

# Monitoring and assessing transboundary basins The case of the Meuse international district

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International Meuse Commission

<http://www.cipm-icbm.be/>



**SEMINAR ON MONITORING AND  
ASSESSMENT OF TRANSBOUNDARY  
WATERS**

**IN THE UNECE REGION**

**Geneva, 16–17 June 2008**

# Summary

- Introduction : the R. Meuse and the ICM
- Monitoring water quality in the main river: the Homogenous Monitoring Network
- Implementing the WFD: the international coordination
- Comments and conclusions

### Annex 3

#### IRBD Meuse - General Hydrography



The R. Meuse international district

States / Regions:

France (FR)

Wallonia (BE)

Flanders (BE)

Germany (GE)

The Netherlands (NL)

Total catchment area: 34,548 km<sup>2</sup>,

~ 9 million inhabitants

Main river: ~ 900 km, ~ 500 km in France, but 26 % of the water area

36 % in Wallonia, with main tributaries

Many uses: drinking water supply, transport, industries, energy production (nuclear plants, little hydroelectricity), recreation, ...





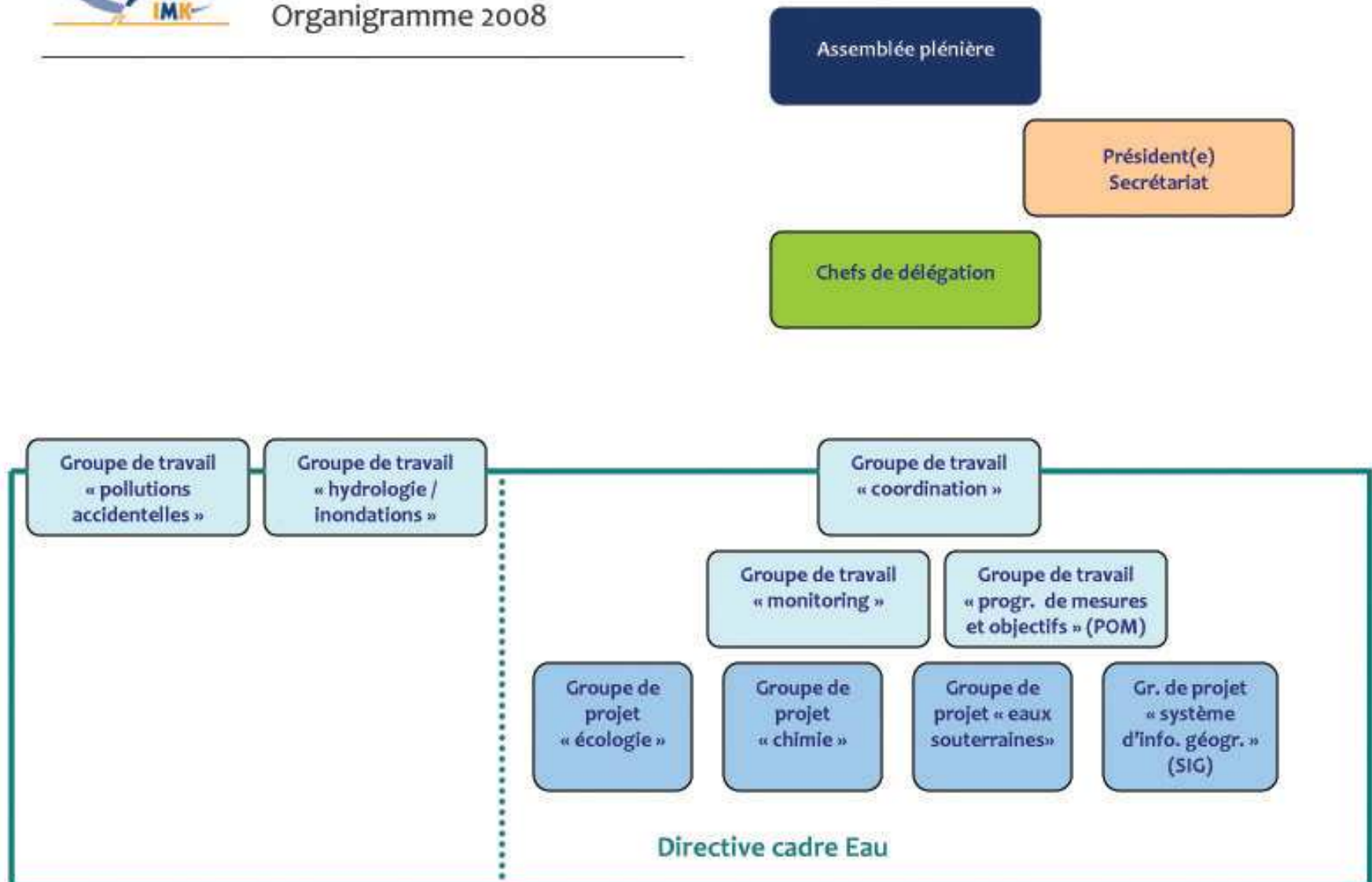
# The International Meuse Commission

- Was created in 1995 at Charleville-Mézières (France)
- Redefined by the «Ghent agreements» in 2002, in the context of the implementation of the WFD
- Main seat in Liège (Belgium) at Palais des Congrès
- Present president: Heide Jekel (Germany)
- 5 working groups, among which 3 work on the WFD implementation



