European Centre for River Restoration
ECRR

JANUARY

In this newsletter

Preface

Dear readers,

Thank you to everyone who attended and contributed to the 5th European River Restoration Conference in Vienna. Over 300 delegates, representing 35 countries worldwide, joined us there and we have been inspired and enthused by their reactions.

I am now delighted to present this special ECRR newsletter celebrating both the successes of the conference organised by the ECRR together with the LIFE+ funded project RESTORE and also the first European RiverPrize which was held alongside our conference.

I would like to take this opportunity to thank Toni Scarr, Project Manager for RESTORE and her team, for their support in organising and delivering this conference and for the productive way we have worked together over the past 3 years. I would also like to offer a special thanks to Bart Fokkens, Chairman of the ECRR, who acted as chairman for the conference and helped ensure such a successful event.

Included in the newsletter we have the keynote speech with our keynote speaker EU Commissioner Mr Janez Potočnik, and the interview with the EU Water Director Peter Gammeltoft. There are a series of reports including one on the signing of a memorandum of understanding between five river basins which marked the start of a pilot project to develop best practices on river restoration, another on the inter-sector panel discussion, and also one on the REFORM project which presented their findings on the ecological impacts of hydro-morphological modifications to rivers.

You will find also find links to the video recordings of all the seminars, the river Talk interviews plus all the presentation materials and conference posters on the ECRR's website, where a list of all participants can also be found.

Your response to the conference has been exceptional it has inspired us to build on new initiatives and to start preparations for next year's conference. We hope that the conference has encouraged all our partners to continue working together and organising new initiatives for the coming years.

In the meantime I wish you a pleasant and fruitful read.

Hil R. Kuypers
Secretary ECRR

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

Global Water Partnership

WWF

City of Vienna — Vienna is special.

Royal HaskoningDHV — Enhancing Society Together

INTERNATIONAL RiverFoundation

Ramsar

International Network of Basin Organizations

Wetlands International

Coca-Cola Europe

Introduction

Enhancing and promoting river restoration throughout Europe[1] is central to the the ECRR and the RESTORE project. A key activity for achieving this is through sharing and learning about the successes, challenges and opportunities related to rivers and their management. To this end, ECRR and RESTORE organised the 5th European River Restoration Conference in the TechGate Centre near the Danube in Vienna.

The 5th European River Restoration Conference was aimed at:

- Bringing together key policy makers, researchers and restoration practitioners to discuss opportunities for ecological river restoration;
- Creating links to other sectors such as spatial planning dealing with restoration and green infrastructure;
- Informing policy makers, river basin manager and other decision makers about the many benefits that river restoration can deliver, and inspire them to think of ways to advance river restoration in policy and practice;
- Improving the visibility of river restoration and the work of ECRR and RESTORE to the general public, by generating press attention and news stories;
- Creating momentum for the continuity of the ECRR and the results of the RESTORE project.

The following items are a selection of the conference workshop sessions the keynote speech by the EU commissioner for the Environment, the launch of a Community of Practice (CoP) of 5 pilot river basin catchments, the interview with the EU Water Director, and a panel discussion with representatives of various sectors. The conference also featured the first 'European Riverprize' awarded by the International RiverFoundation during a gala evening in the historic city centre of Vienna.

[1] ECRR defines the European region as: the European Union, the Candidate countries to the European Union, Norway and Switzerland, the Balkans, Eastern Europe, Belarus, Moldova, Ukraine, the Russian Federation, the Caucasus, Armenia, Azerbaijan, Georgia.

Also presented here are the key messages and recommendations, synthesised in the "Declaration of Vienna". This is based on all the conference session the various keynotes and interviews, the 12 parallel-sessions, the three side events, panel discussion, and the field excursions. There are also links to all the presentations, sessions and video recordings. You can also find the 60 conference posters here that complemented the parallel sessions.

"The assessment of over 100 Basin Management Plans shows that 47% of waters in EU will not achieve good status by 2015":
Janez Potočnik, European Commissioner for Environment (DG Environment)

The following presentations discussed this theme:
Keynote Plenary Presentations: Mainstreaming River Restoration - Conference chair Bart Fokkens

Recorded Session

Key messages

The key messages of the conference centre around four themes: the urgency of river restoration, the need for mainstreaming river restoration into regular water management, the lessons learnt from river restoration delivered in practice, and recommendations to policy makers.

The urgency of river restoration

Rivers in Europe have been dramatically changed from their natural state. Once meandering on their way to the sea, rivers have been moved, straightened, dammed and adapted to meet various human needs.

Maintaining and restoring the ecological functions of rivers in light of ever growing demands for water, energy and food is a challenge. Our natural environment is also facing increasing pressures from climate change, conflicting land use and infrastructure development. At the conference, key note speakers, session presenters, and remarks made by the audience stressed the urgency for restoring Europe's rivers. Philip Weller, the International River Foundation ambassador, and several other speakers, emphasised that rivers are a key source of life and need to be treated like the living ecosystems that they are

Drawing by Business as Visual

Rivers provide essential ecological functions and services that provide benefits to economic development; restoration is not just for the protection of important European ecosystems.

Commissioner **Mr Janez Potočnik,** that stressed, protection of rivers is sound economic and environmental investment. Some examples of these ecosystem services include the supply of drinking water, water purification, flood risk management, erosion control, opportunities for recreation and contributing to an attractive landscape. At the moment. economic systems do not take sufficient account of the value of these services, and therefore undervalue our natural river resources. There is a real need to improve the assessment of costs and benefits of river restoration to fully understand the socio-economic benefits of rivers.

"Aquatic ecosystems are hotspots of biodiversity and ecosystem processes. They provide disproportionally more services to humans than most other ecosystems But at the same time, they are among the most threatened ecosystems on the globe.":
Klement Tockner, Director (Leibniz-Institute of Freshwater Ecology and Inland Fisheries)

Despite the importance of rivers, the Commissioner warned that "the assessment of over 100 Basin Management Plans shows that 47% of waters in EU will not achieve good status by 2015". The Commissioner stated that *"maintaining and restoring ecological functions of EU rivers, in light of growing demands for water, energy and food, and increasing pressures from climate change, are an enormous challenge we have to address"*. He referred to the EU-Water Blueprint and stressed that *"integration of flood risk management is the next challenge"*.

The Ramsar River Poster Prize

About 70 poster presentations were exhibited at the ERRC to add substance to the debates in the working sessions. The Ramsar Convention took this opportunity and awarded the Ramsar River Poster Prize to remind the audience that wetlands (i.e. rivers, lakes, marshes and floodplains) capture, store and transport water for us. And that integrated river basin planning and management is crucial for the restoration of these wetland ecosystems, in order to maintain their services.
Based on the votes collected from the participants, the poster presented by the Spanish basin stakeholder commission (under the Ministry of Agriculture, Food and Environment), the Con-

federación Hidrográfica del Duero, on the "Demolition of the Retuerta dam on the Aravalle river", a tributary to the Duero, won the Ramsar River Poster Prize as the poster with the most stunningly illustrated message and the clearest content. Watch the video of the dam demolition here.

Two runners up were the posters presented by the Italian Province of Teramo on its experiences with the Tordino river basin contract as a means for sustainable development and the development of a green economy, and the poster by the Finnish Game and Fisheries Research Institute on the choice for river restoration management in the face of climate change: 'in-stream habitat or catchment restoration?'.
(by Tobias Salathé, Senior Advisor for Europe, Ramsar Secretariat)

All the posters can be found on the conference webpage

The integration with renewable energy policies is another key example of how sound water management should be integrated more in other policies. **Mr Hans Bruynickx**, Executive Director European Environment Agency stated in the introductory keynote speech that: *"half a million structures in the EU are creating stress on hydromorphology"*, a growing problem because the drop-off of nuclear power means more pressure on hydropower in some countries, as noted by a member of the audience.

However **Mr Alastair Driver** (Environment Agency, UK) stressed that the problems are urgent and results cannot be created overnight,. Referring to his experience in the UK with the River Thames, he said *"It took a century to take the river to hell but it takes far more than 100 years to take it back. River restoration is a marathon, not a sprint"*. A member of the audience commented that the problems this presents become more apparent when one realises that *"politics is a matter of the short term, ecology is a matter of the long term"*.

