The network for best practices of river restoration in Greater Europe
ECRR
European Centre for River Restoration

In this newsletter

Editorial ECRR Newsletter.

Wim Zeeman, leaving ECRR Newsletter editor (2010 – 2016).

Dear readers,

In this newsletter you can read a nice number of attractive articles which deal with a variety of aspects of ecological river restoration and integrated river basin management. There is first of all a report on the European River Symposium 2016, held from 2-3 March in Vienna. ECRR was a formal partner in organizing this conference. As part of the event the 3rd European Riverprize was presented to the Segura river in Spain and a short article describes the river's extraordinary return to health following extensive restoration efforts over the past thirty year. An important International Conference is announced: Towards the Best Practice of River Restoration and Maintenance to be held in Krákow, Poland from 20-23 September. River restoration experiences with a case study on the Spree River in Germany, a lowland sandy reach, are described. While at the end the ECRR Events calendar presents the international river restoration events of Pan – European importance.The conclusion can be made that these newsletter contents cover again both informative and technical issues.

Then the ECRR being an Association for more than one year now, but still in transition, ECRR Board meetings were held, recalling the synergies and differences between the ECRR Network and the ECRR Association, and a number of vital tasks and responsibilities were assigned to River Restoration National Centre's. This means that the newsletter editing and production were, starting with this edition, assigned to the Iberian River Restoration Centre (CIREF) and the Russian Centre for River Restoration by the Russian Research Institute for Integrated Water Management and Protection (RosNIIVH) with respectively Francisco Martinez Capel and Timur Pavlyuk as coordinators for these tasks. Therefore we like to thank Wim Zeeman, who was for more than five year the ECRR Newsletter editor and handing over his tasks with the editing, production and distributing of this issue. A big hand for Wim for his enormous contribution to the dissemination of river restoration information in Greater Europe, as ECRR's most vital task.

Another vital task of the ECRR is the operation of the River Wiki managed by the River Restoration Centre in UK. The River Wiki is an online database to share best practice case studies and lessons learnt and is an excellent tool for practitioner. We like to inform you that the RRC will keep the RiverWiki updated on behalf of the ECRR and shall prepare a very brief ToR for all river restoration National Centres, as regional moderators for the use of it. The assignment and other tasks of the ECRR are under discussion and preparation and we expect to be able to inform you more about in the next edition of the newsletter.

Enjoy your reading,

Francisco Martinez Capel, CIREF,
Timur Pavlyuk, RosNIVVH,
Bart Fokkens, ECRR.

Report on the European River Symposium 2016, March 2-3 in Vienna

1. Introduction

The Rivers in Europe, Best Practices in River Management Symposium, targeted actions taken to build positive relations between key organisations and sectors that influence rivers and water management. The symposium was attended by 180 registered representatives from governmental, intergovernmental, research and civil society organisations from 34 countries in Europe and beyond.

«Wachau» fieldtrip

Philip Weller (IRF) welcoming prominent guests.

The overall goal of the European River Symposium 2016 was to contribute to increased uptake of partnerships and cooperation amongst sectors that influence water leading to better outcomes. Therefore examples of partnerships and cooperation between water administrations and the sectors which affect or need water, water utilities, hydropower companies, nature organisations, navigation institutes and other partners were highlighted.

Walter Kling, IAWD/City of Vienna, stated in his opening address that the Danube River as the most international river in the world should be used as a living lab for integrated transboundary river management learning experiences. "Just look out where the birds are. They stay at the best part of the river; bio-indicators for a livable river".

Helmut Habersack, Boku University Vienna "Stick to hydropower plants but have to follow new ways e.g. for sediments" and "River managers have you read my paper? They don't! How to bridge this gap? The Danube should be a river research and management practice stream with a partnership between research and practice".

Jorge Rodriguez Gumero underlined in his presentation that the Water Framework Directive (WFD) is not only about keeping the water clean but also includes ecological restoration. Integrating this in other (EU) policies asks for quite a number of balanced decisions, maximizing the benefits for the society. Therefore is water management evolving. It comes nowadays to demand driven resource management and a multidisciplinary approach. The working group on the Common Implementation Strategy (CIS) is a partnership beyond the water policy towards all other policy areas. Everything we have to do with water management has to do with other stakes, asking for partnerships.