Commission internationale de la Meuse

## Organigramme 2008

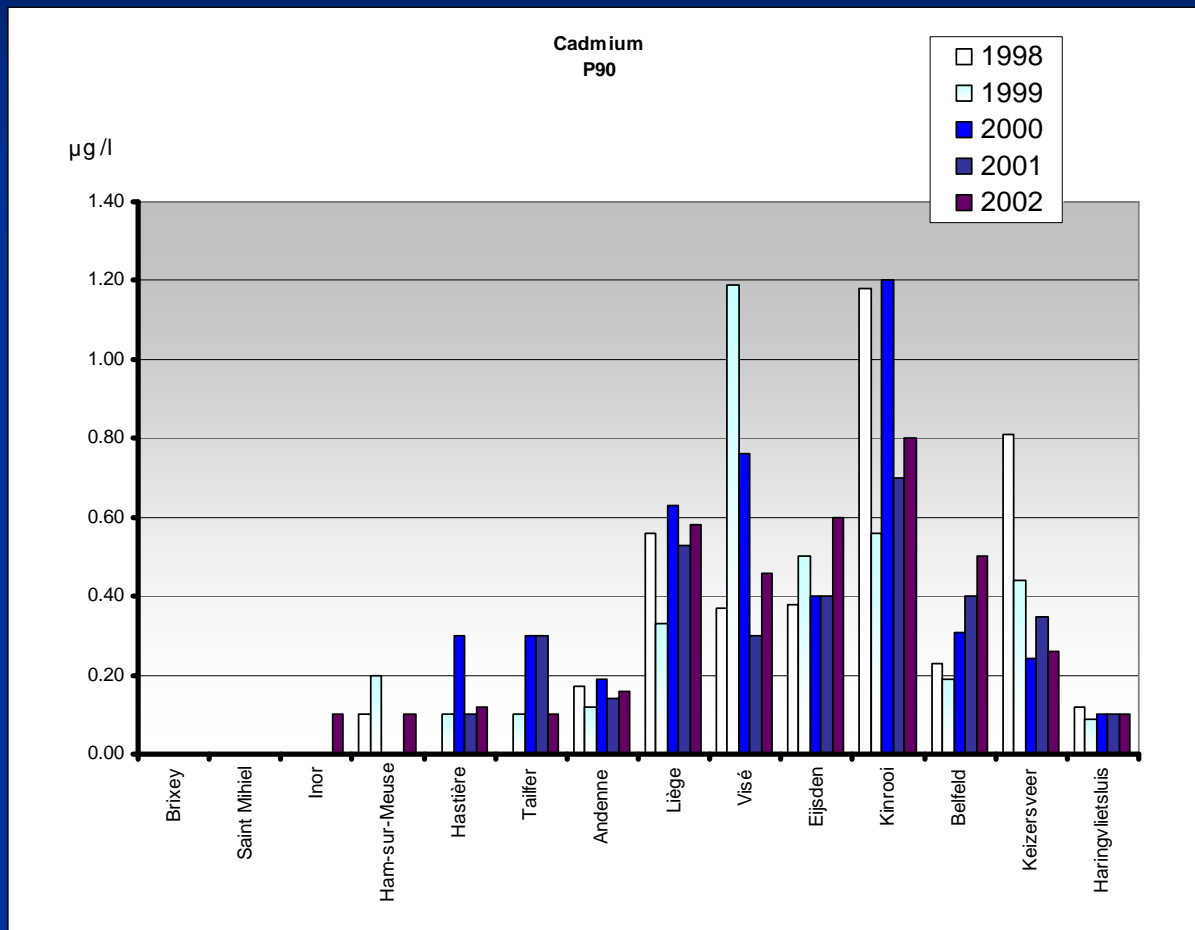




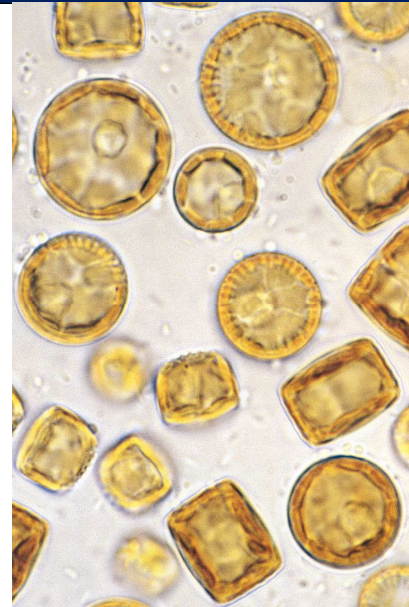
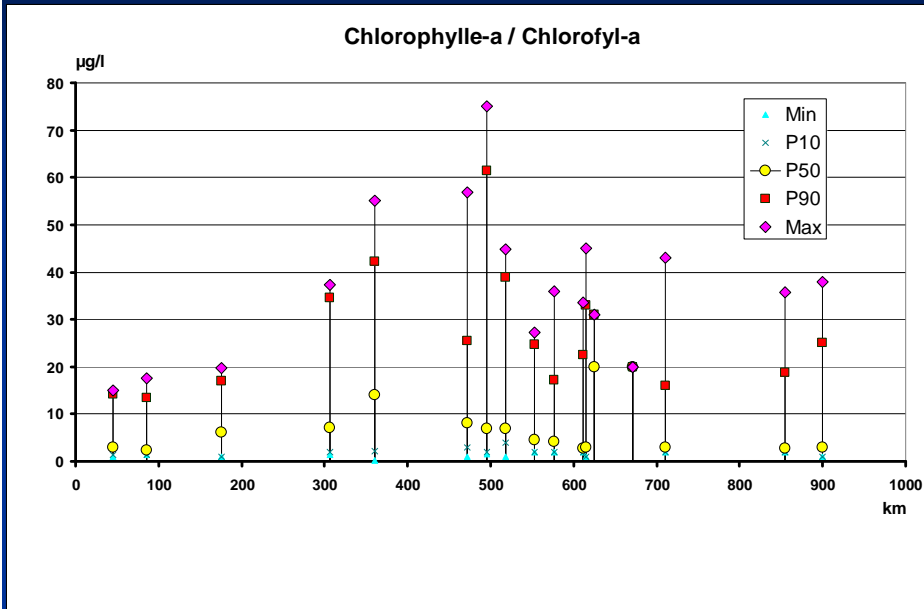
# Some examples of results on R. Meuse monitoring through the HMN



Figure 1 : Localisation des stations d'échantillonnage  
 Figure 1 : Location of sampling sites



