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NEWSLETTER

European Centre for River Restoration

Participants near the Sava and Una Rivers; former Jasenovac Bridge was destroyed during the civil war.

Group picture during the excursion to Lonjsko Polje area

River Restoration Conference 2004 in Zagreb, Croatia

By Ute Menke, European Centre for River Restoration (ECRR@ecrr.org)

ECRR and Croatian Waters organised the 3rd ECRR International Conference on River Restoration, Principles, Processes & Practises in Zagreb from 17-21 May 2004. We welcomed 79 participants from 19 countries, which consisted of 16 European and 3 Asian countries.

The keynote-speakers were Branka Anicic from Zagreb University (Croatia), Walter Binder from the Bayrisches Landesamt für Wasserwirtschaft (Germany), Petru Serban from Apele Romana (Romania), Phil Weller from the ICPDR (Austria) and Katsuhide Yoshikawa from the Foundation of Riverfront Improvement (Japan).

Many lectures of the participants dealt with the implementation of the Water Framework Directive in Europe for example concerning the definition of the reference conditions. Moreover there were many promising examples of river restoration ranging from a small scale to a larger scale. But one thing is quite clear - The driving force for river restoration across Europe is public safety and flood risk management and not nature development. If nature can be combined with flood protection measures it is very much appreciated and implemented. Some contributions for example, the inland waterway regulation in Croatia of the rivers Drava and Sava, stating that these rivers are Heavy Modified Water Bodies (HMWB's) became part of a passionate discussion.

Part of the conference program was a field trip to the Nature park and the Ramsar Site Lonsjko Polje . Our guides of that day were Goran Gugić and Darko Kovačić. The excursion guide in both the Croatian and the English language was published as a special volume of the Nature Park Bulletin (Vol. 6, no.1, 2004).

Lonjsko Polje floodplain area is a unique landscape, which for centuries has combined flood protection and human use. The richness of

flora and fauna is overwhelming, 550 plant species and 250 registered bird species. The changes in water level can also be spectacular.

View on Lonjsko Polje – "dry plain" (April 2003)

View on Lonjsko Polje – "shallow lake" (May 2004)

The lectures were published in the conference proceedings before the start of the conference.

The pdf-files of all abstracts can be downloaded from www.ecrr.org.

The chairman of the ECRR Management Board, Torben Moth Iversen, closed the conference on Friday, 21st May. The draft conference conclusions and recommendations were presented before the closing ceremony.. The ECRR secretariat published the final conclusions on the web. There was quite a discussion on the WFD statement, which said, **"The designation of HMWB's should be done very carefully because they exclude river restoration."** Due to different variations in the understanding of "restoration" and "rehabilitation", this statement was changed into **"The designation of a waterbody as heavily modified (HMWB) creates the task of rehabilitating that waterbody to meet "Good Ecological Potential"; restoring the function and form of HWMB will not be a priority."**

Many organizations in Europe do not see a problem in the designation of waterbody as a HMWB, but others do. Those who are worried think that the designation of HMWB will generally act as a block to restoration; however, there is a duty to undertake "affordable" rehabilitation to meet the target of Good Ecological Potential. So, it will depend largely on the point-of-view, if the construction of a by-pass channel is not restoration but rehabilitation.

If you have further comments or if you have another opinion, please let us know.

Read also the article about the conference written by Mark Diamond from the Environment Agency (UK) and ECRR Management Board Member in the newsletter of the RRC (issue 18) available on the web in November 2004 at: http://www.therrc.co.uk/newsletters.php

Post-conference field visit to the Drava River, Croatia

By Arno Mohl, WWF Austria (arno.mohl@wwf.at) & Ute Menke, European Centre for River Restoration (ECRR@ecrr.org)

Before river regulation (summer 2002)

After river regulation and gravel extraction (2 photo's WWF)

WWF, Euronatur, Drava League, and Green Action organised a post-conference field visit to the Drava River in Croatia. This river is currently under big pressure due to large gravel extraction that is carried out in the old riverbed in between the water reservoirs.

The lower stretches of the Drava and Mura Rivers in the border area of Croatia, Slovenia and Hungary are one of the best-preserved river ecosystems in Central Europe. Together with the Danube stretches they cover more than 60,000 ha of floodplain areas and contain an amazing

biological diversity, which makes them one of the conservation hotspots in Europe. Their future conservation will be a benchmark for the effective implementation of EU environmental legislation in this region; the Habitat and Birds Directives and the Water Framework Directive. However, ecological important stretches need restoration and as they are impacted by gravel extraction and river canalisation schemes. Furthermore, hydropower dams – and planned new dams as Novo Virje" - affect the Drava and mitigation measures are needed.

