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Introduction

Dear ECRR members,

This is the first newsletter in 2011. Winter, a long periode of heavy rainfall, snow and ice, is almost behind us. It made us realize once again that prediction of the weather is not an easy job and nature always has surprises in store. Mankind should be modest and be aware that one cannot control the environment completely in spite of all the merits of our technologically advanced society.

In the past period several members have been more or less involved in developments of theory of sustainable water management or best practises of ecological river restoration in the field. Several have been sharing knowledge as well, which is one of the main targets of the ECRR. Others are starting preparations for active participation on the sixth World Water Forum (WWF 6), that will take place in Marseille within a year from now. We will inform you later on that.

We are glad to announce 3 quite different articles from the bosom of our membership file. We hope these will stimulate others to write copy for one of the next newsletters or provide information for the website (www.ecrr.org). Anyhow we count on many and enthusiastic contributions in the coming period, so that we also can greet a new springtime for the ECRR!

Secretariat ECRR



International Riverfoundation Regional Strategy Development

The International Riverfoundation (IRF, www.riverfoundation.org.au) promotes the sustainable management of the world's rivers, lakes and wetlands to improve the health of these precious resources and the communities dependent upon them.

International Riverfoundation rewards best practice in river management; informs and empowers river managers worldwide; and inspires organisations and communities to protect our river systems for future generations.

The International Riverfoundation is financed by donations given by concerned individuals, companies and governments. Its work being restricted only by the amount of funds it can raise.



Historical development

Since 2003 the International Riverfoundation (IRF) has engaged in activities that facilitate and promote the advancement of best-practice, collaborative and sustainable river management across the globe. The IRF has established itself in Australia as a respected, philanthropic organisation, promoting and rewarding excellence in collaborative river basin management. The IRF's important programs and partnerships include:

- the National and International Riverprizes, recognised and valued across much of the Australian river and catchment management sector
- the Riverprize winners 'Twinning' Program, which has expanded the reach of the IRF outside Australia, and has built the basis for a highly valuable international partner network
- the cohort of IRF Ambassadors, a potentially influential core group of IRF champions
- the IRF as a joint owner of the successful International Riversymposium.
- outreach programs, such as that in the Bremer River (Qld), are demonstrating the IRF's ability to not only promote excellence in river basin management, but also to catalyse and facilitate it.

All these elements demonstrate significant value and good-will creation by a not-for-profit organisation that has been in existence for only seven years.

International activities.

Over the last seven years, a strong cohort of Riverprize winners, ambassadors, twinning project partners and other supporting organisations has evolved.

There are now over thirty projects, ambassadors and twinning partners around the globe, and across every inhabited continent.

In spite of this, the IRF remains insufficiently recognised and valued by important international river basin and multi-lateral organisations, governments, NGOs and other sector players. At the heart of the proposed new IRF international strategy is the proper empowerment of regional IRF ambassadors, twinning partners and supporters to help deliver the IRF's global mission and objectives. To address this challenge, it is proposed that new regional

structures, facilities and activities be implemented over the next two years. To occur firstly in North America and Europe, and later (>2013) in Asia, Africa and South America (the Australian presence may also be regionalised to include Pacific neighbours such as New Zealand).

The challenges and objectives mentioned above provided the basis for discussions on February 3 (London) to come to a proposal for the wider European region. The IRF Gary Jones (IRF Chair) and Matthew Reddy (IRF CEO) had invited a number of International River Foundation stakeholders. Amongst them Martin Janes, Manager of the River Restoration Centre in the UK and Bart Fokkens, Chairman of the European Centre for River Restoration. It was proposed that the IRF and the ECRR will establish a formal partnership relation. The IRF will soon present their plans how to bring the proposal forward in Europe in 2011.



IRF Regional Strategy meeting on February 3 in London with IRF Chair, CEO and stakeholders with Martin Janes (RRC) and Bart Fokkens (ECRR) in the middle.