# Some examples of results on R. Meuse monitoring through the HMN

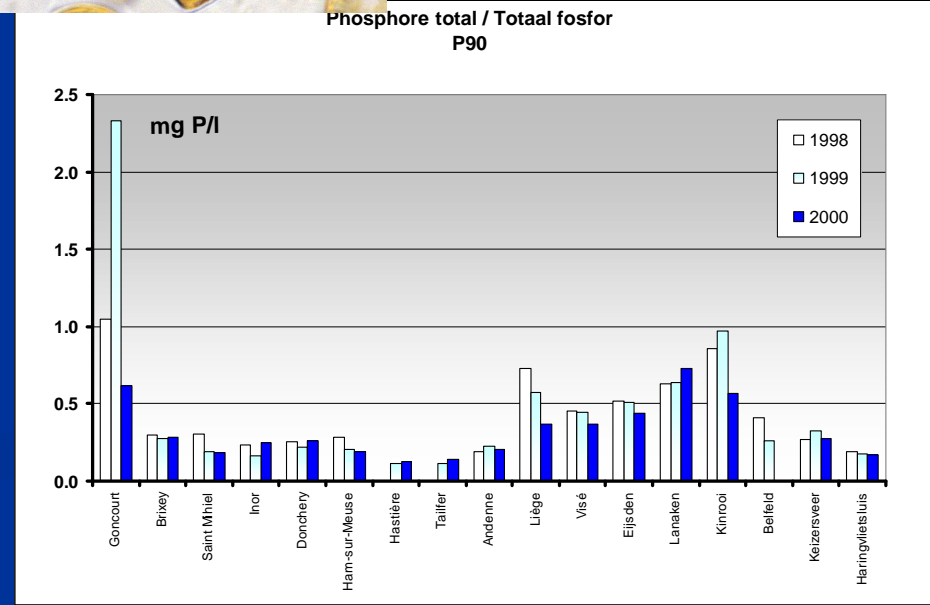


Centric diatoms often dominate the phytoplankton

Phytoplankton may be the main source of organic matter in some stretches

Phytoplankton develops along the French course of the R. Meuse ...

... because of favorable river characteristics and of P inputs





# Some examples of the results on R. Meuse monitoring through the HMN

The macroinvertebrates survey (1998 – 2001)

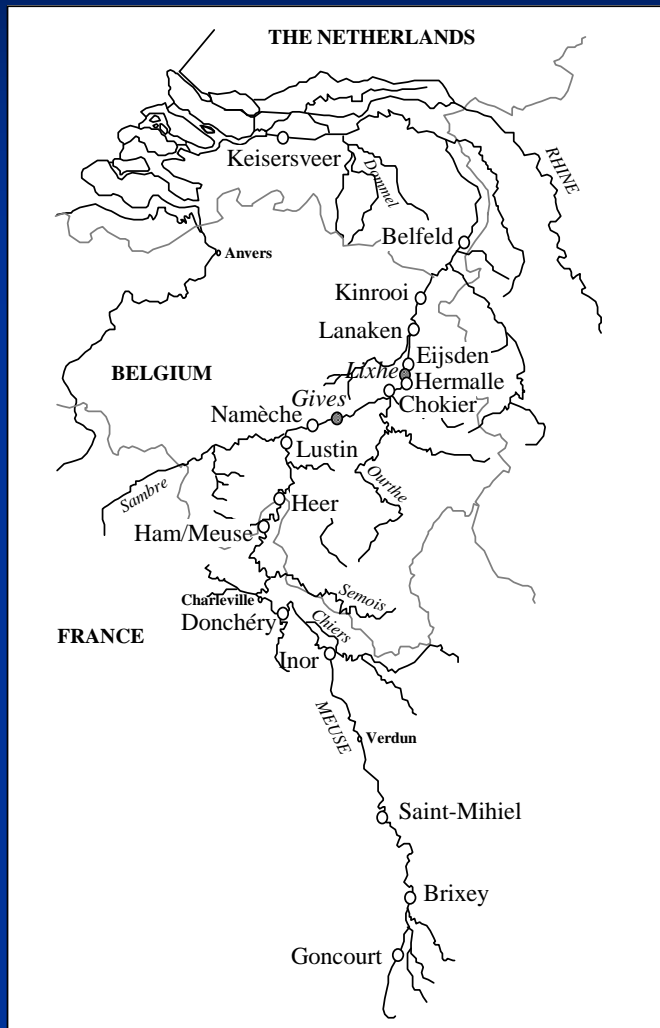
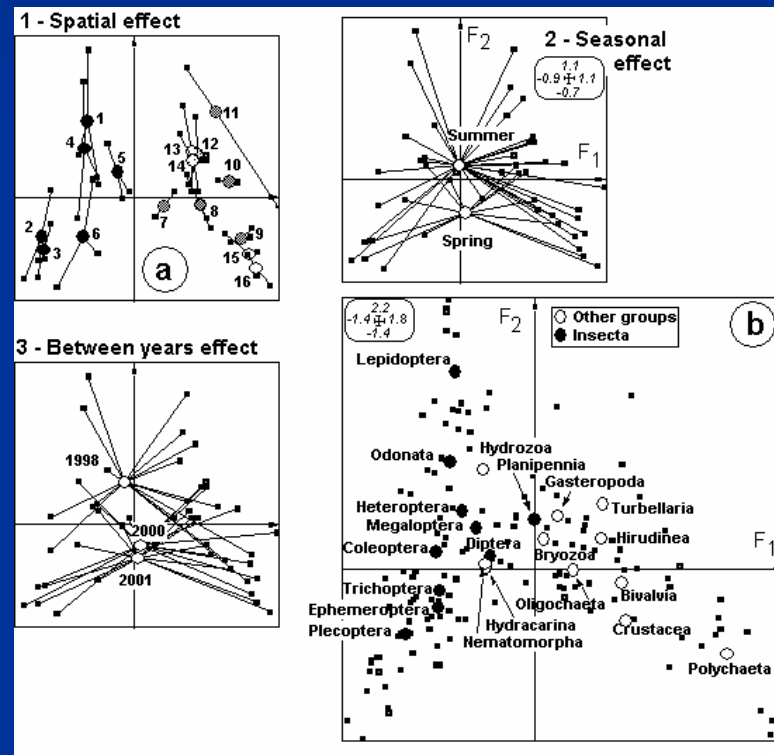


