Project no. GOCE-CT-2003-505540

Project acronym: Euro-limpacs

Project full name: Integrated Project to evaluate the Impacts of Global Change on European Freshwater Ecosystems

Instrument type: Integrated Project

Priority name: Sustainable Development

Deliverable No. 305
Report on end user / stakeholder engagement across the Project (WP10 Task 1)

Due date of deliverable: Month 60
Actual submission date: Month 60

Start date of project: 1 February 2004 Duration: 5 Years

Organisation name of lead contractor for this deliverable: UCL

Revision FINAL

| Project co-funded by the European Commission within the Sixth Framework Programme (2002-2006) |
| Dissemination Level (tick appropriate box) |
| PU | Public | PU |
| PP | Restricted to other programme participants (including the Commission Services) | |
| RE | Restricted to a group specified by the consortium (including the Commission Services) | |
| CO | Confidential, only for members of the consortium (including the Commission Services) | |
Part I
Strategy

Part II
Activities

Part III
Evolution

Part IV
Recommendations
Introduction

This document relates the experience of five years of the Euro-limpacs Project engagement of end-users. Euro-limpacs is a €20m Integrated Project funded by the EU designed to assess the effects of future global change on Europe's freshwater ecosystems.

The project has covered five years from February 2004 through to January 2009. The project is co-ordinated by the Environmental Change Research Centre (ECRC), University College London and has 36 partners from all over Europe, Canada and Russia. The research programme is relevant to the EU Water Framework Directive and other European and international directives and protocols and supports the EU's charter on Sustainable Development.

Euro-limpacs is an Integrated Project whose main purpose is to produce knowledge. Why then engage with end-users?

1- The relationship between the research objective, the end-users and the public was expressed as an inseparable part of the project since the proposal (see Box 1).
Objectives at the beginning of the project

Euro-limpacs overall objectives are:

- to improve understanding of how global change, especially climate change in its interaction with other drivers (land-use change, nutrient loading, acid deposition, toxic pollution) has changed, is changing and will change the structure and functioning of European freshwater ecosystems;
- to encapsulate this understanding in the form of predictive, testable models;
- to identify key taxa, structures or processes (indicators of aquatic ecosystem health) that clearly indicate impending or realised global change through their loss, occurrence or behaviour;
- to identify better approaches for the re-naturalisation of ecosystems and habitats in the context of global change that will lead to the successful fulfilment of the Water Framework Directive (WFD) in achieving good ecological status in freshwater habitats;
- to provide guidance, in the form of useable models, decision support systems and other appropriate tools to respond to the interactions between climate and other changes, in the best interests of conservation of the goods and services provided to the community by its freshwater systems;
- to communicate this information and understanding to users, stakeholders and the wider public.

Box 1

2- The Water Framework Directive requires the engagement of the public during the various stages of the preparation of the Catchment Plan and the water management. “The success of this Directive relies on close cooperation and coherent action at Community, Member State and local level as well as on information, consultation and involvement of the public, including users”¹. This involvement has to be based on “proper information”².

The necessity to define a strategy within the Project derives as a response to the requirements of the EU Water Framework Directive (WFD) that encourage to “ensure

---

² (46) To ensure the participation of the general public including users of water in the establishment and updating of river basin management plans, it is necessary to provide proper information of planned measures and to report on progress with their implementation with a view to the involvement of the general public before final decisions on the necessary measures are adopted. Art. Article 14 Public information and consultation

1. Member States shall encourage the active involvement of all interested parties in the implementation of this Directive, in particular in the production, review and updating of the river basin management plans. Member States shall ensure that, for each river basin district, they publish and make available for comments to the public, including users:
the participation of the general public” and “the active involvement of interested parties in the implementation of the directive”.

Previous experiences
The Project has build upon the experience developed by each partner in their particular field. The partners have brought to the Project their network of contacts and contributed in creating a global forum on Climate Change and Fresh Water throughout the Project.
However, the partners’ experience at individual level needed to be structured in order to create a coherent approach to reflect the size and the scope of such a large international project and to fulfil its obligations under the EC Contract.
This task has been far from easy for several reasons, but two can be easily identified:
   Other than individual researchers who have familiarity with end-users beyond the academic environment, most of the researchers were not used to engage with media or other types of end-users.
   In addition, the Project did not have resources specifically dedicated to the task and those involved had to develop the end-user strategy along with other activities.

Document reading map
This document shows how the strategy has developed and highlights the stepping stones of the strategy’s application during the five years of Eurolimpacs duration. It is therefore not intended as a summary of project’s activities with end-users, but as a navigation tool through the massive quantity of documents, tools and papers that the project has produced. This document is therefore not about science, but about what science can do to go beyond the academic boundaries and produce an impact on society. Since Eurolimpacs has been a science focused project, its communication to the public and its engagement of end-users has been mainly through scientific activities, to respond to scientific requirements, and directed to a scientific community, but its experience, difficulties and achievements can be used to improve the capacity of scientific projects to communicate with the public.
<table>
<thead>
<tr>
<th>Objectives</th>
<th>Resources</th>
<th>Constraints</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategy</strong></td>
<td>• Respond to the requirement of the WFD  • Engage end-users in the research process</td>
<td>• Proposal  • WFD  • End-user questionnaire</td>
<td>• No previous structured knowledge and experience  • No specific budget allocated for the end-user</td>
</tr>
<tr>
<td><strong>Activities</strong></td>
<td>Strategy implementation: (e.g. website, papers, book, workshops, DSS)</td>
<td>• National level workshops  • Project outputs</td>
<td>• Financial constraints  • Cultural constraints</td>
</tr>
<tr>
<td><strong>Evolution</strong></td>
<td>Focus on activities that can be carried out within the projects: Website (public pages) Evolution of the DSS) Summer school aborted</td>
<td>• Project meetings  • Feedback from project activities</td>
<td>• Financial constraints  • No dedicated resources</td>
</tr>
<tr>
<td><strong>Recommendations</strong></td>
<td>Respond to Policy makers:  • Highlight the role of climate change in implementation of the WFD  • Highlight success  • What else could be done</td>
<td>• Project meetings  • Position paper  •</td>
<td>• Distil high volume of information  • Scope of the project  • No guarantee of continuity  •</td>
</tr>
</tbody>
</table>
Part I  Strategy

The Project end-users strategy as outlined in the proposal and the Description of Work has gone through various stages and revisions. One of the first obstacles was to identify which end-users were relevant to the Project.

**Identification of the project end-users**
Before starting with Project activities directed to end-users, some questions needed to be answered:

Who are the project’s end-users? Who is Euro-limpacs’s public? Why do we have to engage with the public? And, what can the project offer to them? In addition, the Euro-limpacs strategy had to answer another question: how can we communicate to the public?

These questions highlight a problem of definition and categorisation that it is more than semantic.

We have posed this question to the partners, hoping that cumulative wisdom could help clarifying what type of end-users Euro-limpacs had to concentrate on.