Water Kling (IAWD) opens the event.

Jorge Rodriguez Gumero (EU, Water Unit): State of Rivers in Europe.

The Danube Survey includes other sectors. "The Salmon back in the Rhine" asks for restoring the river continuity and must include upstream and downstream aspects. From 22nd of March 2016 the second management plans should close the gaps between bad and good ecological status by partnering with other sectors, like agriculture. That sector is responsible for 50% of the diffuse pollution.

In the next 3 chapters the results of the sessions are summarized

2. Policy and practice of partnership building.

The Women and Water session provided a forum for delegates to hear different perspectives on the significance of rivers to gender, culture and more, moderated by Melanie Ryan of the International River Foundation. They concluded that the female perspective and involvement in river management are essential at all levels – from taking part in decision making processes to formulation of community perspectives. Organisational policies to ensure gender inclusiveness is a priority, because gender inclusiveness and diversity can generate more broadly new ideas, approaches and results in collaborative processes. It was stated that there is a lack of awareness about available research in this field and also how important it is to acquire and retain female staff and include them in management roles. "Gender inclusiveness should not simply be a check-box but part of a regular discussion".

Ann Skinner (EA UK) and Gabriela Babiakova (GWP), Water and Woman.

Lessons in partnership building are: One should start **from the "right partnership"** depending on the mix of actors. Are we speaking about the same partnership? Effective partnership, exclusive partnership, a clear framework, multi-sectoral partnership, participatory approach, large strong partnerships, new partners – new options, new partners – new innovative methods…….. what do we mean, what is really needed? The development of partnerships takes time to be able **to build trust and continuity** and is a matter of learning by doing, consulting and listening and awareness that success takes time! **Sufficient capacities, a clear framework and external funding** are needed to create possible **multiple benefits.** It is often difficult to get all relevant players on board e.g. all the different ministries. Agriculture is a key sector, however difficult to involve. A basin wide approach is essential to include all aspects e.g. "upstream & downstream thinking".

Annukka Lipponen, UNECE Convention, "Partnerships amongst countries are essential for making transboundary IRBM plans and for the implementation of these plans".
Dejan Komatina, ISRBC, "Partnerships find solutions faster with better results. Also both, costs and benefits increase".

Anukka Lipponen (UNECE) and Dejan Komatina, Lessons in Partnership Building.

Ann Skinner, EA UK, "We want to keep our soils and do not have them flushed away. This increases the number of partnerships, but includes the need to manage the expectations" and also "Water and soil management at source is a matter of resilience planning".

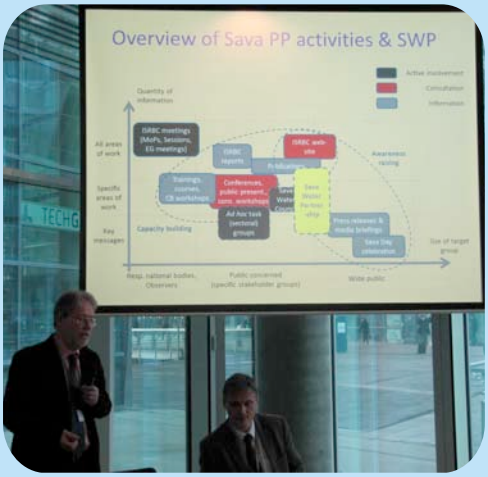
Dejan Komatina (ISRBC), Options for stakeholder cooperation in the Sava Basin.

Quotes "A started dialogue process is already a good result" and also "It may be useful to explain benefits of a dialogue especially to the silent stakeholders and thus motivate them to participate more actively".

In the session – **Monitoring the Health of Rivers – Partnerships to improve information on rivers –** partnerships were explored in order to support monitoring efforts and particularly the need to closer cooperation between water administrations and water utilities. Is it possible to cooperate on monitoring activities? Should there be only sharing of data or also joint surveys and assessments? For which reasons would cooperation be established: win-win effects, improving public information or saving money? Discussion about the different levels of cooperation is needed: at national, regional (river basin), or international level? What makes sense or is the best option?