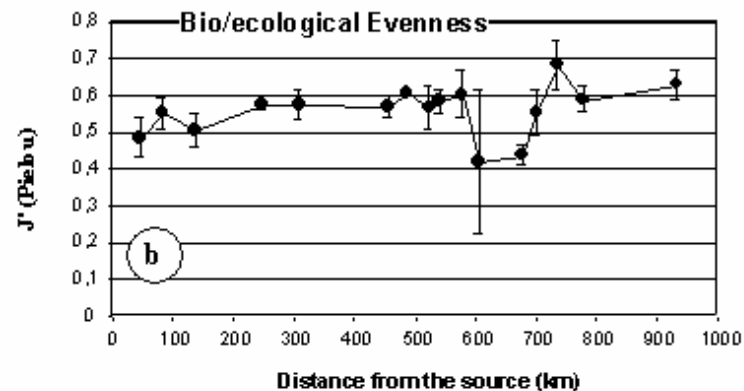
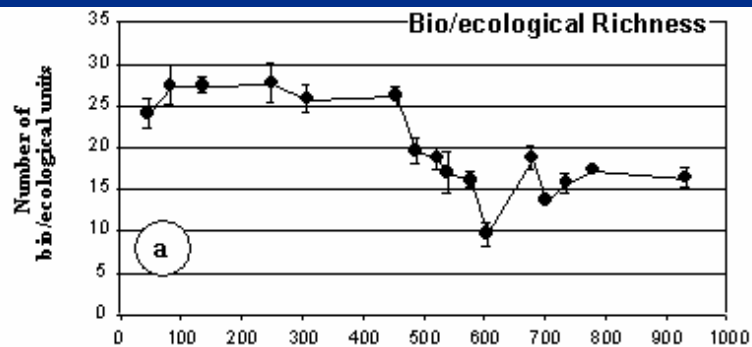
Figure 1 : Localisation des stations d'échantillonnage  
 Figure 1 : Location of sampling sites



A detailed scientific analysis

# Some examples of the results on R. Meuse monitoring through the HMN

## The macroinvertebrates survey (1998 – 2001)



(b) 'Ecological state'

		1998	2000	2001	Mean
1	Goncourt	Green	Green	Green	Green
2	Brixey-aux-Chanoines	Blue	Blue	Blue	Blue
3	Saint-Mihiel	Blue	Blue	Blue	Blue
4	Inor	Green	Blue	Blue	Blue
5	Donchery	Blue	Blue	Blue	Blue
6	Ham-sur-Meuse	Green	Blue	Green	Green
7	Heer	Yellow	Green	Green	Green
8	Lustin	Yellow	Yellow	Green	Green
9	Namêche (Gives*)	Orange	*	*	Yellow
10	Chokier	Yellow	Yellow	Yellow	Yellow
11	Hermalle (Lixhe*)	Yellow	*	Green	Orange
12	Eijsden	Orange	Yellow	Green	Yellow
13	Lanaken	Orange	Yellow	Yellow	Yellow
14	Kinrooi	Yellow	Yellow	Green	Yellow
15	Belfeld	Yellow	Green	Yellow	Yellow
16	Keizersveer	Yellow	Yellow	Yellow	Yellow

Interpretation of 'ecological state' :

