events are taking place in the Danube region.

Firstly the accession of Montenegro to the Danube River Protection Convention is being completed. Montenegro contains over 7000 km² of territory in the Danube River Basin and is the headwaters for a number of important tributaries to the Sava and Velikova Morava Rivers. They have sent their notification of intent to join to Romania, the country managing the legal affairs of the Convention. By the time the next issue of Danube Watch arrives Montenegro will be a full member of the Commission. As Montenegrin Agriculture and Water Minister Simovic said, Montenegro “has a lot to benefit from being an active member of the Danube family”.

Secondly the Joint Danube Survey report is being finalised. The report, which documents in detail the findings of the successful 46-day research cruise on the Danube in 2007, will provide an invaluable basis for the future work of the ICPDR. The results show that some important progress has been made in improving water quality in the Danube River Basin but identifies

areas where additional efforts are needed – such as the expansion of the network of sewage treatment plants in the region, targeted action to reduce local pollution in specific tributaries and efforts to restore the natural floodplains of the Danube and its tributaries.

The findings of JDS2 will be presented in Vienna during the International Water Association Congress at the beginning of September, which provides an excellent opportunity for ICPDR to share its work with people involved in water management world-wide.

The ICPDR continues to maintain focus on the development of the Programme of Measures and Danube River Basin Management Plan. Over the next year, representatives will continue work to ensure that we are able to achieve ‘good ecological status’ of waters as required by the EU Water Framework Directive. The energy and enthusiasm for the task is evident and the work is progressing well. I am confident that the good progress in the Danube River Basin will be translated into a practical and manageable plan for future actions.

Philip Weller,
ICPDR Executive Secretary



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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.



Credit: Danube Commission

NEW PRESIDENT FOR THE DANUBE COMMISSION

Russian Federation Ambassador Igor Savolskij was elected President of the Danube Commission at the 70th Session of the Commission, held in Budapest, Hungary, on May 21. Ernő Keskeny of Hungary was elected Vice-President and Dmitriy Tkatch of Ukraine was elected Secretary. All three will serve three-year terms in office. The Danube Commission, representing Member States from 11 countries, was established to ensure adequate conditions for shipping on the Danube.

For more information, please visit: www.danubecom-intern.org/



Credit: RCC/Živalj

CONTINUING THE WORK OF THE STABILITY PACT

The Secretariat for the Stability Pact for South Eastern Europe closed its doors on June 30, 2008. The responsibility for promoting regional cooperation has been assumed by the Regional Cooperation Council. The Stability Pact launched in 1999 and throughout its existence has overseen progress on projects ranging from rebuilding infrastructure to fighting organised crime and corruption. The achievements of the organisation are seen as a symbol of a more confident and mature South Eastern Europe.

For more information, please visit: www.rcc.int/



Credit: Sava Commission

STRENGTHENING TIES BETWEEN THE ICPDR AND THE ISRBC

The ICPDR and the International Sava River Basin Commission (ISRBC) signed a Memorandum of Understanding in Belgrade in June 2008. The main aim of the memorandum is to provide a framework for enhancing cooperation and coordination between the organisations and ensuring there is no duplication in their activities. They intend to strengthen their cooperation by undertaking joint projects of mutual interest and fundraising for projects to plan and implement together.

For more information, please visit: www.savacommission.org/



Credit: Michael Mibin

EU WATER POLLUTANT LIST READIED FOR LAUNCH

The EU has settled the text of new legislation setting water quality standards for a series of priority pollutants under the EU water Framework Directive (WFD). The European commission hailed the priority list as the 'final major piece' in the jigsaw of supporting legislation for the WFD. The new law sets an earlier review date – 2018 rather than 2025 – by which the commission must assess whether EU legislation is achieving the phase-out goal for the priority hazardous substances.

Please visit: www.europarl.europa.eu/default.htm

1–4/9/2008

BRISBANE, AUSTRALIA

11TH INTERNATIONAL RIVERSYMPIOSIUM

The global future of rivers is threatened by too little or too much water. The International Rivers*symposium* will explore the challenges associated with the increased incidence of flooding and drought expected with climate change. The ICPDR will be present at this large symposium with three presentations and thereby represent the International Thiess*prize* winner 2007.

For more information, please visit: www.riversymposium.com

29/10–2/11/2008

CHISINAU, MOLDOVA

37TH IAD CONFERENCE: THE DANUBE RIVER BASIN IN A CHANGING WORLD

Although great work has been carried out in the Danube River Basin since the signing of the Danube River Protection Convention, the Lower Danube is still suffering from the effects of pollution. The 37th IAD Conference aims to support the implementation of integrated transboundary and sustainable management in the basin. This conference aims to look at topics as diverse as floodplans, biodiversity, connectivity and ecohydrology to human impact on fish migration.

For more information, please visit: www.iad.gs/



LIFE ON THE FARM: SUPPORTING ENVIRONMENTALLY SUSTAINABLE AGRICULTURE IN EUROPE

This LIFE-Focus brochure covers a range of innovative agriculture-related projects co-financed by the LIFE programme. They include sustainable agriculture projects active in the fields of water and soil protection, biodiversity and waste, EMAS and Life Cycle Assessment, as well as the processing of agricultural products. The case studies selected also emphasize the value of exchange of knowledge and best practices.

For more information, please visit <http://ec.europa.eu/environment/life/publications/lifepublications/lifefocus/env.htm>



Credit: Private

NEW HEAD OF CZECH DELEGATION

Veronika Jaglova is the newly nominated Head of Czech Delegation to the ICPDR. Ms Jaglova is following Jan Hodovsky as the new Director of the Water Protection Department in the Ministry of Environment. The ICPDR warmly welcomes Ms Jaglova and wishes Mr Hodovsky all the best for his





The Danube – a river’s lure

The queen of Europe’s rivers, the Danube is rich in history and enveloped in an aura of legend and myth, drawing visitors from all over the world.

From the mountains of the Black Forest, the Danube makes its way through cliffs and surges down wild and romantic gorges to flow by mighty castles, palaces and monasteries, framed by the enchanting landscapes and Baroque splendour along its banks. The German poet Friedrich Hölderlin called the Danube a refreshing, melodious river, sometimes foaming with high spirits, at other times dreaming serenely. No other river in the entire world has inspired so many poets, musicians and painters to create masterpieces; art and music accompany the route of the great river until the melody reaches a gentle climax in a rustling sea of reeds: the Danube Delta, one of the last paradises for man and nature.

For millennia one of Europe’s most important waterborne trade routes, the Danube continues to play this role today: it makes up part of the European Union’s Corridor VII that traverses the continent. Sailing the Danube has also become increasingly popular with holidaymakers. Little wonder since a cruise on the great river is a unique and unforgettable experience. Over 113 cruise liners now regularly ply the Danube between Passau and Budapest, and as far downstream as the delta.

Tourism in the Danube River Basin. The Danube Tourist Commission was founded in 1970 at a time when no one could foresee the fall of the Iron Curtain, and it can thus justly claim to be the first tourism organisation in the world to have spanned the great political and ideological divide. Today member countries can look back on over 30 years’ experience of working together in a remarkably unbureaucratic manner: Germany, Austria, Slovakia, Hungary, Croatia, Serbia and Romania are all represented through their national tourism organisations – and the Republic of Moldova has participated since 2007 as an observer.

Member countries are joined by supporting members and partners of the Danube Tourist Commission: All4Ships, Germany – Avalon Waterways, Switzerland – Belgrade Chamber of Commerce – Bonaventura Cruises, Netherlands – Casinos Austria – Danube Cooperation Process – GTA Sky-Ways, Vienna – ICPDR – IDM (Institute for the Danube Region and Central Europe) – Karpaten Turism, Bucharest – Prestige Tours International, Bucharest

TOURISM ON THE DANUBE RIVER

Trends in tourism point to steady increases in cruise traffic, while the day excursion segment remains stable. However, on board the Twin City Liner (Vienna-Bratislava) 108,000 passengers were counted last year, and in 2008 two ships are operating between Bratislava and Vienna.

| Year | Cabin cruisers | Passengers |
|------|------------------------|------------|
| 1992 | 13 | |
| 2002 | 60 | 119,000 |
| 2003 | 75 | 140,000 |
| 2004 | 84 | 150,000 |
| 2005 | 99 | 155,000 |
| 2006 | 101 | 190,000 |
| 2007 | 105 | 196,000 |
| 2008 | 109 | |
| 2009 | 115 ships are expected | |

Credit: Nicko Tours GmbH

- Route of Emperors and Kings Marketing Association - Serbian Chamber of Industry and Commerce - TINA Vienna Transport Strategies GmbH - Working Community of the Danube Regions.