There is an ongoing effort led by the International Sava River Basin Commission (ISRBC) with technical support by GWP regarding the sustainable engagement of stakeholders in cross sectoral and transboundary River Basin Management. As an illustratiorn we see that a Public Participation Plan prepared by GWP-Med and adopted by the ISRBC as well as a study for multi-stakeholders platform currently considered, have been prepared.. All these have shown that there is a number of different approaches that can be used to involve the competence of industries, communes, science, ngo's etc. and to achieve a more widely supported river basin management.

The dialogue between water commissions / administrations and stakeholders will increase mutual knowledge and awareness about available competences and information for the benefit of improving the water management. This is what the session **Options and opportunities for increasing stakeholder involvement in European river basins** has learnt us.



Alexander Zinke, GWP Session for stakeholder involvement.

The development of stakeholder cooperation in the **Sava River Basin** has shown that certain flexibility is needed to accommodate the diverse interests, expectations and limited feasibility. For any partnership there must be a mutually expressed interest in communication and cooperation among the addressed stakeholders about the region's water management. This interest requires the partners to provide time, funds and information/data in order to sustain the cooperation. As there are different forms and intensities of partnerships, it may be useful to start an involvement and cooperation process at a simple level before building up some institutions. There is still not much experience in Europe about structured cooperation in water management with a wide range of stakeholders. Thus the sharing of any new experience gained is important.

Contributions to the ultimate goal of increased uptake of partnerships and cooperation between sectors leading to better outcome are:

- Communication and cooperation, e.g. between water utilities and ministries (also cross border)
- Sharing of knowledge on problems (e.g. sources of pollution), exchange of experience
- Identification of common properties instead of differences between stakeholders

Needed capacities, resources and support are policy concepts but also principles as 'the polluter pays', standardization, common prioritization of activities, or communication and public relation strategies and policies.

Anne Schulte-Wüller-Leidig and Ben van de Wetering (ICPR), Monitoring Health of Rivers.

Other lessons learned are that a lot of cooperation between water authorities and the water supply sector is ongoing but that there is always room for improvement. As main benefits of cooperation, the following points were identified:

- Better use of valuable information
- Improved management of pollution accidents
- Saving of resources (human & financial)
- Improved communication to the public

Information booth WWF.

Coffee break and Networking.

3. Advancing Partnerships in River and Water Management

Navigation, Tourism, Flood Protection and Nature Protection are main elements ofr integrated river planning. Looking for partnership between different sectors one should start with the recognition that rivers are highly dynamic systems (and often have lost their necessary space in densely populated and urbanized areas). Different stakeholders should identify together priority issues and problems and also how to measure and monitor relevant parameters. Such a process will build trust between different stakeholders, mutual acceptance of data, and will create fruitful dialogue. This way of cooperation will provide the right context to work on mutual acceptable trade-offs, to establish compromises and elaborate win-win-win solutions.

Navigation, Tourism, Flood Protection and Nature Protection Panel.

Quotes "Approaching river management with a 'technical blueprint plan' is no longer feasible" and also "Not much progress has been achieved so far with integrating the agricultural sector, itself often an important driver for heavy river modifications and deplorably too often still absent in stakeholder fora".

In the **Hydropower and River Management Session** a good overall dialogue was held. One concluded that there is a lot of diversity across European countries in terms of interpretation of law, diversity about permitting and mitigation measures. A very clear statement was also made that flexibility from all sides / all sectors is needed to accept and understand each other's position. Emotions should not rule these discussions any more, but an open dialogue between partners should take place.

The hydropower debate should be framed in a broader context. When it is clear what specific role hydropower companies should play in the future energy development, then the planning and financing framework should be discussed, including the polluter pays principle. However, the EU environmental legislation has always to be fully respected. Nowadays much unsustainable development still takes place driven by national subsidies what only does make sense in terms of societal and environmental perspectives.

Thus extreme positions across sectors and stakeholders have to be ruled out to understand each other. Although in some countries there is still no political will to reinforce such a dialogue. Case by case decisions for new Hydro Power locations without being backed by a strategic overall planning approach are inefficient.The River Basin Management Plan is a good tool for assessments on such investigations.

Hydropower and River Management Panel.