The results of the questionnaire are assessed in the Deliverable N.5. (D.5) In summary, from the questionnaire it emerged a picture of scientists mainly engaging with end-users at academic level, with some having close relationships with water management institutions, policy makers and very few with the media.

The subsequent end-user strategy outlined in D.5 had necessarily to take the indications of the questionnaire into account. The questionnaire had also provided a wealth of contacts that have been collected in a database. The contacts database has served a twofold purpose: the first, to collect useful contacts for the project and second, to highlight the type of contacts that were preferred and maintained by the participants.

**The engagement of end-users in the project**

The Project participants have made a consistent effort in organising events, workshops, seminars, meetings were the main focus was that of communicating and engaging with end-users:

**Engagement at European level**

The first European DSS end-user meeting took place in April 2006 and is reported in Deliverable N. 131. Recommendations from the meeting were that
the DSS should not only give support for comparing options but also for generating options, and provide information on how much of which measure is necessary to achieve a goal.

**Engagement at catchment level**

Questionnaires were completed by catchment managers following catchment level workshops across Europe (Deliverables 37 and 129). The focus was on establishing user requirements for a catchment based DSS for water management within the context of climate change. Workshops were held in UK, Spain, Greece, Norway, Romania and Austria. Results of the questionnaires have been interpreted in Deliverable 132. The questionnaire answers also showed that, due to very different problem structures in the catchments, the willingness to participate in a continuous survey in some cases is limited.

**Engagement in test catchments**

Further engagement of stakeholders is being undertaken as part of the implementation of the DSS in test catchments. While the emphasis on stakeholder engagement in the individual case-studies varies from catchment to catchment, some have a very strong emphasis on the stakeholder element of the application.

**The project's products**

<table>
<thead>
<tr>
<th>End-user’s activities and products</th>
<th>Academics</th>
<th>Water manager</th>
<th>Policy makers</th>
<th>Informed public</th>
</tr>
</thead>
<tbody>
<tr>
<td>Papers, special issues</td>
<td>***</td>
<td>**</td>
<td>***</td>
<td>*</td>
</tr>
<tr>
<td>Databases</td>
<td>***</td>
<td>**</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Meta-databases</td>
<td>***</td>
<td>**</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Indicators</td>
<td>***</td>
<td>**</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Book</td>
<td>***</td>
<td>*</td>
<td>**</td>
<td>*</td>
</tr>
<tr>
<td>Web thematic areas</td>
<td>***</td>
<td>**</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>DSS</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td>*</td>
</tr>
<tr>
<td>Touch in planning table</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td>*</td>
</tr>
<tr>
<td>Workshops</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td>*</td>
</tr>
<tr>
<td>Workshops Seminars</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td>*</td>
</tr>
<tr>
<td>Thematic questions</td>
<td>***</td>
<td>**</td>
<td>**</td>
<td>*</td>
</tr>
<tr>
<td>Reports and Deliverables</td>
<td>***</td>
<td>**</td>
<td>**</td>
<td>*</td>
</tr>
<tr>
<td>Public Relations</td>
<td>*</td>
<td>*</td>
<td>***</td>
<td>*</td>
</tr>
<tr>
<td>Link with other projects</td>
<td>***</td>
<td>*</td>
<td>**</td>
<td>*</td>
</tr>
<tr>
<td>Position paper</td>
<td>**</td>
<td>*</td>
<td>***</td>
<td>*</td>
</tr>
</tbody>
</table>


The Project’s strategy foresaw one main tool resulting from and with the engagement of end-users: the DSS.

**DSS**

**Decision support system (DSS)** Natural and social science expertise will be combined in the consortium to develop a decision support system (WP9) in which practical, operational advice, using geographical information systems (GIS), can be incorporated for managers in competent authorities for use in restoring habitats to good ecological status. This system will be demonstrated at workshops and in the field throughout Europe.
Activities undertaken based upon the Consortium’s end-user strategy

The engagement of end-users in Euro-impacs has been the result of a strategy first developed in the proposal and in subsequent documents. The strategy moves around five centres:

- The DSS, as a product from the project, developed with the collaboration and for the community of end-users
- The links with other projects
- The training activities
- The relationships with the media and the public
- And the integration of the knowledge produced by the project in a web-based information system

In addition all Project activities have been possible through the main communication tool that is the Project’s website.
The website

www.eurolimpacs.ucl.ac.uk

When you connect to www.eurolimpacs.ac.uk you are presented with the Euro-limpacs portal.

The website is not only divided into two sections: a public one and the intranet, but offers to the visitor a wide range of information and options for navigation. The website is the project's main dissemination tool. The latest news' box highlights the latest achievements, while a wide range of links guide the visitor to the various sections of the website. The main sections are also showed on the top of the page. On the top of the page a search engine helps a quick searching of information.

The website has been used from the beginning of the project as a management tool and the portal for the internal communication. The intranet contains almost anything the project as produced.

Euro-limpacs’s project website is the Project’s front page to the world and a tool for internal management and information sharing. It contains many layers of information from the Project's introduction to the most sophisticated models, databases and software. For this reason Euro-limpacs' website is at the same time a tool, a product, a benchmark, a storage place for information and a mean of communication.

The website has been developed by a team of very skilled researcher through various stages:

- Intranet development
- Databases and on-line tools
- Public pages

Homepage

Euro-limpacs homepage has been designed to introduce the Project, but also to guide the visitor through the website’s many features.

In addition with a text providing immediate links to areas of relevance, the homepage also has a bar with the main areas and useful search engine that allows the visitor to find the information of interest.
Particularly useful for the public is the link to the glossary containing terms and definitions used throughout the Project.

About
In the section ‘About’ immediately accessible from the front page, the visitor can immediately find information circa the Project’s work programme, the sites where experiments are carried out throughout Europe, the methodology (special planning, modelling, space for time substitution, time-series analysis, paleoecological methods and other types of experiments). A useful link to the institutions participating in the Euro-limpacs leads to a page with an interactive map. In particular the link to the Project’s experimental sites leads to a page provided with an interactive map where visitors can find out detailed information circa each site.
In addition, with just a click, the visitor can find out how Euro-limpacs is addressing issues of climate change with a summary of the main Euro-limpacs findings.

Research Themes
Euro-limpacs research themes have been grouped into four main areas: stressors, temporal scales, management and cross-cutting themes.

Results
Project results take a number of different forms, such as reports, deliverables, a bibliography and key questions arising from project activities.

The DSS
The DSS has been developed as a practical tool for the user community. The DSS has been developed by the team of WP9 with collaboration with the
team of WP7. The work has focused on identifying the best method for engaging stakeholders in the catchment management process from the European level, member state level and catchment level. Valuable lessons have been learned regarding the difficulty of engaging stakeholders without providing them with adequate incentives to participate in the development of tools, in particular making the tools obviously and directly relevant to their immediate tasks (e.g. implementing the Water Framework Directive).

An example of successful involvement of end-users is reported in Deliverable 114 and 115.

Here the end-users have been supported in their decisions by an interactive table that visually shows different scenarios and possible consequences.