Confluence of the Mura and Drava Rivers

Participants of Croatian Waters, WWF, Green Ligue, universities, ECRR and others took part in the post-conference field trip. It was for the first time that engineers and nature (protection) organisations talked together about the Drava River. The field visit started with incensed discussions and with little understanding of the different interests of the participating groups. Diverse locations along the Drava River were visited. Gravel was given back to the riverbed of the Drava. Participants of the ECRR conference signed the pebbles on the last conference day in Zagreb.

Arno Mohl from WWF with Drava pebbles

The special site-picnic on the bank of an old river meander of the Drava River contributed to a change in attitude. By the end of that day, many people representing the nature groups, Croatian Waters and the ECRR concluded "we are on speaking terms now". This sounds promising for the future of the Drava River and especially the co-operation between NGO's and governmental organisations in Croatia.

Hopefully fruitful discussions and co-operations between water engineers and biologists will result in well-developed rehabilitation measures and not a further deterioration of these very special ecosystems.

Returning gravel into the Drava riverbed

For more information, please contact:

Arno Mohl (WWF, Austria) & Martin Schneider-Jacoby (Euronatur, Germany, martin.schneider.jacoby@euronatur.org) or have a look on the web: www.panda.org/dams

Discussions near the old River Drava (Rijeka Drava)

Implementation of the Water Framework Directive in Romania

By *Petru Serban*, Apele Romana, Romania

The Directive 2000/60/EC of the European Parliament and Council (Water Framework Directive) establishes a framework of action for the European Union countries in the field of water policy and acknowledges the river basin as a natural and basic unit in the forming, usage and protection of waters.

The overall objective of the Water Framework Directive (WFD) is the achieving a "good status" for all European water bodies, which implies the ensuring the similar life conditions for all the European citizens from point of view of aquatic environment.

The WFD brings a series of revolutionary elements, among which the following are mentioned:

- The water management is carried out at river basin level;
- The water quality assessment in five classes is based on biological elements;
- The defining of the reference status for surface water;
- The defining of "good status" of water;
- The defining of "good ecological potential" for heavily modified and artificial water bodies;
- The clarification of the river restoration concept through defining both the environmental objectives, reference status for surface water bodies and the maximum ecological potential for the heavily modified and artificial water bodies.

The way of the WFD implementation in Romania should take into account the Strategy of the implementation of WFD in the Danube river basin district. The implementation of the WFD requires the working-out of the Danube River Basin District Management Plan through a close co-operation of both Danubian EU Member States and EU accession countries, which is also the case of Romania.
The **River Basin District Management Plan** represents the tool of planning in the water field on river basin district level, which based on the obtained knowledge of water bodies status, establishes the targets for a 6-year period of time, proposes measures for ensuring water resources and for the achieving the "good status" of waters towards their sustainable use.
The implementation of the WFD is considered as one of the highest priorities of the International Commission of Danube River Protection (ICPDR), which represents the **co-ordination platform for the WFD implementation in the Danube river basin district**.

Romania, as an accession country to EU pays a special attention to the **implementation of the EU Water Directives and especially to the WFD**.
The implications of the WFD implementation in Romania are in the legislative, organizational, scientific, technical and economical fields.

From legislative point of view the WFD will be transposed into the Romanian legislation by the end of year 2003, through the modification of the existing Water Law107/1996.

From organizational point of view, at the level of Ministry of Agriculture, Forest, Water and Environment, the Interministerial Council for the implementation of the EU Water Directives has been set-up, being made up of the representatives of ministries and central authorities and National Administration "Apele Romane" (Fig. 1).
Also, through the Emergency Ordinance 107/2002 the National Administration "Apele Romane" has been established which together with the Ministry of Agriculture, Forest, Water and Environment represent the competent authorities for the implementation of the WFD and the EU Water Directives.
At the level of National Administration "Apele Romane" the Department of European Integration and International Co-operation has been set-up, and at the level of the Water Branches, 11 bureaus for the implementation of the EU Water Directives have been set-up.

From scientific point of view, for the implementation of the EU Water Directives, the research institutes from water field have to modify their activity in order to perform research that is necessary for the implementation of the WFD.

From technical point of view, according to the provisions of the new Water Law, the working-out and the implementation of the Development and Management Master Plans on river basin level, are necessary.
These plans will be worked-out at the level of each river basin/groups of river basins (fig.2) in order to ensure the decentralization of the water management activity.
The Development and Management Plans on river basin level will be agreed upon by the Basin Committees which are made up of the main factors in the water field: state, local communities, water management units, representatives of industry and agriculture, NGOs.