To achieve this, we should go *"from a technocratic to a democratic approach to answer questions like 'What are the goals of river restoration?' and 'How should we restore rivers?"* as author and journalist **Mr Fred Pearce** noted in his presentation fittingly entitled 'Holding up a mirror to river restoration (an outsider's perspective). *"Engineering rivers is a losing battle"* said Mr Pearce, as there are limits to what this can achieve and it lacks legitimacy. He went on to say that it is important for river management to be grounded in a more democratic process and shift from technocratic processes to getting public support.

This notion was supported by many other speakers, including **Mr Peter Gammeltoft** (Head of Unit Water, DG EU Environment) who stated that *"We are not good at communicating the benefits of river restoration in relation to economics, environment and health. "It is one of the main challenges for us"* one participant continued. **Mr Hans Bruynickx** supported this notion with his statement that *"stakeholder engagement is essential within the overall river restoration and management processes. We need to engage (people) better"*.

"It is important to use cross cutting solutions, for example using climate change adaptation in all policies, reducing hydro-morphological pressures, incorporating buffer strips against agricultural pollution."
Mr Bart Fokkens (Chairman of the European Centre for River Restoration).

The following presentations discussed this theme:

The State of Rivers in Europe - Hans Bruyninckx, Executive Director, European Environment Agency
Recorded Session

The Science of River Restoration - Klement Tockner, Director, Leibniz-Institute of Freshwater Ecology and Inland Fisheries
Recorded Session

Addressing the Challenges in River Restoration & Building Organisational Capacity to Support It - Philip Weller, International RiverFoundation ambassador
Recorded Session

The Thames – Recovery from Biological death - Alastair Driver, Environment Agency
Recorded Session

Holding up a mirror to river restoration - Fred Pearce, author/journalist
Recorded Session

Mr Gheorghe Constantin, Water Director of Romanian Ministry of Environment.

Mainstreaming river restoration

River restoration should be a key approach in addressing some of the urgent issues outlined above, and it would be preferable if it became embedded in European water management. It is a cross-cutting approach connecting different sectors, policy areas and providing integrated solutions with multiple benefits. An important first step would be to incorporate it more into river basin management plans. That way ecosystem approaches can become fully integrated into river planning and management.

Current European policy developments and funding provides real opportunities to take steps forward. Key EU Communications on Green Infrastructure, the Water Blueprint and the EU Biodiversity Strategy encompass the river restoration concept and will provide the links to EU funding options to increase implementation.

Implementation cycles of key policy areas such as the Water Framework Directive and the Flood Risk Management Directive offer opportunities to bring river restoration more into mainstream practice. EU countries can use these developments for inspiration and can sometimes receive these EU funds. The key challenge for the coming years is to improve the connection between river restoration thinking, best practice and science to those solving river problems

Photo Fokkens and Potočnik

Mr Hans Hans Bruyninckx, (Executive Director of the European Environment Agency) argued for ***"better agriculture practices and waste water systems, good environmental flows and removing barriers.*** He added that we need to ***"open up rivers to people" in order to better engage them and politicians. In the end he recommended the use of 'large and small scale interventions on flood risk reduction strategies, based on natural processes".***

The initiative lies with member states though, and **Mr Peter Gammeltoft,** (Head of Unit Water, DG EU Environment) stated that ***"Brussels creates conditions, but sets no priorities. That is up to the EU- members".***

The following presentations discussed this theme:

Keynote Plenary Presentations: Mainstreaming River Restoration - Conference chair Bart Fokkens

Recorded Session

The State of Rivers in Europe - Hans Bruyninckx, Executive Director, European Environment Agency

Recorded Session

The Science of River Restoration - Klement Tockner, Director, Leibniz-Institute of Freshwater Ecology and Inland Fisheries

Recorded Session

Keynote Plenary Statement – A Commitment to Rivers – Janez Potočnik, European Commissioner for Environment, DG Environment

Recorded Session

Addressing the Challenges in River Restoration & Building Organisational Capacity to Support It - Philip Weller, International RiverFoundation ambassador

Recorded Session

Lessons learnt

The conference offered a platform for people from a wide variety of disciplines working on river restoration to share their knowledge, and provided the opportunity to exchange practical experiences and research findings. Those lessons ranged from technical tools to political issues, and from engagement strategies to river restoration finance. A collection of those observations is given below.

"We should focus on best practice in terms of policy integration, scale of implementation, engagement of the private sector and civil society, monitoring and evaluation and, lastly, dissemination of knowledge and experiences" **Mr Bart Fokkens** (Chairman of the ECRR).

The lessons learnt cover the three worlds of practitioners, policy making and research. They are grouped around these issues: communication and involvement, the approach to river restoration, the economics of river restoration, and knowledge gaps related to scientific evidence, practical tools and organisational capacity. For all of these issues the exchange and dissemination of best practices is key. Only by learning from each other's experiences can we avoid reinventing the wheel. However, this is an investment that also needs to be made by individual organisations that do not always benefit directly from it, and might feel little incentive to do make it.

Communication and community involvement

The importance of communication and involving the public were two of the main issues at the conference. Two sessions were dedicated to these themes, see the box below, and the topic was

addressed in most other sessions as well.

All the speakers in these sessions stressed the importance of working with communities and finding out what people need to help bring about lasting changes and the sessions featured a range of different techniques required to communicate and consult depending on the audience. Examples include workshops, creative performances using the river as 'stage', promoting the 'river as oasis' utilising popular music featuring rivers, ice cream vans and coffees.
Education through initiatives such as 'placing a stone in a stream' to begin an ecosystem gives people of all ages the power to make a difference.

Another aspect of communication was raised during the panel-discussion by **Ms Helen Dangerfield** (National Trust, UK) who stressed the need to *"get people, and especially children, connected to nature"*. **Mr Janez Potočnik**, European Commissioner for Environment, DG Environment emphasised the *"need to raise awareness about the services delivered to society by the river ecosystems"*. **Mr Carl Manzano** emphasised the importance of having good examples *"the first example boosts more river restoration support and scores better than new concepts"*.

"We are not good at communicating the benefits of river restoration in relation to economics, environment and health. We need to become better at selling the idea that river restoration can contribute to improving sustainability and the availability of good quality water for the economy, for recreation, for public health and environmental health".
Mr Peter Gammeltoft, (Head of Unit Water, DG EU Environment)

We need:

- Better engagement with communities, local people and organizations, early in the process
- To emphasise that river restoration is about restoring a functioning riverine ecosystem that sits within the current system/society, rather than about re-instating the pre-neolithic river.
- Better engagement with communities, local people and organisations
- Work on mechanisms to share the answers we come up with. We need to enthuse people and influence the sceptical.
- To change people's mindset – rivers are more than a supply source of water – they are living systems that fulfil many useful functions for society. People and companies are beginning to recognise this multi-functional nature of rivers, but more work is needed.
- To use a professional communicators from the onset of a project

The following presentations discussed this theme:
The Danube – Integrated Development and River Restoration - Carl Manzano, Danube National Park

Recorded Session

SESSION 08: Communicating River Restoration
RESTORE a partnership for sharing knowledge and promoting best practice on river restoration in Europe. A. Scarr Environment Agency

Recording

A collection of river hydromorphology restoration examples in France. J. Peress ONEMA.

SESSION 09: Ensuring Local Sustainability
Introduction: G. Gusmaroli, Italian Centre for River restoration (CIRF)

Recording

Evaluating the Catchment Based Approach in England: transferable lessons for national implementation, C.Black, Cascade Consulting (UK)

Recording

European River Corridor Improvement Plans (ERCIP), P. Chapman, Lewisham Borough, London

Recording

Initiative "Place a Stone in a Stream" as a method for local stakeholder motivation and involvement in river restoration and maintanance in Latvia, A. Urtans, Nature Conservation Agency

Recording

Options for cooperation with local public authorities to facilitate river restoration activities in Moldova, D. Drumea, Global Water Partnership

Recording

Sketch & Match: engaging stakeholders in design, M. van Dijken, DLG

Recording

The approach; multi–faceted, integral and integrated

Like all water management, river restoration needs to be embedded in a catchment level approach. It is essential that the approach looks at rivers as a whole, from sea to source, with all its tributaries and influents. Also all aspects, water quality and quantity, need to be taken into account and a thorough understanding of the complex multi-functional nature of these systems is required.