---

**Dissemination & Training**

The Project includes a comprehensive programme for knowledge transfer involving web-sites, training programmes for young scientists and catchment managers as well as extensive publication of reports, computer programs, data-sets and peer-reviewed scientific papers. All results will be freely available both within the consortium, the user community and the wider public, including education institutes.
An important aspect of the project has been to distribute project output in an appropriate form to a wide range of users. This has been achieved in a number of different ways.

Training in Euro-limpacs is focused on;

- internal training for scientists participating in the project, in the form of project workshops,
- external training for end-users and stakeholders, for example, in summer schools,
- PhD and post-doctoral opportunities for post-graduate and post-doctoral researchers across Europe.

The dissemination of information to end users and stakeholders by the provision of training is a key component of the Euro-limpacs project. End-user and stakeholder training is undertaken across the project and managed under WP10. Training opportunities include specialist workshops and postgraduate/postdoctoral training.

**Specialist External Workshops**

End-users and stakeholders have been consulted to determine the type of training that will be most appropriate to their needs. At the beginning of the project it was envisaged that one-week summer schools might provide an appropriate training tool. However, it was recognised during the first year that the plans to host dedicated end-user summer schools and conferences faced a number of practical difficulties. While end-users in the scientific community outside Euro-limpacs are prepared to attend such meetings of up to a week in length, initial contacts with end-users in other spheres (e.g. national agencies, catchment managers) suggested that such engagement may not always be practical. It was decided to develop a more realistic end user strategy to be co-ordinated centrally across the Project, where a combination of different types of workshops is likely.

**Specialist Training Workshops**

- **Ecological Indicators**
  A specialist training workshop on ecological indicators entitled ‘Bio-indication and bio-assessment in rivers under the constraints of the Water Framework Directive and Climate Change’ was hosted by UDE in Essen, Germany in June 2005. It was attended by members of regional and national water boards and consultancies. The course covered macroinvertebrate sampling, species identification, ecological requirements and function as ecological indicators. Assessment software for stream bio-assessment was introduced. The workshop was well received and participants requested that the training course should be run again in the coming years in other regions of Germany.

- **Modelling**
During 2004 AERC gave a number of training courses on the theory and application of the INCA-P model ensuring that modelling approaches were disseminated to stakeholders and end-users in the first year of the project, including the UK Environment Agency and the UK Department for Environment, Food and Regional Affairs.

Future Specialist Training Workshops

- **Ecological change - detecting impact and recovery**
  SLU are planning to run a graduate course on detecting ecological change and recovery. The objectives of the course will be to give a basic understanding of how ecosystems function and of possible linkages within and among ecosystems. Building on these concepts and principles, a number of approaches that are commonly used in detecting ecological change will be evaluated, such as ecosystem degradation and recovery. The course will include presentations by guest lecturers, discussions by participants and software demonstrations.

- **Eutrophication and Climate Change**
  Work Package 3 plan to hold an International PhD course on climate, nutrients and freshwaters in Denmark, October 2006.

There are possibilities for the development of further specialist training workshops as the project progresses and the level of interest from end-users becomes apparent. These may include, for example, further training in the use of the INCA-P model, or the development of internal workshops into short courses open to end users. The development and management of training opportunities for end users will continue to be a key focus for Work Package 10.

**Postgraduate and post-doctoral training**

Opportunities to involve postgraduates in the Project are encouraged and facilitated by the Project Management Team. A number of partners have postgraduate students undertaking research that feeds directly into Eurolimpacs,

<table>
<thead>
<tr>
<th>Partner</th>
<th>Training provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCL</td>
<td>The ecological impacts of an increase in sediment accumulation rate in shallow lakes and the effects of climate change. Modelling the effect of residence time on lake water acidity through a dynamic modification of the rainfall effect.</td>
</tr>
<tr>
<td>UDE</td>
<td>Renaturation goal: braided streams in mountainous areas - comparison of macroinvertebrate composition and abiotic parameters.</td>
</tr>
<tr>
<td>SLU</td>
<td>Assessing acidification status and how climate influences that status. Modelling the effect of climate change on snow cover, with particular focus on soil freezing.</td>
</tr>
<tr>
<td>AERC</td>
<td>Monitoring macrophyte growth in river sites, and the controlling hydrological and hydro-morphological factors. Developing a model of algal growth in lakes.</td>
</tr>
</tbody>
</table>
• Working on sediment sources and sinks in a river catchment, undertaking the development and testing of the INCA-Sed model.

<table>
<thead>
<tr>
<th>Institution</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYKE/AERC</td>
<td>Using INCA-P to investigate impacts of land use change and atmospheric pollution changes on nitrogen in catchments across Finland.</td>
</tr>
<tr>
<td>UB</td>
<td>How changes in hydro-geomorphology influence water-transport and in-stream nutrient retention.</td>
</tr>
<tr>
<td>RHBNC</td>
<td>Laboratory analysis techniques and the use of a GIS.</td>
</tr>
<tr>
<td>UICE</td>
<td>Life cycle strategies of major macro-invertebrate groups.</td>
</tr>
<tr>
<td></td>
<td>Effect of nutrient addition on primary producers in streams.</td>
</tr>
</tbody>
</table>

Since the start of the project opportunities have arisen for Euro-limpacs scientists to participate in international PhD courses. Input into postgraduate courses will continue to be an important training mechanism in the Euro-limpacs project.

The submission of a proposal for a Marie Curie Research Training Network (RTN) is planned. A Network consists of a consortium of teams located in different countries, and is designed to provide training and the transfer of knowledge to young researchers. An RTN based on the Euro-limpacs project will allow the development of training activities already underway in the Project. There will be an opportunity to submit a proposal during the second half of the Project.

**Compendium of short courses covering Euro-limpacs research activities**

The availability of training for project end-users has been investigated by compiling information on short courses that cover a range of Euro-limpacs research activities. This short course compendium (Deliverable 141) provides information on courses of up to a month’s duration that are provided by European institutes, both internal and external to the project. Initially, short courses for postgraduate and post doctoral researchers were investigated, but searches on the internet revealed that courses are available for other interested end-users (e.g. from government, industry or business) and these have also been included in the document.

**Short courses**

The dissemination of information to end users and stakeholders by the provision of training is a key component of the Euro-limpacs project. End-user and stakeholder training is undertaken across the project and managed under WP10. Training opportunities include specialist workshops and postgraduate/postdoctoral training.

**Specialist External Workshops**

End-users and stakeholders have been consulted to determine the type of training that will be most appropriate to their needs. At the beginning of the project it was envisaged that one-week summer schools might provide an appropriate training tool. However, it was recognised during the first year that the plans to host dedicated end-user summer schools and conferences faced a number of practical difficulties. While end-users in the scientific community outside Euro-limpacs are prepared to attend such meetings of up to a week in length, initial contacts with end-users in other spheres (e.g. national agencies,
catchment managers) suggested that such engagement may not always be practical. It was decided to develop a more realistic end user strategy to be co-ordinated centrally across the Project, where a combination of different types of workshops is likely.