Based on the river basin plans, National River Basins Management Plan will be worked-out which will include a chapter on Transboundary issues which will be submitted to International Commission for the Danube River Protection in order to be discussed and agreed upon by all Danubian countries.
The transboundary issues, parts of National River Basin Management Plans will represent the Roof Report of Danube River Basin District Management Plan.

For the working-out of the River Basin Management Plans the following have been achieved:

- To adapt the EU Guidance Documents to the specific conditions from Romania;
- To delineate the ecoregions and to identify a sub-ecoregion within the Ecoregion 10 (the Carpathians) in the Intramountain area;
- To define the streams types (20 stream types) and lakes types for streams with catchment size larger than 4000km^2;
- To delineate the water bodies for the streams with catchment size larger than 4000km^2 (184) out of which 144 are "candidate" to heavily modified and artificial water bodies or heavily modified and artificial water bodies.

From economical point of view there are necessary funds about 1.5 million EURO for the water monitoring activity and for the implementation of the programmes of measures which are not taken into consideration in the implementation of other Directives from the water field. The implementation of these measures will ensure the necessary conditions for the achieving the " good status" of water bodies according to the provisions of the WFD.

Note of the ECRR secretariat: You can find more articles on this topic in the RR 2004 proceedings.

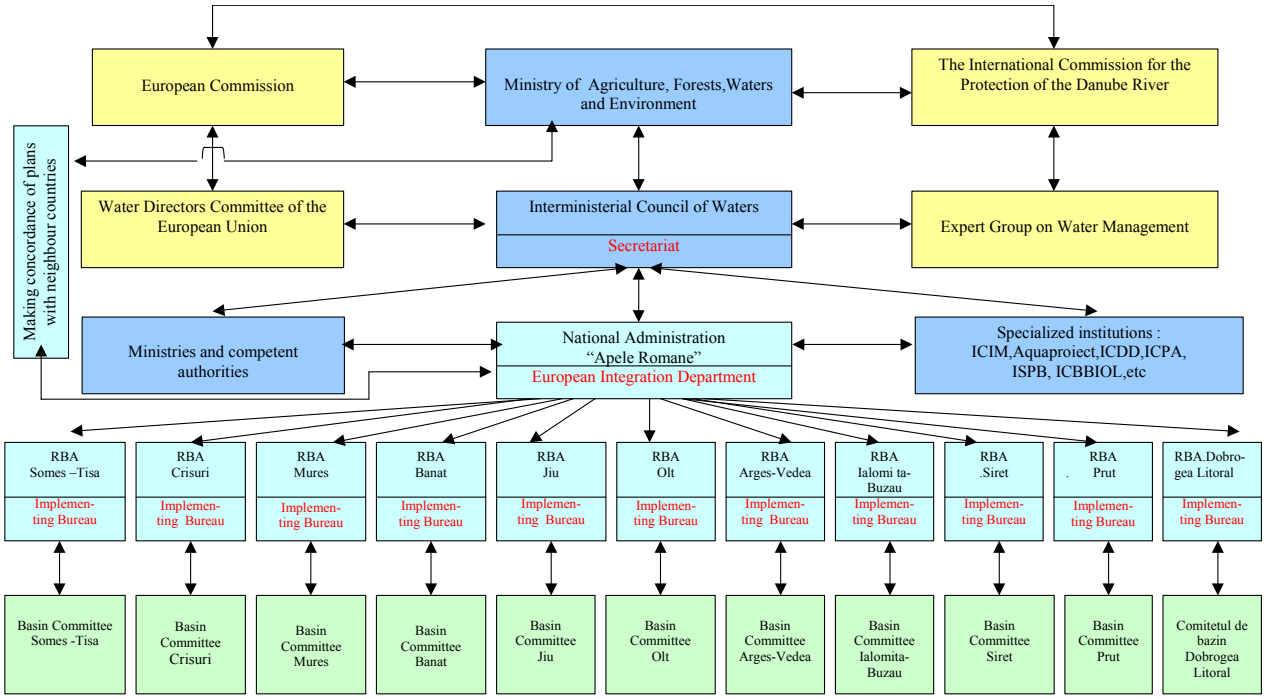

Fig1- Organizatorical structure for the implementation of the Water Framework Directive in Romania

Torben Moth Iversen resigned from the ECRR Management Board

Torben Moth Iversen, who was the chairman from the beginning of the ECRR, resigned from the board after the 3rd conference in Zagreb. During a special dinner following the conference excursion, Torben's work for the ECRR was highlighted by Bart Fokkens, the Dutch ECRR Management Board Member. Lot's of memories and gifts were exchanged during that evening. Torben Moth Iversen will continue his work as a Deputy Director General of NERI in Denmark and of course he will keep in touch with the ECRR and its work. Torben, thank you very much for your efforts and ongoing support!

