Euro-limpacs

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. 75

Report providing guidelines and an outline methodology for stakeholder and end user involvement in DSS development

Due date of deliverable: **31 July 2005**

Actual submission date: [**Date submitted]**

Start date of project: **1 February 2002** Duration: **5 Years**

Organisation name of lead contractor for this deliverable: **entera**

Revision 1

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

Euro-limpacs

Work Package 9

Task 3 : Stakeholder engagement

Guidelines for End-user Engagement at Catchment Level

Draft Version – please comment!

Dr. Thomas Horlitz

entera

Alte Herrenhäuser Str. 32
D-30419 HANNOVER

Tel. ++49/511/16789-17
Fax. ++49/511/16789-99
http://www. entera.de
Email: info@entera.de

OBJECTIVES AND PURPOSE

Role of stakeholders/end-users - ambitious objectives

It is a declared goal of the Euro-limpacs project to create results which are, as far as possible, useful for and accessible to potential end-users. These end-users include those responsible for implementing the European Water Framework Directive (WFD) at all relevant levels (i.e. from those responsible for individual catchments to those tasked with national scale implementation), together with policy makers and decision makers in the field of climate change

The Euro-limpacs proposal says that “the tools and systems will fully involve users and stakeholders and will be demonstrated at study catchments”. Further the project has commited itself to “meet requirements of end users at

a) National and European level

b) “Catchment level”.

The project is not responsible for making decisions but the intention is to provide information and instruments to enable “end-users” to make more reliable decisions as well as to communicate information, options and decisions to the public. Hence the focus of activities lies in the engagement of end-users and the analysis of their requirements. This is not to be confused with the formal stakeholder engagement as requirement for the WFD implementation process, which is to be run by the water boards (or other competent authorities).

This means the purpose of stakeholder (and end-user) engagement in this case is to get an input for the development of our DSS, to hear wether a DSS is needed, what features are required etc.

The engagement of end users will help to produce a system that works and provides usefull information.

Other important objectives of stakeholder engagement are

- Integration of knowledge at the catchment scale.
- Identification of relevant land uses with impacts on ecosystems, climate (change)
- Identification of relevant land users which might be affected either by climate change or by decisions in interrelation with wetlands conservation
- Sensitisation of stakeholders’ awareness of climate change /problems caused by land use.

OBLIGATORY WORKSHOPS AND REPORTS

According to the proposal the following workshops have to be held:

a)Three workshops with european/national stakeholders / policy makers

Entera will organise workshops and produce reports.

Other WP 9 partners will identify national agencies and others for workshops, attend workshops, read and comment draft reports.

(It will be applied to reduce the number of european workshops to 2)

b) Five workshops with „catchment level“ stakeholders / policy makers

Entera will produce guidelines and put individual reports together

Catchment working groups will organise workshops and produce reports.

LINKS TO OTHER WORK PACKAGES AND TASKS

Task 3 of Work Package 9 (stakeholder engagement) covers only a part of the whole engagement. There will be a number of links between WPs and the resp. catchment working groups that will require direct contact. Please also take into account Luce's End-users questionnaire. Other WPs and tasks are kindly asked to provide additional issues to the guidelines.

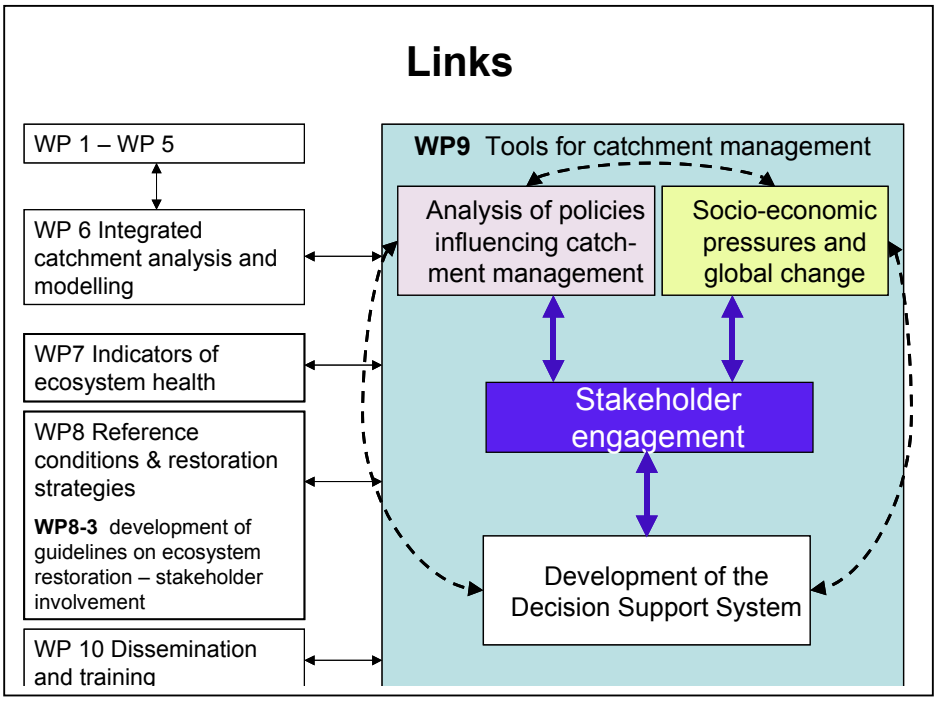
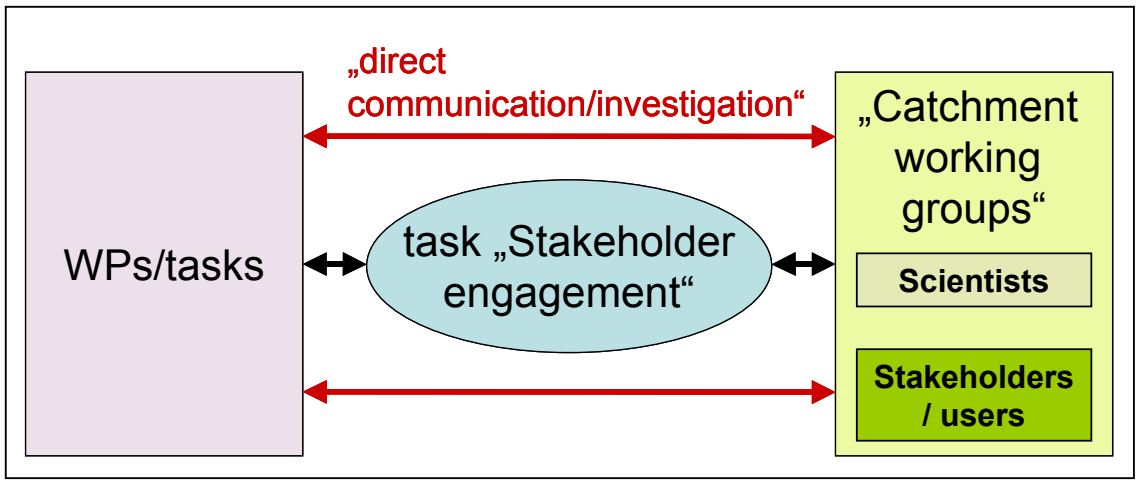