Blue	[1,0,85] - classe 1 (very good)
Green	]0,85-0,65] - classe 2 (good)
Yellow	]0,65-0,45] - classe 3 (intermediate)
Orange	]0,45-0,25] - classe 4 (disturbed)
Red	]0,25-0] - classe 5 (heavily disturbed)

# The WFD implementation

- 1st roof report on international coordination:  
Characteristics, Review of the  
Environmental Impact of Human Activity,  
Economic Analysis of Water Use
- Identification of the « big issues » for the  
IRBD Meuse



# The big issues

Hydromorphological alterations

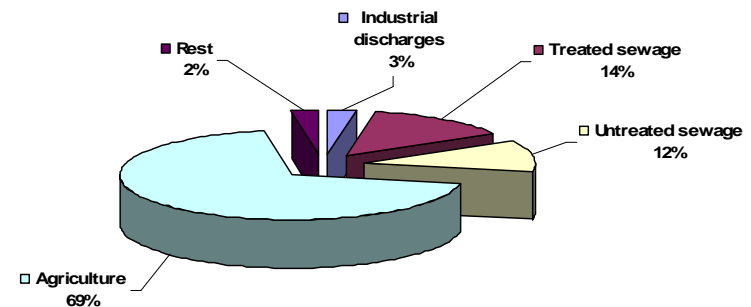
Classic pollutions : C, N, P

Micropollutants and sediment contamination

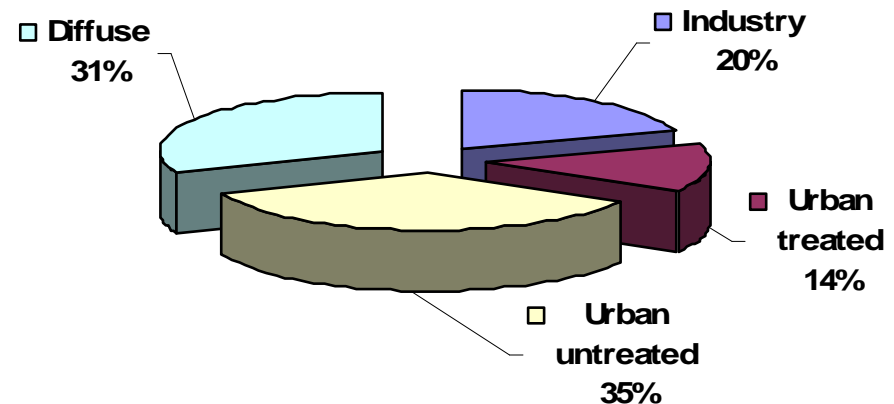
Floods and water deficits

Underground waters : diffuse pollution and some quantity problems

Nitrogen emissions - Contribution of various sources



Cadmium



# The present: coordination of the monitoring programs

- Need to report the coordination of the monitoring programs at the scale of the IRBD, for instance by using the results from the delegations
- Objective: achieving harmonised assessment of the status of surface and underground water bodies
- First step: comparison of the monitoring programs → they do not differ substantially
- Second step: « selection » of relevant sites and parameters

# Ongoing: defining the content of the roof report on monitoring

## ■ Difficulties

- Only one year may not be sufficient to assess the status of the water bodies → some delegations may be relectant to provide an assessment of chemical and biological quality based only on data from 1 year
- What is to be provided ? There is some agreement on providing only a quality class value, not detailed data

### Example :

- chemical parameters (as priority substances of the WFD, annex X) :  
comply / does not comply to EQS
- Biology : a class should be provided (good, moderate, poor, very poor) for each element



# Ongoing: defining the content of the roof report on monitoring

## ■ Difficulties

- Apart from the EQS provided in the « daughter directive » by the EU, no harmonisation of environmental standards among the states / regions
  - Problems may arise for assessing the status of transboundary water bodies
  - Difficulties for defining the programs of measures
- For elements of biological quality, intercalibration is still under way → again, differences in assessment will arise

# Conclusions

- At present, too early to estimate what will be result of the coordination required by the WFD for international districts
- At the ICM, there is at present an consensus that the homogenous network still allows more detailed knowledge of the quality of the main river, because
  - Detailed monitoring data are exchanged and stored in a data base at ICM
  - There is already a long history which allows looking at changes over time
  - There is a real collaboration at sampling, analysis and interpretation, which is more valuable than just coordinating the monitoring programs