Specialist Training Workshops held in Year 1

- Ecological Indicators
  A specialist training workshop on ecological indicators entitled ‘Bio-indication and bio-assessment in rivers under the constraints of the Water Framework Directive and Climate Change’ was hosted by UDE in Essen, Germany in June 2005. It was attended by members of regional and national water boards and consultancies. The course covered macroinvertebrate sampling, species identification, ecological requirements and function as ecological indicators. Assessment software for stream bio-assessment was introduced. The workshop was well received and participants requested that the training course should be run again in the coming years in other regions of Germany.

© Media and information available to the public

Reports and Information
Information and published material about Euro-limpacs has been produced in different forms:

annual reports submitted to the EC are summarised in user-friendly format for public dissemination.

distribution materials, such as posters and fliers, have been produced and are used to raise the profile at a number of national and international meetings.

reports from meetings and conferences are available.

Deliverables
Project deliverables have been produced since the start of the project. They are a valuable method of documenting the progress of the project.

Key Questions
A leaflet containing scientific questions address the major findings arising from project activities. Over 50 key questions have been identified covering all aspects of the project.

Bibliography
During the course of the project a large number of publications have been produced and are catalogued in a project bibliography.

Summary of bibliography records

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of records</th>
</tr>
</thead>
</table>
Summary of bibliography records

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of records</th>
</tr>
</thead>
<tbody>
<tr>
<td>article</td>
<td>356</td>
</tr>
<tr>
<td>book</td>
<td>2</td>
</tr>
<tr>
<td>inbook</td>
<td>28</td>
</tr>
<tr>
<td>proceedings</td>
<td>1</td>
</tr>
<tr>
<td>inproceedings</td>
<td>24</td>
</tr>
<tr>
<td>manual</td>
<td>0</td>
</tr>
<tr>
<td>report</td>
<td>29</td>
</tr>
<tr>
<td>phd</td>
<td>8</td>
</tr>
<tr>
<td>masters</td>
<td>11</td>
</tr>
</tbody>
</table>

The Book and Euro-limpacs editorial projects

At least two books have been produced as direct result of Euro-limpacs:

Distribution and Ecological Preferences of European Freshwater Organisms. Volume 1. Trichoptera

This book series provides comprehensive information on distribution and ecological preferences of European freshwater organisms. The first volume summarises the current knowledge on European caddisflies (Trichoptera), based on the evaluation of over 1,400 literature references. The distribution within European ecoregions (including Turkey and the Caucasian region) is given for 1,426 Trichoptera species and subspecies, categorised into 136 genera and 23 families. A wide variety of ecological preferences is presented, including feeding types, habitat and current preferences, temperature and altitude preferences, life duration and flight periods, and the response to environmental stress.

The compilation is a unique tool for analysing freshwater biota, both for basic and applied purposes such as ecosystem monitoring and the implementation of European directives in the field of environmental protection.

Four other issues will follow in 2008 and 2009 covering Mayflies, Stoneflies, Fish & Diatoms.


A book entitled 'Climate Change impacts on Freshwater Ecosystems – direct effects and interactions with other stresses' is currently in preparation.

The book will target the scientific community, but it will also be readable by a knowledgeable public, containing information at different levels.
Most of the chapters should present the state of the art in that particular field with results from the Project as well as world wide science. Case studies from Euro-limpacs sites should also be highlighted through boxes within the text. The book is designed to raise the Project profile and should be publicised through the media.

Multi-authored papers focused on integration and synthesis may be another good way to summarize important findings from the project.

Euro-limpacs’ editorial projects are not limited to the publication of a book. During the ExC meeting in January other projects were proposed: Project findings could be summarised in one or more special issues collecting relevant articles on the impact of climate change on fresh water resulting from the Project activities. Closer to the end of the project guidelines and recommendations for end-users and policy makers could also be published in a Guide Book.

**Intranet**

For a Project like Euro-limpacs, intranet is an essential management, data storing and information exchanging tool. The intranet home-page contains important features like: a Project notice board, news and a diary.

Links are also provided to the other intranet pages such as:

---

3 Reviewers’ Recommendation n.2
**Forums and mailing lists for internal communication**

The intranet provides forums for communication on special topics. The forums work as a newsboard. This feature has been used particularly at the beginning of the project for a prompt communication between partners working on the same topic or WP. Another feature is the mass mail facility with mailing lists reflecting the Project’s organisation structure. For example, emails can be sent to the Project’s Executive Committee or the list of people registered in the website.

**Tools:**

- **Document store**
  The document store is the Project shared drive collecting documents both at their final stage or as draft to be shared by partners. This instrument has been very useful to create a space where the massive quantity of documents produced by the Project could be stored and shared among participants. However, the amount of documents has supersede the initial forecasts with some searching difficulties.

**Project outputs**

The section ‘outputs’ collects the Project’s deliverables, the reports, the publications (including the obligatory 30 days notice foreseen by the EC Contract). The section outputs also includes a specialist area

**Specialist areas**

- Database
- Palaeolimnology
- Time-series

**Links with other projects**

Euro-limpacs already gathers a large number of experts in water eco-systems and climate change. Many participants were already members of other EC funded projects and shared.

Euro-limpacs is not only a large IP project, it is also a large and lively scientific community which interests and contacts expand through out the world.

Many participants participate in other European funded projects and have international collaborations with environmental research or policy making institutions.

As outlined by the End-users questionnaires other researchers are le most important type of end-users as the scientific community.

The European Commission funds several projects in subjects related to Euro-limpacs.

The projects funded trough the Thematic Sub-Priority “Global Change and Ecosystems” often present evident connection to the Euro-limpacs’ activities.

In some cases the link to the Project activities is direct; some projects carrying out similar or complementary activities to those of Euro-limpacs. There are also cases in which Project’s partners participate in other FP5 or FP6 funded projects.

The integration of knowledge, skills, human capital also passes trough the establishment of a net of closer relations with other projects and other research teams.
Trough the effort of exchanging information and creating networking opportunities, Euro-limpacs is aiming to:

- improve its profile in the research community,
- maximize resources,
- avoid duplication of efforts in those areas already covered by specific projects,
- and finally, be in better position to achieve its objectives.

Euro-limpacs has begun establishing direct links with three projects

ENSEMBLES  
The ENSEMBLES project (contract number GOCE-CT-2003-505539, website: http://ensembles-eu.metoffice.com/) is supported by the European Commission's 6th Framework Programme as a 5 year Integrated Project from 2004-2009 under the Thematic Sub-Priority "Global Change and Ecosystems". Its activities are related to those of the Euro-limpacs' WP1. During the second Euro-limpacs general meeting a representation from the Ensembles project has participated to an ad hoc meeting hosted by the SG. The evaluation of risks is an interesting field where the results from Ensembles could support.