The influence of natural and anthropogenic processes on a regulated riverine Landscape

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In natural river systems, landscape diversity is achieved through continuous disturbance by hydro-morphological processes. However, in a regulated river these processes are hampered and landscape diversity is based on a mix of anthropogenic and hydro-morphological processes. In the Netherlands, measures to increase the flood conveyance capacity of rivers are combined with ecological restoration of the river. As the restoration efforts consist of numerous projects, they provide opportunities to restore the river not only on a floodplain basis, but on a river stretch scale. Moreover, they create possibilities to increase landscape diversity by providing room for natural (hydro-morphological) processes or by mimicking these processes by applying management strategies such as Cyclic Floodplain Rejuvenation (Peters *et al.*, 2006 and Baptists *et al.*, 2004; Geerling 2008 and Geerling *et al.*, 2008). However, there is a lack of knowledge on how a regulated riverine landscape functions and which factors steered the ecosystem to its present state (Bravard, 1986; Hughes *et al.*, 2001; Ward *et al.*, 2001; Geerling *et al.*, 2006). One of the methods developed to represent riverine landscape diversity as caused by disturbance and succession processes is a so-called spatial-temporal distribution (Bravard *et al.*, 1986; Geerling *et al.*, 2006 and Greco *et al.*, 2007). The *spatial-temporal* distribution shows the relation between the surface area of ecotopes versus their age; this ecotope-age distribution shifts as the balance between disturbance and succession changes, for example by river regulation. The loss of disturbance could lead to aging of the landscape and a loss of ecotopes associated with dynamic environments resulting in a temporal discontinuous landscape (Bravard *et al.*, 1986 and Geerling 2008). The goal of this research was to examine the spatial-temporal distribution of ecotopes in floodplains of a regulated river, to establish the factors that caused this distribution and the implications for future management. The floodplains along a 27.5 km long stretch of the lower Rhine delta in the Netherlands between the municipalities of Lobith and Nijmegen were examined. The ecotope map of 2009 provided by the Dutch Ministry of Public Works, Transport and Water management was used as the base map for this research (RWES, 2010). The ecotopes in this map were examined upon their *age*, *origin*, *starting situation* and *presence of 'natural' grazing* using historical maps and data analysed using a Geographical Information System (ESRI, 2006).

The study showed that the ecotopes have a mean age of 54 years and mostly originate from excavations (40%). The geographical age distribution is shown in figure 1 (see next page) and the spatial relationship between ecotopes and their origin is shown in figure 2. The study showed that the landscape consists of areas that are either in *ecological succession* (30%, for example natural forest) or areas that can be considered *stable* (70%, like agricultural grasslands); the geographical distribution is shown in figure 3. Areas that are in ecological succession mostly consist of intermediate succession stages (grassland and herbaceous vegetation) and mature stages (bush and natural forests). Only a small share of the total surface area consists of pioneer vegetations (4%). The influence of 'natural' grazing on the landscape started by its introduction in 1987 and was applied in 32% of the total landscape in 2008. This type of management has led to a more open landscape within the first 20 years of succession favouring the development of *grassland* and *pioneer vegetations* over *herbaceous vegetation*, *bush* and *natural forest* on areas where no 'natural' grazing was applied. However, no clear conclusion could be drawn whether 'natural' grazing contributes to a sustainable open landscape on the long term or if it just lowers the succession speed.

The landscape can be considered to be a *temporal discontinuous landscape* with *ecological successions on a local scale, fragmented across the landscape*. The share of stable ecotopes (70% of the landscape) and associated low influence of natural (hydro-morphological) processes on the landscape are the main cause of this discontinuity resulting (among others) in a low share of pioneer vegetations (4% of the total landscape). The restoration of temporal continuity is therefore served by restoring



the influence of natural (hydro-morphological) dynamics of the system and (thereby) decreasing the share of stable ecotopes, for example by creating new pioneer sites and taking agricultural areas out of farming management. The studied ecotopes form a biotic history book of this river stretch (see figure 4) with many different origins, associated ecotopes and social-economical influences. This should be taken into consideration with the ongoing changes in the landscape. We hope that this study can make a contribution to set management goals for ecological restoration of the river, but also to help preserve the ecological-cultural relics of this rich landscape.

