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YELLOW RIVER CONSERVANCY COMMISSION,
Ministry of Water Resources, China
INTERNATIONAL NETWORK OF BASIN ORGANIZATIONS
EU – CHINA RIVER BASIN MANAGEMENT PROGRAMME

Climate Change Adaptation Strategies & IRBM Benchmarking

BENCHMARKING of INTEGRATED RIVER BASIN MANAGEMENT : Case of BELGIUM

J. S. SMITZ

University of Liege, Belgium

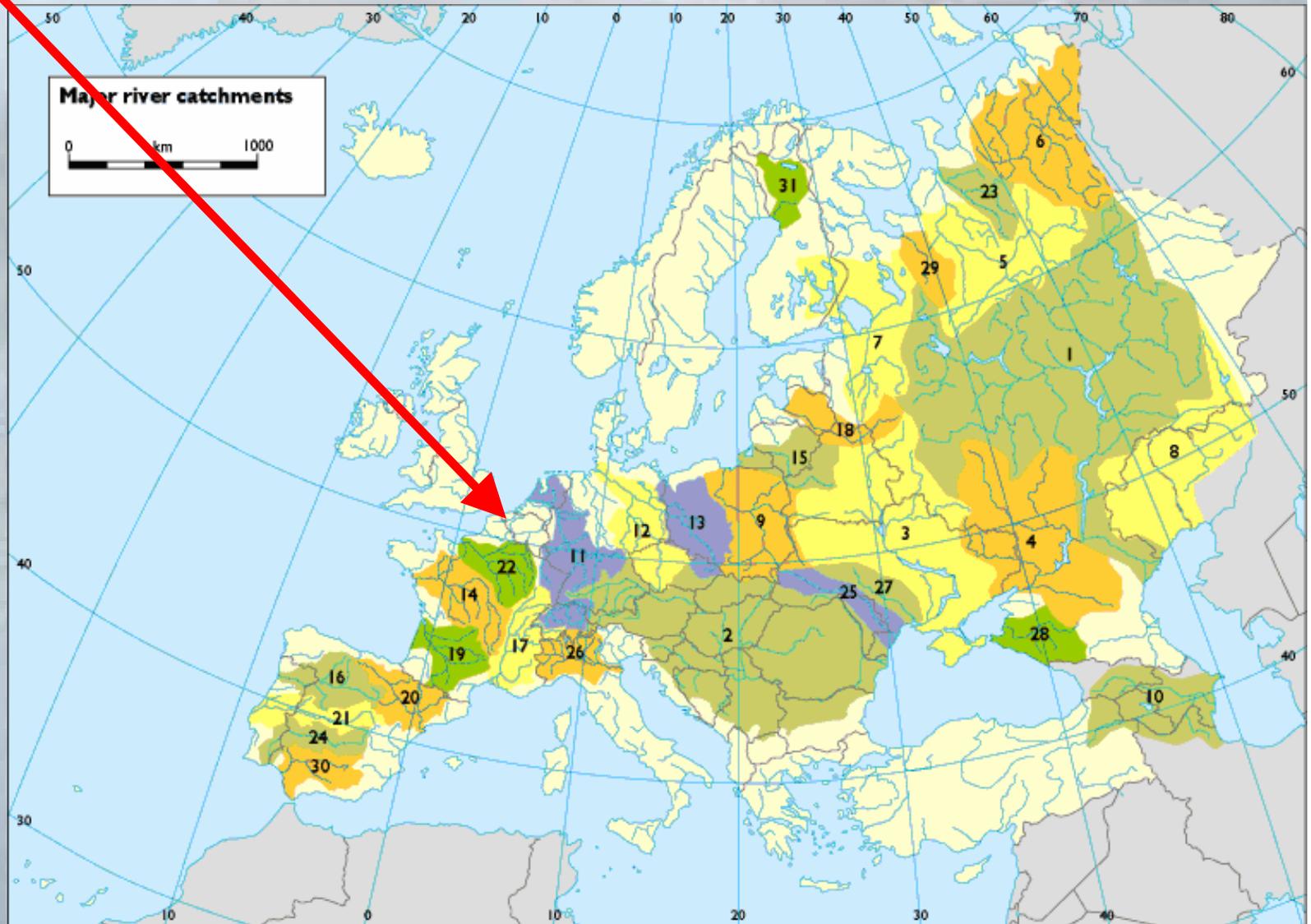
j.smitz@ulg.ac.be

Preamble

This presentation engages only the responsibility of the author and does NOT engage the responsibility of the Water Administration of WALLONIA nor the responsibility of the INTERNATIONAL MEUSE COMMISSION or INTERNATIONAL SCHELDT COMMISSION