A joint meeting has been held with the ENSEMBLES project to assess areas of mutual interest and potential collaboration. During the meeting, Professor Rick Battarbee summarised Euro-limpacs and Dr. Chris Hewitt did likewise for ENSEMBLES. Dr. Uli Nickus presented on Euro-limpacs requirements for scenario data and how these data were being used. The ENSEMBLES group has shown their interest in collaborating with the Project to provide scenario data. There is a need to clarify all our scenario requirements in the light of this potential collaboration. It is left to the initiative of the partners interested to communicate relevant data.

Professor Edward Maltby met with Dr. Andy Morse to look at potential links with WP6/WP9 immediately following the Project meeting. Those involved in WP Task 1.1 are mainly responsible for liaising with ENSEMBLES.

HARMONI-CA  
The Harmoni-CA Project, Contract EVK1-2001-00192, http://www.harmonica.info/ is a 5FP cluster offering a forum for the scientific and political world involved in integrated basin management.

Euro-limpacs is participating to the next Harmoni-CA Conference 5th – 7th April 2006, Osnabruck, Germany with a poster presenting the End-user Strategy. A European end-user workshop will be also held as parallel session. The workshop will see the participation of European stakeholders and the partners participating in WP9. It will be held on the 6th April in two parallel sessions.

CLIME
Dr. Martin Kernan attended the final CLIME (Climate and Lake Impacts in Europe Contract N. EVK1-CT-2002-00121, WEBSITE: http://clime.tkk.fi/) meeting in Innsbruck in November/December 2005. The key objective of this project is to develop a suite of methods and models that can be used to manage lakes and catchments under future as well as current climatic conditions and provide strategic support to the Water Framework Directive. It has four main components; regional forcing, integrated catchment modelling, regional response of lakes and impact assessments. The purpose of the meeting was to close the Project, present results across the consortium and end users and discuss the potential ways of continuing the work undertaken during the course of the Project. The main innovations during the Project have been

The objective of attending the meeting was to assess whether output from CLIME and any continuation of the work started under this Project could link with work being done in Euro-limpacs, either formally as part of Euro-limpacs or through links with any future Project stemming from CLIME. A number of the CLIME partners are also involved in Euro-limpacs and therefore it is important to assessing whether some of the approaches used in CLIME could be applied in Euro-limpacs – it is already planned to apply the GWLF to the glacier work in WP1 and a number of CLIME sites are also being studied in Euro-limpacs. The PROTECH model developed and applied in CLIME is also being used at sites in Euro-limpacs. There is also scope to incorporate some aspects of the CLIME DSS into the Euro-limpacs information system which is an area to consider in more detail.

The contacts and exchange of information will continue though the Project. The Conference CER2005 has been an event that has facilitated the contact with other projects. A list of projects related to Euro-limpacs can be found as an appendix to the present document.

This effort to link with other projects is not without risks and problems. The main obstacles are:

- **Structural** – The project has its own structure designed to reach certain objectives. The link with other projects has to be designed in a way that maximizes the effort of both parties without draining already tight resources. The risk is therefore to drift from the original purpose or being put off by the challenge that it presents.
- **Financial** – This is related to the first constraint mentioned. The Project has already limited resources and any addition should be carefully evaluated.
- **Legal** – The European regime on IPRs it is designed to favor the exchange of knowledge within a consortium where rights and obligations are negotiated and acknowledged by all its members; the same regime, however often limits the prospects of an unlimited exchange of information with third parties. The practicalities of Copyright are discussed in Part III of the present document.
- **Cultural** – The participation of a large number of researchers (Euro-limpacs participants are >200) represents already a major cultural change. The European Commission fosters the creation of wide collaborations across Europe in order to create the critical mass to
solve poignant problems of the society. The academic community has responded by changing its traditional collaboration path. In many cases, through the exchange of students and collaboration the Project has already expanded its horizons over the limits of the consortium. However there are not the conditions to go beyond the declared scope of the Project.

Notwithstanding the difficulties, it is an exercise that is already creating opportunities and will definitively generate new ideas in the future.

Media and the Public

“Are laypersons considered stakeholders in WP 10? We would urge that “About Eurolimpacs” and appropriate sections of the results, as they become available, be written for laypersons. It will be important for the general public to be informed on a regular basis about the major findings of Euro limpacs”

The media have played a sporadic role in the Project. Perhaps Euro-limpacs could have benefited from a larger media exposure. However, the enormity of the tasks undertaken by the participants and the coordinator have left little time and resources available for a substantial engagement with the media. It has to be noted that unlike the usual channels of communication serving the scientific community, the media require a specific preparation, time and resources which were not provided by the Euro-limpacs budget.

Activities that have been set aside

Summer schools

The original goals to establish an Euro-limpacs Summer School has been abandoned mainly for lack of resources. A Marie Curie project has been discussed to gather additional resources towards training, but the proposal was not successful and the project abandoned. Training activities has been left, though, to the initiative of single universities that have been able to use the wealth of information produced

International end-users workshops

The initial plan for an EU wide workshop has been set aside and replaced with smaller workshops at national and catchment level.

4 Reviewers’ Recommendation n.11
Euro-limpacs editorial projects

Euro-limpacs has undertaken various editorial projects as presented in the session books. However, the idea to establish a Euro-limpacs journal has been abandoned for the effort required at financial and editorial level.

The Euro-limpacs' Information System

“It will be important to develop visionary leadership within and integration of the various work packages, because overall it will be the synthesis of these efforts that will provide the unique product of this project”5.

To address the requirements of the WFD and open the Project results to End-users, Euro-limpacs has designed an integrated strategy that conveys scientific results to a multi-layer information system. The Euro-limpacs Information System (EIS) will work as a decision tree offering access to different sets of information, tools and experts. The EIS will be developed to integrate scientific results from the Project, databases, meta-databases, policies, a specially designed Decision Support System, models and expert help-desk.

The EIS is still a working hypothesis that responds to the need for a reliable information bench mark for End-users and policy makers.

“A Web based ‘Information System’ will encompass the full range of information / output being generated from the Project. This will provide a very useful tool for environment agencies, conservation bodies, environmental consultants, local stakeholders, agencies charged with implementing water quality directives, government bodies, EU organisations and the wider scientific community. It will also enable all Project output to be consolidated in a way that provides a window on the project from outside.

This ‘Information System’ would take the form of a dynamic relational database cross referencing all aspects of the Project (Stressor types, ecosystem types, approaches, databases, Policy relevance etc). This would be progressively updated as more results were generated during the course of the Project. Access to the information system would be through a user friendly, menu driven Web based front-end (with search facility) linked to the Project Web page and existing project databases (e.g. Project bibliography, various biological indicators databases, palaeoelimnological database, reference condition and restoration databases. Users will be able navigate across the Project querying output relating to specific sites, stressor and / or ecosystem types, methodological approaches and policy perspectives. This will be developed using MYSQL and PhP. The ‘Information System’ front end will be designed in consultation with end users”6.