This article is a result of the Master Thesis Project 'The spatial and temporal distribution of ecotopes in floodplains of a regulated river' and can be provided on request. Contact information: k.princen@witteveenbos.nl

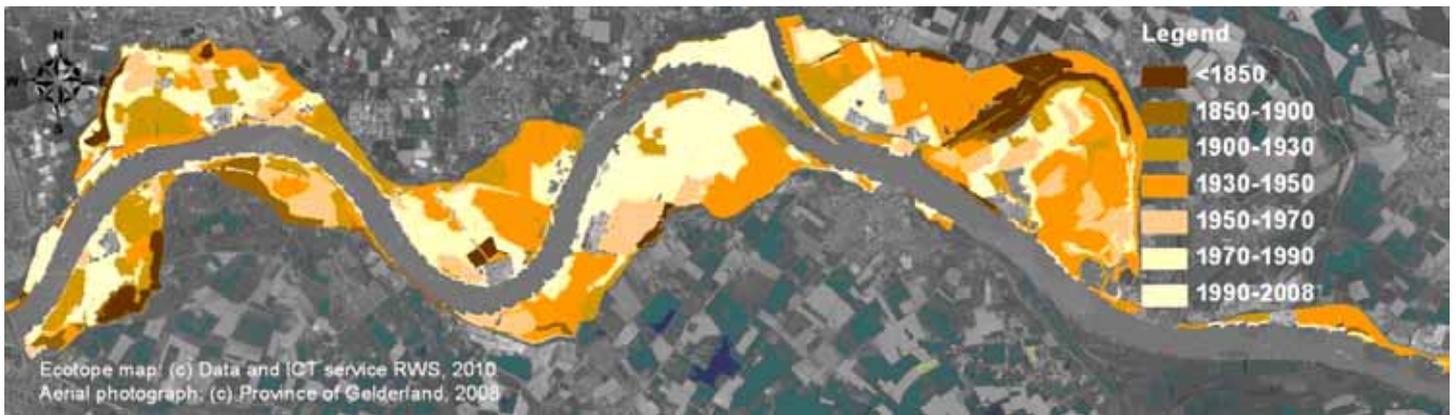


Figure 1: Spatial distribution of ecotope age in present day floodplains along the Rhine/Waal River (NL).

Figure 2: Ecotope type split across ecotope origins.

