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EUROPEAN CENTRE FOR RIVER RESTORATION

National River Restoration Networks

The objectives of the European Centre for River Restoration will be achieved through the development of a European Network of relevant national institutions and participants. The establishment of this ECRR participants' network was initiated in 1999, and there are now 275 participants from 31 European and 11 non-European countries.

A close contact between participants, both nationally and internationally, should be established with the purpose of exchanging information. The participants are therefore encouraged to set up national networks.

Preferably, national centres as drivers of the national networks should be established on a voluntary basis on an initiative from the participants of the national networks.

The main task of the national centres is the establishment and maintenance of a national network of individuals working with river restoration. The national centre should not act as the sole contact between the network and the ECRR but should rather act in a pro-active way dealing with the developmental and administrative parts of the national network. Anybody wishing to contact the ECRR directly is encouraged to do so and need not go through the national centre.

The ECRR secretariat is in the process of producing a manual describing typical activities and role expectations for national networks. The manual should provide assistance in the establishment of national networks throughout Europe.

If your institution is interested in taking the initiate to establish a national network of your country you are very welcome to contact the secretariat for further information.

So far, national networks have been established in Denmark, Italy, the Netherlands, Romania, Russia, Spain and the UK. The networks in Denmark, Italy, Romania and the UK are all well established and have described their objectives.

On the ECRR homepage you will find more information about these networks together with links to their own homepages. The Dutch, Russian and Spanish networks are in the process of defining their objectives and initiating their establishment.

PROJECTS

The next issue of this newsletter (expected in May) will be dedicated to the consequences of the newly adopted EU Water Framework Directive to river restoration. The issue will stress the essentiality of river restoration in many water management plans, and try to foretell the outcome of the directive. An introduction of the directive with a special Spanish view is given below. If you wish to contribute to the coming newsletter you are encouraged to send your contribution to the ECRR secretariat.

European Water Framework Directive

By Javier Cachón de Mesa, CEDEX, Ministerio de Fomento, Spain.

Introduction

Last June the 28th, the Conciliation Committee formed by the Council and the European Parliament passed the Directive which established a framework for Community action in the field of water policy (hereinafter WFD). This Directive, which will probably have been passed when this newsletter will be edited, will have profound consequences for the European inland and coastal water management.

After a long and intense debate over the last few years, European citizens finally have a common framework for managing water issues. The principal difficulty in connection with passing of this Directive was mainly the geographical and climatic differences between the member states of the EU, as well as the historical differences in water management. The contrast between the dry South and the wet North and the different uses of water have marked the debate. The southern European countries have always

been involved in meeting the demands for water for agriculture, drink use, and electricity production, due to the recurrent drought periods. Also the defence of the territory from periodical floods has been an important concern of the southern European countries. Northern European countries have had to assure the quality and quantity of water, due to the major industrial and population development, as well as navigation and to defend the territory from water flooding. Another important matter related to water management in Europe, common in every country, has always been the problem of water management in shared watersheds.

Content and goals of WFD

The biological and chemical characteristics of the European waters are far away from the status known at the beginning of the century, although much effort has been made during the last decades to improve the water quality. That reason emerges as the principal concern of the EU authorities to implement a framework directive, which takes into account in a unique text the principles for water management.

As a consequence, the purpose of the WFD is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater. That is to say, the complete hydrologic cycle, which prevents further deterioration and protects and enhances the status of aquatic systems and terrestrial ecosystems and wetlands directly depending on water ecosystems.

The WFD is divided into 25 articles defining the objectives of the water management from an environmental point of view (status of body water) and setting in a second plain the different uses of water, with the aim of promoting a sustainable water use, based on a long-term protection of the available water resources. In this way, the WFD will contribute to the provision of the sufficient supply of good quality water, a significant reduction in pollution, and the protection of territorial and marine waters

The WFD introduces an important administrative tool, the River Basin District (hereinafter RBD) and the Member States shall ensure the identification of the authority which will be competent for the application of the rules of the WFD contents in a River Basin Management Plan. This District will be national, when the river basin lies within their territory, but the WFD contemplates the International River Basin District, in those cases where the river basin lies in more than one national territory (that is the case of the watershed of rivers Miño, Duero, Tajo and Guadiana in the Iberian peninsula actually under the rules of The Albufeira Convention).

