The network for best practices of river restoration in Greater Europe
ECRR
European Centre for River Restoration
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EUROPEAN CENTRE FOR RIVER RESTORATION
POSITION PAPER 2019/20

Supporting water policy implementation by restoring river ecosystems. Connecting countries, people and organisations working on river management and promoting best practice, knowledge exchange, information dissemination and an inventory of project case studies.

The ECRR Rationale & Need

European rivers are the most degraded type of water body in Europe and many of them are still under pressure. There are multiple impacts of these pressures on public health, flood risk, fisheries, recreation, urban environment and tourism and not least the ecological environment that provides us all these important ecosystem services. River restoration or ecological river restoration is a green infrastructure approach increasingly used in resolving river management challenges in many parts of Europe. It is a broad approach and often covers other evolving EU terms and strategies such as Natural Water Retention Measures (particularly fluvial flooding) and Nature-Based Solutions (working with nature in urban areas).

The ECRR defines **river restoration** as:
"Restoring towards the natural state and functioning of the river and the riverine environment, assisting the recovery of river ecosystems that have been degraded, damaged or destroyed. River restoration promotes the sustainable multifunctional use of rivers providing multiple benefits to society".

Planning and implementation of river restoration at the national strategic, basin-based, and local delivery scales is varied across Europe, in its robustness, use of evidence and availability of experienced practitioners. There is a pressing need to build capacity (nationally) and knowledge exchange (internationally) to meet the need of legislative requirements through accepted best practice.

Purpose

The purpose of the ECRR (Association)is: to encourage and support ecological river restoration throughout greater Europe[1], through its network:
"The network for best practice river restoration in greater Europe."
The Association shall endeavour to achieve this purpose by:

- Connecting people and organisations working on river restoration and management.
- Supporting the development of best practices of river restoration and management.
- Exchanging information about river restoration.

Reputation

The ECRR is considered internationally to be the key network to promote and build capacity for river restoration across Europe, supporting the implementation of the EU Water Framework Directive, Floods Directive and the UN Sustainable Development Goals, the UNECE Water Convention, the Convention on Biodiversity, as well as national policies.
The ECRR is the authoritative voice on river restoration in Europe, and is respected by the EU, governments, and the wider river restoration community in greater Europe, backed by its formal national network of members.
The ECRR maintains this position by making the most out of the active involvement of its partners, members and contacts.
The ECRR is an independent association, free to voice opinions, irrespective of the interests of partners and supporters.

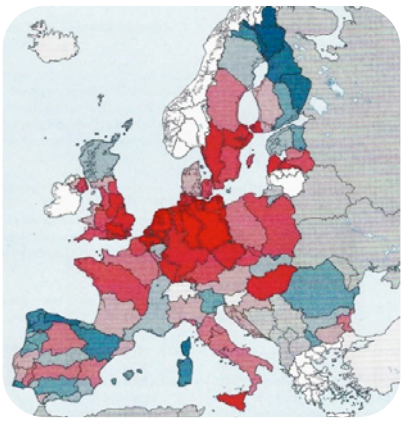

Fig 1. Ecological status of water/potential bodies in Europe's River Basin Districts in second River basin Management Plans.

Fig 2. 5th ECRR/RESTORE International River Restoration Conference, Vienna 2013; ECRR Welcome reception © ECRR

[1] This European region comprises: 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.

European LEGAL FRAMEWORK as a lever/support for river restoration??

The **UN Sustainable Development Goal** (SDG) number 6 highlights sustainable management of water with targets concerning issues like reducing pollution, implementation of integrated water resources management, and the restoration of river, lakes, and other water-related ecosystem. A key action by the UN to support restoration has been to declare the period 2021-2030 as the **UN Decade on Ecosystem Restoration**.
River restoration can also help towards fulfilling SDG 13 on climate change and adaptation, for instance through natural flood water retention and nature based storm water handling. Moreover intact river ecosystems are more resilient to climate change effects than degraded systems.
The Aichi target number 15 under the **Convention on Biological Diversity** (CBD) includes restoration of at least 15 % of degraded ecosystems, thereby contributing to climate change mitigation.

The UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes (**Water Convention**) aims to ensure the sustainable use of transboundary water resources by facilitating transboundary water cooperation and measures for the **ecologically-sound** management and protection of transboundary surface waters and groundwaters. The Convention fosters the implementation of integrated water resources management, in particular the basin approach.

The European Union **Water Framework Directive** is the most comprehensive instrument of EU water policy. Its main objective is to protect and enhance freshwater resources with the aim of achieving **good ecological status** of European waters; its scope extends from lakes, rivers, and groundwaters to transitional and coastal waters. The main tools to implement the Directive are the River Basin Management Plans (RBMPs) and the Programmes of Measures.

River restoration contributes to all water related policies of the EU.

The restoration of river ecosystems also plays an important part in mitigating and decreasing flood risks, a key objective of the EU **Floods Directive**, which requires Member States to adopt Flood risk management Plans (FRMPs). These plans are to include, among others, protection measures to reduce the likelihood of floods and/or the impact of floods in a specific location such as restoring flood plains and wetlands.

Whilst the EU WFD and other EU water directives are the basic legal document for EU member states, many countries of greater Europe have committed voluntarily to follow its principles. Some countries (UA, Moldova, Balkan countries) agreed, due to the pre-accession process or as part of international river commissions (such as ICPDR).

ECRR as a knowledge platform and catalyst.

Planning and implementation of river restoration at the national strategic, basin-wide and local delivery scales is varied across Pan-Europe, in its robustness, use of evidence and availability of experienced practitioners. There is a pressing need to build capacity (nationally) and knowledge exchange (internationally) to enforce legislative requirements through accepted and developing best practice. ECRR's role is as a knowledge network and as a catalyst for enabling continual improvement.

ECRR's activities are carried out by the member organizations in the different countries through their national work programmes, drawing on, linking to and supported by the wider ECRR Network. The learning and understanding from these national programmes then contribute to the wealth of experience, information and discussions at the Pan-European level. Therefore, the type of actions for covering the water policy area tries to consider both local players and horizontal needs as well as the vertical flow of information to regional, national and EU level.

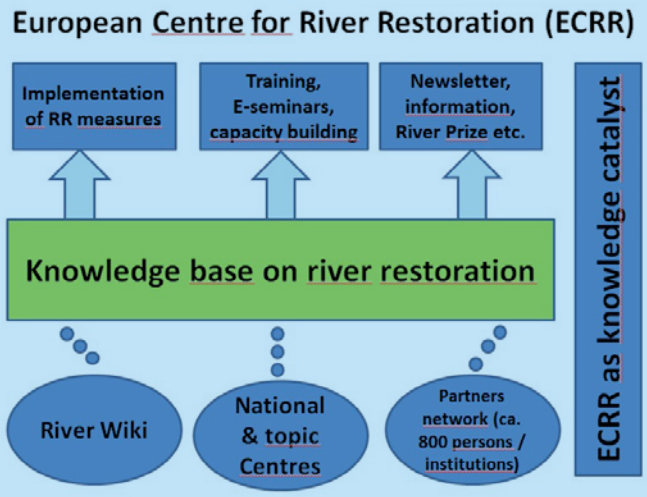

Fig. 3. ECRR Functional organisation: River Restoration Knowledge Network and Catalyst

Guidance and practical application

Evidence gathered by the ECRR highlight the extensive work done in recent decades towards developing best practice approaches to restore the natural processes of rivers and their ecology. With water quality having been significantly improved in many basins, the focus is on addressing hydromorphological pressures and re-establishing lateral and longitudinal connectivity. Practical applications commonly rely on pilot projects in small and large rivers targeted for subsequent upscaling, using qualitative and quantitative survey, modelling and monitoring tools. This work on rivers also inevitably combines urban resilience, sustainable land use and hydropower, as well as ecological and economic benefits.

The River Basin Management Planning process integrates activities with sustainable water management. While the ECRR observed the ongoing shift from local science-oriented river restoration practices, towards large scale projects, increasingly due attention is paid to balancing ecological and socio-economic needs. This strengthens common understanding and creates the enabling environment for targeted action on addressing ecological concerns in sustainable development planning, design and implementation.