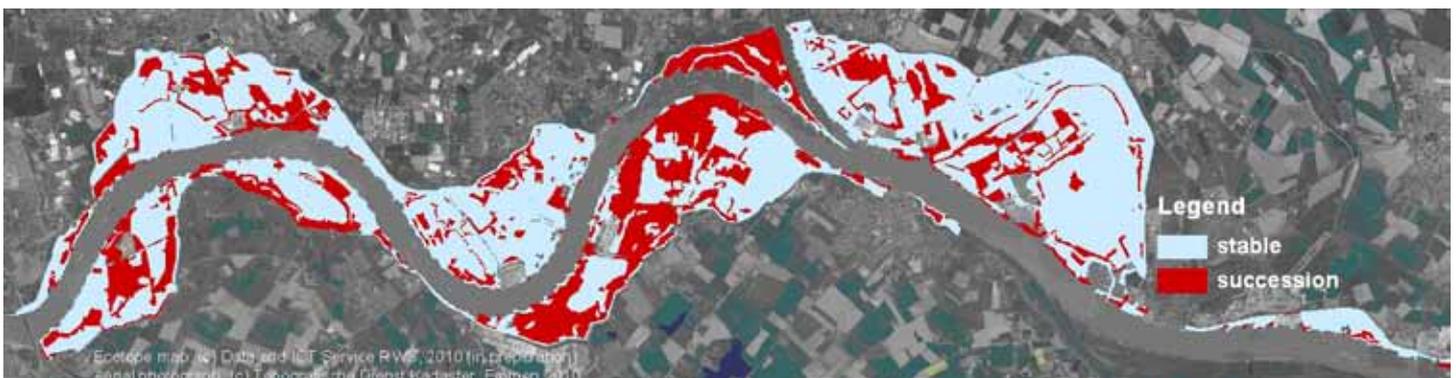
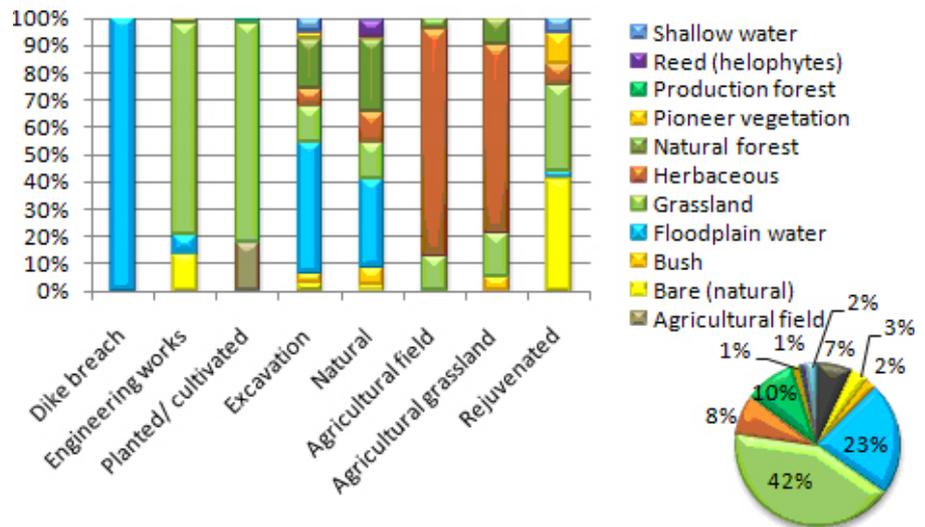
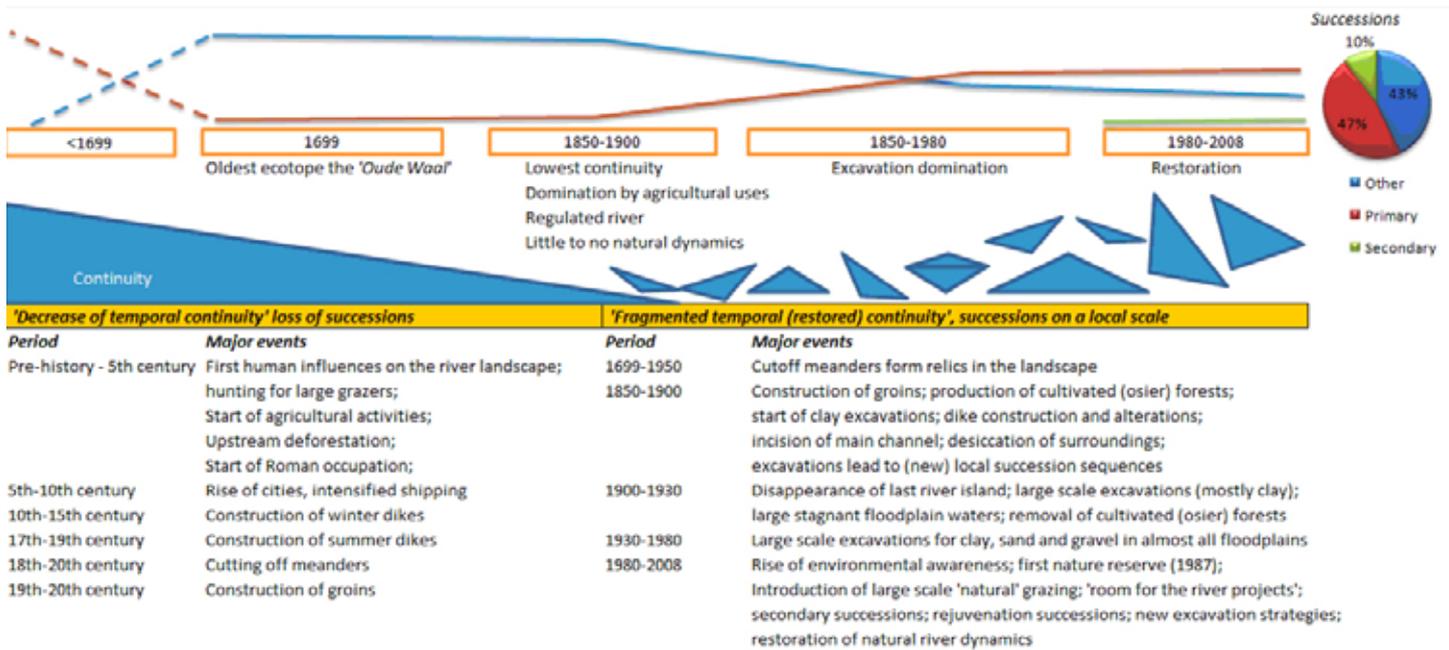


Figure 3: Geographical distribution of ecotopes in ecological succession (red) and stable ecotopes (blue) in present day floodplains along the Rhine/Waal River (NL).