The different types of uses and sectors that rely on water resource need to be identified and taken into consideration. In addition the need to integrate water issues in other policy-areas, both environmental and non-environmental, is apparent. From that perspective **Mr Janez Potočnik** pleaded for *"a shift toward environmental protection in all sectoral EU policies"*.

The approach-multi-faceted:

- Understanding the local planning situation and working directly with planners/ architects from an early stage on is key. Not necessarily to map out all different uses at the onset but rather to create a scheme flexible enough to allow this to develop as time goes on.
- Different elements of a multi-use restoration scheme may be best suited to a specific section of the river, e.g. recreation nearer the city centre, natural habitats outside the city.
- River restoration is an integrative solution to river problems, so balance all the multiple pressures. Think top down, act bottom up in a cyclic way.
- Innovative approaches should be used to deliver benefits for different sectors at the same time. For instance using the 'room for the river' approach and land-banking, which consolidates agricultural land and creates better connected natural areas at the same time.
- In cases when restoration (bringing back a system to its original state) is difficult, rehabilitation (bringing back particular aspects, processes or services, of that system) could be considered.
- Need to work for a win-win solution. A piece by piece approach might help achieve this vision.
- Visions will always need to be tuned to local conditions and need compromises to be made.

"Many oppose restoration as they assume the river will be restored to how it was in 1930. However the aim is rehabilitation, providing areas for both the economy and restoration'.
Mr Gheorghe Constantin (Water Director of Romanian Ministry of Environment.)

The approach-integral:

- Emphasis on river basin management, not just about river restoration, is a must.
- The historic attitude to flooding has shifted from a willingness to live with floods, to the later approach to control by engineering solutions, to the current approach of flood risk management by working with nature rather than against it.
- Find a balance between restoration and prevention of degradation.
- Apply a pragmatic approach to restoring floodplains that appreciates the longitudinal and lateral river floodplain continuum as a management unit.
- Crosscutting solutions that deliver multiple benefits are required – and these should be integrated into policy related to water and other policies.

The approach-integrated

- Involve urban planners, and include architects in the planning team in an early stage
- Improve the coincidence of key aquatic biodiversity areas and Natura 2000 sites
- Improve attainment of biodiversity policy goals in river restoration
- Good steps have been made to align the activities of the hydropower sector with the environmental goals of WFD similar steps are needed for the thermal energy sector.

The following presentations discussed this theme:

Keynote Gala - Janez Potočnik, European Commissioner for Environment, DG Environment

Recorded Session

Keynote Gheorghe Constantin, Water Director of Romanian Ministry of Environment

Recorded Session

SESSION 03: Sustainable Flood Risk Management

Flood protection combined with stream restoration in a complex context on the river Etsch (Italy), W. Gostner, Engineers Patscheider & Partner Ltd.

Recording

Restoration potential for Danube River Basin, lower Danube and Mura-Drava- Danube Biosphere Reserve, U. Schwarz, FLUVIUS Floodplain Ecology and River Basin Management

Recording

The Durme Valley River Restoration Plan, J. Verbelen, IMDC

Recording

SESSION 05: Enhancement of Multi-use Landscapes

Great (un) expectations: the Isar-Plan in Munich, N. Mahida, State Office for Water Management, Munich, Germany

Recording

Floodplain restoration to improve green infrastructures and address multiple management objectives in an urban context: the case study of the Lobau, T. Hein, BOKU, Austria

Recording

Planning tools for reopening and restoring urban streams and rivers, T. Fergus, Oslo Water and Sewage Works, Norway

Recording

Restore freshwater systems within a multi-objectives integrated strategy: the case of Venice Lagoon watershed, B.Gumiero, Bologna University, Italy

Recording

SESSION 07: River Restoration Techniques

Introduction, M. Janes, River Restoration Centre, UK

Recording

Keeping the rivers cool. R. Lenane, Environment Agency, UK

Recording

Restoring gravel bed spawning grounds. U. Pulg, UNI Research, Norway

Recording

An application of the process restoration philosophy on a Scottish upland river. H. Moir, CBEC eco-engineering Ltd.

Recording

Adding large structures to improve habitat health. J. Gardestrom, Umea University, Sweden

Recording

SESSION 09: Ensuring Local Sustainability

Introduction: G. Gusmaroli, Italian Centre for River restoration (CIRF)

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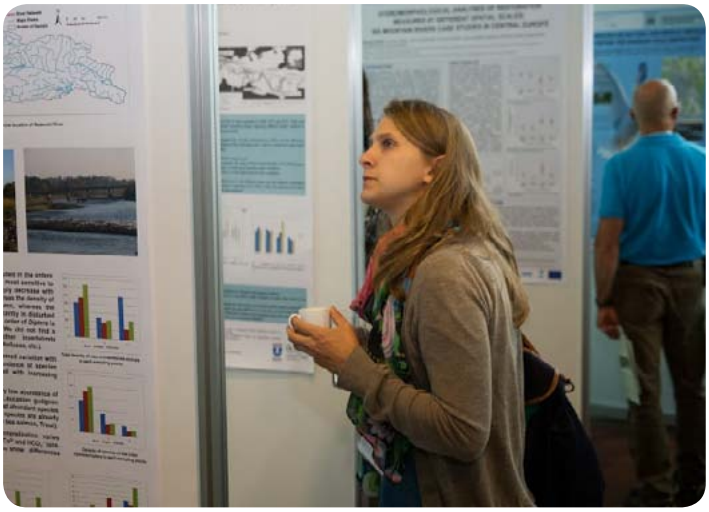
Recording

Sketch & Match: engaging stakeholders in design, M. van Dijken, DLG

Recording



The economics of river restoration

Economics contributes to better decision making about river restoration by providing insight into how costs balance benefits. For instance by weighing the societal benefits gained through a more natural riverine environment and the ecosystem services provided, against the costs of the measures. Another example is balancing the costs of having a natural area against the costs of foregoing other types of land use such as agriculture. This helps decision makers in their work and can provide ways of communicating the need for restoration. Many of the conference delegates supported the need for more research on the economics of river restoration, much of which will require government support.

River restoration economics is also often used to refer to mobilising funds, combining different streams of funding, and planning schemes in a financially sound way. As **Mr Ian Dennis** recommended *"in case of a set budget the biggest returns should be planned"*. Both types of river restoration economics are particularly relevant in these times of crisis and budget cuts.

- There is a need for more research on the economic basis/ costs of river restoration – (EU) government support could facilitate this.
- A larger scale for multiple benefits from local to basin scales is needed enhanced by improved research, monitoring knowledge, data, networks and better manuals and tools.
- Understand and use economic instruments to influence stakeholders.
- Build trust and provide cost effective river restoration.
- Increase focus on river restoration areas that need less

maintenance by human intervention; on those that are regulated by natural processes.
- Make water users and polluters explicitly pay for monitoring.
- Develop and mainstream techniques to establish the value of environmental services.
- Decisions should not be based just on cost – benefits analyses, other issues often play a role as well.

Financial aspects
- Increase and aim at more diverse financing resources to underpin larger scale and higher impact river restoration initiatives and their monitoring.
- Stimulate the development of public-private partnership (PPP) initiatives that bring business, government and other societal funding sources and capacity together.
- Integrate separate European policy areas to support combined funding streams and underpin integrated solutions.
- Improve access to financing at different scales.
- Raise awareness of funding opportunities at local scale and improve their accessibility
- Make use of farming subsidies (POP-3).
- It is better to remove financing rather than give penalties when targets are missed.
- Work at different levels to improve multi-level-financing.
- Making business cases and making use of schemes such as the WWF water stewardship mechanism can unlock funds.
- Government frameworks can play a key role in supporting business engagements.

The following presentations discussed this theme:

SESSION 02: Cost-effective Solutions for River Management

An introduction to cost effective solutions for river management. Ian Barker Environment Agency.

Recording

Estimating costs and benefits of water Framework Directive implementation by Flood and Coastal Risk management at a water body scale.