Fig. 1: Links between task "Stakeholder Engagement" and other tasks /WPs

Fig. 2: Communication « channels »



GUIDELINES FOR END USER ENGAGEMENT AT CATCHMENT LEVEL

As pointed out in section 2 workshops will be held in each catchment once a year. Purpose of the workshops is to inform end users about the intentions of Euro-limpacs and to find out about their requirements regarding Decision Support Systems (DSS), models and data provided by the project. The results of the workshops (and additional informations) have to be layed down in reports. The overall report will consist of the individual catchment reports and a synoptic summary and conclusions. The following guidelines are supposed to make sure that the reports are comparable and provide a minimum standard of required information. These guidelines are made for the first-year-workshops. The follow-up workshops probably will have to be less komplex. The main objective then will be to discuss the progress of the project.

The guidelines are not meant to be used as a standardised “tick-the-box” question-naire. They just cover the questions we need to have answers for. There will be differ-ent ways to get the answers which may differ from country to country. I suggest to start with investigation on the internet, do the main part of the discussion in the workshops and acquire missing information through personal or telephone interviews. Please make sure that the whole range of opinions of different participants is represented in the report.

1.1 Meta data

1. Where and when are workshops held?

2. Who gives information?	
• names	
• roles	
• institutions	

3. How is information acquired?	
• workshop	
• individual interviews	
• questionnaires	
• internet investigation	

1.2 "End-user mapping"

In order to "tailor" our DSS, our models and interfaces we have to know who the potential users are (decision makers as well as participants) and what problems these people face in terms of decision making.