Torben Moth Iversen at the opening of the 3rd ECRR conference

Bart Fokkens & Torben Moth Iversen

Ljudevit Tropan & Torben Moth Iversen

News from projects/actions

If you like to introduce *your* restoration or conservation project, please contact the secretariat.
Who has interesting running projects?? Please contact: ecrr@ecrr.org

WWF Austria organised "model visits"

WWF alpine programme organised 2 so-called model excursions in autumn 2003 to one of the last wild river of the Northern Alps, the Tiroler Lech, and to the Upper Drava. The field visit aimed to encourage civil engineers, representatives of NGO's and governmental organisations to initiate and carry out more river restoration projects. The reactions and the enthusiasm of the participants have stimulated the WWF to expand the excursion programme of the coming years in order to contribute to a better understanding of water managers and nature conservationists.

Please contact Hermann Sonntag (hermann.sonntag@wwf.at) for more information.

Read the full article (in German) on the next page.

<Modellexkursionen an den Tiroler Lech und die Obere Drau (Austria)

Das WWF Alpenprogramm hat im Herbst 2003 zwei Exkursionen an Revitalisierungsprojekte durchgeführt, um Wasserbauer, Vertreter von NGOs und Behörden zu ermutigen, neue Revitalisierungen in ihren Ländern zu initiieren und durchzuführen.

Die erste Exkursion führte uns ins Tiroler Lechtal in Österreich. Der Lech gilt als letzter großer Wildfluss der Nordalpen: er besitzt ausgedehnte Schotterflächen, unterschiedlichste alpine Flusslebensräume und eine breite Fülle an verschiedenen Tier- und Pflanzenarten. Aber er ist an zahlreichen Stellen auch verbaut und weist seit den 70iger Jahren eine starke Eintiefung auf. Im Rahmen des Life Projektes „Wildflusslandschaft Tiroler Lech“ arbeiten die lokalen Tiroler Behörden (Abt. Wasserwirtschaft, Umweltschutz), sowie das Bundesministerium für Wasserbau und der WWF gemeinsam an unterschiedlichen Wasserbaumaßnahmen am Lech und seinen Zubringern, um den Hochwasserschutz zu erhöhen, aber auch dem Lech – an den verbauten Stellen – wieder mehr Platz zu geben. Das ganze Projekt wird von zahlreichen Artenschutzprojekten und Projekten zur Umwelt- und Bewusstseinbildung ergänzt und wird von der Europäischen Union aus dem Fördertopf „Life-Natur“ kofinanziert.

Wir besichtigten:
Aufweitungen bei wichtigen Zubringern des Lech, das Entfernen einer großen Längsverbauung und dessen Auswirkungen, das Absenken einer Geschiebesperre und Kleinmaßnahmen an Auwaldgewässern.
Weiter besuchten wir das Informationszentrum, um eine Gesamtschau des Projektes zu erhalten.
Weitere Informationen unter www.tiroler-lech.at

Die zweite Exkursion führte an die Obere Drau in Kärnten. Hier besuchten wir mit Wasserbauern aus verschiedenen Regionen der Schweiz und Italiens das Life Projekt gemeinsam mit dem Projektkoordinator Klaus Michor. In den zwei Tagen konnten wir unterschiedliche wasserbautechnische Maßnahmen kennen lernen, die bei den Exkursionsteilnehmern auf großes Interesse stießen. Die Projekte reichten von:

- Anbindungen von Altarmen
- Aufweitungen am Hauptfluss
- Neugestaltung von Mündungsbereichen
- Anlegen unterschiedlicher Biotope
- Artenschutzmaßnahmen für Amphibien, Krebsen etc.

Weitere Informationen: www.wwf.at/drau

Die Reaktionen und große Interesse der Teilnehmer haben uns ermutigt das bestehende Programm an Exkursionen in den nächsten Jahren auszubauen und damit einen Beitrag zu einem neuen Verständnis im Hochwasserschutz zwischen Wasserbauern und Naturschützern zu leisten.