The RBD will have to arrange a programme of measures and describe minimum characteristics of the territory where the river basin lies; the impact of human activity on the status of the surface waters and groundwater. Finally, an economic analysis of water use will be done in relation to the principle of full recovery costs of water services (art. 9). This principle will ensure that the final cost of water services will be included as a real cost of the service as well as the external costs, such as environmental and resources cost, will be taken into account in the final price of water. As a result of this principle, the efficiency of water use will be improved.

In relation to surface waters, Member States will ensure for each RBD a Programme of measures in order to achieve the environmental objectives: prevent deterioration; protect, enhance and restore all bodies of surface waters (natural and artificial); implement the necessary measures with the aim of reducing pollution from priority substances and cease discharges and losses of priority hazardous substances. In these cases, restoration of rivers (hydromorphology, riparian vegetation, permeability of infrastructures for fish migration and hydrological regime) will play a fundamental role, because as it's recognised, a good development of the hydromorphology characteristics of the river, together with a good development of gallery forest and the accompanied vegetation, will fix and decrease the pollutants from diffuse sources to the river.

Another new aspect of the Directive is that it ensures that Member States produce River Basin Management Plans for each RBD, which will cover different elements, of which I will highlight the following:

- A general description of the characteristics of the RBD, which will include mapping of the ecoregions and surface water, bodies types and the identification of reference conditions for the surface water bodies.
- A summary of pressures and impacts of human activity: estimation of point and diffuse sources pollution and pressures on the quantitative status of water.
- An identification and mapping of protected areas.
- Maps of the monitoring network in order to establish an overview of water status.
- A list of the environmental objectives and a summary of the programme or programmes of measures adopted to achieve those objectives.
- A summary of the economic analysis of water use.
- A summary of the programmes of measures in order to achieve the environmental objectives.

As a result of the text of the WFD, the aim objective is to protect the water status in the context of its hydrologic cycle in the European Union territory, to promote a sustainable water use and to protect and restore the aquatic ecosystems. In this context water status is where the concept of ecological status arises, inside the other key concept: ecoregion. At first glance, it doesn't seem very difficult to establish ecoregions in the different Member States (not difficult but hard if we think, for example that, in the Spanish peninsular territory and its island territory, there are presently three biogeographical regions: Eurosiberian, Mediterranean and Macaronesica,

where 14 bioclimatics flats are defined). Nevertheless, the problems arise in the definition of the reference conditions, as the present status has to be compared with it. In Spain, and supposedly in the rest of Europe, it would be very difficult to define these reference conditions due to the almost absolute absence of dates and the deep transformation of the territory, and as a consequence the water features, after centuries of human use.

WFD and consequences in Spain

The RBD has a long tradition in Spain where it is known as Confederación Hidrográfica; the first RBD that was established in Spain was the Confederación Hidrográfica del Ebro in 1926, and one of its characteristics was that its competence extended to the river basin of the principal river. Nowadays, there are thirteen Administrative Water Authorities that are part of the State competence. These authorities have been developed since the first years, and they now have different responsibilities:

- Management of the waters of the basin.
- Vigilance and use of the public hydraulic domain.
- Definition of quality objectives of water.
- Construction of water infrastructure and
- Control of emissions and discharges to the water bodies.

All these matters have to be considered in a River Basin Management Plan (in Spain Hydrologic Water Shed Plan) as the Spanish Water Law (1985), recently modified (1999), established, as well as a National Water Management Plan (in Spain National Hydrologic Plan).

The River Basin Management Plans of twelve of the thirteen watershed district were passed in 1998, after a long period of time, with an intensive debate. The National Hydrologic Plan was first presented to the Parliament in 1993, but it was rejected by the Parliament. A second plan has been prepared by the actual administration and will be presented to the Parliament within the next few months, after the report that will be presented by the National Water Council. This National Plan is being criticised by some Autonomous Administration and almost all the ecologist NGO. Anyway it's not the intention of this note to analyse the Water Management Plans in Spain, but to mention its existence and point out the difficulties to be passed.