Recording

A method for systematic river restoration planning using network analysis, optimisation and geographic information systems G. Oldford Dalhousie University

Recording

Setting up a national restoration monitoring criteria. S. Koljonen, Finnish Environment Institute, SYKE

Recording

Knowledge gaps: scientific evidence

There was plenty of discussion about the state of current scientific knowledge. Some knowledge gaps related to the economics of river restoration were discussed in session 2 on cost-effective solutions for river management. The more technical sessions brought up many gaps in our knowledge, particularly in relation to monitoring and evaluation. Our findings also show that we need to set more realistic monitoring targets reflecting the pace of environmental change. Many felt that current monitoring timeframes were far too short.

Monitoring and evaluation
- Longer time frames for monitoring and evaluation are critical
- Monitoring and evaluation are needed to analyse, assess and demonstrate results
- Should take into account that positive effects take time to appear
- It needs to be clear who is responsible for monitoring,
- Identify techniques to assess results and methods to illustrate those
- Formulate project aims clearly and measurable (SMART)
- More abiotic and biotic monitoring needed to understand more about optimal approaches to restoring meander cut-off/ floodplain features
- Only two decades of data are available, so more monitoring is needed

Also, more scientific evidence and quantitative uniform data are important for raising awareness among the public and at different levels of government. These knowledge gaps relate to bio-physical aspects in particular.

Bio-physical knowledge gaps
- The use of environmental flow definitions, how to measure these, how to link these to biota, biological processes and ecosystem services
- The effects of hydro-peaking and the relation with hydro-morphology and ecology
- Improved understanding of ‘zero’ or ‘pristine’ situations need to determine reference conditions
- Need to move from a two-dimensional to a four dimensional model of aquatic species habitat requirements

- Need to understand the sediment balance in the local area. In the case of the Danube-Auen national park, visited as one of the conference excursions, there has been an increase in sediment related to hydropower schemes upstream. This has resulted in cutting off of some of the side channels.

The following presentations discussed this theme:

SESSION 04: Water Uses and Environmental Flows

Introduction: Water uses and Environmental flows. J.Jormola, Finnish Environment Institute, SYKE

Recording

Improved environmental flows for river restoration: A case study from the Lesser Caucasus Azerbaijan, F. Imanov. Baku State University.

Recording

Habitat and recreational suitability in an Alpine River subject to hydropeaking: Noce River, Trentino, Italy. M. Carolli. Department of Civil, Environmental and Mechanic Engineering

Recording

The new Swiss legislation on water protection: overview and first successes L. Bonnard. Federal Office for the Environment FOEN.

Recording

River restoration - A tool for solving RES and WFD incompatibilities. B.O. Dønnum. E-CO Energy.

Recording

SESSION 06: Maintaining and Enhancing European Biodiversity

The role of river restortaion in maintaining and enhancing European biodiversity. P. Boon Scottish Natural Heritage. ***- not available due to copyright.***

Recording

Restoration on tidal rivers in Flanders: case study on the Grote Nete, Belgium.

Recording

Local floodplain restoration: Experiences in the Lower Volga, Russia.

Recording

Results of conservation and management measures from two LIFE programs in Nestos River Delta, Northern Greece: a critical review. H. Jerrentrup, Society for Protection of Nature and Ecodevelopment, Greece.

Recording

Naturalisation Vs Land use: the new forest SAC, SPA, RAMSAR and SSSI. S. Bentley, JBA consulting, United Kingdom.

Recording

Protecting the habitats of priority bird species of the Vistula valley under the circumstances of intensive pressure of Warsaw agglomeration. Ł. Poławski, Poland.

SESSION 07: River Restoration Techniques

Introduction, M. Janes, River Restoration Centre, UK

Recording

Keeping the rivers cool. R. Lenane, Environment Agency, UK

Recording

Restoring gravel bed spawning grounds. U. Pulg, UNI Research, Norway

Recording

An application of the process restoration philosophy on a Scottish upland river. H. Moir, CBEC eco-engineering Ltd.

Recording

Adding large structures to improve habitat health. J. Gardestrom. Umea University, Sweden

Recording

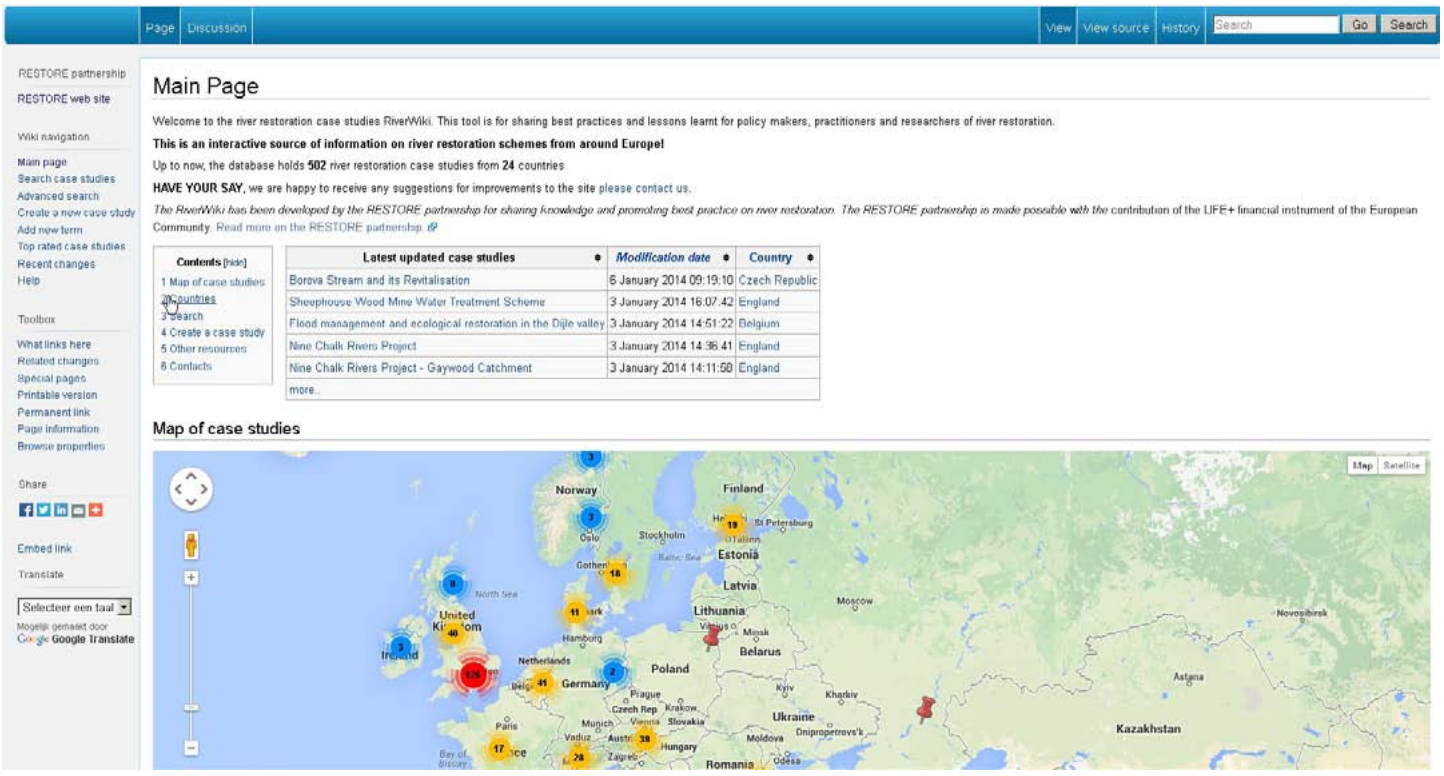
Knowledge gaps: capacity and tools

Initiatives that support and share best practice are essential for strengthening the organisational capacity to support river restoration. Tools such as the RiverWiki, and the 'How to do river restoration' and 'Rivers by Design' guidelines on the RESTORE website can offer a starting point for building this capacity. The next step is to use the knowledge gained and to share it through existing networks, and to share solutions and ways of finding solutions. Knowledge sharing should be a standard aspect in all river restoration initiatives and practitioners should not shy away from sharing lessons about failures.

Additionally, practitioners need better tools which show how to integrate top down and bottom up approaches to international river corridors.
We need to identify and disseminate techniques for engaging stakeholders at different levels.
We need to establish a 'contemporary river vision' that is not fully based on the past, but on how it is most beneficial to have in the future, which people across multiple levels and interests are more likely to buy into. This includes considering flood and ecological benefits as well as human land uses and needs.