4. Who is responsible for implementing the WFD?	
• Name and level of authorities (national/regional)?	

5. How is the decision making process (regarding water management plans) organised? (tables, organisation charts)	

6. Which other parties are engaged in that process?	
• (stakeholders, NGOs)	
• General public	

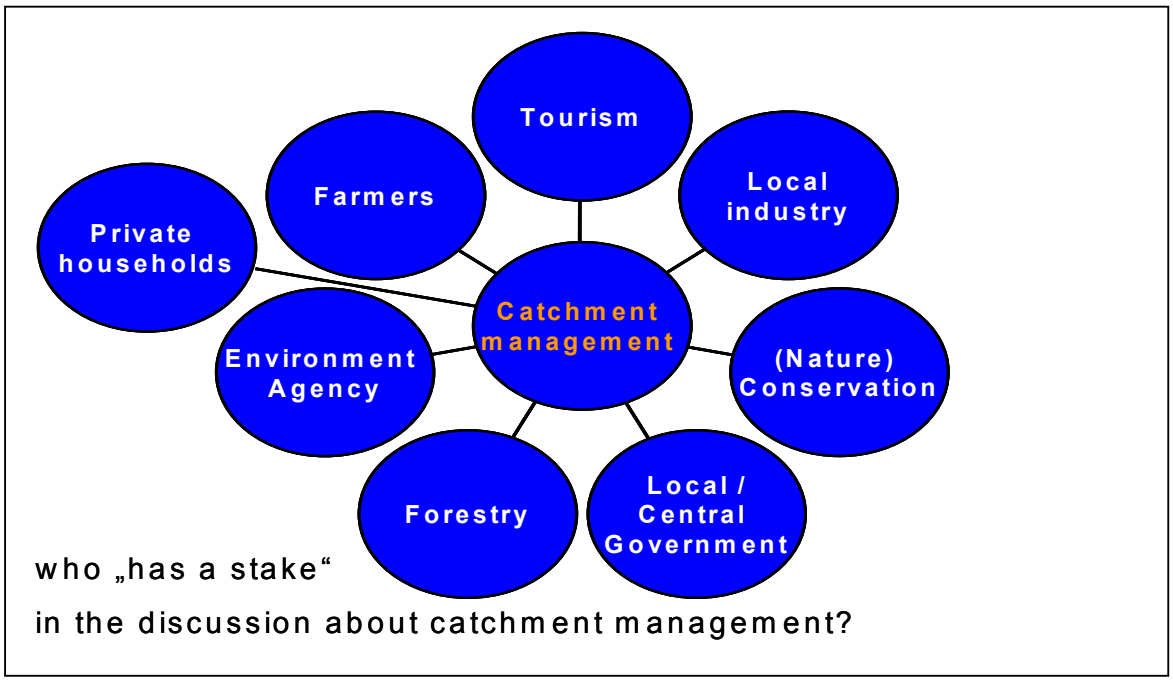


Fig. 3: A simple example for stakeholder mapping

Correlation between implementation of WFD and climate change

7. Which role do climate change issues play in the implementation process of the WFD?	

8. Who is responsible for integrating questions regarding climate change into the implementation process of the WFD?	

9. How are the participation requirements in § 14 WFD interpreted? (see table 1 in the appendix)	
Participation is done as	
• Information provision	
• Consultation	
• Active involvement	
• Shared decision making	
• Awareness raising	

10. Participation: who is (should be) involved? to what extend?	
• Administration, public bodies	
• Stakeholders (key persons, NGO's)	
• Open to the general public	

1.3 Description of problems and priorities

11. What problems do authorities / decision makers have to solve in terms of decision making for implementing the WFD?			
Examples:	**Missing data / data gaps**	**Assess-ment meth-ods**	**Priority of problem (highest=5; no problem =0)**
calculating acidification (N + S deposition)			
calculating nutrification (N-/P- pollution)			
calculating water abstraction			
faunistic and floristic assessments			
Data and assessments regarding economic aspects			
Others			
…			

12. Are there typical problems in the catchment (i.e. pollution through agriculture)and typical ranges of possible responses (management options, solutions)? (Answers to this could be helpful for designing typical management options as part of our DSS)

1.4 Status quo of models/DSS use

It is necessary to get a picture of the current use of models and Decision Support Systems in the different countries/catchments. Are they used at all? What kind of models?/To what extend?

13. Kinds of models used for the decision making process?	
• Scientific modells/tools for internal use	
• Tools/models to be used by participants (stakeholders/ general public)	
• Stand alone models	
• integrated Decision Support Systems (DSS) (see fig.4, annex)	

14. Which models exactly are used in different fields?		
	(please give exact names)	**Advantages and problems of the tools/models?**
• Tools/models for calculating acidification (N + S deposition)		
• Tools/models for calculating nutrification (N-/P- pollution)		
• Tools/models for calculating water abstraction		
• Tools/models regarding faunistic and floristic assessments (biodiversity)		
• Tools/models regarding economic aspects		

1.5 End-users' requirements and suggestions[1]

This is the core of the required information: What can Euro-limpacs do for the end-users?

In this case it is important to take into account not only the regional/catchment point of view. Some issues might be more relevant for the national level.

15. General demand for information relevant for resp. catchment management provided by euro-limpacs		
	Policy level	
	national	**regional**
Climate change scenarios / models / information		
Influence of climate change on		
• Surface water		
• Groundwater		
• Biodiversity		
• Economy		
• other		

[1] The "guidelines" include a number of questions in *italic* letters which are identical with respective questions policy makers where asked in the HarmoniCa project (see section 5). The focus is more on participation aspects. Some of these questions are ± general or seem to be redundant, but we should get the answers as a by-product. This will allow to compare results.

16. General willingness to use DSS	
Role a DSS might play in the administrational work *Goals – what purposes should models (and their tools) serve?*	
Preconditions for using DSS/models … *Constraints – under what constraints should models carry out these purposes?*	

Detailed requirements regarding models/DSS

17. What kinds of models / regarding which issues are needed?	
Models – participation in river basin management requires a range of models to support the entire planning process. Which ones?	
• Scientific models (see examples in question 14)	
• Economic models	

18. Which kinds of information (formats) would be helpful for solving each of the problems? (see question 11)

19. What kind /accuracy of output of the DSS is useful for end-users	
(for example: are 5 step scales detailed enough?)	

20. Requirements regarding user interface, layout	
a) End-user requirements:	
b) Requirements for stakeholder participation: *Results presentation – for participation, presentation of model results needs to be well done. How?* *Communication – without good communication of models to the participants, participation may fail. How can good communication be achieved?* *Useability – in participation, models need to be used easily and effectively by a wide variety of people. How can high levels of useability be achieved?*	

21. Requirements regarding Databases	
End-users' requirements: Formats, links	
Stakeholders requirements *Data requirements – participation in river-basin scale management has particular demands on data. What demands?*	

22. Other suggestions how to improve the participation process	
Trust - For models to be used in participation they must be trusted. How can trust be instilled in models?	
• *Reliability*	
• *Availability*	
• *Accessibility*	
Maintaining involvement – participation needs to be maintained over long periods of time or else models need to take into account changes in their users. How?	
Integration – participation in river basin scale management means that models need to integrate a large amount of different knowledge and support different roles. What should be integrated?	

23. Further comments:

LESSONS TO LEARN FROM OTHER PROJECTS

Regarding water management, in the last decade a number of attempts have been made to create models and Decision Support Systems in order to improve and support decisions which

have complex effects on nature, economics and human welfare. However, most of these have limited broad scale applicability. This means that the view on requirements from the end-users' side has been sharpened and can rely on existing experience.