Was macht der WWF noch im Fließgewässerbereich in den Alpen?
Der WWF hat sein Fließgewässerprogramm im Alpenraum in 3 große Schwerpunkte unterteilt: Schutz, Revitalisierung und nachhaltige Nutzung. Im Schutzbereich ist der WWF v.a. im Bereich der Europaschutzgebiete Natura 2000, im Erhalt der letzten natürlichen und naturnahen Fließstrecken, sowie an einem der wichtigsten Alpenflüsse – dem Tagliamento – tätig.

Im Revitalisierungsbereich ist der WWF an zahlreichen Projekten beteiligt und versucht darüber hinaus, in verschiedenen Ländern „Revitalisierungsinitiativen“ zu starten.
Im Bereich der „Wise use“ stellt die Zertifizierung von Wasserkraftwerken nach klaren Umweltkriterien einen Schwerpunkt dar.>

Weitere Informationen:
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Notes from the web

Join the Wetlands Professionals Platform!

The Wetland Advisory and Training Centre, WATC, which is part of the Institute for Inland Water Management and Waste Water Treatment, RIZA in Lelystad, The Netherlands and UNESCO-IHE Institute for Water Education in Delft, The Netherlands have launched the wetlands professional platform during the 7th Intecol International Wetlands Conference in Utrecht, The Netherlands, 25-30 July 2004.

The platform provides news and information on wetland management and restoration, and, what is more, you can meet colleagues in wetland management, restoration, policy and science.

In the Wetland Professionals Database, people involved in wetlands present themselves and their work area. If you like, you can become a member of the Wetland Professionals Platform and make yourself traceable through the database. You can search for interesting persons, with experience, skills or information that is relevant for you. You can update your own profile.

www.wetlandprofessionals.org

Reintroduction programmes of salmon is threatened by high fish mortality in turbines of power stations along the tributaries of the River Rhine – Press release of the IKSR (Internationale Kommission zum Schutze des Rheins), Koblenz, 21 July 2004

Many fishes die in the turbines of the power stations especially in the tributaries of the River Rhine. The advice therefore is to stop or at least reduce a further extension of these power stations. Along the existing power station fish passes or other protection measures are needed. Power stations that have been detected as being extreme harmful should be re-built. Most threatened are species as salmon or eel that are swimming upstream for spawning. For the establishment of a self-sustaining salmon population – it is still a long way to go.

More information and the full article (in German) is available at www.iksr.org

ECNC

Support to Croatia in implementing National Ecological Networks

The ECNC project, funded by EU LIFE, aims to promote existing initiatives relevant for the establishment of NEN, thereby enhancing the completion of PEEN. The overall project objective was to present three training seminars to the Croatian Ministry staff, relevant to NEN initiatives: 1) a workshop on Pan European Ecological Networks/Creating Ecological Networks, led by Edina Biro; 2) a workshop on Monitoring Environmental Networks, led by Ben Delbaere and 3) a workshop on Communication and Stakeholder Involvement, led by Karen Gilbert and Tom Kovacs. These workshops would increase the capacity of the Croatia national nature protection authority so that it can effectively complete the NEN initiatives.

More information:
http://www.ecnc.nl/doc/ecnc/press/060404.html

River Restoration Survey - results

Results and further information related to the International River Restoration Survey originally launched in November, 2003 are now available in a variety of formats on the survey web site: http://www.geog.soton.ac.uk/users/WheatonJ/RestorationSurvey_Cover.asp

The survey will continue to run indefinitely and the results are automatically updated to the web site. Thank you to the over 480 respondents from 36 countries who have already responded! If you have not already taken the survey why not share your views and experience with the international river restoration community?

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Homepage:
http://www.geog.soton.ac.uk/us.rs/WheatonJ/JMW_home.asp

Ukraine is digging a navigation channel in the Danube Delta – A UNSECO world heritage site

Lots of messages and articles were published around this activity and the start of the work. It seems that at this moment nature has lost the battle and that economics and future expectations have won so far. For more information, see for example:

http://www.icpdr.org/pls/danubis/docs/FOLDER/HOME/ICPDR/ICPDRSEC/LIBRARY/DANUBEWATCHBACKISSUES/DW03_1/DW0103P15.HTM

http://story.news.yahoo.com/news?tmpl=story&u=/afp/ukraine_romania_transport_environment

http://www.proact-campaigns.net/ppsi/id25.html

http://www.seu.ru/projects/eng/dunay/jertvy.htm

http://www.alertnet.org/thenews/newsdesk/L12368434.htm

No water transfer of Ebro to agribusiness but BirdLife International still worries about the delta

The new Spanish government has halted plans to transfer 100 billion litres of water from the Ebro River to agribusiness users and massive housing development on the Mediterranean coast.