The Information System is designed as a matrix of information. A user interested in specific information can build a query based on, for example, methods used or tap into databases where the particular studies have been

---

5 Review Report, Comment 3.b, 2005
6 Dr. Martin Kernan, 2005
undertaken. If a modelling approach is of interest the user can identify which models have been used and go on to see where these models have been applied. It will be possible then to link to manuscripts or reports describing the results of these or persons responsible who can provide further information.

The implementation of the information system, however, requires a considerable investment in terms of dedicated personnel, to build and administrate the website, integrate and update information.

The implementation of the EIS is therefore subjected to the availability of resources.

“It would be highly desirable to have some discretionary funds available so that the Executive Committee can pursue new and exciting opportunities”\(^7\).

In order to raise funds to support this initiative, some of the partners and the coordinator of Euro-limpacs have applied to a SSA. The proposal has unfortunately been rejected and the consortium is still exploring other funding opportunities

Euro-limpacs will continue to seek funds for this crucial activity and to expand the scope of the Project and to secure continuity to the initiatives.

**Communicating European Research CER2005 14-15 November 2005**


Euro-limpacs was represented by UCL and Entera with a manned boot hosted by the Conference’s exhibition.

The stand was visited by other participants to the exhibition as well as by visitors.

During the exhibition a slide show representing the main Project’s facts was shown along with posters. A general leaflet was produced on purpose and distributed to visitors.

The exhibition offered the opportunity to present the Project to a large audience; more than 2000 visitors attended the Conference and many expressed their interest in the Project by leaving their contact details in the guest book.

The exhibition represented also a rare opportunity to exchange information with other projects related to Euro-limpacs. There was a considerable participation of projects in environmental disciplines which offer ideas and the opportunity to confront different approaches.

To be noted however that UCL participation to the Conference was made possible by the support of another project coordinated by the institution which covered the costs.

**World Water Week in Stockholm, 20098**

\(^7\) Reviewers Recommendation n.4
The World Water Week in Stockholm is the leading annual global meeting place for capacity-building, partnership-building and follow-up on the implementation of international processes and programmes in water and development. It includes topical plenary sessions and panel debates, scientific workshops, independently organised seminars and side events, exhibitions and festive prize ceremonies honouring excellence in the water field. Stockholm is the meeting place for experts from businesses, governments, the water management and science sectors, inter-governmental organisations, NGOs, research and training institutions and United Nations agencies.

_Euro-limpacs is planning to organize a final conference or workshop during the World Water Week in order to give the maximum impact on the project results._

The organization of the event will begin after the third Euro-limpacs meeting in Lipzig, Germany in April 2006

4) Challenges with the exploitation of project results
With any project there are inherent challenges:
One is to make sure project results are exploited after the end of the project;
The other, is to make sure that consortia are capable of identify exploitable results and focus their efforts towards those prospective research lines.
The first problem implies the availability of funds beyond the duration of the project and its continuation;
The second, implies the possibility of consortia to alter even significally their contract and Description of work

Other problems are inherent with the vocation of academic researchers that is traditionally not directed towards communicating to the public or to the market. The involvement of industrial or commercial enterprises needs to be supported more than encouraged.
The problem is not only the different mentality and orientation towards the exploitation of results, but there is not sufficient attention to the many stages necessary to bring a product to the market. The process of innovation and the exploitation of results is part of it, is very complex. Researchers are usually not prepared to undergo business analysis. Without a cost/benefit analysis and a business plan, however, there is little chance that the commercial exploitation of results is taking place. However, many valuable results lose their value early in the process through a lack of awareness of basic IP issues, and many businesses fail to understand what to look for in new research results.
The traditional channel of communication using peer reviewed scientific articles, are perceived as not sufficient to guarantee that scientific research benefit society through the market.

8 [http://www.worldwaterweek.org/](http://www.worldwaterweek.org/)
Euro-limpacs despite the very limited resources has tried to create a forum at international level where end-users could be involved from the beginning of the project. The problem highlighted in other parts of the document show how difficult this process is. The question on how to stimulate users pull remains unresolved.

Communication of results: lesson learned
The identification of the target audience
Transfer of knowledge and end-users
Tools: DSS and IS

**FP7 Rules for participation**

Euro-limpacs is a FP6 integrated project. Its dissemination and exploitation activities are regulated by the FP6 rules for participation and Contract’s General Conditions. However, its experience and the activities carried out during the project’s life can be useful as an example for FP7 projects.

*Article 20 Provisions concerning access rights, use and dissemination of the Rules for Participation:* “For those purposes, it shall require the submission to the Commission of a plan for the use and dissemination of foreground”.

Euro-limpacs has produced a “Plan for using and disseminating knowledge” as part of the periodic report. This document has been useful to inform the Commission of any activities meant to the protection and dissemination of results. However, the document has inevitably taken the form of a long list of facts and events. This document is better read in conjunction with the deliverables: 5, 136 and 305.

Euro-limpacs consortium has put a great deal of effort in structuring the end-user strategy and the dissemination activity at global, European and national level and this is better reflected in other documents or in coordinated activities such as the website.

A list of activities for the use and dissemination of project results for such a large project such as Euro-limpacs:

- It is not sufficient to reflect the complexity and the impact of these activities on end-users;
- It does not show the level of integration between participants and activities;
- It is not sufficient to represent the coherent strategy that is behind the activities listed.

The plan for using and disseminating knowledge remains a useful list that summarise the main products/achievements and dissemination activities. It has been also useful for the consortium to focus on the research results and highlight those suitable to be described as “products”.

For research institutions and projects oriented towards the production of knowledge and data and not used to regard their result as potentially commercially valuable, the drafting of the plan for using and disseminating knowledge has been a particularly challenging task.
It would be useful for the future if the plan for using and disseminating was structured in a way that gradually lead researchers towards a structured business plan. It should also allow the consortium enough flexibility to adapt the plan to its own goals and needs.
During the project some activities have been abandoned and others have been further developed.

**Thematic questions**
A list of forty scientific questions has been listed and published in a four folded leaflet. The list of questions has been used in meetings to present the scientific content of the project and stimulate the interaction with end-users. Copies have been distributed during an ERA-NET meeting to highlight scientific needs.

**Position paper**
End-user engagement has changed during the project to reflect the needs highlighted during the first project activities, the feedbacks from end-users, the overall experience gained, the direction taken by the project and the limited resources.
The consortium Executive Committee has realised that to make the best use of the project resources in terms of people’s skills and finance, it has to concentrate on what is capable of producing. The Project’s position paper responds to this need.

**Public pages on the website**
The website has been developed to include pages open to the public and providing access to a wide range of information and data.
The Euro-impacs website has been a major tool for the Project management from the beginning. The public session however, has been developed mainly from the third year of the Project to deal with the growing interest from the end-users and the public.
The public pages give access to a wealth of information.
The home page is structured in a way that allows the user to have an immediate overview of the content available. The user is then guided throughout the public pages to an increasing level of detail.

**Newsletter**
The newsletter has been created with the aim of better communicate news and information to the participants and to the Commission.
The news session of the website has not been sufficient as a fast communication tool. While participants might not have the time to regularly connect to the website, the newsletter arrives to them directly.
After some discussion, the coordinator has opted for a simple, text only email format. The text highlights the main content of the news and provides a link to the relevant web page. The newsletter has been determinant to organise meetings, provide instructions for reports, keep the participant updated with the main project achievements.