Sharing the treasures of the region. The Danube Tourist Commission operates as a marketing and information platform supporting the tourism branch on and along the river through targeted marketing activities.

The Danube Tourist Commission selected 'The Danube Moves' as its annual theme for 2008. Past themes have included 'The Danube and Europe', 'Man, Myths and Tales', 'The Musical Danube', 'Danube Landscapes', 'Danube Delights' and 'Royal Danube - River of Kings'.

A centrepiece of the Danube Tourist Commission's activities since 1982 has been the Danube Travel Mart. Since 2007, the event - renamed Danube Salon - is held in conjunction with the new actb - Austrian and Central European Travel Business (formerly atb) in Vienna: January 25-27, 2009. In 2007 actb welcomed over 380 exhibitors, including 45 from the Danube Tourist Commission's member countries as well as 1000 buyers and trade journalists from the main international source markets.

The Danube Tourist Commission assists in the preparation of publications, film and television productions, and also issues a series of handy annual guides to cruises, excursion ships, yachting, cultural events on the Danube and Main-Danube Canal as well as information on the Danube bicycle trail. The award-winning website www.danube-river.org records at least 18,000 visitors monthly and the website www.danubesalesmanual.com is the first international online Danube River Sales Guide featuring a recently expanded range of cultural events and travel information from all the countries along the river.

Part of a Danube family. The Danube Tourist Commission has been an observer to the ICPDR since 2004, and has also endeavoured to work together with important regional and national Danube organisations. The Danube Tourist Commission collaborates with the Institute for the Danube and Central Europe, the UNESCO working group Vienna and the Danube Cooperation Process and the Working Community of Danubian Regions, as well as maintaining an association with the EU Corridor VII (Danube)/Tina Vienna Transport Strategies.

The Danube Tourist Commission cooperates with the ICPDR to promote celebrations along the whole river for Danube Day on June 29. Additionally, to mark the start of the shipping season, Danube Navigation Day is celebrated with cross-border festivities every year on the last Sunday in April: April 26, 2009. The Danube Tourist Commission helped to develop this marketing event together with other organizations.

A river at the heart of Europe. Due to joint efforts, the Danube has emerged in recent years as one of Europe's leading tourist destinations. Interest in the

countries of south-eastern Europe and unhindered navigation along the entire length of the river down to the Danube delta have given a major boost to the region's tourism generating steadily rising cruise ship and passenger numbers.

TOURISM ON TWO WHEELS

The Danube also boasts one of the continent's most beautiful bicycle trails. The Danube trail closely parallels the river's course and passes through an unbelievable variety of changing scenery, intact nature, architectural treasures, and some of central Europe's most interesting and beautiful cities. Away from heavily travelled roads cyclists relax and enjoy the sport safely, unhindered by motor traffic.

Ambitious cyclists can cycle along the trail from Germany through Austria and Slovakia to Hungary, getting to know the countries and their peoples up close. And when they need a break from pedalling, cyclists can simply load their bicycles onto a ship - bikes are carried free of charge on most Danube liners - and relax on deck while the scenery slips by. Cruise guests can also make land excursions by bike, as rentals are available at many locations.

The Danube is navigable for large ships from kilometre 2415 at Kelheim. The 171-kilometre Main-Danube Canal, which opened to shipping in 1992 and links the river with the Rhine, makes possible cruises across the breadth of the continent from Amsterdam on the North Sea to Sulina on the Black Sea. On October 7, 2005 the Novi Sad pontoon bridge has finally been dismantled, giving again free passage to cruises through the Iron Gates and as far as the Danube delta

With the accession of Romania and Bulgaria to the European Union in 2007, the Danube is a European inland waterway in every sense. The most important development along the Danube in 2008 is the extension of the Schengen area. On December 21, 2007 passport controls were eliminated in Vienna, Bratislava or Budapest, and the southern Hungarian city of Mohács now functions as the Schengen border crossing point for all ships cruising upstream and downstream.

Whether travelling along the Danube by road, rail or bicycle, or sailing aboard a gleaming cruise liner, no one can resist the lure of this 'Queen of Rivers' and the harmony of river and scenery. **For more information, please visit: www.danube-river.org**

Gerhard Skoff is the President of the Danube Tourist Commission.

Setting sail: Slovenia, the Danube and the EU Presidency

As the EU Council Presidency passes to France, the achievements of Slovenia's EU Presidency will continue to highlight the commitment to the fight against climate change and the loss of biodiversity.



eu2008.si

Slovenia held the EU Council Presidency from January to June 2008 and achieved a range of objectives in the fields of administration, cultural dialogue and labour laws. One of the main priorities of the Slovenian Presidency is the fight against climate changes and creating measures against the loss of biodiversity. Intensive dialogue at global, regional, national and local level is required to reach consensus on the implementation of programmes with concrete measures and this was achieved through the presidency.

A climate-energy package was created where the key issue is planning and carrying out effective adaptation measures. Pragmatic association of the principles of the EU Water Framework Directive (WFD), the Flood Directive and the new Marine Directive is of key importance for the preparation of efficient river basin and coastal zone management plans.

Managing floods and marine zones. Slovenia and Austria organised an EU workshop to implement the Flood Directive as a concrete example of a divided city connected by a common river. This is a pilot project and the approach will be transferred to other rivers (e.g. Drava, Sava, Soča).

To implement the EU Marine Directive, Slovenia organised the first meeting of all coastal Adriatic countries in Portororž with the purpose of carrying out Article 5 of the Directive and preparing a sub-regional – Adriatic strategy for coastal and marine zone management.

Fighting for biodiversity. At the Ninth Meeting of the Conference of the Parties meeting in Bonn the EU achieved implementation of all its objectives to stop

the loss of biodiversity. At a meeting of environment ministers at Brdo, Slovenia, the discussion was on the necessity to consider forest and biodiversity in planning measures.

Slovenia and the WWF presented “Dinaric Arc” on the importance of the Dinarides ecoregion prompting the associated Ministers of the Environment to sign a joint statement to strengthen cooperation for sustainable management there. Slovenia plans to host a workshop in 2008 on reaching these objectives.

Committed to cooperation. All the above activities are closely connected to the regional approach, which is carried out by ICPDR and the Secretariat in the Danube River Basin. Because of its active role, we prepared an important sub-regional cooperation in the Sava River Basin. The International Sava River Basin Commission and ICPDR signed a cooperation agreement in Belgrade.

New forms of cooperation are required to carry out the adaptation measures. The EWP brings numerous new possibilities and opportunities with direct participation of the economy, science, public and administrative institutions. The support of the EU Parliaments and Commission is a reason for optimism.

Therefore in light of the scope of the presidency and the relative brevity of the period of administration, significant achievements were made which should have an impact on the management of the Danube for years to come.

Mitja Bricelj is the State Secretary at the Ministry of the Environment and Spatial Planning of the Republic of Slovenia and Head of Delegation to the ICPDR.

The 9th Ordinary Meeting of the Trilateral Commission for the Adriatic Sea was held in Portororž in June to prepare a strategy for coastal and marine zone management. *Credit: Ministry of the Environment and Spatial Planning, Slovenia*



Changing the face of wetlands

A wetlands restoration project in Bulgaria is helping local authorities and communities to adopt new attitudes towards wetlands as well as sustainable natural resources management practices.

In many communities, wetlands are seen as wastelands; places full of mosquitoes and odd smells; functionless places to be avoided – or better yet, filled in. However, wetlands play a vital role in the health of river systems. They provide rich habitats for a diverse range of plant and animal species, protection from flooding and pollution reduction through their cleansing functions. Restoring wetlands, therefore, is about more than changing landscapes, it's about changing mindsets.