Figure 4: Major events that determined the current landscape composition. The top of the figure shows the relative share of surface area by succession types over time. The table below summarises the major events that steered the current landscape composition (adapted from Lenders, 2003; completed with information from this study).



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Capacity Building for Hydro-Morphological Monitoring and Measures in Croatia

Since 1st of January a new G2G project between the Croatia and Dutch Government has started. Croatian Waters, State Institute for Nature Protection in Croatia and Dutch Government Service for Land and Water Management and the Regional Waterauthority Brabantse Delta in the Netherlands work together in a project Capacity Building for Hydro-Morphological Monitoring and Measures in Croatia. In the context of activities of the ECRR this is a very interesting project as will be explained.

In the process of EU integration, the Republic of Croatia has to harmonize monitoring practices with the Water Framework Directive (WFD) and has to develop methods for ecological status assessment of surface water, to be taken up in national legislation. The national monitoring system for the main biological quality elements is being brought in line with WFD requirements (macroinvertebrates, macrophyta, phytobenthos, fish). As hydro-morphology is a new element introduced through the WFD, as is the case for all EU Member States, progress in this field is running behind and this element urgently needs to be developed to comply with EU standards.

The WFD requires the achievement of good status of surface waters, entailing chemical, biological and hydro-morphological good status. According to the preliminary assessment in e.g. the Mirna river basin in Istria, hydro-morphological pressures – such as flood protection works - are the cause of failing to meet the good status in approximately one third of the water bodies in the basin. A number of these water bodies lie within Natura 2000 sites or are hydrologically linked to these. A comparable situation can be found in other basins of Croatia. At the same time, Natura 2000 legislation requires the attainment of favourable conservation status for the Natura 2000 areas and the drawing up of management plans to ensure this status. The Mirna river basin offers an excellent opportunity to test the application of both WFD and Natura 2000 given the presence of various (potential) Natura 2000 sites that are negatively affected by hydro-morphological pressures. The project can contribute to the development of a national strategy for integration of Natura 2000 and WFD objectives. It is evident that the objectives of the ECRR and this project meet very well.

Croatian waters has ample experience in flood protection but mostly by technical measures that negatively affect the ecological status. Experience is lacking in the assessment and mitigation of negative effects of hydro-morphological modifications on habitats and biota.

This G2G project is now aiming at: Developed procedures and capacity for hydro-morphological monitoring at national level and methodology for the definition of hydro-morphological measures based on a case study in the Mirna river basin in Istria in accordance with the requirements of the WFD (Art. 8 & 11) and Birds and Habitat Directives (Art 6).

The main results that are targeted on are:

1. Accepted methodology and trained staff for hydro-morphology assessment in compliance with the WFD
2. Guidelines developed on the definition of hydro-morphological measures in support of WFD and Natura 2000 objectives, through a Pilot in the Mirna river basin and comparison with cases in 2-3 (sub-) river basins in other areas in Croatia
3. Capacity developed within Croatian Waters, the State Institute for Nature Protection and relevant stakeholders to monitor, define and evaluate hydro-morphological measures.

During the inception phase the outlines of activities to reach the results were elaborated. In that phase it became clear that knowledge and experience about hydromorphology in Karst areas are rare in Europe.

Any suggestions will be gratefully received by the project management. Please contact Dagmar.Surmanovic@voda.hr, or W.F.Oliemans@minInv.nl or I.Kroodsma@minInv.nl



Mirna - Kamenita vrata (MKV)

INBO-Academy and ECRR

The European Centre for River Restoration, join their forces to distance / e-learning to Basin Organisations management staff

River restoration is an effective tool to implement EU Directive, and chiefly the Water Framework Directive; on the other hand, existing legislation gives good opportunities to implement river restoration measures.