"We need to mobilise efforts to challenge the reductions of environmental laws in favour of economic growth."
Mr Philip Weller (ambassador of the International RiverFoundation).

RESTORE's 'how to do river restoration' webpage



The RiverWiki, created by RESTORE, and continued by ECRR.

Several presenters stressed the importance of developing:

Engagement tools

- Tools and technologies for working with and negotiating with stakeholders at different levels are very useful
- Practitioners need better tools which guide how to enable integration of top down, to ease collaboration and use bottom up approaches for international river corridors
- It could be useful to map the cultural and socio-economic differences in values between different stakeholders so we can find ways to define a common vision which all will buy into.
- Find ways to empower multi-sectoral stakeholders

Organisational capacity

- There is a need to create organisational capacity to deliver river restoration
- Creation of forums/networks to establish frameworks to restore rivers is essential e.g. ICPDR offers a forum for industry and agriculture to discuss issues. We need to celebrate success but also be critical.
- We need to create forums and networks to establish frameworks to restore rivers, eg. ICPDR offers a forum for industry and agriculture to discuss issues. We need to celebrate success but also be critical – river restoration management approaches should be better and more widely shared.
- Develop transferable technical approaches that underpin good practice in river restoration across Europe.
- Develop guidance, based on practical experience, on different issues including cost-benefit evaluation, participatory approaches, green infrastructure and development of innovative partnerships.
- Strengthen the role of practitioner and grass roots organisations involved in river restoration in the implementation of European environmental policy.
- Support (international) networks and platforms that can synthesise and share knowledge and best practices.
- Maintain, link and extend existing initiatives supporting the synthesis and sharing of best practices to mainstream understanding in key actors such as river basin planners and landscape architects.
- Don't wait to act until you know everything.
- Develop and disseminate best practice and experience in the use of tools such as river contracts and water stewardship.
- How to balance the fitting of ideal (natural) situation in current system/society.
- Develop governance models and tools that facilitate collaboration of government, business and civil society action, an example could be a EU-working group on river contracts.
- Develop guidance's on how to integrate different policy goals during the planning of river restoration initiatives.

The following presentations discussed this theme:

Addressing the Challenges in River Restoration & Building Organisational Capacity to Support It - Philip Weller, International RiverFoundation ambassador

Recorded Session

Practical tools for River Restoration - Antonia Scarr, RESTORE project manager.

Recorded Session

SESSION 07: River Restoration Techniques

Introduction, M. Janes, River Restoration Centre, UK

Recording

Keeping the rivers cool. R. Lenane, Environment Agency, UK

Recording

Restoring gravel bed spawning grounds. U. Pulg, UNI Research, Norway

Recording

An application of the process restoration philosophy on a Scottish upland river. H. Moir, CBEC eco-engineering Ltd.

Recording

Adding large structures to improve habitat health. J. Gardestrom. Umea University, Sweden

Recording

SESSION 10: River Restoration: A Shared Challenge

Introduction, J.F. Donzier, International Network of Basin Organisations

Recording

Restoring European rivers while Latin America countries (and many others) are spoiling theirs at an unprecedented pace: comparative reflections from the EU FP7 "SERELAREFA" project, A. Nardini, CIRF

Recording

Aichi Prefecture's efforts to restore Nagara River by optimized dam operation, M. Aoyama, River Policy Network

Recording

Restoring the Ems-Dollard estuary together, L.L.J. van Nieuwerburgh and H. Verhoogt, Royal Haskoning DHV

Recording

The Thames and Ganges Twinning Programme, R. Oates, Thames Rivers Trust

Recording

SESSION 11: Contemporary River Corridor Management

Introduction, A. Bizjak, Institute for Water of the Republic of Slovenia

Recording

Final session report

Recording

SESSION 12: Lowland Rivers in Central Europe

Central European Lowland Rivers – from their ecological situation to a restoration perspective, W. Lazowski , TB Ökologie and M. Pannonhalmi, North-transdanubian Water Directorate

Recording

Abiotic characteristics of Lowland Rivers and the Challenges in Restoration, A. Schwingshandl, Riocom Consulting Engineers

Recording

Morphodynamic Design for River Restoration, E. Wijma, Royal HaskoningDHV

Recording

The Morava River Restoration: Plan of Measures prepared in agreement with EC Water and Nature Protection Directives – MoRe, K. Holubova, Water Research Institute (Watch a video clip)

Recording

European Territorial Cooperation Project Czech Republic – Austria Polder Soutok, R. Konecny, Umweltbundesamt

Recording

Restoring the Morava – Reconnecting Europe, U. Eichelmann, River Watch

Recording

Illustration by Quatschtronaut

Recommendations to policy makers

Policy makers are important because they can provide the resources for river restoration; they play a key role in relation to funding sources, they can help create awareness, and because they can put it on political agendas. To realise more, and better, river restoration it is important to have the support of politicians, to have practitioners who are committed to implementing the policies, and to have researchers to provide the evidence of what measures contribute best to delivering desired outcomes and how. Together, they should set directions for the future.

"The triangle policy, practice and science should set the agenda now".
Ms Jane Madgwick (Wetlands International)

Raising awareness and involvement of policymakers and public

- It takes time to integrate river restoration thinking in complementary sectors such as planning and architecture
- Develop a long term vision to restore and use the river. Make plans 'with people' and not 'for people'.
- Stakeholders need to be educated that rivers are an important source of life
- Improve dissemination of progress and success to encourage other river restoration scheme
- Develop tools and techniques for negotiating with stakeholders
- Rivers link rural and urban parts of environment

- Pan-European information (monitoring and database) on river restoration progress and quality underpins policy and strategy implementation
- Commission research related to river restoration on issues such as monitoring, economics, stakeholder engagement
- Make a contemporary long term river vision outside current political agenda's as a tool for future steps and funding routes
- Integrate and co-optimise sectoral policy goals in planning and operation of river and land development
- Prioritise protection of natural areas to prevent degradation and later needed river restoration works

"a strong framework or legal system is no substitute for political will" and "stakeholders can be part of the solution."
Mr André Weidenhaupt (president of the International Commission for the Protection of the Rhine, winner of the 1st EU river prize)

"Restoring rivers is the great political task of the 21st century"
Fred Pearce, (author / journalist)

The following presentations discussed this theme:
Holding up a mirror to river restoration - Fred Pearce, author/ journalist

Recorded Session

Keynote interview - Water resource protection, integrated water management and river restoration – **Peter Gammeltoft**, Head of Unit for Water, DG Environment – Interviewer **Jane Madgwick**, CEO Wetlands International

Recorded Session

SESSION 01: Realising European Policy Ambitions
Policy implementation challenges to mainstreaming river restoration, C. Baker, Wetlands International

Recording

Negotiated agreements at basin scale as a tool for the integrated implementation of WFD and FD in Italy: results of a national census of River Contracts experiences (2002-2012) and future challenges. G. Gusmaroli, CIRF

Recording

Are rivers being restored in the Iberian Peninsula?, F. Magdaleno, Iberian Centre for River Restoration

Recording

Setting up a national restoration monitoring criteria, S. Koljonen, Finnish Environment Institute - SYKE

Recording

New mechanisms of WFD delivery, K. Hughes, WWF Fresh Water Team

Recording

SESSION 09: Ensuring Local Sustainability
Introduction: G. Gusmaroli, Italian Centre for River restoration (CIRF)

Recording

Evaluating the Catchment Based Approach in England: Transferable lessons for national implementation, C.Black, Cascade Consulting (UK)

Recording

European River Corridor Improvement Plans (ERCIP), P. Chapman, Lewisham Borough, London

Recording

Initiative “Place a Stone in a Stream” as a method for local stakeholder motivation and involvement in river restoration and maintanance in Latvia, A. Urtans, Nature Conservation Agency

Recording

Options for cooperation with local public authorities to facilitate river restoration activities in Moldova, D. Drumea, Global Water Partnership

Recording

Sketch & Match: Engaging stakeholders in design, M. van Dijken, DLG

Recording

Panel discussion: “Future of River Restoration”

Throughout the conference different sectors and fields of expertise working on river restoration were brought together to discuss the future of river restoration. In any river restoration project there will also be interactions with users and sectors with interests that are different from the advocates of river restoration.