Citing costs and environmental reasons, the government instead proposes a package of measures including desalination plants and water conservation.

But the flow of water and sediment on which the ecological health of the Delta depends is still at risk from the "basin plan" for the Ebro River, which calls for many new dams and irrigation projects in the middle basin.

Read the full article at:

http://www.birdlife.net/news/news/2004/06/ebro_plan.html

Get a picture at:
http://earthobservatory.nasa.gov/Newsroom/NewImages/images.php3?img_id=16617

Conferences

The Centre has received information about the following international conferences with relevance to river restoration. Further information can be obtained from the Internet homepages given and by writing to the e-mail addresses provided.

International River*symposium*

Threats to Sustainable River Systems - beating the odds
31 August - 3 September Brisbane AUSTRALIA

Water is our planet's most precious resource. It is now a regular feature of the news as communities around the world face the challenge of preserving its quality and quantity. Seven years ago, Brisbane established the International River*symposium* demonstrating this city's leadership at a local, national and international level by bringing together experts in water management and scientists to discuss and find solutions to the protection and restoration of water-catchments around the globe. We have highlighted below a number of events within the River*symposium* program with broad appeal.

The Opening and Keynote address 'Living Rivers' will be held by Dr Vandana Shiva.

River*symposium* takes place within River*festival*, Brisbane's largest celebratory event: delegates are able to access River*festival* events during River*symposium*.

http://www.riverfestival.com.au/symposium

INTERNATIONAL MEETING ON THE IMPLEMENTATI0N OF THE EUROPEAN WATER FRAMEWORK DIRECTIVE

Krakow (Poland) - 27 - 29 September 2004

Following the very important reflections initiated by the European Commission and the Committee of the Water Directors of the Member States, the

implementation of the Water Framework Directive is indeed entering an active and operational phase, which directly involves the existing Basin Organizations or the " authorities " being created, that will be facing many problems in its field implementation.

The aim of the " Group of European Basin Organizations " is to enable these organizations to regularly meet in order to exchange their experiences and talk with the National and Community Authorities concerned.

It is already planned that the international meeting of Krakow will include five workshops that will especially deal with:

- inventories, pressures and impacts,
- the economic analysis,
- " good ecological status " and " water masses with risk ",
- the particular cases of transboundary basins,

the last workshop being devoted to flood prevention and control.

http://www.inbo-news.org/friobang.htm

International Conference in Amsterdam, The Netherlands 27-29 September 2004
Climate change: a challenge or a threat for water management

Objective
To provide water and climate practitioners and researchers a platform to present and discuss their research work and results in an international conference.

Issues

- Scientific evidence about impacts of increasing climate variability in the water sector.
- Research methodologies to study impacts and vulnerabilities in the water sector (drinking water, agriculture, irrigation/food, ecosystems, coast, economies, disasters).
- Vulnerability assessments and early warning systems.
- Coping options and mechanisms.

http://www.aquatechtrade.com/amsterdam/

Cycleau **"Joining across the Water", 7-8 October 2004, Ballina, Ireland**

Free event on/manifestation gratuite:
Sustainable water management: solutions for better participation processes and tools
Gestion durable de l'eau et participation : outils et solutions.

The Cycleau partnership is pleased to invite you to this European event, which will be held on the 7th and 8th of October 2004 in Ballina, Co. Mayo, Ireland

For more information on the programme in English and French, the practicalities and for registration, please log on to our website:
http://www.cycleau.com/

UFZ CENTRE FOR ENVIRONMENTAL RESEARCH
LEIPZIG - HALLE IN THE HELMHOLTZ ASSOCIATION

11th Magdeburg Seminar on Waters in Central and Eastern Europe:
Assessment, Protection, Management
18 - 22 October 2004 in Leipzig, Germany at the UFZ Centre for Environmental Research

Our traditional, prior binational Czech-German meetings increasingly appeared as too limited to face future problems of river catchments and their management on European level. By enlarging the scope of thematic topics and participating c ountries, especially in Central and Eastern Europe for EU-candidates, we respond to the future scientific needs in the field of water protection and management of river basins.

http://www.ufz.de/index.php?en=3128

The Organizing Committee of the Plankton Symposium III, the University of Coimbra, University of Aveiro, the CESAM and the IMAR, invite you to participate in the Plankton Symposium III in Portugal (Figueira da Foz) between Thursday March 17th and Sunday March 20th 2005.