Quotes: "European energy generation is not about the more the better, as the energy policy has different components, which merge into a vision – towards low carbon emitting Europe". "So energy efficiency etc. is also important, e.g. the refurbishment of existing hydro-power plants" and also "there are very good examples to be found already in some member states, e.g. the water catalogue of Austria or the 'ICPDR Guiding Principles on Sustainable Hydropower'".

During the **Water Utilities and Water Quality and River Management Session** it was stated that there is consensus that the first needed capacities and resources at the level of the water utilities really exist. Gradually, the task of the utility managers is also to enter the political arena and become a lobbyist – in other words, staff of water utilities should be more politically active – in technical terms – explaining and arguing for proper investments and O&M annual allocations to maintain the facilities. Regarding the capacities of the organisations it was agreed that to have a platform for sharing the issues among water utilities, it might be a good idea maybe even to start with twinning as a first step.

Water Utilities and Water Quality and River Management Session.

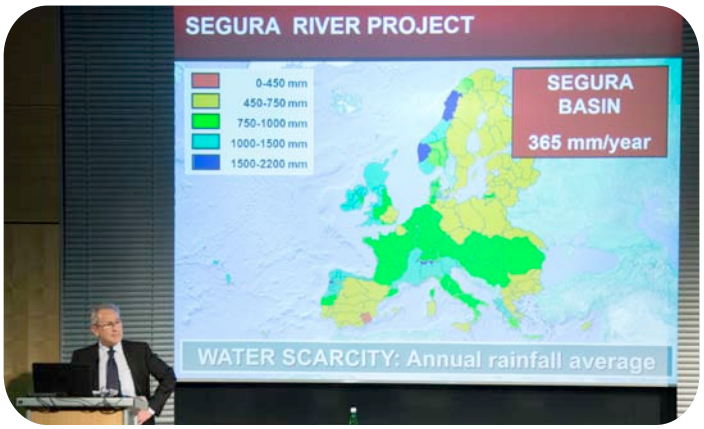
Quotes: "There are limits to cooperation: set realistic milestones and do not change the plans within a short time" and also "Have a long term vision but be ready to adapt changing conditions. Long term vision cannot be developed by utilities itself, but in consensus with others such as urban planners, government and ngo's" and also "The role of utilities goes far beyond the technological solutions and water supply sector. It involves an important role to serve the public interest and finally to be a broker between quantitative river management and water quality".

Experiences and understanding of engaging in collective action towards the private sector Water Stewardship and WFD implementation in the UK was a theme. This was shared with an European audience in the session **Building Sustainable Partnerships with the Private Sector to implement the WFD**.

Building Sustainable Partnerships with the Private Sector Workshop.

Conclusion was drawn that it is inevitable that elements of the private sector will get more involved in water issues nowadays. But any private sector intervention or collective action will take place within a wider water governance context. That context is political, messy and multi-scale. Guidances and examples will be needed on how to shape water stewardship approaches. Water stewardship actions are a response to perceived water risks. However, there are risks at companies from taking water stewardship actions: e.g. risks that they will be perceived as trying to capture policy if they influence governments on water issues. There is generally a low awareness of water risk amongst business-people in Europe. If they recognize it, it is more about water efficiency.

Quotes: "Agriculture is a difficult sector for partnerships; "River management has all to do with other stakes, therefor asking for partnerships"; "It has all to do with trust and sharing information" and at last "There should be more room for communication of partnerships results".



European Riverprize Finalists presentations.

4. Lessons on Strengthening Partnerships for River and Initiatives to be taken.

Contributions

- Organisations and institutions dealing with hydro-power show more flexibility in finding solutions.
- The role of water utilities is beyond water sector business towards public interest and sustainability, dealing with (more) risks and politics.
- There is a need to strengthen the role of wetlands within the Water Framework Directive implementation.
- More private sector involvement is necessary; also a need for guidance! The challenge for the future is to harmonize the objectives of Agriculture and water management – both sectors have to meet more!.
- To build trust, share information and communicate are the keys for a good dialogue.
- it is needed to work on changing agriculture environment scheme support to make it easier to enter partnerships for river and floodplain restoration for multiple benefits.
- Farmers need positive payment to support land use and land change for positive benefits to the society especially around the management of flood risk and reduction of diffuse pollution.