**Thematic questions**

![Distribution and Ecological Preferences of European Freshwater Organisms](image)

**Position paper**
Following on from the Internal Mid-term Review and subsequent discussions on how the Project could ensure (and demonstrate) integration across the project it was decided to have a number of brainstorming workshops at the Euro-limpacs Project meeting in Leipzig. These were based around 4 key themes: i) what are the meteorological/climate effects on the physical and chemical status of freshwater systems?; ii) What are the ecological consequences of changes in
the physical and chemical status of freshwater ecosystems induced by Climate Change and how can they be detected?; What can we do about adaptation and remediation to cope with the physical/chemical and ecological changes?; and iv) What are the Implications of Climate Change for Policy and Management of Freshwater Ecosystems? The aim of this exercise was to bring together colleagues from different work packages and highlight all the key climate questions, how we are dealing with them in Euro-limpacs, what the gaps are and whether we are fully developing the links within the Project etc. For each integration theme, between two and four discussion workshops were arranged. The output from these formed the basis of the Euro-limpacs position paper.

The position paper aims to summarise our current understanding of the impact of climate change on freshwater ecosystems in Europe based principally on the outputs of the EU-funded Euro-limpacs project. It also draws upon the results of related international and national projects. We describe the key changes to the climate system that are expected to occur in Europe over the next 100 years and then consider: i) the impact of climate change on the physical characteristics of freshwater ecosystems distinguishing between change that is already being observed and changes that are anticipated in future; ii) the ecological consequences of climate change with respect to lakes, rivers and wetlands across Europe, dividing the continent between cold ecoregions (high latitude and altitude), temperate and warm-humid ecoregions and warm-arid regions (principally the Mediterranean region); iii) adaptation measures that could be adopted to mitigate the adverse consequences of climate change projected as a result of increasing water temperature, changes in hydrology and hydromorphology, including interactions with problems of eutrophication, acidification and toxic substance contamination; and iv) implications for policy, especially the implementation of the EU Water Framework and Habitat Directives and the development of cross-sectoral policies for water resources, agriculture, energy, economic development, and atmospheric emissions where water quality issues are affected. We stress the importance of policies that incorporate precautionary principles in face of the probability that greenhouse gas emissions may not be rapidly stabilised. Throughout we emphasise the uncertainties involved in our projections including those that are not only due to limitations in our understanding of freshwater ecosystems but also due to the inherent difficulty in predicting how the key drivers affecting water quality and freshwater biodiversity, especially those related to agricultural policy, will change in the future. Finally we make recommendations for future research stressing the need for a fully integrated approach based on a network of data-rich, well-monitored research catchments across the continent.

Decision making tools: the DSS and Development of socio-economic valuation tools to aid decision making

A ‘touch table’ mapping tool has been developed as an interactive approach to generate management plans based on digital maps (Deliverable 297). It is an easy to use display device the size of a coffee table that detects the
location and movement of users’ hands on its surface to dynamically change a projected image in real time. Maps can be projected on the Table using ArcGis, users of the touch table can draw on these maps and select all kinds of background maps to support their ideas.

The Euro-limpacs DSS as a tool for planning
The Euro-limpacs Decision Support System (DSS) was developed as one of the key outputs from workpackage 9 of the project. The DSS is designed to support the effective management of freshwater ecosystems under climate change by addressing catchment management problems using a spatially explicit multi-criteria analysis (MCA) approach. The DSS acts as a framework for integrating already existing modelling or monitoring data across a spectrum of environmental, social or economic variables.(D. 431)

On completion, the DSS software and manual will be made available under a freeware licence. That is, users will not be charged a fee for downloading and using the software but the authors will retain copyright. The software will be available to download as an installable package from the Euro-limpacs website and the SWIMMER website. Longer term, it is hoped to make the software available on an open-source, or similar, basis. This would make the software code available to users and allow them to make modifications to the code. It is felt that this would encourage further applications of the software, as users would be able to modify the software to meet their own particular needs. The basis of an open source-type distribution would be that:
1. the source code is provided to users and can be freely distributed as code or in compiled form
2. users may modify the code but any software derived from the DSS would also have to be made available under an open source agreement.
3. users are not restricted from selling or giving away the software as a component of an aggregate software product and no fee or royalty is charged for users who do this.

In this way users for whom the DSS almost meets their requirements would be encouraged to apply the DSS after adapting it for their own specific needs. Modifications they make could then be incorporated into the main source code of the DSS, as modifications would have to be made available under an open source agreement. It is felt that this type of approach would encourage the development of a user community and catalyse the development of the DSS and its application in new contexts.
If the code were made available on an open source basis, SWIMMER’s role would be to act as a repository for new modifications made to the DSS and provide support and training to users in applying the DSS to their particular circumstances.

Contacts within the UK Environment Agency have also been made and the intention is to develop the DSS into a tool that meets specific UK needs with regard to Water Framework Directive implementation.

The development of the DSS within Euro-impacs will take account of the needs identified above and address them as far as possible in the finalised product. The concept of the DSS has been tested in the Tamar catchment (Deliverable 296) and has demonstrated the potential flexibility and usefulness of the approach that has been taken for policy makers and managers.

**From end-users to a community of users**

One of the realisations of the Project has been that the Project’s participants were already an import community of end-users. This because of the multidisciplinarity of the Project that gathers expert is all relevant fields. The results presented at meetings or through publication from one participant could immediately feed the overall knowledge of another one. So, in this respect, each participant is an end-users towards the others and the overall Project.
Each participant brings to the Project not only his or her expertise, but his or her network of end-users. During the Project this network has resulted to be particularly useful and has contributed to enhance the scientific profile of the participants.

Cross cutting themes have been very successful to bring together knowledge and experience from different sectors.

It has contributed to define a new way of dealing with water management problems.

---

**Box**

**Final Euro-limpacs Project Meeting**

Date: 13th–17th October 2008

Location: Blanes, Spain

The fourth and final Euro-limpacs Project meeting was held with just over three months of the Project remaining. The meeting has focused on dissemination of results obtained across the Project. The meeting was given over to three days of plenary presentations (which were organised along the lines of a mini-conference) and two days of work package and cross cutting theme workshops (at which the main emphasis was on dissemination of work package output). The plenary sessions comprised a series of synthesis presentations from the work package leaders followed by a number of more detailed presentations (four from each work package) highlighting results produced at the task level.
Part IV Recommendations and Lessons Learned

The Project has enabled a wide range of contacts, exchange of information, scientific collaborations that have not precedent in the field of water management and climate change. The combination of researchers, agencies and policy makers operating in the respective fields is also unprecedented.

Engaging with end-users has been far from easy and the Project has operated well considering the constraints highlighted in other parts of the document.

Specific recommendations has been produced by ENTERA in its “Report providing guidelines and an outline methodology for stakeholder and end user involvement in DSS development”, Deliverable n.75.