All kinds of marine, brackish and freshwater plankton are considered. The main topics covered are:

- Plankton ecology and behaviour and model studies
- Plankton physiology, including experimental results
- Taxonomy and Genetics of planktonic organisms
- Environmental control of plankton
- Development and testing of new methods for plankton research

Latest news:
21/07/2004 - Journals for manuscripts' publishing announced
17/05/2004 - First call available

http://www.planktonsymposium3.net/home.html

RRC 6th Annual Network Conference

13-14 April 2005

University of Hertfordshire, Hatfield, United Kingdom

The conference will focus on:

- Restoring the ecology of urban rivers, not just the landscape!
- Finding, using and developing techniques for river restoration
- Socio-economic justification of enhancing river environments
- Combining sustainable flood management and river restoration

You can provide a suggested title for your contribution or you can require more information by sending an e-mail to Jenny Mant or Laura de Smith: rrc@therrc.co.uk

8th International Conference on Fluvial Sedimentology, August 7-12, 2005

Delft, The Netherlands
Hosted by: Delft University of Technology

The ICFS, which is held every 4 years since 1977, seeks to stimulate the exchange of ideas among a community of scientists with common interests in rivers and their deposits, both modern and in the geological record. The 8th ICFS will be held at the Aula Conference Centre of Delft University of Technology.

Participants
The Conference is open to all scientists with affinity for the field of fluvial sedimentology.
Topics
Geomorphology of modern rivers, sediment transport and processes, Quaternary fluvial history, fluvial facies models, alluvial basin analysis and sequence stratigraphy, economic aspects of fluvial deposits, and river management.

http://www.8thfluvconf.tudelft.nl/

Publications and videos

The ECRR has received information about the following publications with relevance for river restoration.

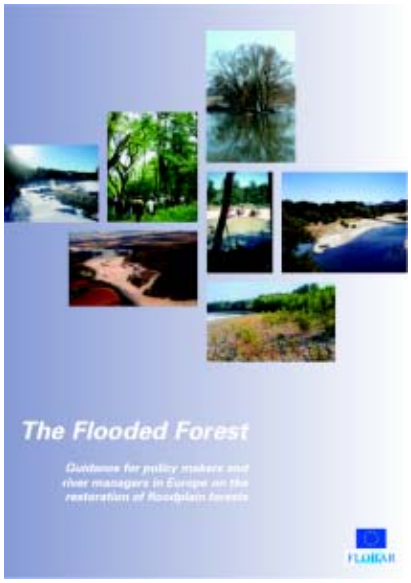
Geres, Dragutin (ed.), 2004, River Restoration 2004- Principles-Processes-Practices.- Proceedings of the 3rd ECRR International Conference on River Restoration in Europe.
401 pages with numerous figures, colour plates and tables. ISBN 953-96455-7-3. Copyright: Croatian Waters, Zagreb, Croatia and European Centre for River Restoration, Lelystad, The Netherlands, 2004.

All abstracts are downloadable from our website www.ecrr.org. If you have questions or comments, please contact the ECRR secretariat.

Hughes, F.M.R. (ed.) (2004) The Flooded Forest: Guidance for policy makers and river managers in Europe on the restoration of floodplain forests.

FLOBAR2, Department of Geography, Univerity of Cambridge, UK, 96pp.
"The Flooded Forest" is a document that summarizes many of the outcomes of the FLOBAR2 project. It is well illustrated with photographs and figures and explains how floodplain forests work, what the principle threats are to these ecosystems, ways of restoring them and the policy and institutional contexts within which their restoration might take place.

This publication is available at
http://www-flobar.geog.cam.ac.uk/reports/final/



Hard copies of the document can be obtained from either Dr. Francine Hughes or Professor Keith Richards, Department of Geography, Downing Place, Cambridge, UK CB2 3EN at a cost of £10 sterling incl P&P; cheques payable to 'The University of Cambridge'.

Effects of Cross-Sectional Geometry, Vegetation and Ice on Flow Resistance and Conveyance of Natural Rivers by Terhi Helmiö

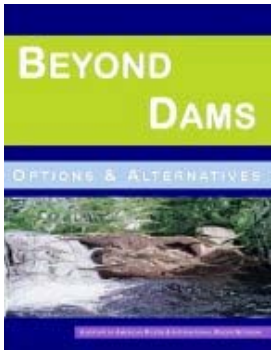
Dissertation for the degree of Doctor of Science in Technology to be presented with due permission of the Department of Civil and Environmental Engineering.
Overview in PDF format (ISBN 951-22-7072-2) [716 KB].
Dissertation is also available in print (ISBN 951-22-7071-4).