A **Panel of Sectoral Specialists** representing the World Bank, Global Water Partnership, International Network for Basin Organisations and Via Donau responded to the Report Back from the sessions. A general conclusion was that their organisations are providing or using the concepts, like IRBM Planning, partly the framework, as UNECE and Ramsar Convention. They also use many tools for building sustainable partnerships and cooperation between sectors. However, (institutional) capacity development in integrated water management, stakeholder involvement, public participation, acquiring funds, experimental learning, adapting attitudes and skills are still highly needed in many organisations and institutions.

Reporting Back Working Groups Panel.

Developing best practices, sharing lessons learned and transferring knowledge are very supportive to this development as experienced in this and previous European river conferences. Capacity of development plans on different levels are needed to initiate, stimulate and facilitate the process by which individuals, organisations and institutions develop, individually and collectively abilities to perform functions to solve problems and achieve objectives. Although, this type of development takes a longer period of time, depending on the degree of complexity and the wanted degree of structural impact,. It is recognized to be essential for the increased uptake and partnerships between sectors.

• More diversity around the table gives more diversity in solutions.
• Partnerships should be brought on the highest level to be more efficient and get more (financial) sustainability.
• Rivers are dynamic systems and partners can only be those who respect the other one; agreement and acceptance between partners or disciplines (technicians and ecologists).

Wrap Plenary Lessons.

Key messages
• Communication should be made more sexy; Good communication of technical and scientific findings is a success factor implementing partnerships.
• Many dialogues just started and should first hit the ground before to get real effective.
• International promotion of national and international successes is often very important to get political support.
• Twinning is a good concept for exchange of knowledge and experience between different countries and / or basins.
• Water management needs applied science and a better communication between both is needed.
• The Water management practice should reach out to scientists for dissemination of results.
• Define milestones for and monitor the development of the cooperation to be able to see how far it is.

Veronika Köller – Kreimel (Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFWU): "Respect and accept partners equally; do not ask technical planners to learn ecological planning but accept ecologists as equal planners and engage them".

Veronika Köller – Kreimel (BMLFWU), Strengthening Partnerships for Rivers and Initiatives to be taken.

Two thematic field excursions demonstrated the results of partnerships and were organized by:
viadonau
Field trip to Wachau: Integrating Flood protection, navigation and nature protection.
Field trip: LIFE+ Project Traisen – Maintaining River Ecology, hydropower and other river uses.

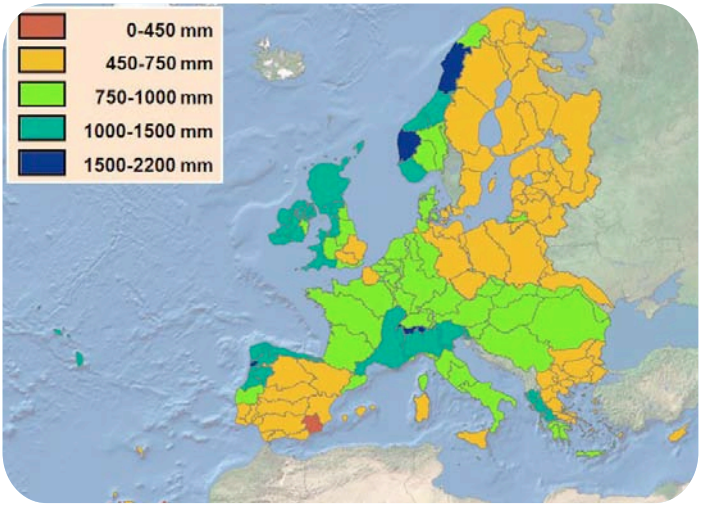
"River Traisen" Field trip.

Philip Weller (IAWD/IRF), Conference Closing.

Philip Weller on behalf of the lead organisers, the International Association of Water Supply Companies of the Danube River Catchment Area (IAWD) and the International River Foundation (IRF) concluded at last: "We would like to thank greatly all the organisers, panelists, moderators reporters, presenters and speakers for their support and inspiration in making a professional, interesting and attractive program as the basis for a successful edition of the European River Symposium. The European Centre for River Restoration was a conference partner together with WWF, GWP, INBO, ICPDR, ICPR, Ramsar, viadonau, Wetlands International and the City of Vienna.