“The restored wetlands on Belene Island provide a chance for the future tourism development in the region, for new employment opportunities as well as for protection of the Danube river basin from nutrient pollution,” says Florian Fihtl, World Bank Country Director for Bulgaria.

The Bulgarian Wetlands Restoration and Pollution Reduction Project was launched in October 2002 – the first time a wetlands restoration of this scale has been implemented in Bulgaria. The six-year project will reduce transboundary nutrient pollution loads generated from agriculture, while conserving important endangered species. The project is financed by the Global Environment Facility/World Bank, and co-financed by the Bulgarian government, the EU PHARE programme, the Austrian government and other bilateral donors.

This project has already helped change the perception of wetlands among locals. “The project has introduced a new idea that wetlands are not a necessary evil, making the landscape attractive, as they were perceived in the past,” says Anna Georgieva, Project Task Team Leader and Senior Operations Officer in the Sustainable Development Department of the World Bank. “And now in the course of the project, the local people are actually very much in favour of restoration and even impatient to see the restoration happen.”

Restoring wetlands and floodplains. The wetlands restoration facilities on Belen Island within the Persina Nature Park were officially opened June 23, 2008, by representatives of the Bulgarian Ministry of Environment, the State Forestry Agency and the World Bank in the presence of local partners and stakeholders. Results of the work are already visible. Water from the Danube River that entered the wetlands during the





The Belene Island restoration site is already showing a dramatic improvement. Water from the Danube River that entered the wetlands during the first flooding in April improved in quality after just a week.
Credit: Bulgarian Ministry of Environment and Water

first flooding in April improved in quality after just a week. And as water quality improves, local species have already benefited. “Fish have returned to spawn,” says Georgieva, “and with the fish we also have a return of an increase of rare bird species such as the white-tailed eagle and the Dalmatian pelican.”

The restoration work for the second site, the Kalimok wetlands within the Kalimok/Brushlen Protected Site, is in progress and should be completed by October 2008.

In addition to the restoration work, the project also includes a small grant programme for biodiversity conservation. Mostly targeting awareness-raising, the programme has reached over 5000 people – mostly young people – to communicate the value of wetlands. Also, a small Farmer Transition Support Fund supports demonstration projects, such as organic agriculture for peaches and raspberries, and manure management. “The project is so innovative,” says Georgieva, “and it shows just how much you can do and how many new ideas you can bring with a small sum of money.”

Managing protected sites. At the start of the project, the administrations for the Persina Nature Park and the Kalimok/Brushlen Protected Site lacked needed equipment, such as off-road vehicles and outboard boats as well as up-to-date monitoring equipment for field work. The project has contributed considerably to outfitting both administrations with necessary tools. “The first step”, says State Forestry Board Representative Spas Todorov, “is complete. Further on we need serious efforts to be taken in order to optimize the management regime of the restored wetlands.”

The capacity of both protected areas administrations has increased as a result of the project’s training programmes. “One of the most valuable parts of the project is that we have brought local people and decision makers together to learn new things and make international contacts,” says Georgieva.

Future outlook. As the project comes close to completion, the results achieved in the last six years are considerable. Florian Fihtl, World Bank Country Director for Bulgaria is positive that “the restored wetlands on Belene Island provide a chance for the future tourism development in the region, for new employment opportunities as well as for protection of the Danube river basin from nutrient pollution”.

Project documents and all reports are available on the project website. For more information, please visit: www.worldbank.bg/wetlands.

Marietta Stoimenova is the Project Manager of the Project Coordination Unit at the Bulgarian Ministry of Environment and Water.

“The project has introduced a new idea that wetlands are not a necessary evil, making the landscape attractive, as they were perceived in the past,” says Anna Georgieva, Project Task Team Leader and Senior Operations Officer in the Sustainable Development Department of the World Bank.



DANUBE
DAY



Celebrating this day together helps protect the Danube rivers so they can be used and enjoyed by generations to come. *Credit: Various*

“The Danube feeds us, treats us and gives us water,” said Tatyana Semenovna Repkina, Head of the Izmil Department of Culture, “We must be grateful for all of the Danube gifts.”

Danube Day is a celebration of a cleaner, safer river following 14 years of international cooperation. Huge festivals on the banks of the rivers; public meetings and fun, educational events pay tribute to the Danube, its peoples and the progress that has been made. Danube Day strengthens our “Danube solidarity”, highlighting that, in spite of our different cultures and histories, we have a shared desire and responsibility to protect our precious resource.

Ambitious activities in all 14 major Danube countries were bursting with inspiration to unite the countries in celebration. Many events focused on young people, empowering them to shape a positive future for the Danube. In Romania, a special class was held where children played teachers and politicians and other

officials were the students. The ‘teachers’ prepared a quiz on water issues and aspects related to the Danube River.

Danube Day also served as the occasion to launch the Romanian version of the Danube Box, called ‘The Blue Danube Book’. Lucia Ana Varga, State Secretary in the Ministry of Environment and Sustainable Development of Romania, was joined by other high ranking government officials, representatives of local NGOs as well as representatives from supporter Coca-Cola HBC for the launch. “The Blue Danube Book has an important role for the education of the children regarding the Danube Basin values and traditions,” said Varga, “as well as for raising their awareness regarding the protection and the conservation of the aquatic ecosystem.”



Danube Day 2008 celebrates the Danube rivers: “Let’s use them not abuse them”

Over 81 million people in 14 countries came together to honour one of Europe’s greatest river systems and the people and wildlife that rely on it.

Children also led celebrations in Germany. Students from the Wolterdingen Primary School performed their play, ‘The New Source of the Danube’ and students from the Eichendorf School in Donaueschingen, Germany, presented their art project, ‘The Danube Puzzle’, with a secret poem hidden in the puzzle.

Celebrating culture and traditions. There was a rich cultural programme in Vukovar, Croatia, with a focus on traditional songs and dances and programmes for visitors to learn about old customs and traditions of the people living along the Danube. In addition, all visitors were treated to a traditional fish stew on the banks of the river. Fish played a key role at events in Austria as well. A lunchtime fish buffet offered visitors the chance to sample tasty dishes,

while learning about the health benefits of fish in Tulln, Austria. In other cities around Austria, fish bookmarks – highlighting fish from the Danube River – were distributed to more than two thousand people.

Taking the festivities onto the water. The sound of ship horns reverberated across the Danube Basin at 14:00 on Danube Day, as Danube workers paid a special tribute to their river – a river that provides them with food, water, power, recreation and, crucially, their livelihoods. As part of the annual Greet the Danube horn blast, organised by the Global Water Partnership (GWP), ships along the Danube from Germany to Ukraine simultaneously sounded their horns in a united salute to the rivers.

“The Danube should no longer be just an alternative,” said Maria Dimova, Regional Governor of Ruse, “The Danube has to become a priority for all of us.”

“The Danube cooperation is an example to be followed,” said Eduardo Jara of the Water Tribune of the Zaragoza Expo.

Vojvodina Waters of Serbia held an ‘Introduce yourself to the Danube’ cruise, inviting visitors on a free tour to find out more about the river they live with. “Danube Day is one of the symbols that point out our need to live together with our rivers instead of living along our rivers,” said Aleksandar Prodanović, Director of the Water Directorate of the Ministry of Agriculture, Forestry and Water Management.

In the Czech Republic, sailing enthusiasts took to the waters for a sailing tour of the Morava River through the Litovelske Pomoravi Protected Landscape Area. Organisers in Slovenia started an international event on the Mura River. The two-day event took passengers from four countries on a river cruise from Austria to Croatia, stressing traditional wooden boats as treasures from the past.

“A sustainable method of handling the Danube and its resources has to be secured. ... Sustainability means for us: thinking beyond the here and now, showing responsibility today for the future,” said Julian Würtenberger, President of the Freiburg District.

Sharing ideas for a shared river. Ruse, Bulgaria, hosted an international symposium called ‘Potential to alternative tourism development – Danube regions – competitive advantage’. The forum presented ideas and good practices on Bulgarian and European tourism, but also highlighted a range of funding opportunities for public and private projects in tourism. “The Danube should no longer be just an alternative,” said Maria Dimova, Regional Governor of Ruse, “The Danube has to become a priority for all of us.”