An important result of the WFD implementation in Spain will be the necessity for modifying the management of the water in the following

1. Modify the actual River Basin Management Plans to adopt the contents, especially the enhance of water status, and full recovery cost concept of the WFD.
2. Inclose the management of the coastal and transitional waters to the water authorities of the River Basin District. In Spain the management of these waters is currently a competence of The Coast Administration in the Ministry of the Environment.
3. The difficulty of adopting the traditional water management made in Spain to the WFD objectives, due to the secondary role given in the WFD to the droughts and floods that have determined the water management.
4. The full recovery cost concept given in the WFD to all water uses (especially if the external costs – cost resources and environmental cost – are included in the final price) will have very important consequences in the final price of water, and accordingly the agricultural policy in Spain will be affected as well as the final price of water for other uses.
5. Although there is a very large hydrological network in Spain, the Physico-Chemical network is less developed and the biological network is almost non-existent.
6. Finally, the inclusion of an Hydrological natural regime (quantity and dynamics of water flows) in the actual exploitation systems for the achievement of the environmental objectives of surface water, will bring changes to the traditional water management, since a part of the total water account actually used for the different consumption uses, will have to be reserved for environmental aims. To date, the final objective of the water management has been to dam up the most water account, so that afterwards it could be served for different uses (irrigation, electricity power and human supply).

In summary, the performance of the FWD in Spain will bring profound changes to traditional water management, with the hope that the new environmental objectives will improve the water status (ecological, hydromorphological and physico-chemical) of the Spanish rivers. With this aim, and in connection with the environmental policy (managed by the Autonomous Government), river restoration in Spain is playing and will play an important role in the very near future.

SHORT NOTES

International Course on Wetland Restoration

Time has come to start the restoration of degraded wetlands. In practice, many people who are involved in wetland management do not possess the knowledge or the skills that are necessary for effective wetland restoration. There is little exchange of knowledge and experience with respect to wetland restoration.

The International Course on Wetland Restoration aims to train skills necessary for wetland restoration and it will offer opportunities to exchange experiences. The second course will be held from 6th June until 5th July 2001 in Lelystad, the Netherlands.

The course is organised by the Wetland Advisory and Training Centre (WATC) of RIZA, Institute for Inland Water Management and Waste Water Treatment and part of the Dutch Ministry of Transport, Public Works and Water Management.

The course will focus on restoration of degraded fresh water systems such as rivers, lakes, marshes and bogs. It will concentrate on three stages in a wetland restoration project:

1. The problem analysis.
2. The development of strategies.
3. The realisation of a restoration project.

In the problem analysis the significant problems related to wetland restoration projects are structured according to their causal relationships. Attention will be paid to the ecological and socio-economic values of the project, including a stakeholder analysis. Future developments and opportunities and policy and conventions related to the project will be evaluated.

The development of strategies will help in finding solutions for the identified problems. The outline of a strategy is derived from a vision and long term objectives. Therefore, the objectives will result in restoration options. Assessment of criteria will result in one possible restoration project strategy.

The realisation of a restoration project involves principal actions and wetland restoration measures. It also includes the project organisation, planning, monitoring and evaluation.

The course consists of a mixture of lectures, seminars and field visits: a combination of learning from teachers, learning from fellow-students and learning by example. Excursions and case studies will illustrate wetland restoration practices. Participants will be given the opportunity to present their own experiences and to share their views and opinions.

Participants will apply their newly gained skills and knowledge on their own wetland restoration project. They will be expected to develop a suitable, draft wetland restoration plan, which will be presented during a poster session at the end of the course.

The International Course on Wetland Restoration is intended for those who are involved in wetland restoration and water management.

The first International Course on Wetland Restoration was held in early summer 2000 and appeared to be a fruitful course. The international mix of participants was especially valuable because of the sharing of different visions and perspectives.

The preparations of the 2001-course have started already. If you are interested in this course, contact WATC and ask for the brochure.

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An international conference on waterways and sustainable development has just been held in Königswinter, Germany with the aims to:

- Create a discussion among the various stakeholders of the ecological, economical, social, and political aspects of waterways.
- Develop key concepts for sustainability in waterway operation.
- Develop a common position of all NGOs facing decision makers.

More information on the conference, its conclusions and recommendations may be found on the WEB-site:
www.wwf.dk/freshwater/pdf/waterways-res.pdf

CONFERENCES

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

28th SIL Congress

Melbourne, Australia 4-10 February 2001

The following topics are likely to be covered in the congress:

Restoration ecology of waterbodies, Physics of water movements, Water chemistry, Water plants, Benthic invertebrates, Fish and fisheries, Reservoir and river management, Ecotoxicology and pollution, Modelling of aquatic ecosystems, Ecology of streams and rivers, Catchment studies, Limnology of specific waterbodies, in water treatment and of arid areas.