All presentations can be found on the conference website

Spain's Segura river awarded top prize for river restoration in Europe



Segura basin driest spot in Europe!

The Segura River of Spain has been named the winner of the International RiverFoundation's 2016 European Riverprize. This prize is awarded annually for outstanding efforts in river management, restoration and protection, and the Segura River was selected over the Aragon River (Spain) and the River Trent (UK) who were also finalists for the prestigious prize. The International RiverFoundation (IRF) presented the Segura River Basin Authority, with the award at a gala dinner held at Vienna City Hall on Thursday 3 March, recognising the river's extraordinary return to health following extensive restoration efforts over the past thirty years.

The Segura River Project has successfully restored the health of the river, with advanced wastewater schemes now supplying reclaimed water to the agriculture industry which rapidly boomed after Spain became a member of the European Union. This once polluted and water-stressed river in Europe's driest basin has been transformed from an exposed sewer to a healthy, vibrant river, home to otter, migratory birds, and other flora and fauna, and the reuse of irrigation water has allowed increased agricultural, leisure and recreational activities.

Agriculture was an economic driver for river restoration.

"The Segura river management is a great example of an integrated approach with environmental, social and economic restoration activities and proven results. The established management framework includes a solid science foundation and shared governance, while the catchment management planning process was ahead of the European legislation requirement. These demonstrated innovations created almost a miracle under the scorching sun of Spain!"

River Management Framework

The Segura River Restoration was a nonstop task, based on an accurate planning which has been applied during several years and must be, as well, implemented in the future. Shared governance was and is critical because of the divided responsibilities and competencies, as river surveillance, reclamation and environmental protection over national, regional and local governments. Therefore a higher degree, than common, of collaboration and coordination was therefore highly needed and achieved, while innovative waste water treatment and water reclamation techniques were applied.

Demonstration against river pollution.

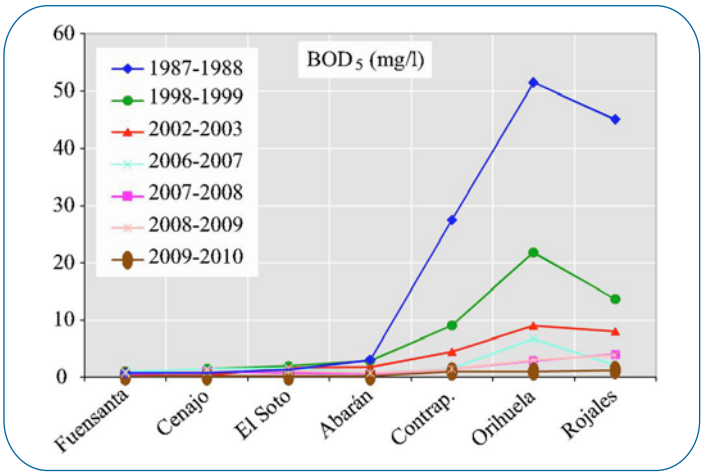
Social and economic aspects; a long term vision

In the 90's, a relatively poor region compared to the average had to make a courageous decision. It chose to invest the funds from the European Union to improve the quality of its rivers. The society and government were able to develop an own vision and were aware that improving the water quality and the state of the rivers, would improve the economic activities and production and therefore people's life standard. This long term vision was the basis for the implementation strategy of the Segura river basin restoration.

Integration

The Segura River Project was based on the 'Master Plan 2001 – 2010' providing an integrated urban waste water treatment and reuse system, ensuring:

1. Waste water treatment according to the EU Water Framework Directive
2. More water for agricultural use
3. Recovery of the Segura river and nature



Water quality improvement.

The implementation plan included the construction of 46 waste water treatment plants for as much as possible cleaning at the site, resulting in 99% treatment of the urban waste water with a volume of 111 million cubic meters. Moreover there was a strong recovery of the otter and eel population indicating the high water standards that were achieved. Altogether contributing to the designation of a new Spanish Ramsar site in the Segura basin.

Furthermore, as a social integration, public and stakeholders participate in projects to eliminate invasive species and to restore the river continuity and the biodiversity in the basin.