The DG Research of the EU has encouraged the use of information generated by previous and current projects and Euro-limpacs will seek to inform it's end-user strategy in this way. The ongoing EU project HarmoniCa (http://157.193.192.174/HarmoniCA/About_HarmoniCA/Work_Packages/Work_Package_5/index.php) has looked at the information requirements, modelling approaches, and channels of communication and participation in connection with the WFD. Two documents containing the results of an assessment of the opinions of policy makers and end users can be downloaded from the HarmoniCa homepage. In addition to this a summary and conclusions for Euro-limpacs by entera are available. The Euro-limpacs working group can build upon this information. For the WP 9 stakeholder engagement this means that end users might confirm these results and provide even more detail with their (cachment-/country-) specific requirements.

The "guidelines" above include a number of question in *italic* letters which are identical with respective questions policy makers where asked in the HarmoniCa project. This will allow to compare results.

APPENDIX 1: PARTICIPATION ACCORDING TO THE WFD

According to the guidance document on public participation, participation can be categorised into four levels, which are of importance to the Water Framework Directive:

Information provision:
Providing information about management timetables, issues and management plans to the participants. It is considered the foundation for all further participation activities.

Consultation
Encouraging written and oral responses to information provided.

Active involvement
Involving people in "developing and implementing plans" that could form the final plan decided upon.

Shared decision making
Helping to make the final decision about which plan to implement and taking responsibility for this decision.

The final category is a recommended meta-level of participation – something that will support all the other levels of participation and management.

Awareness raising & developing a learning approach
This covers a variety of tasks: Learning how to participate or to organise participation, developing new management styles and attitudes, learning about the river basin to be managed, building up trust between participants, representing and sharing perspectives, developing new partnerships, social learning.

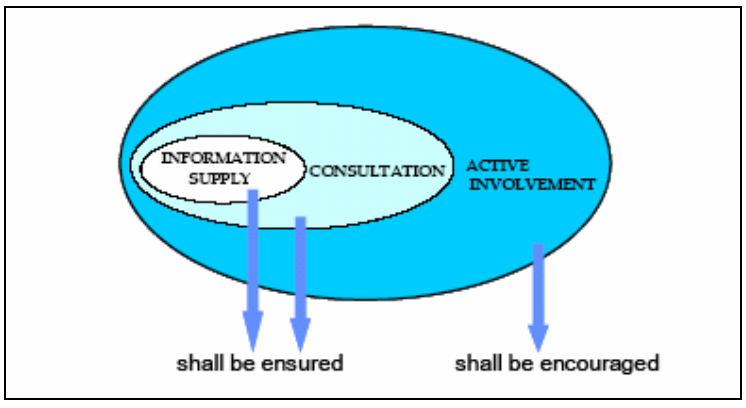


Fig. 4: Different levels of participation according to the WFD

Table 1: Who should be involved at each level of participation according to the guidance document on public participation in the Water Framework Directive. (Seecon 2004: 42-43)

	PUBLIC	STAKEHOLDERS	COMPETENT AUTHORITY
Information provision	Obligatory	Obligatory	the competent authority should organise the participation
Consultation	Obligatory	Obligatory	
Active Involvement	Not prescribed	Encouraged	
Shared decision making	Not prescribed	Not prescribed	Solely responsible
Awareness raising	Encouraged	Encouraged	Encouraged

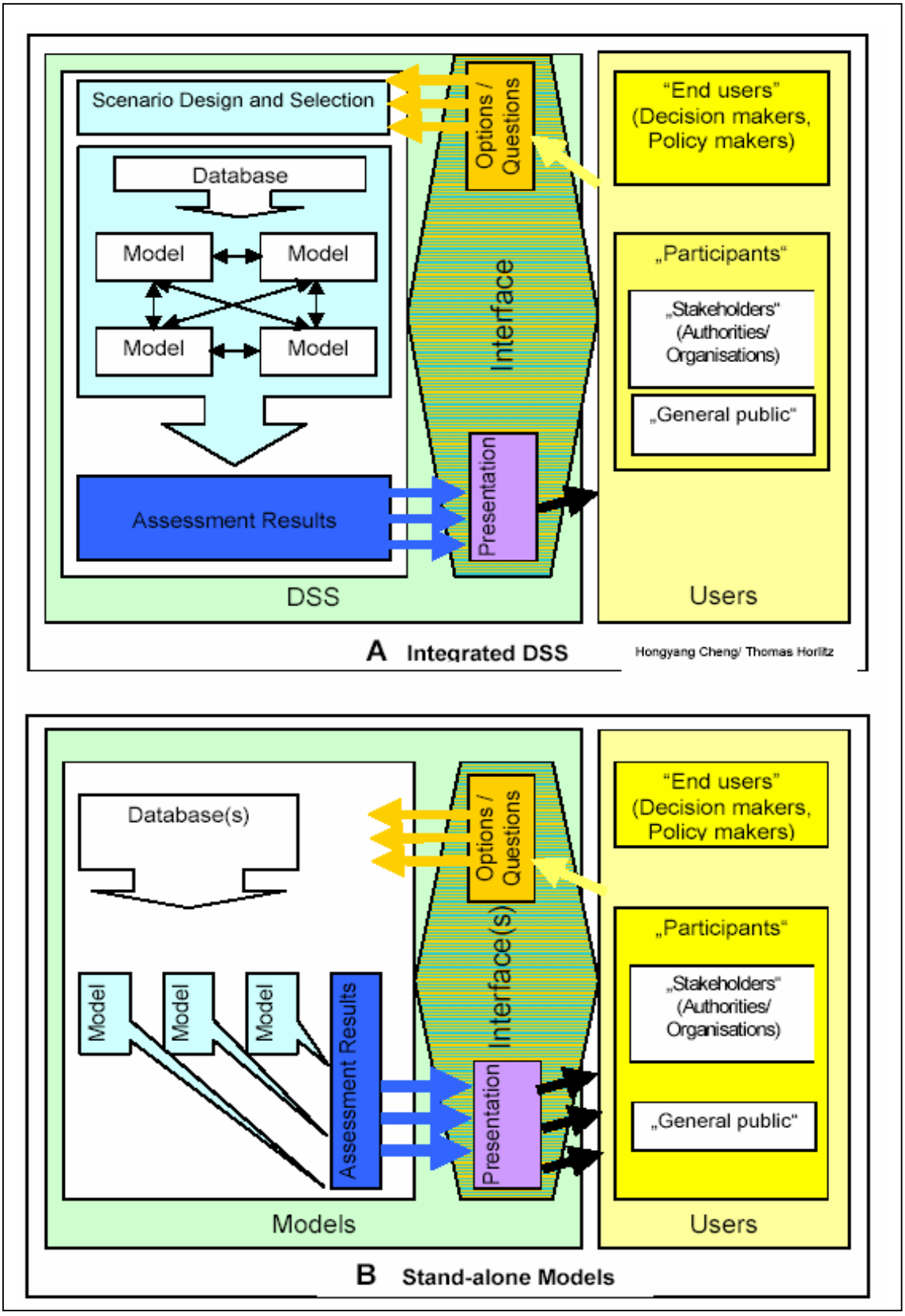
References:

EU Water Directors (Eds.): Guidance on Public Participation in Relation to te Water Framework Directive.- Active involvement, Consultation, and Public access to information. December 2002.

Seecon 2004a: Report on the 1st Policy Workshop of the Harmoni-CA WP5 Project 16-17th October 2003, Osnabrück, Germany, 14.05.04. Author: Matt Hare, Seecon Deutschland GmbH, Seecon Report # Seecon02/2004.

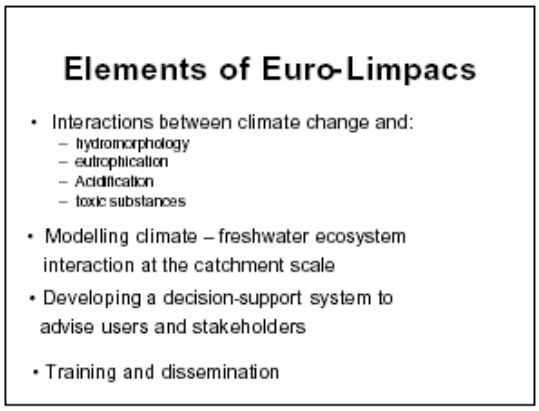
Seecon 2004b: Report on the 1st Modellers' & Scientists' Workshop of the Harmoni-CA WP5 Project 16-17th February 2004, Brussels, Belgium. Author: Matt Hare, Seecon Deutschland GmbH. Seecon Report # Seecon03/2004 (14.05.04).

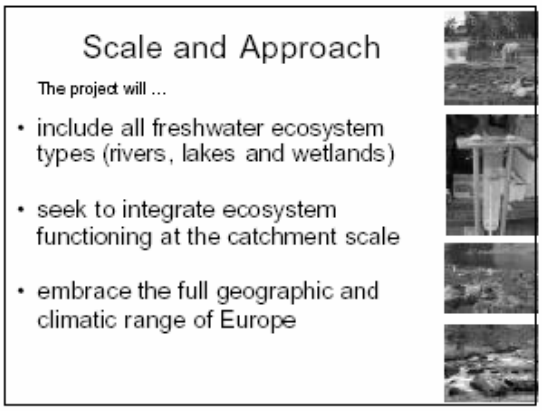
Fig. 5 : Integrated DSS or stand-alone models

