



THE WATER FRAMEWORK DIRECTIVE: THE CHALLENGES OF TESTING AND VALIDATION OF GUIDANCE DOCUMENTS

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Evolution of the EU Water Legislation

A new approach in development and implementation

TODAY

Patchwork of only-use oriented protection legislation replaced by the concept of protection of all waters

WFD

Bathing Water

Drinking Water

Surface Water

Fish Water

Shellfish Water

Ground water

Urban Waste Water

Nitrates

IPPC

Exchange of Information Decision

Surface Waters

Dangerous Substances

2013

“Combined-approach” on tackling pollution:

- water-quality oriented, including numerical standards at EU level for priority substances
- emission-oriented, with controls or phasing out of specific relevant sources

WFD

Bathing Water

Drinking Water

Urban Waste Water

Nitrates

IPPC

Timetable

- **2003** - Transposition into national legislation
- **2003** - Identification of River Basin District
- **2004** - Analysis of pressures, impacts, use
- **2006** - Monitoring programmes operational
- **2006** - Start Consultation with public
- **2009** - River Basin Management Plan
- **2010** - Pricing policies
- **2012** - Programme of measures operational

Shared Challenges

- **Ambitious objectives and demanding timetable**
- **Risks of wrong application because of complexity of the technical requirements**
- **Large shared river basins (Danube, Elbe, Odra)**
- **Capacity of administrations**