For more information URL:
www.monash.edu.au/oce/sil2001

Landscape Dynamics of Riverine Corridors

Ascona, Switzerland 25-30 March, 2001

The program content will focus on how the current understanding of riverine landscapes can be applied to schemes for restoring biodiversity in impacted systems.

For more information URL:
www.riverine-landscapes.ch

RRC Annual Network Conference

Coventry, UK 23-24 April 2001

Conference themes will be finalised in February. Likely areas include: 'Urban watercourse rehabilitation'; 'Landscab and planning'; 'River restoration and fisheries' and ' River restoration case studies'.

For more information e-mail the RRC at:
rrc@cranfield.ac.uk

Management of Northern River Basins

Oulu, Finland 6-8 June 2001

The aim of the conference is to promote an integrated approach in river basin management. To reach this aim the main topics of the conference are river ecology, water pollution control technology in land use and tools for integrated river basin management.

For more information URL:
www.nornet.oulu.fi/noriba/index.html

2nd Symposium for European Freshwater Sciences (SEFS)

Toulouse, France 8-12 July 2001

At present, the scientific programme is organised around 11 major themes in aquatic ecology. Other themes may be added.

For more information URL:
http://quercus.cemes.fr/~sefs

International course on Wetland Restoration

Lelystad, the Netherlands 6 June – 5 July 2001

For more information please refer to the note elsewhere in this newsletter.

Freshwater Fish Migration and Fish Passage - Evaluation and Development

Reykjavík, Iceland 20-22 September 2001

The second Nordic international symposium on freshwater fish migration and fish passage is intended to examine all aspects of river migration with special focus on effects of barriers to migration. It is hoped that papers given at the conference will integrate diverse topics such as fish behaviour, fish passage, guiding of fish and technical solutions in constructing and managing fish passage facilities.

For more information URL:
www.veidimal.is

PUBLICATIONS AND VIDEOS

Publications

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

Jones, T. (Ed.) (1999):
Policy and Economic Analysis of Floodplain Restoration in Europe - Opportunities and Obstacles. – A report prepared by WWF European Freshwater Programme. 46 pp.

The Report is an initiative from WWF's European Freshwater Programme – in the context of a larger LIFE project led by Bird Life (RSPB). It makes a case for floodplain restoration in Europe; analyses opportunities and obstacles to do so on the basis of different case studies; and puts forward recommendations for changes in EU policy and financial instruments to promote floodplain restoration in Europe.

The report is downloadable from the Internet at: **www.wwffreshwater.org/pdf/WUoF-polecon.pdf**

Pinkham, R. (2000):
Daylighting: New life for buried streams. – Rocky Mountain Institute (RMI), Colorado, USA. 63 pp.

This report reviews the benefits, challenges, and costs of "daylighting"–exposing–formerly culverted or buried streams, and includes case studies of several dozen projects from around the U.S. and internationally.

Price 12 $ from RMI's bookstore. The report is also downloadable from the RMI website at **www.rmi.org**

Šeffer, J. & Stanová, V. (eds.) (1999):
Morava River Floodplain Meadows – Importance, Restoration and Management. – DAPHNE – Centre for Applied Ecology, Slovakia. 187 pp.

The Morava River Floodplain contains very valuable ecosystems from an ecological, environmental and socio-economical point of view. The biggest complex of alluvial meadows (Cnidion venosi alliance) in Central Europe is preserved there. This 11-chapter book summarises the six-year experiences from the different projects that have been carried out by DAPHNE. It provides the scientific and socio-economic base for the conservation and sustainable use of the wetland resources in the Morava River floodplain. The 11 chapters deal with:

1. *Hydrology and river regulation*
2. *Prehistory and history of floodplains*
3. *Historical analysis of changes in the spatial structure of the Morava River floodplain*
4. *Phytocoenological description of marshes and meadows in the inundation area*
5. *Grassland vegetation of the floodplain area*
6. *Impact of floods and management on composition of meadow communities*
7. *Restoration of species-rich floodplain meadows – experimental approach*
8. *Large-scale restoration of floodplain meadows*
9. *Biomass production of flood-plain grasslands*
10. *Economic valuation of benefits from conservation and restoration of floodplain meadows*
11. *Ecological relations of birds and floodplain meadow habitats*

Price 20 USD or alternatively by exchanging a similar publication to our library.
Contact: DAPHNE,
Tel/Fax: +421-7-65412133 or
by e-mail at **Daphne@changenet.sk**