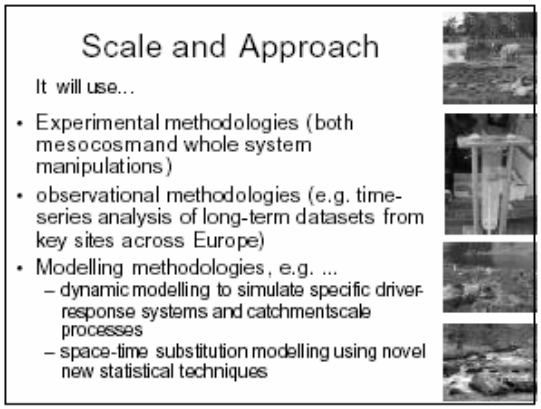


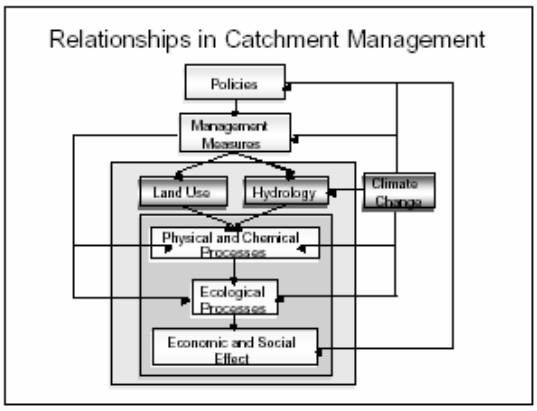
APPENDIX 2: EXAMPLE PRESENTATION FOR INTRODUCTION OF THE PROJECT

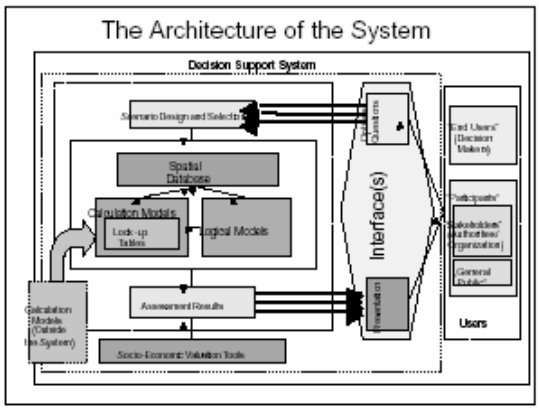
(available as ppt presentation; Authors:H. Chen, T. Horlitz, E. Hippler)

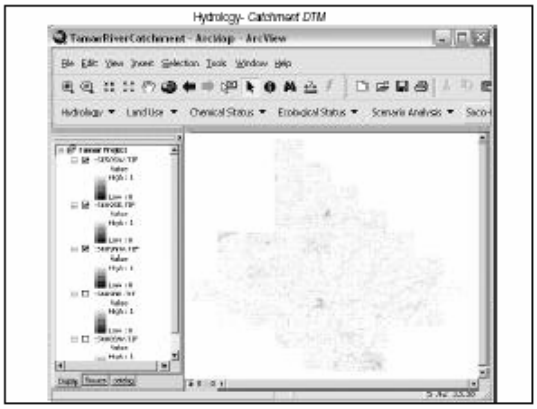




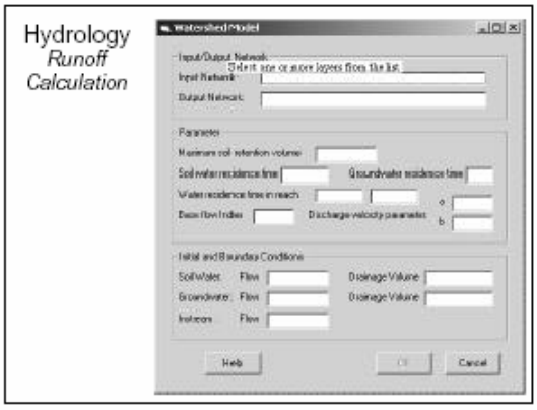


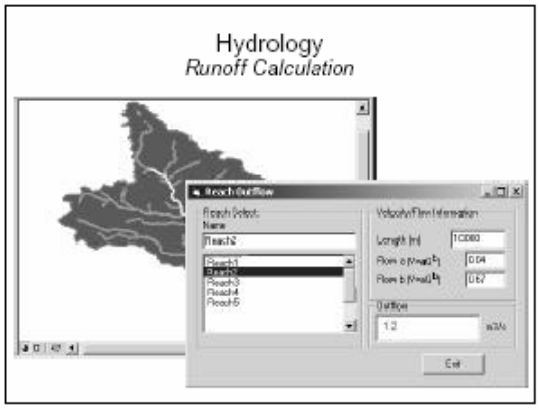

Relationships in Catchment Management
Policies
Management Measures
Land Use
Hydrology
Climate Change
Physical and Chemical Processes
Ecological Processes
Economic and Social Effect


The Architecture of the System
Decision Support System
Spatial Database
Calculation Models
Look -up Tables
Logical Models
Interface(s)
Assessment Results
Socio-Economic Valuation Tools
Users

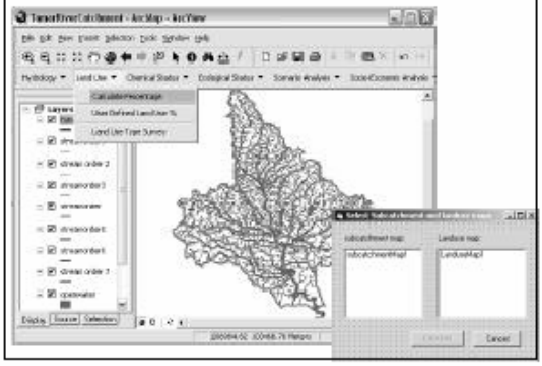

Hydrology- Catchment DTM


Hydrology
Sub-catchment Delineation

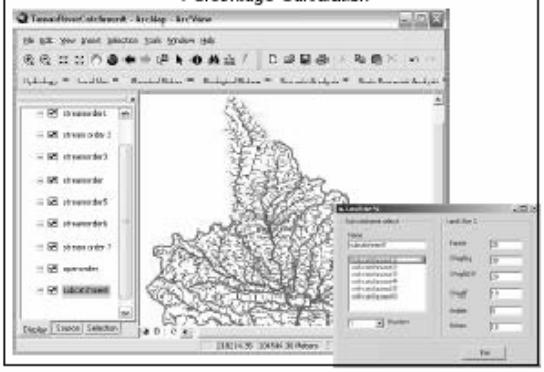

Hydrology
Runoff
Calculation
Watershed Model
Input/Output Network
Parameters
Initial and Boundary Conditions
Help
Cancel


Hydrology
Runoff Calculation
Reach Outflow
Reach Select
Name
Reach2
Reach1
Reach3
Reach4
Reach5
Velocity/Flow Information
Length [m]
1000
Outflow
Exit