=> New implementation strategy required

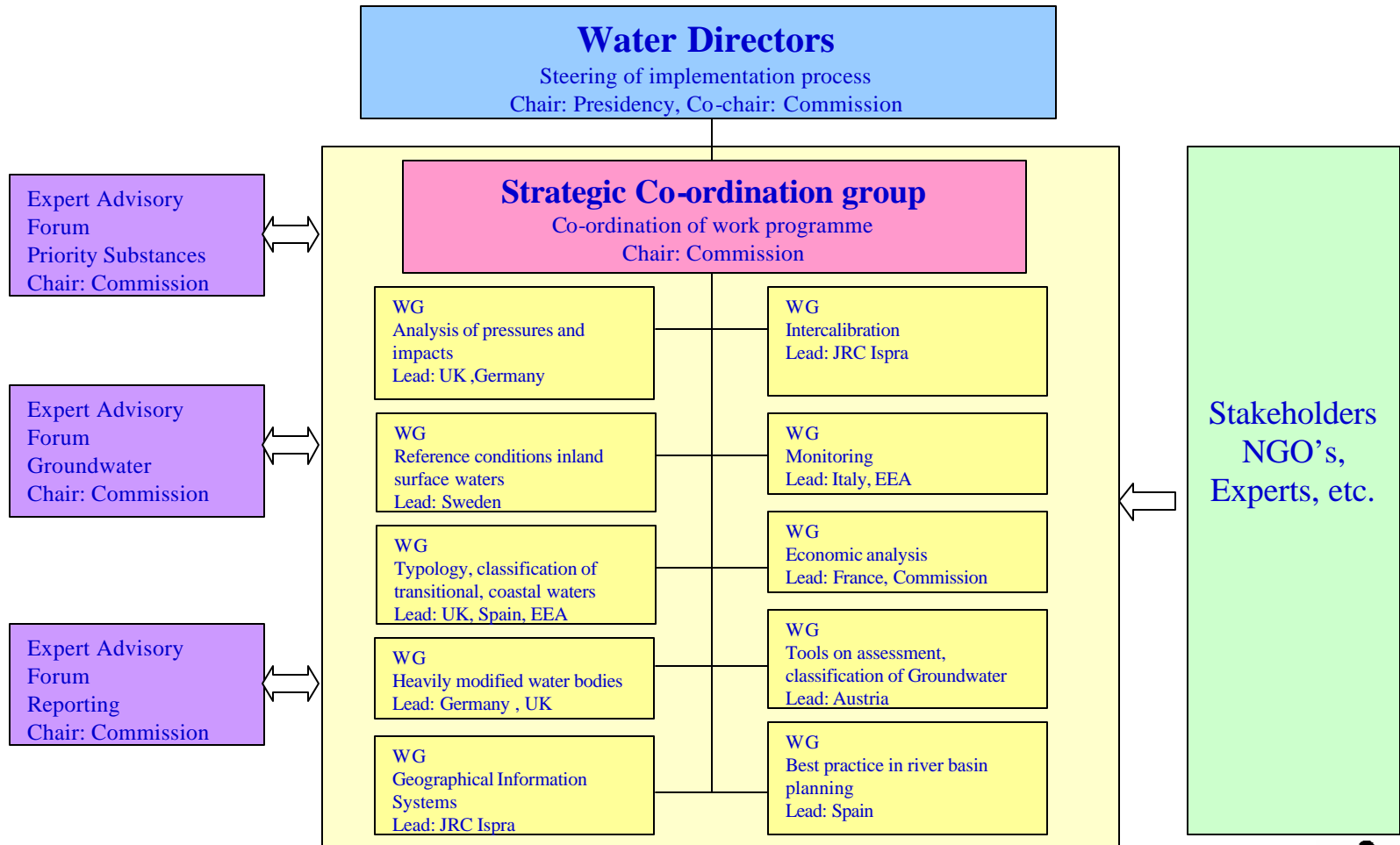
Common Implementation Strategy

- **History**
 - October 2000 Directive adopted
 - Commissioner immediately committed her services to proactive co-operation with Member States, Candidate Countries and Stakeholders
 - Member States, Norway and the European Commission agreed in Oct 2000 to developed a Common Strategy
 - Agreement on the Strategy in Sweden 2-4 May 2001 with involvement of all Candidate Countries and stakeholders