An exhibition called ‘Green innovations for the sustainable development of the Lower Danube – Prydnav’e region’ was held in the Culture House in Izmail, Ukraine. Ten organisations and private companies presented their projects on organic agriculture, small scale alternative energy supply, ecological sanitation and wastewater treatment as well as other water supply issues. The exhibition ran for two days and drew more than 700 visitors. “The Danube feeds us, treats us and gives us water,” said Tatyana Semenovna Repkina, Head of the Izmail Department of Culture, “We must be grateful for all of the Danube gifts.”



The Tisza Stakeholder Forum was held as part of Danube Day celebrations in Szolnok, Hungary. Representatives from government, NGOs, water users and academics met to discuss the status of River Basin Management in Hungary, as well as the ICPDR Tisza Group’s report ‘Analysis of the Tisza River Basin 2007’, recently translated into Hungarian. László Kóthay, State Secretary of the Ministry of Environment and Water of Hungary, spoke at the forum, stressing the need to “make a river basin management plan responding to the needs of the Tisza Valley and... the Danube Basin level as well”.

Spreading the word far and wide. The Danube took to the air in Sarajevo, Bosnia and Herzegovina with the radio show ‘For every drop of clean water – June is the month of the Sava and Danube Rivers’. Officials from water management discussed with participants about international convention and obligations in the water sector.

Celebrations went global this year as the Danube was represented at the 2008 World Water Expo in Zaragoza, Spain. Water and sustainable development was the theme for the Expo, which attracted more than a million people. At the initiative of GWP Hungary, with the support of the ICPDR and GWP CEE, Danube Day celebrations were held in Zaragoza, expected at Expo, with representatives from Austria, Bulgaria, Croatia, Germany, Hungary, Slovakia and Romania.

Visitors received a ‘Danube Passport’ to collect stamps from each of the seven Danube countries and to earn prizes. The Danube Box was also presented at the Austrian, German, Slovak, Romanian and Hungarian pavilions. “The Danube cooperation is an example to be followed,” said Eduardo Jara of the Water Tribune of the Zaragoza Expo.

This represents only a snapshot of the different events; full information can be obtained from: www.danubeday.org

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

Danube Basin at the World Water Congress

Reconnecting the river for migratory fishes



One of the 74 two-month-old beluga sturgeons from this year's natural recruitment, captured, tagged and released back in the river on June 19, 2008, at Danube River km 118, in Romania, by the Danube Delta Sturgeon Research Group staff Marian Paraschiv and Marian Iani. *Credit: DDNI Tulcea/Paraschiv*

When the International Water Association (IWA) announced that the World Water Congress 2008 would be held in Vienna on September 7-12, the ICPDR decided to use this opportunity to highlight the challenges and achievements experienced over the past 15 years. This includes a keynote presentation by ICPDR Executive Secretary Philip Weller, as well as the official results of the Joint Danube Survey 2, a major scientific expedition carried out along the Danube in summer 2007 (see page 25).

The core of the ICPDR involvement will be a special Danube workshop on September 10. The ICPDR has invited representatives of main stakeholders and partners – such as the European Bank for Reconstruction and Development, World Wide Fund for Nature, Technical University of Vienna and Coca-Cola Hellenic – to openly discuss the challenges, opportunities and achievements regarding integrated river basin management in the Danube River Basin. Special focus will be given to the political and organisational framework for an integrated approach in river basin management, the challenge of cooperative monitoring of an international river as well as the demands and limits of public involvement. In cooperation with The Coca-Cola Company and Coca-Cola Hellenic, the ICPDR will also present the successes of the Green Danube Partnership, which has become a role model of public-private partnership.

For more information, please visit:
www.iwa2008vienna.org

Jasmine Bachmann works on public participation in the ICPDR Secretariat, and is the Executive Editor of Danube Watch.

A new project proposal aims to reconnect the Lower and Middle stretches of the Danube River, which are currently separated from each other by the Iron Gate dams. The project, entitled 'Reconnecting the Danube River – the development of economically and ecologically sustainable solutions for managing a natural asset of strategic regional importance', includes institutions from Austria, Bulgaria, Hungary, Romania and Serbia and will run from 2009 to 2011.

Large dams alter river conditions and have significant adverse impacts on natural habitats. When designed and built without adequate attention to natural river functioning, dams cut a river into ecologically isolated compartments, not allowing for the free movement of species. Migratory fishes, such as sturgeons, are particularly badly hit, being unable to move upstream or downstream between their spawning grounds and areas used at other times in their life cycle. The impacts of large dams on the Danube have resulted in catastrophic decline of most of the river's sturgeon species that are now endangered, with significant regional economic impact – notably on the productivity of Danube fisheries.

The project's activities will focus on transnational studies, sharing knowledge, a feasibility assessment of technical requirements, and will contribute directly to the achievement of the EU Water Framework Directive. However, the problems to be overcome are complex, requiring action by a range of stakeholders in many countries. Only concerted transnational cooperation can bring about the necessary improvements.

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

The catch moratorium, set in 2006, on sturgeons in Romania has a significant effect on the recovery of the species. "I am convinced that the next 3-4 years will bring a significant improvement of the situation," says Gheorghe Stefan, President of the Romanian National Agency for Fishery and Aquaculture (NAFA Romania).



Finding a common ground for international cooperation

Despite earlier positions, the controversial Bystroe Canal project is now on course with a focus on international cooperation and open dialogue.

According to a UNECE report, dredging will have an impact on the water level dynamics along the Bystroe Branch that will result in the loss of floodplain habitats. *Credit: WWF/Vorauer*



“The Ukrainian Party is open for an active dialogue with the Espoo Convention Secretariat and its appropriate bodies,” said Deputy Prime Minister of Ukraine Hryhoriy Nemyrya, and Ukraine “is ready to sign bilateral agreements with the Romanian Party”.

At the beginning of the year, discussions on the controversial Renovation of the Danube-Black Sea Navigation Route had stalled. The Inquiry Commission of the United Nations Economic Commission for Europe (UNECE) issued a report in 2006 concluding that the Bystroe canal will have “significant adverse transboundary effects” on the environment and should be stopped until the ecological consequences could be properly evaluated. Ukraine, however, was proceeding with the project, and believed that all international organisations had been fulfilled.

The ICPDR had expressed concern about the possible impacts of the project as early as 2003, and has closely followed developments and established an active dialogue with representatives of Ukraine and neighbouring countries. The ICPDR has continued to reinforce the need for the requirements of international conventions to be upheld to ensure that neighbouring countries affected by the project are properly informed of the project and have input into how the project could be

developed or adjusted to reduce or eliminate transboundary effects.

International organisations working together. The Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) brings together all stakeholders to prevent environmental damage before it occurs. The Espoo Convention requires that Member States notify and consult each other on all projects that might have an adverse transboundary environmental impact.

In April of this year, some 12 intergovernmental organisations met the Executive Secretariat of the Espoo Convention to exchange information on the project and to coordinate their actions and responses. This meeting led to an agreement that UNECE would draft a letter to Ukraine outlining concern that the commitments and obligations under various conventions were not being upheld in connection with the project. This letter was sent in May with a background document on the international obligations.



Ukraine has expressed that it will participate in active dialogue with the ESPOO Convention Secretariat and its appropriate bodies and that they are ready to reconsider their decision on the project. *Credit: WWF/Vorauer*

RENOVATION OF THE DANUBE-BLACK SEA NAVIGATION ROUTE

Furthermore, as part of the preparation of the Conference of the Parties to the Espoo Convention (COP) in Bucharest, Romania, on 19–21 May, the Implementation Committee of Espoo prepared a report issuing a caution to the Government of Ukraine following the receipt of the information that Ukraine was proceeding with the project.

Changing course. Following initial discussions at the meeting about the Implementation Committee’s report, Ukraine presented a statement that it was changing its position regarding the future steps in the project. In particular, Deputy Prime Minister of Ukraine Hryhoriy Nemyrya stated in a letter to the UNECE that “The Ukrainian Party is open for an active dialogue with the Espoo Convention Secretariat and its appropriate bodies” and stressed that Ukraine “is ready to sign bilateral agreements with the Romanian Party”.