In 2010 the a pilot “Introductory course” was given to Basin Organisation staff to help to understand how to use ecological river restoration measures for reaching the Good Ecological Status or Potential of their water bodies and to fight against floods. The aim of that first course was testing the INBO and ECRR members both for the topic itself and for the way the lecture was delivered.

Because of the success of the pilot, another course was recently organised by CIREF. The success of this Spanish Introductory Course on River Restoration for decision-makers is reported in this newsletter. It is foreseen that INBO, ECRR and National River Restoration Centres will develop in the near future complete online teaching programmes in different languages.

Introductory Course on River Restoration for decision-makers

Last January 24th, the first online course organised by CIREF-INBO and ECRR started. For two weeks, two sessions a week of two hours long (were carried out with the following programme:

Session 1: Introduction to River Restoration and Good Ecological Status

- Introduction to River Restoration in Europe
 - Why is restoration needed?
 - What are the main principles of ecological River Restoration?
 - What is the state of the art of River restoration / how did it develop?
- Water Framework Directive (WFD) and River Restoration
 - Good ecological status and good ecological potential.
 - European Eco-regions and WFD in relation to Integrated River basin management (IRBM).
 - WFD Plans of measures in relation to the River Restoration measures.
- Policy drivers for River Restoration
 - Climate change adaptation measures.
 - Flood prevention.
 - Fisheries.
 - European Ecological networks.

Session 2: Hydrogeomorphology and RR: interaction with Good Ecological Status

- Definition of hydromorphology and associated concepts, linkage between human pressures, hydrogeomorphology, ecological responses.
- Introduction of physical restoration, Classification of measures from local-scale to regional scale, from recreation to the process integration.
- Challenging issues and experiences in restoration.

Session 3: River Restoration: an ecological integrity improvement and flood risk control tool

- Estructure and functioning of river systems - Ecohydrological management of rivers - Experiences in Spanish rivers.
- Design and execution of restoration techniques in the basin management plans and European regulations context.
- Challenges in the implementation of RR actions in different river types and hydrological extreme events.

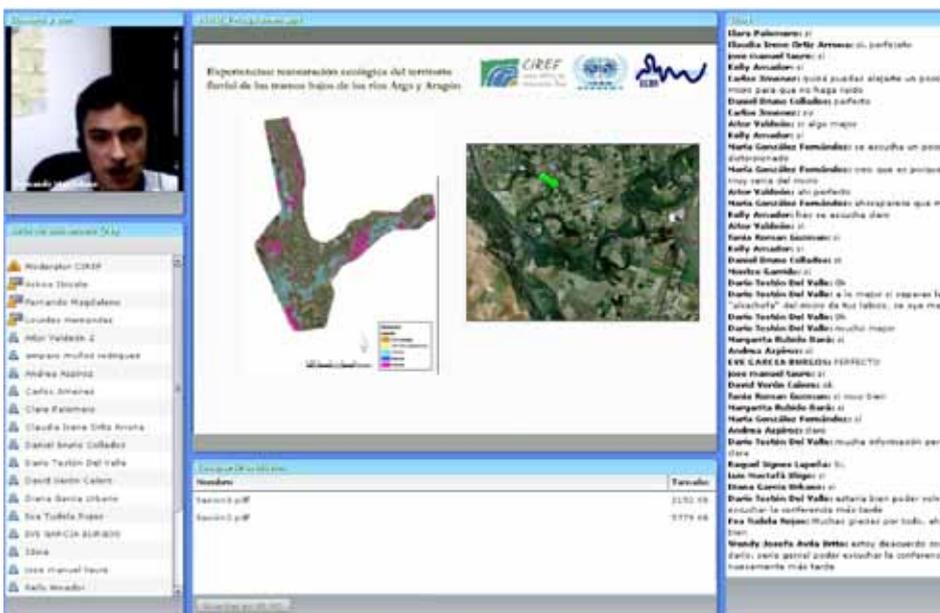
Session 4: Round table with all lecturers to develop the discussion on most interesting matters, and answer to participants questions.

Wrap up session.

The objective of the course was to provide participants with an integrated view of Ecological River Restoration and how they could use RR to achieve GES.

This course is an adaptation in Spanish of the course run by INBO-Academy (International Network of Basin Organisations) and ECRR (European Centre for River Restoration) in spring 2010. INBO and ECRR collaborated with CIREF in the organisation of this course.