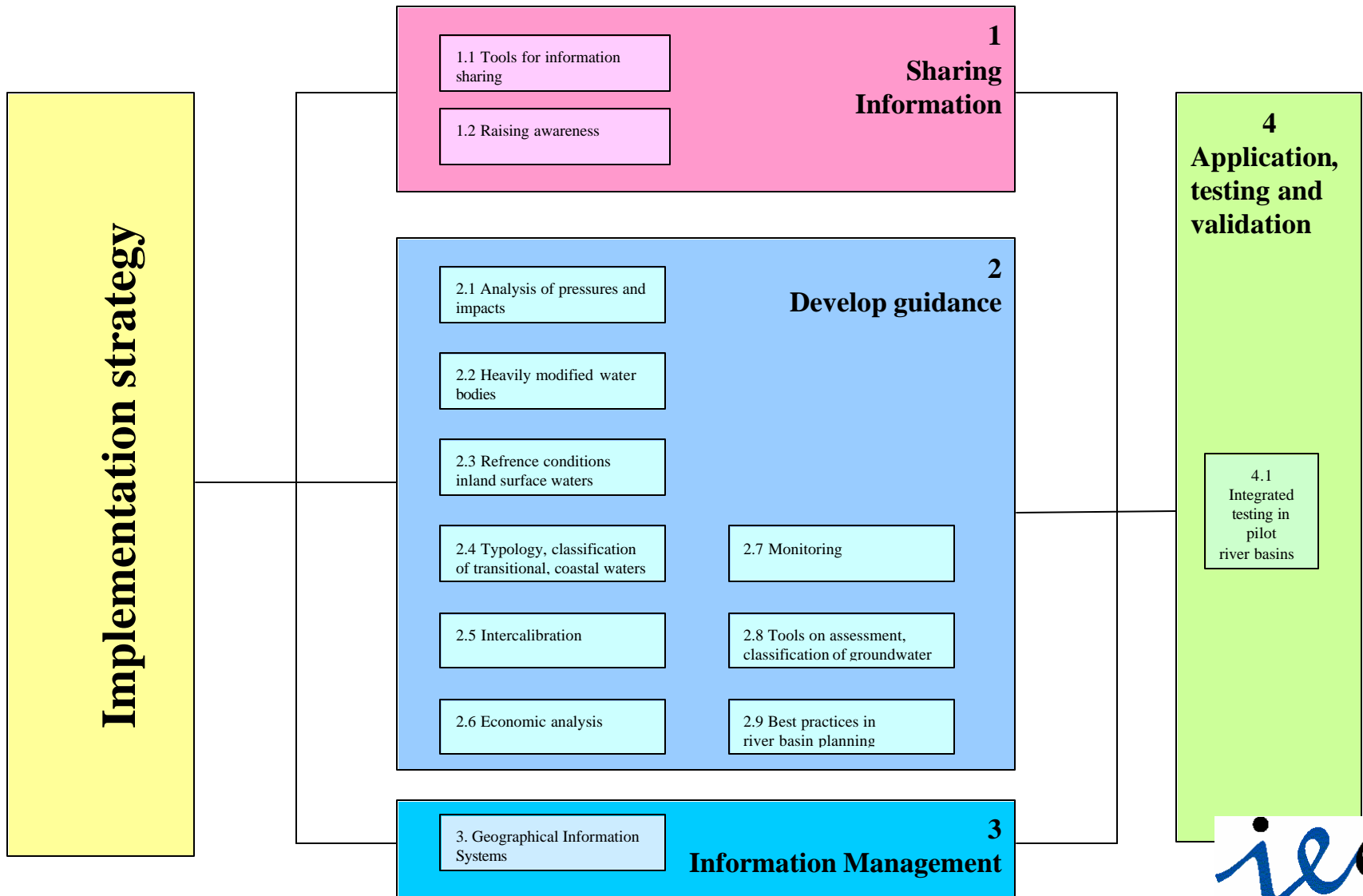
Objectives

- **To allow a coherent and comparable implementation of the WFD**
- **To limit the risks of bad application and subsequent dispute by developing a common understanding and approach (many of the European river basins are shared).**
- **To develop guidance documents, recommendations for operational methods and other supporting tools.**
- **Joint efforts and activities by all involved parties (share experience and information)**
- **Improve the information management**