After lengthy debate, the COP adopted a resolution issuing “a caution to the Government of Ukraine to become effective on 31 October 2008 unless the Government of Ukraine stops the works... and takes steps to comply with the relevant provisions of the Convention”.

The resolution also requested Ukraine to ensure that its legislation and administrative measures are able to fully implement the provisions of the Convention, and to submit a new strategy and schedule of the project based on the outcome of an independent review.

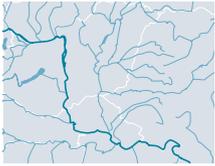
Much of the national and international controversy surrounding this project arises from its location. The Danube Delta, spanning the border between Romania and Ukraine, includes UNESCO Biosphere Reserves and a World Natural Heritage site. It is a wetland rich in plants (over 1000 species), birds (300 species, including the largest pelican colony in Europe) and fish (including several endangered species of sturgeon).

The Bystroe Canal would aid navigation through the Danube Delta, and would increase inland shipping by more than 60%, according to a feasibility study conducted in 2003. Unlike the Sulina Canal in Romania, the Bystroe Canal is designed to accommodate two-way traffic around the clock. The canal, according to initial reports, would be three times cheaper to pass than the Sulina Canal, allowing Ukraine to better compete for international shipping.

Getting interested parties involved. In addition to the activities requested by the Espoo Convention, and at Ukraine’s encouragement, the Bern Convention Secretariat – with representatives from the various commissions – made a visit to the site at the end of July.

The ICPDR is also planning a set of meetings, with funding from the UNECE, related to the Danube Delta and water issues. The project will look at sharing information between Moldova, Romania and Ukraine on water resource issues in the Danube Delta. “Success in this matter is a result of the secretariats of the international commissions all working together,” said ICPDR Executive Secretary Philip Weller.

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



The Tisza River Basin gets a new focus on wetlands

After 15 years of working in the Danube River Basin, UNDP/GEF is now focusing on applying lessons learnt to a smaller scale – The Tisza River Basin. As the largest tributary of the Danube the Tisza is hardly small by European standards!



The Tisza River Basin provides a high diversity of habitats for plants and animals – some of which are no longer found in other parts of Europe. Furthermore, countries in the Tisza River Basin have set aside a significant amount of protected areas and national parks, including nature reserves and several Ramsar sites.
Credit: Iarocbevitcb

The Tisza River Basin is one of the most picturesque regions in Europe. Mountain streams, meandering rivers and diverse landscapes are home to many unique species. The last 150 years of human influence, however, have caused serious problems for the basin's waters – including the threat of pollution from organic substances from municipalities and urban settlements, nutrients from wastewater and farming and hazardous substances from industry, mining and agriculture.

Changes in land-use and river engineering have modified the natural structure of the river and resulted in the loss of over 80% of the area's natural floodplains and wetlands. These changes have led to an increase in extreme events, such as severe floods, periods of devastating droughts (particularly in Hungary and Serbia) as well as landslides and erosion in the uplands. A new project supported by the Global Environment Facility through the United Nations Development Programme (UNDP/GEF) will focus on developing the

environmental benefits of wetlands to mitigate impacts of floods/droughts and help to reduce nutrient pollution in the Tisza River Basin.

The project, called 'Integrating multiple benefits of wetlands and floodplains into improved transboundary management for the Tisza River Basin' or Tisza River Basin MSP for short, will run for three years. The project is expected to encourage the countries of the Tisza Basin to integrate wetlands into river basin management planning by highlighting the multiple benefits of wetlands in flood protection, drought alleviation and nutrient reduction, as well as their important role in biodiversity.

Sharing experiences. UNDP/GEF is interested in looking at how the activities developed at the Danube level through the successful UNDP/GEF Danube Regional Project can be scaled down and how these more detailed lessons can be replicated elsewhere – especially by increasing the value of wetlands to protect against floods and reduce nutrients. 'The eyes of Europe will be on the work in the Tisza on this exciting and innovative approach,' said Helmut Blöch, Deputy Head of Water, Chemicals and Cohesion Unit at the European Commission's Directorate General for the Environment.

THE TISZA RIVER BASIN AT A GLANCE

Size of the Tisza River Basin: 157,186 km²

Length of the Tisza River: 966 km

Percentage of the Tisza Basin in the Danube River Basin: 19.5%

Population living in the Tisza River Basin: 14 million

Largest tributaries: Maros/Mureş, Körös/Criş, Sajó/Slaná, Bodrog and Szamos/Somes

The Tisza River Basin is the largest sub-basin in the Danube River Basin, draining over 157,186 km², and includes territory in Hungary, Romania, Serbia, Slovakia and Ukraine. The Tisza River, at 966 km, is also the longest tributary of the Danube and the second largest by flow, after the Sava River.

The project is a partnership between the countries of the Tisza River Basin, the GEF, UNDP, the European Commission and the United Nations Environment Programme. The ICPDR will take a leading role in managing the project and ensuring it links closely with all the other activities under way at the Danube River Basin level. "The ICPDR proved to be a good home for cooperation along the Tisza," said Tibor Faragó, Director General, Department of Environmental Policy, Hungarian Ministry of Environment and Waters, "and we hope they continue this role."

Building on cooperation. The project will build on and support the work of the ICPDR's Tisza Group, which has been the platform for strengthening coordination and information exchange related to international, regional and national activities and for ensuring harmonisation and effectiveness of related efforts. Through the Tisza Group, the Tisza countries agreed to prepare a sub-basin plan – the Tisza River Basin Management Plan – by 2009. This plan will integrate issues of water quality and water quantity, land and water management and flood and drought. "The enhancement of international cooperation in water ma-



agement based on EU instruments such as the Water Framework Directive and Floods Directive is the beginning of a new integrated approach to water management in the Tisza Basin which will contribute to further development of the entire region," said Nikola Marjanovic, Former Director of the Directorate for Water Ministry for Agriculture, Forestry and Water Management of the Republic of Serbia, at the launch of the Tisza River Basin Analysis.

The Tisza River Basin is important to the people living there, and provides livelihoods for many through agriculture, forestry, pastures, mining, navigation, tourism and energy production. *Credit: Iarochevitch*

The Tisza River Basin Analysis, prepared by the Tisza Group with support from the European Commission, was formally launched at the sixth ministerial conference of the 'Environment for Europe' process in Belgrade, Serbia. At this important meeting, high level officials from Tisza country governments – Hungary, Romania, Serbia, Slovakia and Ukraine – and the European Commission publicly voiced their support for continued cooperation in Tisza Basin water management, including support for the recommendations included in the Tisza River Basin Analysis. Silviu

Stoica, Secretary of State, Ministry of Environment and Sustainable Development of Romania, stressed the importance of continued support from all countries for Tisza water management, “Otherwise it will not be possible to achieve any important objectives,” he said.



The waters of the Tisza Basin are under threat of pollution from organic substances from municipalities and urban settlements, nutrients from wastewater and farming and hazardous substances from industry, mining and agriculture.
Credit: Larochevitcb

The role of wetlands. The UNDP/GEF Tisza River Basin MSP will concentrate on two main activities with wetlands and floodplains being the common factor. The first activity will continue the assistance to the Tisza Group with developing pollution reduction and flood/drought mitigation strategies, which will then be integrated into a river basin management plan. This goes further than the current emphasis of the EU Water Framework Directive by ensuring that the plan will take account of both land issues (farming, wetlands) together with the needs of water quality. Through this the countries of the Tisza River Basin will develop approaches to minimise pollution entering river systems during floods and will also integrate pollution reduction (such as the retention of nutrients in wetlands) into natural systems.

The second activity will be in the form of demonstration projects (also significantly supported by UNDP with additional resources) aimed at showing the multiple benefits of wetlands in river basin management. The projects will be decided through a wide consultation involving both governmental and non governmental

stakeholders and, where possible, will be undertaken in transboundary locations where experiences can be readily shared.

From a more global perspective, GEF will be looking to the project to capture innovative ideas of integrating water pollution problems arising from flood waters and land management for wide dissemination and replication elsewhere in the Danube River Basin and more widely. This will be an important project for testing new ideas on integrated river basin management with expectations of exploitation more widely. From this ‘smaller’ scale the ideas can then be expanded for implementation elsewhere.