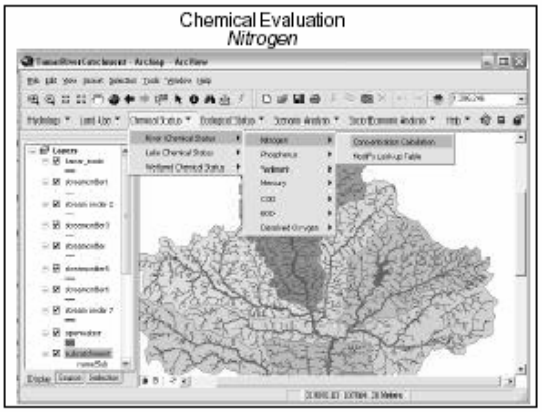
Land Use
Percentage Calculation



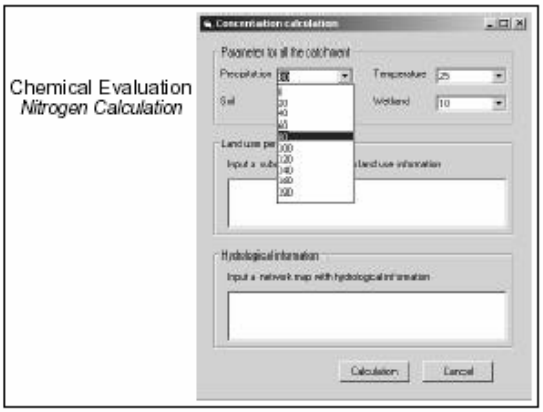
Land Use
Percentage Calculation



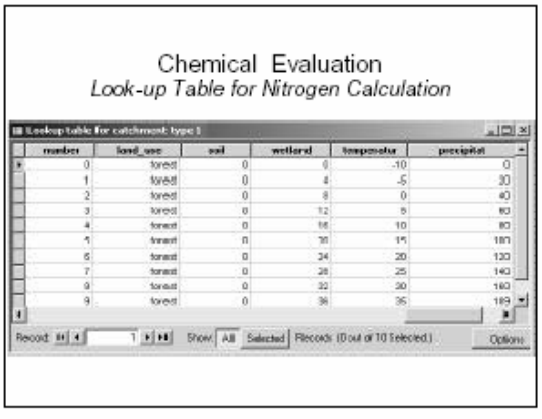
Chemical Evaluation
Nitrogen



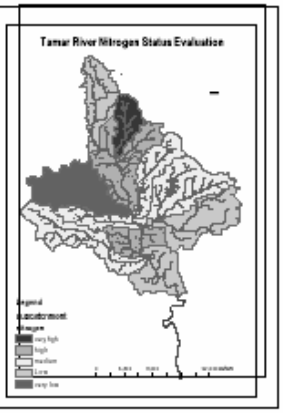
Chemical Evaluation
Nitrogen Calculation

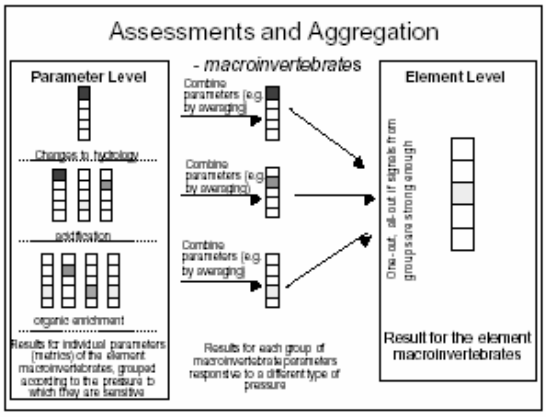


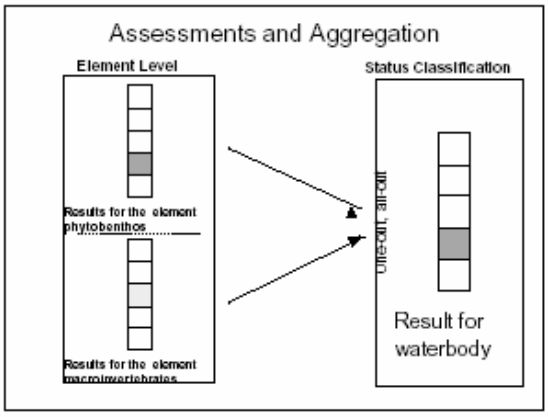
Chemical Evaluation
Look-up Table for Nitrogen Calculation

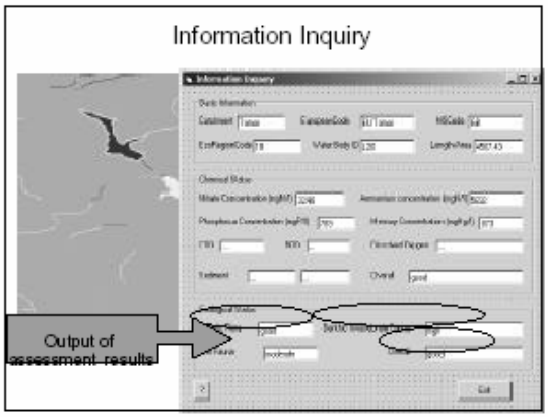


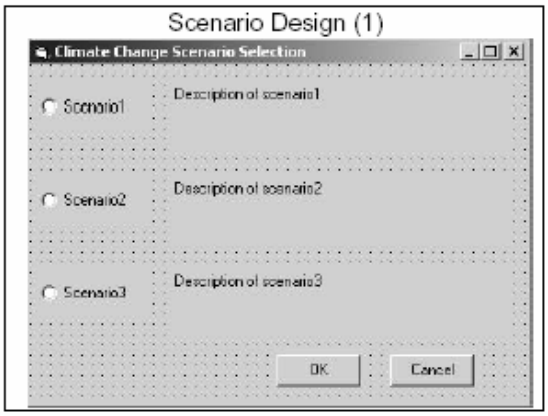
Chemical Evaluation
Nitrogen Concentration