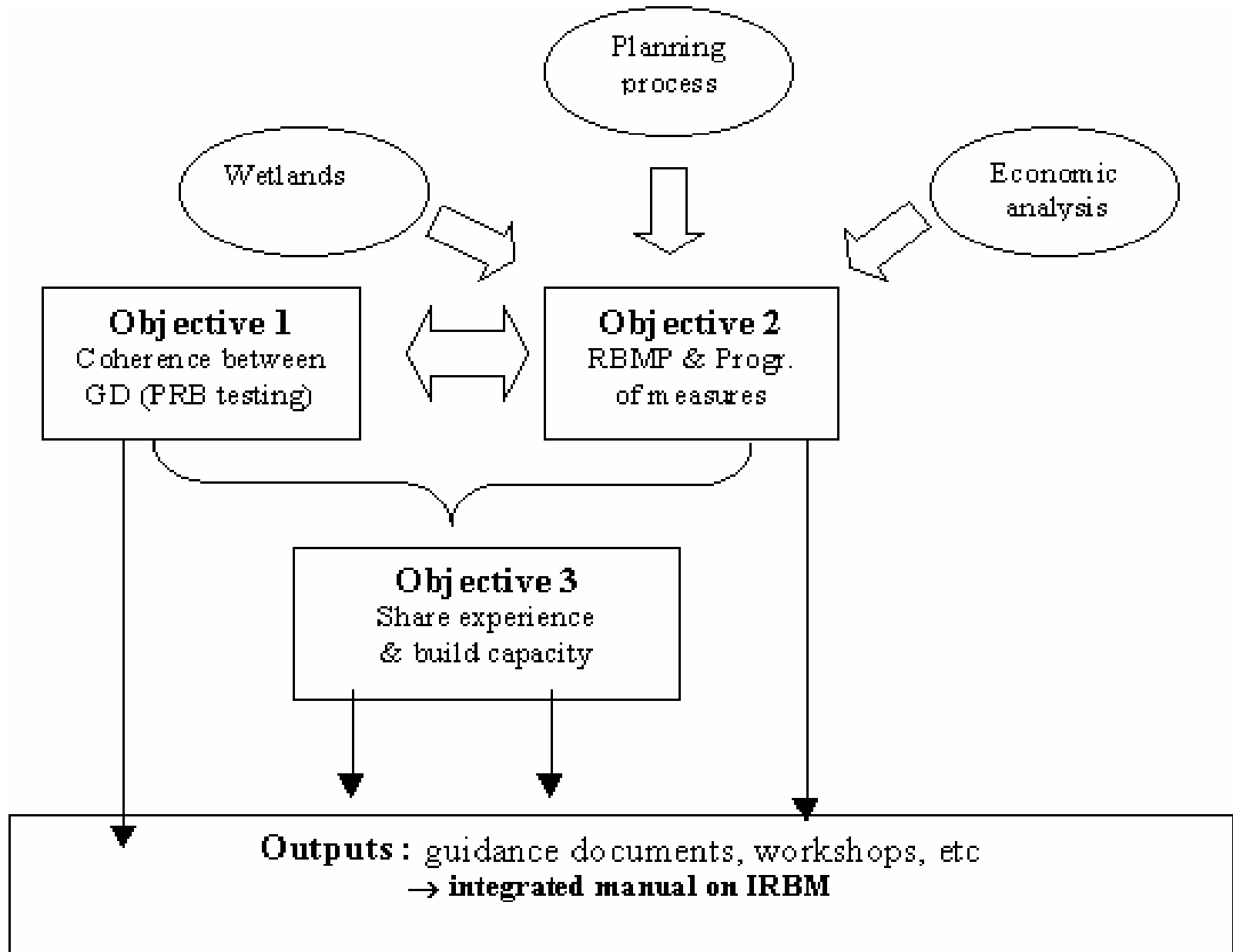
General Organization



General Organization



New Organization



WG 2.B - Integrated Testing in Pilot River Basins

Objectives

Ensure coherence amongst the different Guidance Documents and their cross applicability by testing them in selected Pilot River Basins (PRBs):

- harmonising the testing of the practicability and efficiency of the guidance
- integrating the various Guidance Documents
- providing an overview from on-going testing of the WFD in Member States.

To achieve these objectives a Network of Pilot River Basins (PRBs) has been identified by Member States in close co-operation with WGs in Key Action 2. They represent a range of problems and conditions characteristic of those to be found in the application of the different guidelines.

WG 4.1. INTEGRATED TESTING IN PILOT RIVER BASINS

TP2: SELECTION OF PILOT RIVERS

Objective: Identify key characteristics for Pilot River Basins (PRBs)

Status: Fourteen PRBs have been proposed

- Belgium, France, The Netherlands (Scheldt transboundary river basin),
- Denmark (Odense river basin),
- Finland (Oulujoki river basin),
- France, Germany, Luxembourg (Moselle-Sarre transboundary river basin),
- France (Marne river basin),
- Germany, Poland and Czech Republic (Neisse transboundary river basin),
- Greece (Pinios river basin),
- Hungary (Upper-Tisza transboundary river basin),
- Ireland (Shannon river basin)
- Italy (Tevere, Cecina)
- Portugal (Guadiana river basin Portuguese side),
- Spain (Júcar river basin)
- UK (Ribble).

TP1: COORDINATION
Under the leadership of the Strategic Coordination Group

TP5: DISSEMINATION OF RESULTS

Objective: Develop an approach for the dissemination of results, specially for participants in the integrated testing of PRBs

TP4: INTEGRATED TESTING OF VARIOUS GUIDANCE APPROACHES

Objective: Provide support to the integrated testing of the various guidance approaches to achieve efficient implementation of the WFD

Status: Starting beginning 2003

TP3: ORGANIZATION OF A PLATFORM FOR INFORMATION EXCHANGE

Objective: Provide short term support to Member States (MS) and Working Groups by organizing exchange of information and made it available.