Lessons learnt and demonstrated innovation

It was a tough decision to invest € 645 million in 'just' river restoration, since it would have been easier to invest that money in projects that gave shorter term benefits, even if they would not have been as good as today, but regenerating the most polluted river in Spain appears to be a very profitable investment.

The treatment plants that were launched perform tertiary purification procedures, more than required by international standards, but this this results in greater quality of water creating much more benefits and profits. And the restoration projects are currently carried out by scientists from Murcia and Vlaldolid Universities who apply their knowledge in river restoration all over Spain and abroad.

Taking in account that about fifteen years ago there was hardly any hydrologic information available on the Segura river basin it can be said that why should others not be able to do the same!

River care and social integration.

Information: *Pablo Albaladejo. Email: prensachsegura@gmail.com Global Water Partnership developed a case study of the Segura river for the publishing in GWP ToolBox – an online repository of best practices in integrated water resources management.*
Visit the page www.gwptoolbox.orgOr directly. http://www.gwp.org/en/ToolBox/CASE-STUDIES/Europe/Spain-Segura-River-returned-to-its-health_478/

Sports, recreation and leisure.

SWISS CONTRIBUTION

Supported by a grant from Switzerland through the Swiss Contribution to the Enlarged European Union

International Conference. Towards the Best Practice of River Restoration and Maintenance.

September 20-23, 2016 Kraków, Poland

The conference aims to bring together river scientists, engineers and practitioners to share and discuss recent scientific research on river functioning, river status evaluation and various aspects of river restoration, and facilitate exchange of experiences on environment-friendly river restoration and maintenance, especially with regard to flood risk management and nature protection.

Conference themes:
- River status evaluation: hydromorphology, water quality, ecological status

- Functioning of mountain gravel-bed rivers
- Technical interventions in river restoration and environmentally-oriented maintenance
- Modelling fluvial processes and practical solutions
- Flood risk management in the context of environmental needs
- Restoration or preservation of valuable nature areas and elements in river corridors
- Legal and social factors in river restoration
- Poster session – experiences from completed and ongoing river restoration projects

Side events:
- Field trip to rivers in southern Poland
- Workshop
- Programme for accompanying persons

Organized by:
- Ab Ovo Association
- The society for Earth
- Partner organizations

Information and registration: www.riverrestorationconference2016.pl

Restoring a lowland sandy reach: the Spree River in Germany

The HYTECH project, financed by the FP7, studies the synergies and the missing links between the Water Framework Directive (EU, 2000) and the Directive on the Assessment and Management of Flood Risks (EU, 2007). In particular, an 11-km long reach of the Spree River near Cottbus, Germany, is chosen as a case study.

A the Water Framework Directive as basis, between 2006 and 2014 the reach was restored to improve the flow variability by means of woody and stone groynes, re-opening old meanders, reconnecting oxbow lakes, creating new islands and secondary channels, adding coarse bed material. Giving more room to the river, moreover, reduces the flood risk downstream, improving, at the same time, the continuity between riverine freshwaters, groundwaters and floodplains.

The analysis of the available monitoring data shows that the best way to achieve a good ecological status through river restoration remains quite unclear, and is likely more difficult than simply restore the hydromorphology at reach scale.

Before flood

After flood

Habitat diversity and morphological heterogeneity, in fact, are related to the variability of flow conditions and substrate composition. However, an increase in the number of channels, their re-shaping or the addition of coarser sand could be not sufficient to improve the ecological status, by means of taking back the watercourse to its pristine conditions. In addition, the lack of studies about the long-term impacts of fine sand transported along lowland sandy rivers can threat the restoration project goals.

One of the most important predictors affecting river restoration effects is the project age, in particular for the delayed effect that sediment transport and hydromorphological changes could have on fish and macrozoobenthos. In this light, a better understanding of the trends of morphological and biological changes caused by river restoration is desirable to evaluate sustainable measures that can enhance the biota at the long-term. This can be assessed: i) using methodologies capable to detect the non-linear relationships acting in riverine environments; ii) adopting long-term monitoring programmes at watershed scale; iii) setting adequate metrics that can be understand by water managers and stakeholders.