The session “Future of River Restoration” featured a panel discussion that brought together these differing worlds,including representatives from sectors working on river restoration and also from sectors that are affected by it.s. The discussion was lead by **Mr Wolfgang Stalzer** (former President of the ICPDR).
Ms Helen Dangerfield (National Trust in the UK) outlined that the benefits of living near water to health and wealth are now well known and understood, but that the lack of connection with nature is a loss that is less well recognised. Trying to get people, particularly children, re-connected to nature is an important goal.

The European Angling Association was represented by **Mr Helmut Belanyecz**. He introduced a historical perspective, describing how in the 19th century freshwater fish was part of most people’s diet. Gradually fish stocks have declined because of adverse changes such as canalisation and the creation of barriers. For instance over 20 years ago thousands of nace used to spawn in the Danube but by 2011 to present there are no spawning nace in the Danube.

Mr Otto Pirker of Verbund Hydro Power AG stated that hydropower is the most important source of renewable energy in the EU. Most plants are in mountainous regions and in the future there will be even more of these schemes. Hydro- schemes are very flexible in that they can produce power at periods of high demand and therefore go well with the other less flexible renewable energy systems such as wind and solar. There is a dilemma in that Europe demands more power but wants to use renewable energy to reduce the greenhouse gas emissions. However, at the same time we also have environmental targets to return rivers to good ecological status or potential.

Ms Hanna Plotnykova (of the UNECE/OSCE transboundary project: Climate Change and Security in the Dniester River Basins) talked about the need to use the ecosystem approach, a good example of which is from the Water Convention bi-lateral treaty in Rome. Transboundary working can become a political issue, but can be also be a tool for integrating policy from other countries. We need expertise and knowledge from practitioners and scientists.

"We need 2-3 good cases where money flows from businesses to river restoration to show the world that this can be done"
Joppe Cramwinckel (World Business Council of Sustainable Development)

Mr Joppe Cramwinckel of the World Business Council of Sustainable Development (WBCSD) represents over 200 global companies concerned about global challenges, and the solutions to those challenges. Water is one of nine challenges that this business community identified as a field of interest. WBCSD would like to see more business people talking at conferences like these. Business deals with risk (i.e. money), but they don't integrate environment and social requirements at the moment. Businesses need to include the environment into their activities more and make it a more important part of business plans.

Mr Andrew Kerr of the Sustainable Eel Group explained how the group started in 2010 and is working to increase the recovery of the European eel. Impressed by the policy influences that have been brought to bear from Brussels, the next step, now that we have the knowledge and the communication channels, is to make it happen.

In the discussion with the audience a number of relevant issues were brought forward:
in Europe we need to protect the last of our natural rivers, which are now under attack from hydropower despite Natura 2000 and WFD. Moreover the need for another system, not money, to evaluate the environment was raised. Mr Otto Pirker declared that "we have shared needs and are ready to help, so let us try and get together". Also various suggestions were made as to the education of children in particular, as they are the future decision makers, voters and beneficiaries.

The video recording of the panel discussion can be viewed (online)
Recorded Session

Interview Mr Peter Gammeltoft (Head of Unit water, DG Environment EU)
A number of key persons were interviewed by **Ms Jane Madgwick**, CEO of Wetlands International. These can be viewed on the conference webpage as the [Rivertalk sessions http://www.restorerivers.eu/NewsEvents/ERRC2013/tabid/3167/Default.aspx]. One of these interviews, with Mr Peter Gammeltoft (Head of Unit water, DG Environment EU), was held as a plenary session.

Mr Gammeltoft and Ms Madgwick discussed that river restoration plays an important role in dealing with pressures on riparian environment. It helps to control water flows, conserve resources, and improve and maintain water quality. However, we're not good at communicating the benefits that river restoration can deliver the role that river restoration plays in sustainability, economic growth, the environment and health.
It is important to realise that the WFD isn't an environmental directive, it is there for sustainable development. So, how do we commit to sustainable development and river restoration? We need to service the growing population. If we don't the environment will pay, and so will people. So we must do both. It is key that we collaborate with other sectors, for instance we need to involve the agricultural and energy sectors in this process. This will help to improve the implementation of existing policies, which is currently lacking. Regulation is sufficient but implementation is insufficient.

The interview then turned to discussing the roles that different parties should fulfil. Civil society must take a more active part in maintaining the environment. National courts can rule on environmental legislation and should be used more. The Commission has a new proposal to empower citizens to bring to justice any breaches of law.
Furthermore there is a need for political and financial incentives to make people work together. But in terms of finance, the member states who decide priorities. Partnership agreements should be made to set out policies. The Commission maintains priorities of the member states but they need support from members and member states need to tell Commission what their priorities are. Mr Gammeltoft emphaized that there is no political will or staff at Commission to decide what the priorities are and how they are implemented. This must be done at national level, Brussels creates the conditions.

The interview concluded with a number of recommendations with regards to gaps in research. Firstly, we need to produce a guidance which stimulates uptake, and secondly, there is a need for the Commission to think more deeply about how to maintain the knowledge base of RESTORE and REFORM – there is a gap where knowledge is transferred and kept.

The interview with Mr Gammeltoft can be viewed online
Recorded Session

EU-RiverPrize and gala

On the evening of 12 September the EU RiverPrize Gala was held at the Aula Der Wissenschaften Vienna, with music provided by the “Rondo Vienna”.

Mr Philip Weller, Ambassador of the International River Foundation (IRF) hosted the gala evening. The IRF inaugurated the European Riverprize in 2013 in order to highlight the importance of integrated river basin management in Europe. The winner qualifies as an automatic finalist in the Thiess International Riverprize in 2014

The award was sponsored by the IRF, the International Commission for the Protection of the Danube River (ICPDR) and Coca-Cola Europe.

Drawing by Business as Visual

The submissions were judged by a panel of zeven experts. After short listing four initiatives were nominated; **Orbigo River (Spain), Upper Drau (Austria), Mura, Drava – Danube River (Austria, Croatia, Hungary, Serbia and Slovenia)** and **River Rhine (all countries in the Rhine Basin)** . More information about IRF and jury.

The chief executive of the IRF – **Mr Matthew Reddy** - announced the winner after the introductions of **Mr Puchinger**, Coordinator EU Strategy for the Danube Region-PA 10, City of Vienna, EU commissioner **Mr Potočnik** and the Australian Ambassador **Mr Stuart, Gehmacher** Coca Cola (Helenic).

The winner of the First European Riverprize: River Rhine – Switzerland, France, Germany, Luxemburg, Netherlands, Austria, Liechtenstein, the Belgian region of Wallonia and Italy

The European RiverPrize Judging Panel selected the River Rhine as the winner as they were able to clearly demonstrate leadership, sophistication and an integrated, complex approach to river basin management whilst overcoming a range of challenges and achieving real on-ground outcomes for river and species health.

Following half a century of river degradation and mass species loss, those responsible for the River Rhine realised that a fundamental shift in thinking was required for the management of this major transnational river.

Following investments by the states, municipalities and industry, water quality has improved and oxygen levels are back to normal. The chemical status of most groundwater bodies is good; and inventories show that fish species composition in the Rhine is almost complete, with 67 fish species being detected.
Additionally, in the past 15 years, the adoption of new, integrated policies has resulted in the restoration of a substantial area of floodplains in the densely populated Rhine delta.

The European RiverPrize contenders- Matthew Reddy, CEO International RiverFoundation Austalia

Recorded Session

Orbigo River – Spain, R. Huertas Gonzáles, Duero Basin Authority

Mura/Drava/Danube Rivers – Austria, Croatia, Hungary, Serbia, Slovenia, A. Mohl, WWF Austria

River Rhine – Switzerland, France, Germany, Luxemburg, Netherlands, Austria, Liechtenstein, the Belgian region of Wallonia and Italy, B. van de Wetering

Upper Drau (Drava) River – Austria, N. Sereinig

All contenders introduce themselves in this video.