Status: A questionnaire has been developed and circulated to MS. Compiled responses are now at CIRCA.

TP2. Selection of Pilot River Basins

Proposals endorsed by the Water Directors

- B, F, NL (Scheldt),
- D, F, Lux (Moselle-Sarre)
- France (Marne)
- Ireland (Shannon)
- UK (Ribble)
- Denmark (Odense)
- Finland (Oulujoki)
- Norway (Sudalsvassdraget)
- Portugal (Guadiana)
- Spain (Júcar)
- Greece (Pinios)
- Italy (Tevere, Cecina)
- H, RO (Somos)
- CZ, D, PL (Neisse)



ToR: A phased approach

Phase 1 a: Focus on testing of *Key Issues* related to the reporting commitments on Article 5, set up an on-line dynamic feedback and information exchange, and identify new *Issues* as the testing process evolves and additional cross cutting problems appear.

- ✓ The ToR includes a list of *Key Issues* which are related to the interpretation, implementation, checking for coherence, etc. of specific technical issues of the Guidance Documents.
- ✓ The list was prepared in collaboration with the experts who developed the Guidance Documents.
- ✓ The time frame of *Phase 1a* goes till the end of 2003.

From General organisational aspects, e.g.

How did you organise the sharing and diffusion of information?

Are the methods proposed acceptable and operational? What should be improved, modified or added?

... to Specific Issues, e.g.

Did you use the qualitative “Practical Pressure Criteria” as clue to agree on anthropogenic disturbance (HMW guidance, Table 1, paragraph 4.7)?

ARTICLE 5 (WFD)

Article 5

Characteristics of the river basin district, review of the environmental impact of human activity and economic analysis of water use

1. Each Member State shall ensure that for each river basin district or for the portion of an international river basin district falling within its territory:
 - an analysis of its characteristics,
 - a review of the impact of human activity on the status of surface waters and on groundwater, and
 - an economic analysis of water use

List of Main Pollutants (annex Viii)

ANNEX VIII

INDICATIVE LIST OF THE MAIN POLLUTANTS

1. Organohalogen compounds and substances which may form such compounds in the aquatic environment.
2. Organophosphorous compounds.
3. Organotin compounds.
4. Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment.
5. Persistent hydrocarbons and persistent and bioaccumulable organic toxic substances.
6. Cyanides.
7. Metals and their compounds.
8. Arsenic and its compounds.
9. Biocides and plant protection products.
10. Materials in suspension.
11. Substances which contribute to eutrophication (in particular, nitrates and phosphates).
12. Substances which have an unfavourable influence on the oxygen balance (and can be measured using parameters such as BOD, COD, etc.).

ToR: A phased approach

Phase 1 b: During *Phase 1b* the work will concentrate on the Guidance Documents not included in Phase 1a. This work will run in parallel with Phase 1a. However, it will extend until mid-2004. The simultaneous testing to be done in Phases 1a,b will allow an integrated testing of all Guidance Documents.

Phase 2: Further develop integrated testing to contribute to producing Programme of Measures and River Basin Management Plans. The work envisaged during this Phase would initiate during the second half of 2004.



A dynamic information exchange is necessary

PIE: Platform for Information Exchange

address: viso.ei.jrc.it

- ✓ Forum of experts involved in the PRBs
- ✓ Address questions and solutions
- ✓ Exchange of information
- ✓ Library connected to CIRCA

Simple Statistical Models

Water Integrated Emissions Inventory (France)

Pressure

Point and diffuse sources of OM, P, and N from households, industry and agriculture