However, four general recommendations can be proposed:

1) the creation of a world-wide e-platform for Climate Change and Fresh Water
2) the widespread use of open-source/creative commons licenses to encourage the sharing of information in European funded research projects
3) to equip research projects in climate change and fresh water with resources specifically dedicated to the engagement of end-users and the public
4) to allocate research funds to communication activities and to training of researchers in scientific communication

1) World-wide e-platform for climate change and fresh water

The community of end-users and stakeholders in water management and climate change is wide and diverse. Diverse is the end-users’ need for information, the instrument required, the approaches, the way of collecting and processing data. Euro-limpacs has the merit to have put together most of the scientific players at European and global level, but also to have, for the first time, experienced the difficulties in engaging with end-users. The creation of an information platform for the sharing of information and data on the effects of climate change on Fresh water could be an important step forward for the advance of know-how in water management it could be a useful tool for both policy makers and water managers. An information system would be an important platform for the advance of scientific research in the
field because it could converge disperse expertise and ensure the continuous flow and update of data. The e-platform could also self sustain through the contribution of the community.

Euro-limpacs has drawn expertise from all over Europe, Russia and Canada and has far reaching collaborations with other countries including US and China. It has generated a great deal of data collected in databases, meta-databases, indexes or published in academic papers. Many of the participants are part of other projects at national and European level in PF5, FP6 and FP7) so that the network of collaboration and information exchange goes beyond the boundaries of the Euro-limpacs project and shows the need for a further integration and for the exchange of information at global level. The DSS also is a tool that integrates a variety of data and information systems.

The e-platform proposed here goes beyond the scope of Euro-limpacs. The e-platform or information system would require the creation of an e-infrastructure, the sharing of protocols and data and should be open to the world-wide community.

The Euro-limpacs website and linked websites provide some ideas on how this platform should be structured.

In addition to the Euro-limpacs website, for example, the project has already launched a Climate Change and Fresh Water website: http://www.climate-and-freshwater.info/ that collects information on the main aquatic ecosystems under different climates in order to define indicators for Climate Change effects on freshwater ecosystems.

For example, the climate and freshwater website and the euro-limpacs website concentrate a wide range of databases and indicators. More could be done, however to create a permanent infrastructure that serve the community. An e-platform could consolidate the achievements of Euro-limpacs and at the same time could guarantee continuity and a constant flow and update of data.

2) Open source and IPRs
The basis for the successful dissemination and use of results has been laid down during the Project. Euro-limpacs has provided a structured dissemination strategy and established formal and informal networks outside its already large basis. The exchange of information between participants and end-users has mainly followed the customs of the academic environment without a specific legal framework. The consortium agreement for the Euro-limpacs project has been drafted with reference to the IPRs rules of the FP6 EC Contract and has served as reference for the interaction of participant. Its limits have been overcome through informal communication and project specific policies. Perhaps a more open approach could make easier the participation of the large research community and benefit any future project.
Depending on the focus of any new project, the inclusion of forms of open source for software or creative commons for copyrighted contents could be useful.

Special clause 39 to the FP7 Grant Agreement \(^9\) goes in the direction indicated, but perhaps more effort could be done to encourage the use of these types of licensing to share contributions both between project participants and the scientific community.

In effect, even the Project’s reviewers have pointed out this problem:

*Addressing and resolving the issues of authorship and intellectual property rights that would be needed for this summary effort should be done early\(^10\).*

*“There are issues related to authorship and intellectual property rights that will need to be resolved”\(^11\).*

Publications are often the result of the collaboration of several contributors. The collaboration with entities not directly part to the project implies rights and obligations not fully explored by the Consortium Agreement.

In order to meet the need for clarification of this particular aspect, the Coordinator has drafted a document “Participation of Third Parties to meetings and other Project activities”.

The following document has therefore distributed to all partners through the intranet as internal policies. Each individual partner is however, fully responsible of respecting Third Parties as well as other partners’ rights.

**3) End-users engagement**

The WFD has generated a high interest in the engagement of stakeholders in every stage of its implementation. The invitation of the WFD has been

---

\(^9\) Special Clause 39. OPEN ACCESS (SPECIFIC TO THE THEMATIC AREAS "HEALTH", "ENERGY", "ENVIRONMENT (INCLUDING CLIMATE CHANGE)", "INFORMATION & COMMUNICATION TECHNOLOGIES" (CHALLENGE 2), AND "SOCIO-ECONOMIC SCIENCES AND THE HUMANITIES", AS WELL AS TO THE ACTIVITIES "RESEARCH INFRASTRUCTURES" (E-INFRASTRUCTURES), AND "SCIENCE IN SOCIETY")

In addition to Article II.30.4, beneficiaries shall deposit an electronic copy of the published version or the final manuscript accepted for publication of a scientific publication relating to foreground published before or after the final report in an institutional or subject-based repository at the moment of publication.

Beneficiaries are required to make their best efforts to ensure that this electronic copy becomes freely and electronically available to anyone through this repository:

- immediately if the scientific publication is published “open access”, i.e. if an electronic version is also available free of charge via the publisher, or
- within [X] months of publication.

\(^10\) Reviewers’ Recommendation n. 2

\(^11\) Reviewers’ comment 8.b
received by local authorities and is reflected in the drafting of catchment plans. Meetings have been held at catchment level in order to involve local stakeholders and to agree on a shared plan. Other activities have been undertaken by individual participants. The Euro-limpacs project has tried to involve end-users in the developing of the DSS to better identify priorities and shape the tool accordingly with their suggestions. The involvement of end-users and especially water managers has various challenges.

a) Water managers had to find time in their busy schedules in order to participate to workshops and struggle to imagine how the final product should look like. In other words they were expecting a solution instead of been called to solve a problem.

b) In addition, a research project such as Euro-limpacs has language and methodologies that are those of research investigation, but not necessarily those of local water managers called to deal with practical and concrete problems. This might create diverging expectations.

Policy makers
The collaboration with policy makers and the EC Commission both DG Research and DG Environment, in particular can be useful because the different spheres of action are clearly defined. Policy makers need scientific evidence to shape their policies while researchers are stimulated by policies. Euro-limpacs has participated to the works of DG Environment and closely collaborated with the EEA.

This collaboration has been mainly at individual level, but surely the contribution of the since

The Media
As demonstrated by the filming of a documentary on Euro-limpacs project, engaging with media requires a change in the approach of scientists. While certain fields of research have a long standing relationship with media and television in particular, environmental scientists have a less enthusiastic approach. In some field the relationship with the public mediated through the media is seen as vital to ensure a flow of funds and to justify the undertaking of research. Environmental scientists have, however, several constraints that have emerged during the Euro-limpacs Project as well. The first has been mentioned several times in this document and it is the lack of dedicated resources. But, scientists are often dealing with data and results that can be seen as controversial and therefore absorb unnecessary time and energies. It is difficult for scientists that have not a specific training in media communication, to present their research in lay terms