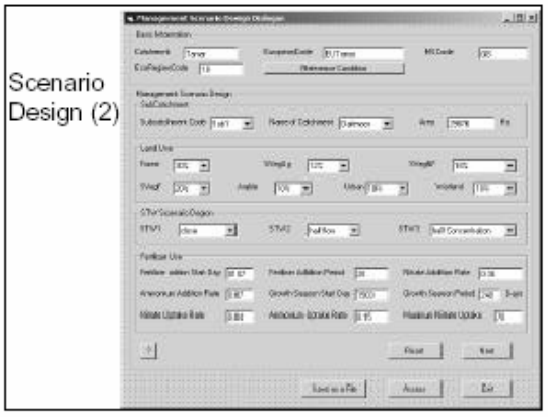


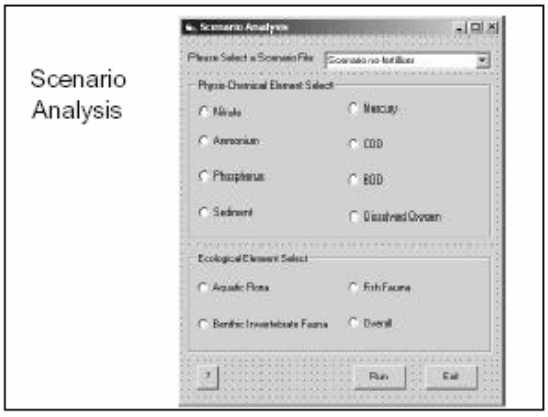

Assessments and Aggregation
- macroinvertebrates
Parameter Level
Element Level
Changes in hydrology
acidification
organic enrichment
Results for individual parameters (metrics) of the element macroinvertebrates, grouped according to the pressure to which they are sensitive
Combine parameters (e.g. by averaging)
Combine parameters (e.g. by averaging)
Combine parameters (e.g. by averaging)
One-out, all-out if signals from groups are strong enough
Result for the element macroinvertebrates
Results for each group of macroinvertebrate parameters responsive to a different type of pressure


Assessments and Aggregation
Element Level
Status Classification
Results for the element phytobenthos
Results for the element macroinvertebrates
One-out, all-out
Result for waterbody

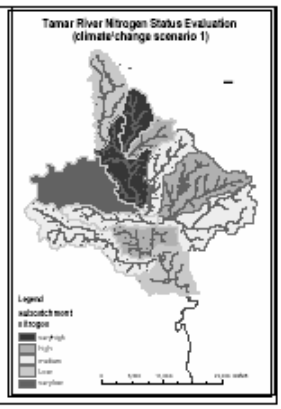

Information Inquiry
Output of assessment results


Scenario Design (1)
Climate Change Scenario Selection
Scenario1
Description of scenario1
Scenario2
Description of scenario2
Scenario3
Description of scenario3
OK
Cancel

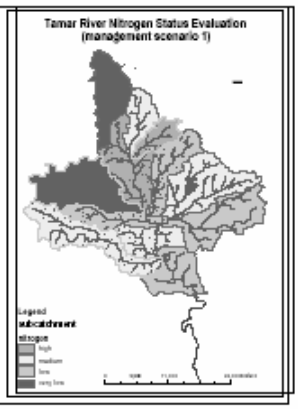

Scenario Design (2)


Scenario Analysis
Nitrate
Mercury
Ammonium
COD
Phosphorus
BOD
Sediment
Dissolved Oxygen
Aquatic Flora
Fish Fauna
Benthic Invertebrate Fauna
Overall

Climate Change
Scenario 1
Nitrogen Status



Management
Scenario 1
Nitrogen Status



APPENDIX 3: EXAMPLE ORGANISATION OF THE AUSTRIAN WATER ADMINISTRATION

level	competence	field of work
national level	field of resonsibility of division VII – water at the BMLFUW dept. VII / 1: national water management dept. VII / 2: international water management dept. VII / 3: water balance dept. VII / 4: professional principles of water management dept. VII / 5: Schutzwasserwirtschaft (flood protection) dept. VII / 6: urban water management	development of general framework, implementation of major projects
Federal state level (example Tyrol)	group: water management and agriculture → department: federal water act, energy legislation	legal matters concerning the execution of the federal water act
	group: Landesbaudirektion → department: water management Hofrat Dipl.-Ing. Viktor Hofer (++43(0)512/508-4200) → department: urban water management → department: hydrography	Among others: Implementation of WFD river engineering, register of springs, redevelopment of groundwater, waste water disposal catchment area (register of the austrian river basins, watersheds)
	Außendienststellen der (outposts of) Landesbaudirektion: Baubezirksämter → urban water management → Schutzwasserwirtschaft (flood protection)	Among other things Water supply, agricultural hydraulic engineering
	Group Water and Agriculture Department Water and Energy Legislation Dr. Georg Zingerle (++43(0)512/508-4200)	Legal aspects of the WFD
District level Bezirk Imst	department: environment	federal water act
municipal level Community Ötz	Due to the responsibility of all national departments for water management, at the municipal level only small tasks in terms of supply and disposal are administrated.	