Peter Whalley and Diana Heilmann form the project management unit within the ICPDR Secretariat.



LIFE BLOOMS ON THE TISZA RIVER

Every year between late spring and early summer, the Tisza River ‘blossoms’ and millions of ‘Tisza-flowers’ swarm parts of the Tisza River.

The Tiszaflower, *Palingenia Longicauda*, is a long-tailed mayfly – Europe’s largest mayfly. After three years at the bottom of the river, the larvae of the Tiszaflower break for the surface where males moult and females hatch and before sunset the beautiful bridal-dance of the male and female – or ‘blossoming’ – begins.

At this time the river’s surface explodes into life. During the Tisza blooming, Tiszaflovers are everywhere – dancing around each other in large groups or resting on every available surface. Rising in huge clouds, the mayflies take flight and reproduce. Shortly after mating, the females lay eggs on the river to drift to the bottom, and this spectacular blooming finishes. As darkness falls, the mayflies perish and millions of dead bodies cover the river surface to be eaten by fish. And all this happens in just a few hours.



Protecting the Danube from flooding

Cooperation is vital to improve flood risk management in the Danube River Basin. A new Danube Flood Risk Project, initiated under the Romanian ICPDR Presidency, is working to bring collaborative mitigation methods to the Danube region.



Flood risk increases with ongoing climate change. Risk reduction can only be achieved through transnational, interdisciplinary and stakeholder-oriented approaches.

Credit: Romanian Ministry of Environment and Water Management

Any future-oriented risk management strategy needs joint methods, databases, and a combined approach on assessing and coping with risk. To implement this combination of measures, upstream and downstream regions have to cooperate on transboundary issues. The proposed Danube Flood Risk Project will combine top-down and bottom-up approaches to focus on the most cost-effective measures for flood mitigation: risk assessment, risk mapping and risk reduction by adequate spatial planning.

All the countries along the Danube have separated models and their own methods for flood prevention not to mention different priorities for mitigation measures. However, many regions suffer from lack of risk information for planners, population and decision makers. The Danube Flood Risk Project will bring together scientists, public servants, NGOs and stakeholders to jointly develop a scalable system of flood risk maps for the Danube. This will result in proposals for flood mitigation measures, the adjustment of spatial development plans, assessment tools

for economic development in flood plains and raised awareness of flood risk in decision makers, politicians, planners and the public. In addition, this project will also help local administrations tackle their own specific flooding challenges.

Industries at risk like power stations and supply infrastructure will play a key role in the project. Pilot areas include flood risk in large cities (Vienna, Austria), planning high risk industrial platforms (Kozloduy Nuclear Power Plants in Bulgaria), harbour sites, a large port and naval constructor (Galati, Romania) and other smaller localities in prone areas.

Success is possible only through joint efforts. This project will involve all relevant organisations to guarantee political implementation. Partners for the project include national and regional authorities responsible for environment, water management and spatial planning, non-governmental organisations and research institutions. Observers from Germany, the Czech Republic and the ICPDR will provide experience with similar approaches. A bonus generated by this partnership is that all these organisations work on flood risk mitigation measures but none would be able to harmonise an approach alone.

Physical measures for flood risk mitigation are comparatively ineffective unless integrated. The most cost-effective approach is cooperation in the fields of information, mitigation and flood risk.

Mary-Jeanne Adler is the Director of the Emergency Situation Management at the Directorate Ministry of Environment and Water Management.

Ministry of the Environment – in cooperation with the Water Research Institute, the Czech Hydrometeorological Institute and the Czech Inspectorate of the Environment – is responsible for water protection and

HISTORY HIGHLIGHTS

The arrival of the Slavs in the fifth and sixth centuries marked the beginning of the Czechs' history. Its tribes united in the Great Moravian Empire (830–906), before the independent State of Bohemia was formed at the end of the ninth century. An influential church-reform movement, the Hussite Revolution, took place in the late fourteenth and early fifteenth centuries, and in 1526, the Czech kingdom came under the control of the Austro-Hungarian Empire. This period lasted until the end of World War I, when the Czechs and Slovaks merged to form Czechoslovakia, which came under the Soviet sphere of influence after World War II. With the end of the communist period in 1989, Czechoslovakia regained its independence through a peaceful 'Velvet Revolution'. On January 1, 1993, the country underwent a 'Velvet Divorce' into its two national components, the Czech Republic and Slovakia. On May 1, 2004, the Czech Republic became a member of the European Union. The Czech Republic signed the Danube River Protection Convention on March 3, 1995.

the Ministry of Agriculture, in cooperation with the River Boards and state enterprises, is responsible for water management. Water issues in the Czech Republic are a big compromise.

Danube Watch: How is the quality of water in the Czech Republic?

Ms Jaglova: The status of water quality in the Czech Republic has improved markedly since 1990. Between 1990 and 2007 there was a drop in discharged pollution BOD₅ by 94.7%, CCO_{Cr} by 88%, suspended solids by 90% and dissolved organic salt by 14.6% – and there was also success in reducing the amount of dangerous and especially dangerous substances and discharged amount of AOX (absorbable organically bound halogens). There was also a significant drop in macronutrients (nitrogen, phosphorous) as a result of the fact that the biological removal of nitrogen and biological or chemical elimination of phosphorous is being applied in a targeted manner in the technology of wastewater treatment in new and intensified wastewater treatment plants.

Danube Watch: The Czech Republic is drained by three major European river basins: the Odra, the Elbe/Labe and the Danube. This is quite a challenge

as all of them require international coordination regarding the implementation of the EU Water Framework Directive. What are the main differences in approach?

Ms Jaglova: There are of course differences depending on the structure of commissions – the Elbe commission is the easiest approach because there is only the bilateral cooperation between Germany and the Czech Republic, and due to the similar mentality of the Czechs and Germans, work is going fast and without any major problems. In the Odra commission, however, everything is different, slower and much more complicated due to inexperience with other international commissions on the Polish side.

Many countries develop a Joint Programme of Measures rather than just compiling the different national reports, etc. The ICPDR is very specific due to cooperation between a lot of EU and non EU states in very different conditions. Finding a joint approach and creating a Joint Programme of Measure for all 19 countries is a very difficult task.

THE CZECH REPUBLIC: FACTS & FIGURES

Size of the country: 78,866 km²

Population: 10.2 million

Capital: Prague (1.2 million inhabitants)

Per-capita GDP, PPP (2007): US\$ 24200

Main tributaries to the Danube:

Morava and Dyje rivers

Share of the total Danube River Basin area:

21,688 km² (2.9%)

“It was an honour for the Czech Republic to contribute to the achievement of the Joint Danube Survey 2 and of course a great experience for those who were part of it.”

Danube Watch: The Joint Danube Survey 2 was carried out along the Danube last summer, but your country was also an important partner in the survey, offering laboratory capacities as well expertise, through core team member Hana Hudcova. What significance does this survey have for the Czech Republic?

Ms Jaglova: It was an honour for the Czech Republic to contribute to the achievement of the Joint Danube Survey 2 and of course a great experience for those who were part of it. The results of JDS2 will be good tool for comparing with the results of national monitoring.

Danube Watch: Thank you very much, Ms Jaglova.



Leave your marks in the Danube River Basin Management Plan

River basin stakeholders are invited to actively participate and to shape the future of the Danube and its tributaries – for our common heritage!

The success of the ICPDR's work depends on the participation of stakeholder groups in the region, and securing the active participation of stakeholder groups is a cross-sectoral initiative of the ICPDR and is encouraged in all its working groups and delegation meetings.
Credit: Boncina



Organisations that have been granted official observer ship status to the ICPDR have the best opportunities to provide constructive input in ongoing ICPDR activities, as they are invited to all ICPDR expert group meetings where the different documents are actually developed. Observer organisations are full members in the ICPDR Expert Groups and are also invited to all ICPDR decision-making meetings.