← The picture shows how it works: the teacher (upper left corner), the list of participants (left side), the Powerpoint presentation (centre of the screen) downloadable documents (under the ppt) and the chat (right side) that can be used to contact the teacher and other students.



The moderator has to give authorisation to enter the room, give the right to speak to the students, etc. The students have in their desktop different and easy to handle tools that they can use to carry out different actions (rise your hand, applaud, speak louder, etc).

All 25 places scheduled for the course were covered with students coming from basin organisations, universities and private companies from both the Iberian Peninsula and Latin America.

The course was given by Lourdes Hernández (session 1) president of CIREF, Askoa Ibisate (session 2) University of the Basque Country, Fernando Magdaleno (session 3), Ministry of Environment and Evelyn García, Catalan Water Agency, in the round table of the last session (together with all three teachers). A small fee was charged to avoid inscriptions of people who are not seriously interested in the course and to be used in new projects related to promotion of river restoration.

Evaluations of teachers and students were very positive in both senses, contents of the course and the online teaching system used. Many students asked for more online courses related to river restoration, going into deeper knowledge in some aspects.

There were different ideas amongst participants as real students and decision-makers about the timetable, since some had difficulty to combine the course with working time.

After this experience, CIREF is very positive about online teaching as a way to achieve some of the objectives of the association in a cheap and easy way. Therefore the Training Committee has started working on the preparation of a complete online teaching programme in Spanish, organised in different levels and teaching units. CIREF would like to carry out this programme in the near future together with ECRR and INBO.

February 16th 2011. For more information, please contact josu.elseo@cirefluvial.com.

Call for articles

The newsletter of the ECRR should also be a way to share with one another what interesting work is being done, information about seminars or literature.

One way of doing this is by writing an article of any project, event or literature you may be acquainted with. Send this article (**maximum of 500 words**) to the secretariat of the ECRR at info@ecrr.org.

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

The secretariat of the ECRR hopes to receive any article on ecological river restoration from any of its members.

European Events 2011; relevant for ECRR

For events in other continents please consult the website

Date / periode	Titel/issue	Location	Links
13-18 March	River Corridor Restoration Conference	Ascona, Switzerland	http://www.eawag.ch/medien/veranstaltungen/events/rcrc2011/index_EN
08-09 April	International SEDNET Event	Venice, Italy	http://www.sednet.org/conference2011.htm
14 April	Annual RRC	Nottingham, UK	http://www.therrc.co.uk/RRC%202011%20Draft%20Programme.pdf
10-14 April	Status and Future Large Rivers	Vienna, Austria	http://worldslargerivers.boku.ac.at/wlr/
02-05 May	Ecosystems, ground and Surface waters	Vienna, Austria	http://web.natur.cuni.cz/hydroeco2011/
12-13 May	Contributions to water security	Tashkent, Uzbekistan	http://www.cawater-info.net/6wwf/conference_tashkent2011/index_e.htm
18-20 May	Clean water of Russia	Yekaterinaburg, Russia	http://www.eecca-water.net/index.php?option=com_content&task=view&id=1377&Itemid=75&lang=english
24-27 May	Course Modelling Habitat Fish and Invertebrates	Warsaw, Polen	http://www.mesohabsim.org/
08-12 Aug	"Rivers as Linked Systems" International Society for River Science	Berlin, Germany	http://www.riversociety.org/berlin.html
21-27 Aug	World Water Week	Stockholm, Sweden	http://www.siwi.org/worldwaterweek
27-30 Sept	INBO	Porto, Portugal	http://www.inbo-news.org/spip.php?mot120&lang=en
10-14 Oct	Bioindication in monitoring of freshwater ecosystems	St Petersburg, Russia	http://www.ecrr.org/events-october-2011.html
18-20 Okt	Iberian Congress on RR	Leon, Spain	http://www.restaurarios.es/
29 Oct-04 Nov	International waterweek	Amsterdam, Holland	http://www.eurekanetwork.org/c/document_library/get_file?uuid=ef081217-4a05-4f07-bf65-0a8743a2536a&groupId=10137



Government Service for Land and Water Management
Ministry of Economic Affairs, Agriculture and Innovation

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