Introduction

Belgium (35.000 km², 10 million inhabitants) is located between France, Germany and the Netherlands



Introduction

Despite the small size of the country, Water management in Belgium is not so easy :

- From an **institutional** point of view :

Belgium is a federal state, composed of

- . the federal state,
- . 3 Regions (Flanders, Brussels-Capital, Wallonia)
- . 3 Communities

The competences for water management are distributed :

- . Coastal waters : managed by the federal state
- . Ground- and surface water : managed by the 3 Regions

- From the **hydrographical** point of view :

Belgium is located in the central part of 2 international districts :
the Meuse and the Scheldt international districts

(located between the Seine and the Rhine districts)

The MEUSE international hydrographic district

35.348 km²

8.8 M inhabitants

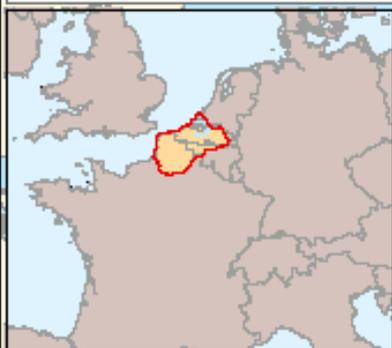
5 Member States

8 official partners for the international coordination of water management :

- France
- Luxemburg
- Walloon Region
- Flemish Region
- *Brussels Region*
- *Belgian feder. State*
- Germany
- The Netherlands



DHI Escaut : Cours d'eau principaux
ISGD Schelde : Belangrijke waterlopen



	DHI Escaut		Villes importantes
	ISGD Schelde		Belangrijke steden
	Frontières nationales		Cours d'eau
	Nationale grenzen		Canaux artificiels
	Frontières régionales		Kunstmatige kanalen
	Régionale grenzen		Lacs
			Meren

Tous droits réservés Partie faite de l'état des lieux du DHI Escaut
Alle rechten voorbehouden Overkoepelend deel analyse van het ISGD Schelde
Projectiel coordinate reference system : ETRS89-LCC



Integrated Water Resources Management in Belgium

Integrated Water Resources management in Belgium is organized at :

- . local + regional levels (+ coordination between the 3 Regions)
- . international level (transboundary)

The situation of IWRM is presented hereafter at 2 levels :

- 1) in WALLONIA
- 2) in the Meuse and Scheldt international districts

3 topics are examined :

- Institutional / legal framework
- Instruments / tools
- Governance / participation process

Integrated Water Resources Management in WALLONIA

Wallonia (Southern part of Belgium) :

- area : 18.000 km²
- population (year 2006) : 3.4 Million inhabitants

TOPIC 1 : LEGAL FRAMEWORK

- < 1999 : IWRM was developed in Wallonia through a voluntary and unofficial cooperation between water actors
- Since the Decree on the management of the water cycle (1999) and particularly since the rewriting of the water legislation into a single code (Code de l'eau – Water Act) (implementation of the WFD) :
 - . water is designated as a common good
 - . water **MUST** be managed in an integrated and global approach