Creating opportunities for involvement. However, the ICPDR goes further to offer other groups the possibility to provide comments and input to the DRBMP draft. The draft of this key document is expected to be ready in spring 2009 and will be made available publicly on the ICPDR website. Organisations will then be invited to comment on this draft, to provide input and suggestions. This can be done in writing or in person in

All Danube countries are currently working towards the implementation of the EU Water Framework Directive (WFD), and developing national river basin management plans as one of the requirements. In addition, all countries are cooperating under the umbrella of the ICPDR to develop the Danube River Basin District Management Plan (DRBMP) including the Joint Programme of Measures. The DRBMP is more than just a compilation of the national reports – it focuses especially on water issues of transboundary relevance such as nutrient and organic pollution, pollution from hazardous substances as well as hydro-morphological alterations.

The role of public participation. Information, consultation and active involvement of the public has always ranked high on the ICPDR agenda. “Public participation has to be seen as a process and is not a one-time event. The ICPDR has therefore a strategic approach and plans the activities carefully in line with the other activities for the implementation of the WFD,” explains Anemari Ciurea, Chairperson of the ICPDR's Public Participation Expert Group.

the frame of the Second ICPDR Stakeholder Forum, which will be held in 2009. All of the comments received will be considered by the experts and included in the final DRBMP. The comments will also serve as feedback to the national levels so that they can also influence the national river basin management plans if reasonable.

The ICPDR offers a platform for open dialogue with various stakeholder groups, Danube resource users and industrial associations. We invite you to use this opportunity to get actively involved in shaping the future of the Danube River Basin – for the environment and the people!

For more information on the EU Water Framework Directive in the Danube River Basin, please visit: <http://www.icpdr.org/river-basin-management>

Jasmine Bachmann works on public participation in the ICPDR Secretariat, and is the Executive Editor of Danube Watch.

The results are in from the world's biggest river expedition

Final conclusions from the Joint Danube Survey 2 will improve the ability of Danube country leaders to decide on what measures still need be taken to meet EU laws and implement the Danube River Protection Convention.



The three JDS2 boats – the Argus, Széchenyi and Vienna 115 (chartered by the EC's Joint Research Centre in Ispra, Italy, to assess fish fauna) – travelled 2,415 km down the Danube River, through ten countries, to the Danube Delta. Water, sediment, biology, suspended solids, mussels and fish were sampled, with some testing taking place on board the ships.
Credit: ICPDR

The Joint Danube Survey 2, also known as the 'JDS2', was the world's biggest river research expedition in 2007. Its main goal is to produce highly comparable and reliable information on water quality and pollution for the entire Danube River and many of its tributaries. The information is also essential for the Danube countries and the ICPDR to attain an overview of the water quality needed to meet the requirements of the EU Water Framework Directive (WFD) by 2015. The ICPDR coordinates overall JDS2 implementation. The first JDS was held in 2001.

The JDS2 was officially launched on August 14, 2007 in Regensburg, Germany. In total, a distance of 2,600 km of the Danube River was assessed, 2,415 km of which were completed by the three boats of the JDS2 travelling from Kelheim, Germany, through 10 coun-

tries, to the Danube Delta in Romania and Ukraine until late September. Along the Danube River, 96 sites were sampled, as well as 28 sites on its major tributaries. The JDS2 gathered comprehensive scientific information, strengthened basin-wide cooperation among the scientific community and increased public awareness toward water quality protection.

Since the expedition's end, scientists and laboratories across Europe have been busy testing samples, compiling data, exchanging information and developing final reports, all coordinated by the ICPDR. The preliminary final results are now out. Here are some of the main highlights.

Hydromorphology. The assessment of the 'hydromorphology' of the Danube was a completely new task. It was prepared because the WFD requires EU river systems to have a 'good ecological status' by 2015, and

because good water quality alone is not sufficient to pass the EU test. 'Hydromorphology', as defined by the WFD, is the physical characteristics of the shape, the boundaries and the content of a water body. To have good ecology, the Danube and its tributaries must, for example, serve as habitat for characteristic animals and plants, and therefore provide typical structures required for such habitat.

The international scientific team travelling the entire Danube included 18 scientists, and teams of national scientists were also a big help on river stretches within their countries. Credit: ICPDR, lower right: ICPDR/Wiesner



Overall, the assessment showed that the Lower Danube is in better condition than the Upper part, and that about 40% of the investigated Danube is in good condition, meaning that there are still many healthy ecological areas – a status that is generally more positive than earlier perceived.

Biology. The analysis of macroinvertebrates (aquatic insects, worms, clams, snails and other animals without backbones that can be determined without the aid of a microscope and that live in or on sediments) indicated good biological water quality for almost 80% of the Danube sites. Significant organic pollution affecting living organisms was detected in the tributaries Sio, Jantra and Rusenski Lom. Due to excessive pollution, the Arges River did not host any macroinvertebrates.

The fish survey, the first ever for the Danube, revealed that only about one-third of the investigated sites on the Danube indicated good status. Hydromorphological alterations are the main pressure on fish populations in the Upper Danube, while water quality is a key pressure in the Middle and Lower Danube. The lack of migratory species in the Danube indicates a loss of river connectivity.

In the regulated, non-impounded stretches of the Danube, macrophytes (plants, either free-floating or attached to a surface, that can be determined without the need for a microscope) often meet the conditions for good ecological status. However, the situation is unsatisfactory in the impounded stretches upstream from hydro-electric power plants.

Phytobenthos (microscopic plants such as algae that live in the surface layers of the river), in contrast to aquatic fauna, react directly to the nutrient content (mostly phosphorus) in the river, and are considered to be a long-term reliable indicator of eutrophication processes. The indication of ecological status, based on the phytobenthos analysis, suggested an increase of nutrients in the longitudinal profile of the Danube.

The analysis of phytoplankton (plants, mainly microscopic, existing in water bodies) found most of the Danube with acceptable conditions. Elevated levels of chlorophyll-a (an indicator of phytoplankton) and phytoplankton biomass were found only in the Middle reach.

One-third of the sites were affected by microbial contamination, while faecal indicators (excreted by humans and warm-blooded animals) originated mainly from human sewage. Identified hot-spots were the



Danube stretch between Budapest and Belgrade and the tributaries Arges and Rusenski Lom.

Chemistry. The chemical analysis revealed a significantly decreasing profile of nitrate concentrations moving downstream along the Danube. A comparison with the JDS1 results of 2001 revealed higher concentrations of nitrates and mostly lower concentrations of orthophosphates.

Among the EU's Priority Substances (the EU has 33 substances or groups of substances which have been shown to be of major concern for European waters, including priority hazardous substances), di-(2-ethylhexyl)-phthalate (DEHP) was found in nearly all JDS2 water samples at relatively high concentrations; in 44%

of the water samples, the proposed environmental quality standard (commonly agreed concentration levels that are acceptable for “good quality” under the WFD) was exceeded. At several sites, an indication of WFD non-compliance was found for polycyclic aromatic hydrocarbons, nonylphenol, tributyltin and trichlorobenzene. The concentrations of metals in water were found above the quality targets at only three sites. In general, the average concentrations of priority substances detected during the JDS2 tend to be lower than those measured during the JDS1, especially for organic substances.

The results of the ecotoxicological analysis of Danube sediment showed no significant toxic effects.

The regional distribution of ¹³⁷Cs contamination mainly originated from the Chernobyl accident in May

Overall conclusions and suggested actions. The JDS2 created the most comprehensive and homogeneous database on the status of the aquatic ecosystem of the Danube and its major tributaries. The survey confirmed earlier ICPDR conclusions of a generally improving trend along the main Danube River. It also reinforced specific problems, especially at a number of tributaries and downstream large cities.

The public’s main interest in the JDS2 conclusions is expected to focus on four main questions:

1. **Can people swim in the Danube Basin?**
Yes, but not everywhere.
2. **Can people eat fish from the basin without a health risk?** Yes, but further investigation of mercury concentrations is needed in some areas.
3. **Is water quality improving?** Yes.

For the fourth question – 4. **What still needs to be done?** – the JDS2 identified the need for actions to address: hydro-morphology (e.g. reconnecting side-arms); continuing the building and expansion of sewage treatment plants; specific industrial pollution problems (e.g. hot-spots); more intensive investigations and measures on some tributaries; and invasive species.

Finally, more dialogue is needed with major water users in the basin. And the JDS2 data should be made available for future research efforts and dialogue with different stakeholders and users.