The envisioned expansion of hydropower is a threat for the ecological status of Pan-Europe's (pristine) rivers. On the other hand there is an increasing interest for dam removals, decommissioning of hydropower and revision of permits. Guidance on maintaining continuity, removing obstacles with minor importance and environmental flows must be urgently developed and efficiently implemented. The forecasted increase in pressures on water resources strengthens the need for a paradigm shift towards a more proactive, integrated, adaptive planning, decision making and action. Reaching on-the-ground success will be not possible without persistent and constant learning, and knowledge sharing.

Fig. 4. Public participation in the Órbigo River (Spain) restoration. © ECRR

The state of Europe's water after 20 years as presented in the European Environment Agency
report No 7/2018: European Waters: Assessment of status and pressures 2018.

- Of the different water bodies recognised by the Water Framework Directive (WFD) across Europe, Around 40 % of surface waters (rivers, lakes and transitional and coastal waters) are in good ecological status or potential, and only 38 % are in good chemical status.
- Groundwaters generally have the best status. Good chemical status has been achieved for 74 % of the groundwater area, while 89 % of the area achieved good quantitative status. Groundwaters generally have less reliance upon the main significant pressures identified above.
- The main significant pressures on surface water bodies are hydro-morphological pressures (40 %), diffuse sources (38 %), particularly from agriculture, and atmospheric deposition (38 %), particularly of mercury, followed by point sources (18 %) and water abstraction (7 %).
- The second RBMP's show that the proportion of water bodies with unknown status has decreased and **confidence in status assessment has grown**.
- However, after 20 years, assessment **shows limited change in status**, as most water bodies have the same status in both RBMP cycles. Improvements are usually visible at the level of individual quality elements or pollutants but **often do not translate into improved status overall**.

Bridging the policy and implementation gaps

The ambitions of the EU WFD are high, for governance as well as ecology. To achieve these ambitions in the iterative process over several implementation cycles requires in all countries, more time than was initially expected. Some countries started from less developed economical and/or ecological positions than others. The 'one-out-all-out' rule reflects this high ambition. It provides good protection and ensures all pressures and impacts are addressed. But all progress should be reported more to recognize national investment of public funds, to provide politicians with greater confidence and to reflect the incremental achievement of restoring the ecology of natural systems.

Fig. 5. EU politics form Brussels.

The integrative complexity between European policies and within national government departments can cause very significant blockages and delays, with directives institutionally divided among different administrative agencies. Often progress has been slower than might have been desirable, but these large-scale institutional changes show that although the WFD might be difficult to implement, it has been an important driver to improve water governance and increase focus on, and funding for water management, and the member states are doing a lot to fulfil its requirements.

It is generally not the WFD and RBMP instruments causing problems in achieving results. The regulation itself is clear and well justified. **The aspect that should be improved is the implementation at the local, regional and national levels.** This is often based on conflicting objectives, lack of policy coherence or lack of political willingness and understanding, that often negatively influence the use of the instruments. This is further compounded by a lack of positive feedback from the Commission, due to the reliance upon percentage Good Ecological Status / Good Ecological Potential (GES/GEP) attainment reporting.

The ECRR is therefore very much supportive of the WFD and does not want to see it or its ambition weakened. The WFD fits very well with the concept and vision of river restoration promoted by the ECRR.

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Fig. 6. River restoration on the ground. © The RRC, UK.

Key messages

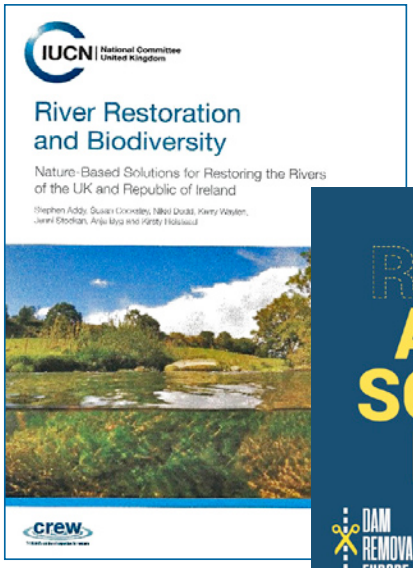
The Members of the ECRR provide the following directional Statements, to guide decision making on the planning and implementation of river restoration and innovative river basin management in the years ahead:

1. Much knowledge and demonstration of practice has been gained, but many gaps remain.

Best practice exchange is a critical information channel for learning and development amongst river managers. The achieved results of implemented river restoration and river basin management initiatives confirmed the significant progress made in shifting from the science & ecology focus on the local level towards integrated, cross-sectoral policy and planning practices over regions and basins.
The demonstrated achievements of ecological river restoration up-scaling should serve as best practice guidance for a broader application of the integrated approach in river basin management. Raising awareness and strengthening the increasing commitments, merging socio-economic development issues and impacts from land use, hydropower, agriculture creates the enabling environment and responsibilities towards bringing the ecological status of rivers in Pan-Europe more in balance with society.

2. Application of innovative approaches & instruments encourage river restoration practitioners

The demonstrated value of a focused exchange of knowledge and experiences among peers and between involved sectors should encourage river restoration practitioners to expand the practical application of innovative approaches and instruments – Nature Based Engineering, Natural Water Retention Measures.



3. Sound Planning is a prerequisite to tangible results

The pressures and impacts on water environment remain significant. Addressing these impacts with integrated river basin management approaches requires the strengthening of cross-cutting planning and implementation, between countries & basins, sectors & themes, policy & legislation, stakeholders & public. Tools like River Basin Management Planning provide an exciting framework for facilitating greater integrated thinking.
The planning cycle of the adopted EU policy framework, specifically the implementation of 2nd River Basin Management plans under the WFD and the 1st Flood Risk Management plans under the Flood Directive, provides opportunities for countries and basins to strengthen the cross-sectoral planning of practical, realistic and tangible measures to address identified pressures. Success depends on the strategic planning and the harmonizing of relevant EU Directives and policies and land use planning instruments. This will help simplify the implementation of practical measures and tangible results.

4. Societal choices based on sustainable socio economic development and practical planning.

Successful integrated river basin management planning, depends on the proper reflection of societal choices on sustainable socio-economic development into a realistic and practical planning and implementation framework. Win-win solutions, linking economic gain with adaptation & mitigation of impacts need to be considered, taking uncertainties regarding socio-economic development and climate change into account. While shift in societal choices is to be achieved by:

- Better understanding of the value of water
- Water specific goals are embedded in all policies including socio-economic ones
- Climate change is not a new normal and does not impact the water management itself. It is a matter of societal choice
- The water sector is not a sector but a connector of all sectors

THE ECRR ASSOCIATION MEMBER AND PARTNER ORGANISATIONS

I.S. Rivers 3rd INTERNATIONAL CONFERENCE Integrative sciences and sustainable development of rivers 4 > 8 JUNE 2018 Lyon - FRANCE

NORWEGIAN ENVIRONMENT AGENCY

SYKE Finnish Environment Institute

AGENCE FRANÇAISE POUR LA BIODIVERSITÉ ÉTABLISSEMENT PUBLIC DE L'ÉTAT

CIREF centro ibérico de restauración fluvial

CIRF

WORLD FISH MIGRATION FOUNDATION

Global Water Partnership

WARSAW UNIVERSITY OF LIFE SCIENCES SGGW

Wetlands INTERNATIONAL

Swedish Agency for Marine and Water Management

stowa FOUNDATION FOR APPLIED WATER RESEARCH

INTERNATIONAL NETWORK OF BASIN ORGANIZATIONS

IBПiM

ROSNIIVKh

THE RIVER RESTORATION CENTRE Working to restore & enhance our rivers

Annex Listing

1. The ECRR Strategic Intent 2018-20; at the ECRR website.

2. The ECRR Submission to the Public Consultation to inform the Fitness Check of the EU Water Framework Directive, it's associated Directives (Groundwater Directive and Environmental Quality Standards Directive) and the Floods Directive, March 2019; at the ECRR website.

Approved: By ECRR General Members Meeting 2019 in Vienna on 18 November 2019.