Meander 2005

Meander 2015

In summary, the outcomes of the present monitoring programme show that restoration measures resulted effectively in improving the hydromorphological variability along the 11-km long reach of the Spree River and accomplishing the water managers' objectives. However, the project is still very young, and additional data and research are necessary to evaluate the mid- to long-term impacts of the restoration measures, especially on the biological components. A reach scale analysis cannot disentangle the effect of single measures, therefore detailed investigations are necessary: i) at watershed scale, to evaluate and prioritize extreme and non-extreme stressors affecting river ecology; ii) at sub-reach scale, to understand how restoration affects riverine morphology and biology, and which are the most cost- and technical-effective measures. The temporal scale of restoration measures requires further investigation, therefore the interaction of catchment constraints and temporal aspects of re-colonization should be a focus of follow-up studies.

References

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About the Author
Dr. Michael Nones
gerstgraser – Ingenieurbüro für Renaturierung
An der Pastoa 13, 03042 Cottbus, Germany
e-mail: nones@gerstgraser.de

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SYMPOSIUM AND EXHIBITION

HydroSenSoft
Hydro-Environment Sensors & Software

IAHR International Association for Hydro-Environment Engineering and Research AIRH

IFEMA Feria de Madrid

HydroSenSoft, International Symposium and Exhibition on Hydro-Environment Sensors and Software;

Madrid (Spain), 28th Feb – 3rd March, 2017

THE SYMPOSIUM AND EXHIBITION

Increasing national and international legislation such as the EU Water Framework and Marine Strategy Framework Directive places much greater emphasis on monitoring, maintaining, and improving the water environment by means of better planning and management – which in turn requires much more accurate knowledge of the impact of mankind on the environment.

HydroSenSoft – the International Symposium and Exhibition will bring together users, researchers and developers interested in hydro-environment software and sensors/instrumentation for acquiring, analysing and using data for our better understanding of the hydro-environment.

The **HydroSenSoft 2017 Symposium** and Exhibition will showcase the latest advances coming out of the research and development community, and share experience from practice that it will take place alongside the HydroSenSoft Exhibition.

Deadline for Abstracts: 15th of JUNE, 2016.
More info: www.hydrosensoft.com

ECRR Events calendar 2016

Date/period	Title/issue	Location	Links
21 – 24 June	SIBIC 2016, VI Iberian Congress of Ichthyology	Murcia, Spain	http://www.um.es/sibic6/
4 – 8 July	18th Conference of the Iberian Association of Limnology	Tortosa, Spain	http://www.limnologia2016.org/en/
15 – 19Aug	Geomorphic and Ecological Fundamentals for River and Stream Restoration	Truckey California	http://laep.ced.berkeley.edu/courses/riverrestoration
22 – 26 August	SER 2016 10th European Conference on Ecological Restoration	Freising, Germany	http://www.ser2016.org/
28 August – 2 September	World Water Week	Stockholm, Sweden	http://www.worldwaterweek.org/
12 – 14 September	19th International River Symposium	New Delhi, India	http://www.riversymposium.com/
21 – 23 September	Towards the Best Practice of River Restoration and Maintenance	Kraków, Poland	http://riverrestorationconference2016.pl/
23 – 25 November	Clean Water. Kazan-2016	Kazan, RF	http://www.waterkazan.ru/rus/

Call for articles

The newsletter of the ECRR should also be a way to share with one another what interesting work is being done, information about seminars or literature. One way of doing this is by writing an article of any project, event or literature you may be acquainted with. Send this article ***(maximum of 500 words)*** to the secretariat of the ECRR at info@ecrr.org

We will take a close look to the content and if it is coherent with the philosophy of ECRR (ecological river restoration and sharing knowledge) your article will be published with pleasure in the next edition (s) of the ECRR Newsletter.

The secretariat of the ECRR hopes to receive any article onecological river restoration from any of its members

Free ECRR Network Subscribent

All who are interested in river restoration and sustainable water management are encouraged to join the ECRR. Subscribents receive the ECRR Newsletter about four times a year and are the first to be informed about activities by the ECRR, its members and partner organisations.
To register, go to www.ecrr.org.

If you want to unsubscribe for the newsletter, please send an email to info@ecrr.org.

The network for best practices of river restoration in Greater Europe
ECRR European Centre for River Restoration

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