Abstract

The accurate estimation of local hydraulics, i.e. local flow velocities and water depths, is necessary for the restoration and protection of biodiversity. The aim of the thesis was to develop methods and models for designing and evaluating the hydraulic aspects of restoration, rehabilitation and environmental flood management in running waters.
Methods for the estimation of flow resistance in natural complex rivers and channels that have composite flow resistance and/or a compound channel shape were tested, and an unsteady 1D

flow model for partially vegetated channels with complex geometry was developed. These methods were used to quantify different factors causing flow resistance, e.g. cross-sectional geometry, vegetation, ice cover and momentum transfer, in lowland rivers of different shapes and sizes. The relationship between the flow resistance and the cross-sectional geometry was analysed.
Traditional methods used to estimate composite friction factors were found to be accurate in simple concave channels with simple hydraulic properties, but an adjustment of the methods would be necessary for reaches with significant head losses due to lateral momentum transfer. It was seen that the effect of the momentum exchange process between the main channel and the floodplain or streambank vegetation was significant. A procedure for applying the success criteria in a post-project evaluation of local hydraulics was developed, based on the hypothesis of flow resistance and cross-sectional geometry determining local hydraulic conditions in boreal streams.
Based on the results from the proposed flow model, the restoration of flood retention areas and local hydraulics is a vital component of the restoration of catchment-scale hydrology, but not sufficient by itself to restore flood peaks to their earlier state, because the changes in land use have often been drastic.

Beyond Dams: Options & Alternatives



By design, dams alter the natural flow regime, and with it virtually every aspect of a river ecosystem, including water quality, sediment transport and deposition, fish migrations and reproduction, and riparian and floodplain habitat and the organisms that rely on this habitat.

The purpose of this report is to provide stakeholders and decision-makers with an overview of low-impact and non-structural alternatives to dams. It is designed as a reference for anyone interested in exploring options for replacing a function served by an existing dam or replacing a function to be served by a dam.

Read the full report (PDF)

http://www.irn.org/index.html

Upstream- Outcome of the Rhine Action Programme (2003)

With the Sandoz accident in 1986, things for the Rhine started to change. The riparian states of the Rhine were forced to act. Their governments charged the International Commission for the Protection of the Rhine (ICPR) to draft a plan aimed at saving the river. In 1987 the Rhine Action Programme (RAP) was ready for approval. It was designed to thoroughly rehabilitate the Rhine by the year 2000.

With the beginning of the new millennium it is time to strike a balance. The results are impressive: things are looking up for the Rhine.
1) **Water quality has considerably improved.**
2) **Accidents implying substances dangerous to water have been considerably reduced.** .
3) **The Rhine fauna has recovered.**
The successful Rhine programme is being continued. The ICPR and the Rhine bordering countries have a new vision of more room for the Rhine. They plan to open the old alluvial areas to the river and to thus combine nature protection and flood prevention. **"Rhine 2020", a programme aimed at the sustainable development of the Rhine** is meant to implement these targets. At the same time, it serves the EU water framework directive and its main objective, to achieve a "good chemical and ecological state" of the European water bodies. Report available in English, French and German at: http://www.iksr.org/

Environmental Information in European Transboundary Water Management

Editor(s): J Timmerman, S Langaas, 2003

IWA Publishing · Publication Date: November 2003 · Pages: 258 · ISBN: 1843390388 · Hardback

Environmental Information in European Transboundary Water Management aims to examine the role of information in transboundary river basin and water management, and the way it is used (or not) in policy and decision and decision-making within the wider European area. While having forward-looking perspective justified by the ongoing implementation of the EU Water Framework Directive among EU Member States and Candidates Countries, many of the chapters draw on the experiences gained from the past and existing transboundary river basin co-operation experiences.

Chapters are organised according to a framework that shows the sharing of water resources to be based upon a foundation of integrated water resources management, supported by three pillars:

- Politics - concerned with the enabling of sharing water resources, including the recognition of differences in riparian interests and international collaboration.
- Technical cooperation - concerned with concrete co-operation including exchange of information; tools and techniques to produce, use and disseminate information; joint research programmes; joint river basin plans; and joint ventures i.e. jointly performed water management actions.
- Legal-institutional - dealing with institutions and legal instruments that support the vision of fair and equitable sharing of international water resources; this pillar finds its basis in internationally laid down principles of cross border co-operation.

Environmental Information in European Trans-boundary Water Management will appeal to professionals involved in the various aspects of transboundary river basin co-operation, both on strategic and operational levels, but also to the academic community concerned with the study of transboundary river basin or water management. It will also be an important source for graduate students in (transboundary) river basin management.

For more information:
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