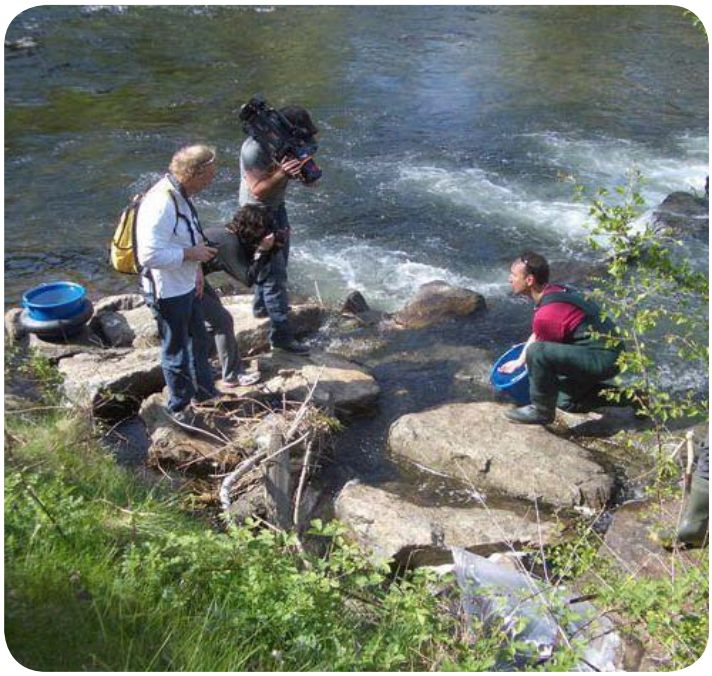


Photo: Reintroduction of young salmon, Rhine River

REFORM

REstoring rivers FOR effective catchment Management is an FP7 project that will run until 2015. The overall aim of REFORM is to provide a framework for improving the success of hydromorphological restoration measures to reach, in a cost-effective manner, target ecological status or potential of rivers.

REFORM will provide a framework of processes and measures to support communications with Brussels. These outputs will enhance visibility and contribute to public and political awareness of the need for river restoration. The focus will be on outputs that help to bridge the gap between science and policy. One of the main outputs of REFORM is a [wiki site http://wiki.reformrivers.eu/index.php/Main_Page] that aims disseminate scientific knowledge about river restoration, and how river restoration measures can deal with specific pressures on the riverine environment.

In addition, the REFORM consortium will develop protocols and procedures to monitor the biological response to hymorphological change with greater precision, to support the design of programmes of restoration and mitigation measures for the WFD, in particular for the upcoming 2nd round of RMBPs, and to integrate restoration better with socio-economic activities.

The specific objectives of REFORM are:

- To select WFD compliant hydromorphological and biological indicators for cost effective monitoring that characterise the consequences of physical degradation and restoration in rivers and their services.
- To evaluate and improve practical tools and guidelines for the design restoration and mitigation measures.
- To review existing data and information on hydromorphological river degradation and restoration.
- To develop a process-based, multi-scaled hydromorphological framework on European rivers and floodplains and connected groundwaters.
- To understand how hydromorphological pressures interact with other pressures that may constrain successful restoration.
- To assess the significance of scaling effects on the effectiveness of different adaptation, mitigation and restoration measures to improve ecological status or potential of rivers, floodplains and connected groundwaters.
- To develop instruments to analyse risk and assess benefits of successful river restoration, including resilience to climate change and relations to other socioeconomic activities.
- To increase awareness and appreciation for the need, potential and benefits of river restoration.

The following presentations were given in the **REFORM** side event:

Dissemination & Communication Activities in REFORM, B. Goeller, Ecologic Institute

Recorded

Hydromorphology of rivers and floodplains – What is at stake and how will REFORM contribute? T. Buijse, Deltares

Recorded

Knowledge sharing on hydromorphology: The REFORM wiki, E. Mosselman and G. Geerling

Recording

Modifying rivers: ecological responses to hydromorphological degradation and restoration, C. Wolter, Leibniz-Institute of Freshwater Ecology and Inland Fisheries

Recording

Launching CoP

Five river basins from across Europe that want to pursue more ambitious efforts to restore the health of their rivers launched a new initiative to develop and share their knowledge and experiences in river restoration at the conference. Representatives from each river basin participated a signing ceremony that formally established a Community of Practice (CoP). This pledge to develop new knowledge on best practices and share it in the coming years will be facilitated by the European Centre for River Restoration (ECRR). Wetlands International is supporting the CoP as a partner, along with the Government Service for Land and Water Management of the Netherlands (DLG).

The five river basins are:

- Arpa, Armenia (video)
- Irpen, Ukraine (presentation)
- Irwell, England (presentation)
- Orbigo, Spain (video)
- Rhone, France (presentation)

All the parties see a great opportunity through their participation to achieve greater river basin level planning and more involvement of stakeholders to support river restoration. The goals of the CoP also include developing new best practices in relation to land and land-use planning, disseminating knowledge and experience to outside river restoration networks, developing innovative ways to communicate, and organising trainings, fieldtrips and knowledge exchanges. The idea of a European river CoP had its origins in 2011 when ECRR and its partners convened

stakeholder meetings, including a discussion during the 6th World Water Forum in Marseille, France. It was concluded that an excellent way to move the river restoration agenda forward would be to encourage a number of river basins to pilot and share their progress and experiences. The progress of the CoP will be reported on at the next World Water Forum in South Korea in 2015.

The following presentations were given in the **CoP side** event:
Introduction to Community of Practice, B. Fokkens, European Centre for River Restoration

Recording

Irpen River Basin, O. Zhovtonog, Institute of Water Problems and Land Reclamation

Recorded

Irwell River Basin, O. Southgate, UK Environment Agency

Recording

Orbigo River, A. Cabrero, Confederacion Hidrografica del Duero

Recording

Rhone Basin, B. Terrier, Agence de l'eau Rhone Mediterranee Corse

Recording

Fieldtrips

Morava River restoration

The Morava is the largest left-side tributary to the Upper Danube. The participants visited the heart of the Morava floodplains, the WWF nature reserve near Marchegg, including vast hardwood floodplain forests, alluvial meadows and the largest tree-breeding colony of White Storks in Central Europe. Completed restoration projects and implementation measures which aim to restore natural river dynamics and promote appropriate land-use practices within a sensitive floodplain environment were presented.
This excursion was made possible with the support of WWF and Via Donau.

National Park Donau-Auen river restoration

This excursion showed the important restoration sites close to Vienna. Guided tours through the riparian forests of the National Park Donau-Auen and the Danube River demonstrated practical examples of river restoration, including a visit to one of the largest and most successful projects in Europe the revitalisation of river banks along the main river and the reconnection of a side arm. This resulted in massive increase in the numbers of plovers.
The importance of transboundary cooperation between Austria and Slovakia was also part of this scheme and the project also applied a learning by doing approach, as the first measures started out modestly while later ones were more radical, working much more with natural process. In the latest section the system was most radically by removing all stone rip-rap bank projection, bringing back local dynamic processes.

This excursion was made possible with the support of National Park Donau-Auen and Via Donau.

Examples of good practices for fish migration at hydropower plants

The excursion gave a view of practical solutions for fish migration aids at two hydropower plants on the Danube in Vienna and further upstream in the world famous 'Wachau Valley'. In order to highlight the efforts of Austria's leading hydropower company VERBUND in the field of river and habitat continuity, a visit to the technical facilities on site was made and different solutions for fish passes were shown. Additional LIFE+ initiative measures were presented and potential pressures that may result from future infrastructure projects were discussed.

This excursion was made possible with the support of VERBUND Hydro Power AG.

The Danube – Integrated Development and River Restoration - Carl Manzano, Danube National Park

Recorded Session

Declaration of the fifth European River Restoration Conference Vienna, 13th September 2013.

This declaration brings together the key river restoration issues for the coming years highlighted by the participants of the fifth European River Restoration Conference together with some examples of the key actions required to address them.

In many cases, goals for ecological status of rivers in Europe are not being met. Water quality remains a significant challenge, particularly in the agricultural sector and, although many indicators are pointing to improvements, the rate of change is still slow. Hydromorphology continues to exert huge pressure on our rivers; there are an estimated 0.5 million river related structures changing the character of our rivers. The drivers and related pressures such as regulation, infrastructure, land management practices, recreation and increasingly climate change will continue into the foreseeable future.