The Final Scientific Report and a Public Brochure are expected to be launched in early autumn

2008. For more information, please visit: www.icpdr.org/jds/ or see the story on JDS2 in Danube Watch 03/2007.

The ICPDR would like to express appreciation to more than a hundred Danube water experts contributing to the success of JDS2.

Paul Csagoly is a communications specialist and writer about European environmental issues.

Igor Liska is the ICPDR’s Technical Expert and JDS2 Manager.

Work on board the Argus often lasted all day and into the night – processing samples to be sent for analyses to onland laboratories, carrying out on-board analyses and preparing and labelling hundreds of bottles, flasks and other vessels. *Credit: ICPDR*



1986. The JDS2 results demonstrate a clear general decrease by a factor of 10 in the ¹³⁷Cs activity concentration of Danube sediments between 1988 and 2007. Due to the decreased artificial radioactivity levels in the Danube River, there are therefore no associated health risks. Naturally occurring radionuclides such as ²²⁶Ra and ²²⁸Ra in the Danube and tributary sediments were found in normal geochemical activity concentration levels. No enhanced anthropogenic input from industrial sources could be detected.



The JDS2 produced some of the most detailed information about the Danube River and its tributaries. But the survey also tested many new technologies and techniques that will help other scientists in the future. Fold out to see more about these new technologies.

SEDIMENT SEARCHES

The 'air-lift' sediment sampler, the most visibly prominent feature of the Argus ship protruding from its bow, was a big success. Used for the first time on the Danube, it could take samples at depths of up to 11 m from substrates including sand, gravel and stone. Before joining the JDS2, Romanian biologist Gabriel Chiriac had relied on the older methods of 'kick-and-sweep' and dredging. "But we couldn't reach big depths before air-lifting," he said.

Credit: ICPDR



THE DANUBE TEST: NEW TECHNIQUES AND TECHNOLOGIES

The JDS2 proved to be an excellent testing ground for many new scientific techniques and technologies. Many were used for the first time ever. Many made the work of the JDS2 scientists more accurate and faster, often through 'on-board training'. The potential is now there for the results to help other scientists, and even policy-makers, across Europe and the globe in the future.



The 'air-lift' sediment sampler, the Argus's most prominent feature, was used for the first time for Danube sampling. *Credit: ICPDR*

STICKY AND EXPENSIVE

One of the scientific institutions most interested in the results of the JDS2 is the European Commission's Joint Research Centre (JRC) based in Ispra, Italy. One of its key goals is to provide support for the development of EU policies and regulations. Until now, the EC has had legal limits imposed on 33 'Priority Chemical Substances' found in water. Some chemicals, some highly toxic, are very 'sticky' and tend to attach to particles and other solid objects. Some of this solid matter is found at the bottom of the river in 'sediment'. However, many chemicals also adhere to particles 'suspended' in the water, which means that they are transported downstream by river currents.

Understanding which chemicals are trapped by suspended particulate matter or which are at the river bottom could lead to new legislation and environmental quality standards for EU Member States. Unsurprisingly, the idea is extremely controversial. The work being done through the JDS2 was a pilot project and the largest experiment of its kind related to this EU assessment. Basically, river water was continuously pumped from the river to a centrifuge on-board the Argus ship which separated the suspended particles from the water. The collected suspended particulate matter and the water from which the particles were removed then underwent simultaneous chemical testing.

NEW ANSWERS

Given that the EU Water Framework Directive (WFD) requires rivers to have a „good chemical and ecological status“ by 2015, the JDS2 included significant biological testing. This typically called for JDS2 biologists to grab a sample in the field, contain it, bring it to the lab, place it under a microscope and figure out what was there, often with the help of thick scientific textbooks. But Slovakia’s Jarmila Makovinska, a JDS2 Core Team biologist, with her international group of partners, tried to change that by making some biological testing automated and in situ (on-site) – progress that could make the work of biologists everywhere much easier.

Her ‘benthofluor’ is a unique piece of equipment devised to measure ‘phytobenthos’ – microscopic plants that are one of the most important biological parameters tested under the WFD. Used for the first time along certain Danube stretches, the benthofluor gets data by testing the surface of stones taken from the water with a probe connected to a device sending out fluorescent light. “It’s a very quick method that can be used to get immediate results at many points along the same stretch of river, without any analysis needed in a far away lab,” says Makovinska.

A new task for the JDS2 was an assessment of the ‘hydromorphology’ (physical characteristics of the shape, boundaries and content of a water body) of the Danube. Also linked to the WFD requirement for “high ecological status”, the assessment is needed to show how well rivers provide suitable natural structures as habitats for animals and plants. In response, during the JDS2, a two-step approach was taken by Germany’s Wolfgang Kraier and Austria’s Ulrich Schwarz. The first was an overview of the entire Danube (divided into 66 stretches) through available data (e.g. aerial photos, navigation maps) and additional field observations taken from the Argus. The second entailed hydromorphological characterizations at all of the 96 JDS2 sampling sites – especially important for interpreting the JDS2’s biological results. “Biologists determine what organisms live where, while we assess whether the river provides them with the necessary habitats,” says Kraier. A key element of the field work was the photo documentation of the river – overall, this will result in about 12,000 new photos!

THE TIME WAS RIGHT

The JDS2 was the first time ever when fish were assessed along the entire Danube. The Fish Team, with members from Austria, Slovakia, Hungary and Romania, used electro-fishing, either hand-held or with the boom of their ship, to sample fish from banks and shallow areas. Electro-fishing was performed during the day as well as during the night with lights – this method had not yet been established as a standard, but it turned out to be very efficient, yielding higher numbers of species and individuals. After depths of about 1.5 to 2 meters, driftnets were used. The fish were then assessed, counted, measured and returned to the waters. In total, 45 sites on the Danube and 21 sites on its tributaries were sampled. At 12 sites, tissue samples from bream fish were taken, later analyzed for organic substances and pesticides in laboratories. The team’s ship and sleeping quarters was the Vienna 115, donated by the EC’s Joint Research Centre. Cooperation with different national fish teams was part of an optimum strategy, and this pilot fish study will give direction to future fish surveys on large rivers.

Many other new techniques and technologies were used. For example, Austrian company ‘via donau’ installed new DoRIS (Donau River Information Services) systems on the two JDS2 ships, improving their capabilities to see and be seen by other ships cruising the Danube. And many scientists learned about the complex official process required by the EU to get samples and transport them to labs.

“How many chances like this do you get to really test, in the field, over a fair period of time, new techniques and technologies, conducted by some of the world’s leading scientists, that could help scientists across the globe?” says Igor Liska, the ICPDR’s Technical Expert and JDS2 Manager. “We just had to do it, and we did it.”



Overall, the hydromorphological assessment showed that the lower Danube is in better condition than the upper part, and that about 40% of the investigated Danube is in good condition, meaning that there are still many healthy ecological areas – a status that is generally more positive than earlier perceived.

The JDS2 created the most comprehensive and homogeneous database on the status of the aquatic ecosystem of the Danube and its major tributaries.
Credit: ICPDR

ICPDR MEETINGS

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

16-17/9/2008

BELGRADE, SERBIA

INFORMATION MANAGEMENT & GIS EXPERT GROUP

18-19/9/2008

TO BE DETERMINED

TASK GROUP ON HYDROMORPHOLOGICAL ALTERATIONS

23-24/9/2008

KOSICE, SLOVAKIA

TISZA GROUP

24-25/9/2008

BUDAPEST, HUNGARY

PRESSURES AND MEASURES EXPERT GROUP

25-26/9/2008

BUDAPEST, HUNGARY

TASK GROUP ON NUTRIENTS

25-26/9/2008

BUDAPEST, HUNGARY

PUBLIC PARTICIPATION EXPERT GROUP

29-30/9/2008

LJUBLJANA, SLOVENIA

MONITORING AND ASSESSMENT EXPERT GROUP

9-10/10/2008

BELGRADE, SERBIA

TASK GROUP ON GROUNDWATER

13-14/10/2008

TO BE DETERMINED

RIVER BASIN MANAGEMENT EXPERT GROUP

16-17/10/2008

BRNO, CZECH REPUBLIC

FLOOD PROTECTION EXPERT GROUP**DW 03/08****UPCOMING ISSUE****EU project: PLATINA****DANUBE BOX****DRAVA COOPERATION**