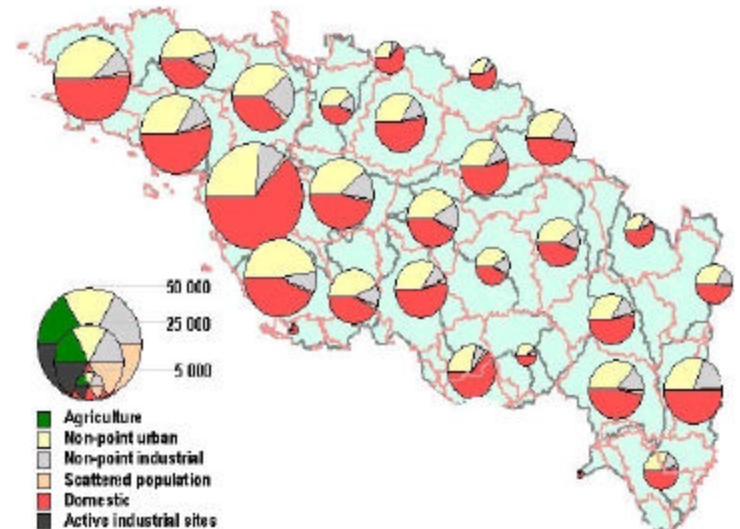
Impact

Eutrophication

Tools

Use and organisation of the already existing national and international statistical sources for the purpose of emission calculations

Point source – households: number inhabitants x pollution factor
Point source – agriculture: number of animals x excretion factors
Diffuse source – agriculture: - Use of fertilisers; model for calculation of losses of nutrients.



Organic matter global pollution apportionment (BOD5 in kg/day)

Physically based modelling

Water Regulation (Denmark)

Pressure

Groundwater Abstraction

Impact

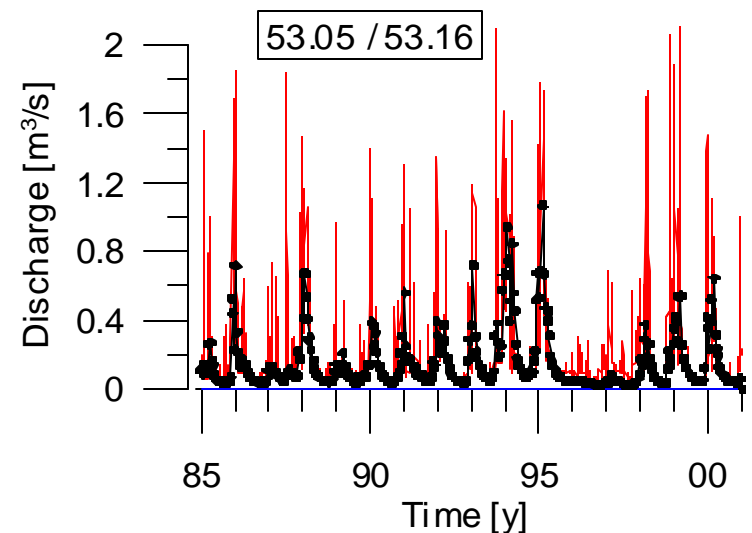
Alterations in directions of groundwater flow, leading to saline intrusion

Tools

2- or 3-dimensional hydrologic models

Hydrological models are used both in permitting water abstractions under consideration of the risks of saltwater intrusion or damage on associated surface waters/ecosystems.

The model will subsequently be used to assess the maximum groundwater abstraction permissible under consideration of the environmental objectives of the stream. Especially the low discharges are critical in this respect.



Modeling Issues

Guidance on the analysis of pressures and impacts

there is an urgent need of effective approaches to the identification of significant anthropogenic pressures on a river basin and the analysis of potential impact of these pressures

Guidance on economical analysis

practical guidelines are required to ensure the economic elements of the WFD, in particular the economic analysis of water use in river basins (cost-effective set of measures to achieve environmental objectives, use of prices and charges for enhancing the sustainability of water resources)

Guidance on monitoring

design monitoring networks, integration of different parameters, etc.

Guidance on best practices in River Basin Management

there is a need of integrated models to evaluate the program of measures and river basin management plans.



More Information

Internet:

<http://europa.eu.int/comm/environment/water/>

WFD CIRCA - Information Exchange Platform:

<http://forum.europa.eu.int/Public/irc/env/Home/main>

WFD Helpdesk:

env-wfd-circa@cec.eu.int

Platform for Information Exchange (PIE):

http://viso.ei.jrc.it/wfd_prb/index.html