The participants of the 5th ERRC emphasised the following areas, issues and actions for attention:

River restoration principles for the future

Technocratic restoration must give way to democratic solutions and should benefit multiple actors with communities as the prime drivers and benefactors

Work at a catchment to basin landscape scale to integrate and tackle multiple drivers

Set realistic targets with a timeframe reflecting the pace of change in the environment

Implement with and at the pace of stakeholder interests and capacities to yield sustainable results

Policy

Policy can further river restoration in several ways. Firstly, river restoration needs to be positioned as an integrative solution to river problems that connects policy by integrating and co-optimalising sectoral policy goals in planning and operation of river and land development. This can be further supported by developing guidance on how to integrate different policy goals during the planning of river restoration initiatives.

Secondly, there is a task for policy makers to enhance the coincidence of key biodiversity areas in river corridors and Natura 2000 sites, which will greatly improve attainment of European biodiversity policy goals in river restoration
Thirdly, the means to focus, prioritise and communicate river restoration needs and progress across policy areas needs to be improved. This requires the development of a European knowledgebase that underpins policy implementation and integration.

Another key aspect is facilitating the integration of government, business and civil society interests and action in river restoration planning and implementation. This can be achieved firstly by developing governance mechanisms such as platforms, forums which enable inter-sectoral dialogue at catchment to watershed scale to take place. Secondly there is the need to develop and disseminate best practice and experience in the use of tools such as river contracts and water stewardship

Finance

There is an apparent need for increasing and diversifying financing opportunities to underpin river restoration initiatives at scale, with multiple benefits and higher impact. To achieve this, public-private partnership initiatives need to be developed, to bring business, government and other societal funding sources together. It is equally important that European policies become more consistent and more integrated, to support combined funding streams and underpin integrated solutions

Improved uptake of financing for stakeholders working below national level is needed, by creating more awareness of funding opportunities at local scale and by improving their accessibility

Research

Research can support river restoration by providing essential knowledge about what measures work best in which conditions, and how best to implement these. There is a particular need to im-

prove the attainment of ecological goals. This can be addressed by moving from a 'two-dimensional' to a 'four dimensional' model of aquatic species habitat requirements to improve the attainment and sustainability of restoration environmental goals. We also need an improved understanding of the hydrodynamic processes in 'zero' or 'pristine' situations. This will help set sensible restoration targets that also take into account how a functioning riverine ecosystem sits best within the current anthropogenic systems.

Research also plays a key role in improving information on progress and success of river restoration to provide lessons learned and improve best practices. Standardised monitoring and evaluation approaches to river restoration projects are vital tools for this.

Tools that can support decision-making and socio-economic research are also important to enhance the choice of river restoration strategies for different stakeholders. A key area to focus on is the development of modelling tools to compare alternative restoration strategies and the delivery of ecosystem services such as value as a clean water supply and its recreational value

Capacity

To establish transferable technical approaches that underpin good practice in river restoration across the European region more guidance is needed. This should be based on practical experience, and focus on different issues including cost-benefit evaluation, participatory approaches, green infrastructure and development of innovative partnerships.

Practitioner and grass roots organisations involved in river restoration need to get a stronger role of in the implementation of European environmental policy. This can be supported by networks and platforms that can synthesise and share knowledge and best practices.

There is a need to develop technical capacity to deliver river restoration at the point of delivery. To this end, we need to maintain, link and extend existing initiatives supporting the synthesis and sharing of best practices to mainstream understanding in key actors such as river basin planners and landscape architects.

Practices

Exchange and dissemination of practical knowledge is a prerequisite for more and better river restoration. Attention needs to be on river restoration that is cost-effective in terms of investment versus benefits achieved. This should be facilitated by developing criteria for selection and development of river restoration initiatives that optimise costs and benefits (e.g. target initiatives that can be maintained by natural processes).

Also equitable models for land use change and planning that facilitate river restoration need to become mainstream, for instance by raising awareness of innovative approaches such as land-banking

Decisions on water allocation and regulation in the planning and operation of river infrastructure and river restoration interventions should include all stakeholders, including those who deal with fish and other aquatic biodiversity. This can be supported by developing and disseminating guidance for environmental flows planning to involve the interests of different stakeholders
Furthermore it is key that socio-economic valuation of river restoration costs and benefits becomes part of mainstream practice. This can be achieved by developing practical and best practice guidance documents that support practitioners in its application at project level. Further support to achieve this end should come from developing an evidence base for Payments for Ecosystem Services and from incorporating these into mainstream financing constructions.

It is also key that the basis for integrative, multistakeholder approaches to river restoration at the catchment scale is enhanced, by developing and disseminating guidance on innovative governance models such as river contracts and PPP constructions
Lastly, the cumulative effects of hydropower installations in a catchment must be taken into account when planning operational guidance and designing restoration actions. More guidance on the assessment of cumulative hydropower impacts is key for realising this.

The full conference declaration can be found on the conference webpage

Recorded Session

Epilogue

Feedback provided at the end of the conference showed how inspired and invigorated the participants felt by the range and diversity of topics, people and events they encountered there. They were encouraged to continue working on river restoration projects and developing their research and many delegates particularly appreciated the way in which the conference was combined with the 1st European RiverPrize.

The plenary sessions, the parallel sessions, the field excursions and the side events were received enthusiastically. The conference was a good illustration of the benefits of networking and implementing lessons learnt from practice. *'The conference was a great forum for river enthusiasts to share learning and experiences'* as one of the participants stated afterwards. As presented in the declaration, a number of messages for the future were also formulated setting the agenda for years to come. In addition to the messages outlined in the declaration, two initiatives are particularly relevant for the future support of river restoration; the ECRR Community of Practice and the European RiverPrize.

During the launch of the ECRR Community of Practice it was concluded that this initiative would be an excellent way of moving the

river restoration agenda forward by encouraging a number of river basins to pilot and share their progress and experiences. The progress of the CoP will be reported at the next World Water Forum in South Korea in 2015.
The presentation of the first European RiverPrize will hopefully encourage other actors, practitioners, experts and policy makers to continue their collaborative efforts in river restoration.

Restoring your river of thoughts - a performance with the Quatschtronauts, an interpreted look at the findings from the conference from a new and entertaining perspective

Recorded Session

Thanks!

We are very grateful to the initiators, co-organisers, speakers, chairs, the authors of the posters, and all the participants that they have made this event such an success!
A number of partner organisations and others helped to stir up a fire via their online channels, which contributed greatly to making the 5th European River Restoration Conference a great success.

More information

http://www.ecrr.org/
http://www.restorerivers.eu/
http://www.reformrivers.eu/
http://www.errc2013.eu/

All of the presentations of the ERRC2013 and video recordings of all sessions can be found at:
http://www.restorerivers.eu/NewsEvents/ERRC2013/tabid/3167/Default.aspx

The efforts of the IRF, GWP, WI, WWF, and RAMSAR in particular to spread the word about the conference, the first European Riverprize, and the REFORM side event has helped a great deal to add momentum to the event. These communications can be found here:

- http://www.wetlands.org/News/tabid/66/articleType/ArticleView/articleId/3464/Default.aspx
- http://www.ramsar.org/cda/en/ramsar-news-archives-2013-archivesbulletinnewssep13/main/ramsar/1-26-45-590%5E26303_4000_0__
- http://www.riverfoundation.org.au/riverprize_european.php
- http://www.gwp.org/en/gwp-in-action/News-and-Activities/Rhine-River-Wins-European-River-Prize/
- http://globalwaterpartnership.wordpress.com/2013/09/20/a-salute-to-the-errc/
- http://www.wwf.at/de/wwf-projekt-amazonas-europas-finalist-fuer-europaeischen-umweltpreis/
- http://www.amazon-of-europe.com/de/menu31/#news62
- http://wwf.panda.org/what_we_do/where_we_work/black_sea_basin/danube_carpathian/?210490/WWFs-Amazon-of-Europe-initiative-is-European-riverprize-finalist
- http://reformrivers.eu/events/155

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@eccr.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 on ecological river restoration from any of its members.

Free Membership ECRR

All who are interested in river restoration and sustainable water management are encouraged to join.
Members receive the ECRR newsletter approximately four times per 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, and click contact.

Secretariat: DLG Government Service for Land and Water Management, P.O.Box 20021, 3502 LA Utrecht, The Netherlands | www.ecrr.org. Executive secretary Mr. Hil R. Kuypers.
If you do not wish to receive the ECRR newsletter in the future, please send an email to info@ecrr.org with the subject "unsuscribe". This will also terminate your ECRR membership.