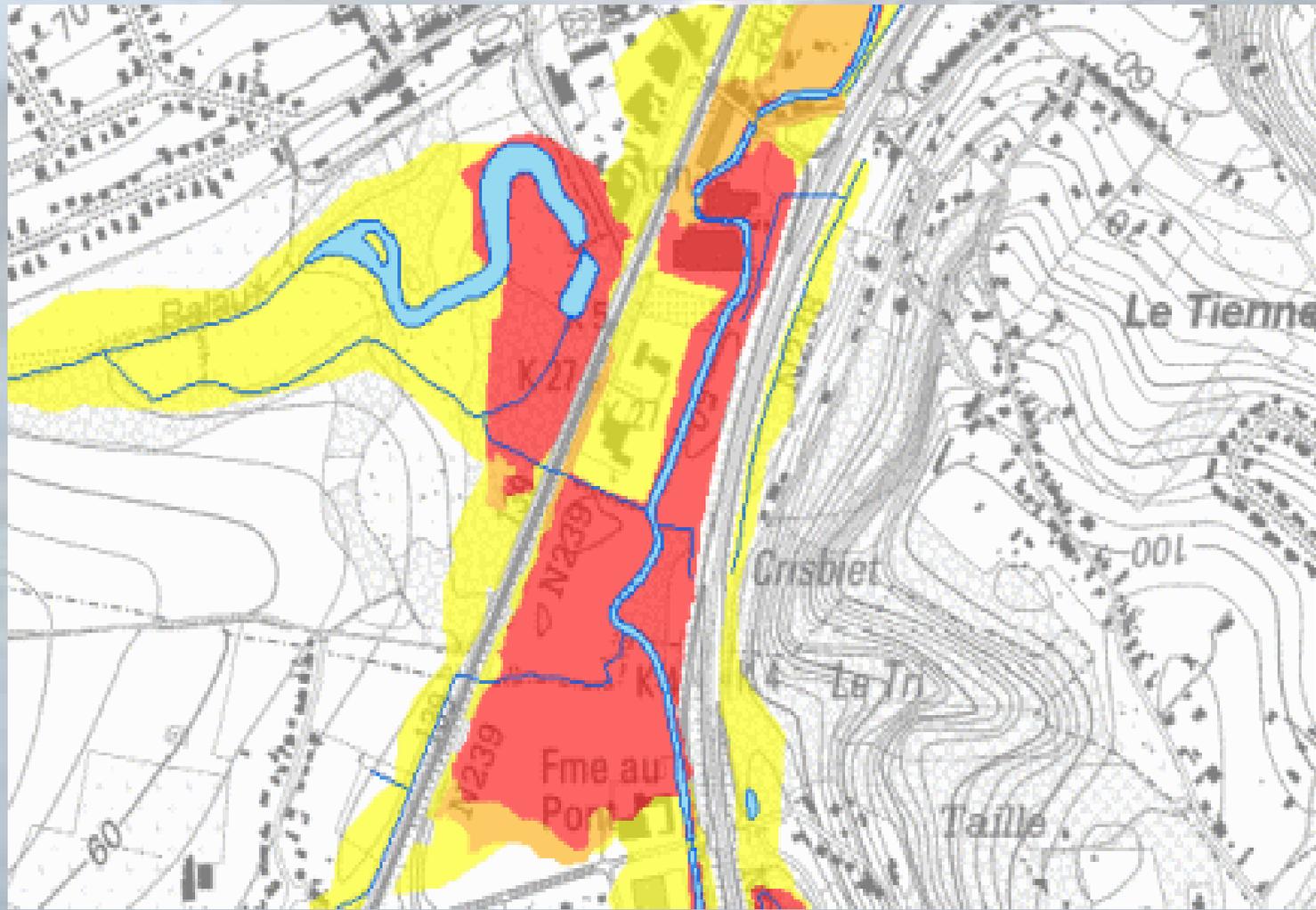
Integrated Water Resources Management in WALLONIA

TOPIC 2 : INSTRUMENTS / TOOLS

- A Platform for Integrated Water management has been created
Mission : to gather all the public actors and operators of the water cycle
- 2008 : the 2 Ministries involved in water management (Ministry of Public Works / Ministry of Natural Resources) became one single Ministry
- Preventive actions PLANS for floods have been elaborated
The maps of flood risks are already elaborated for the whole territory of Wallonia (*Plan PLUIES*)
The maps were submitted to a public inquiry
The maps are downloadable

Integrated Water Resources Management in WALLONIA

Maps of flood risks

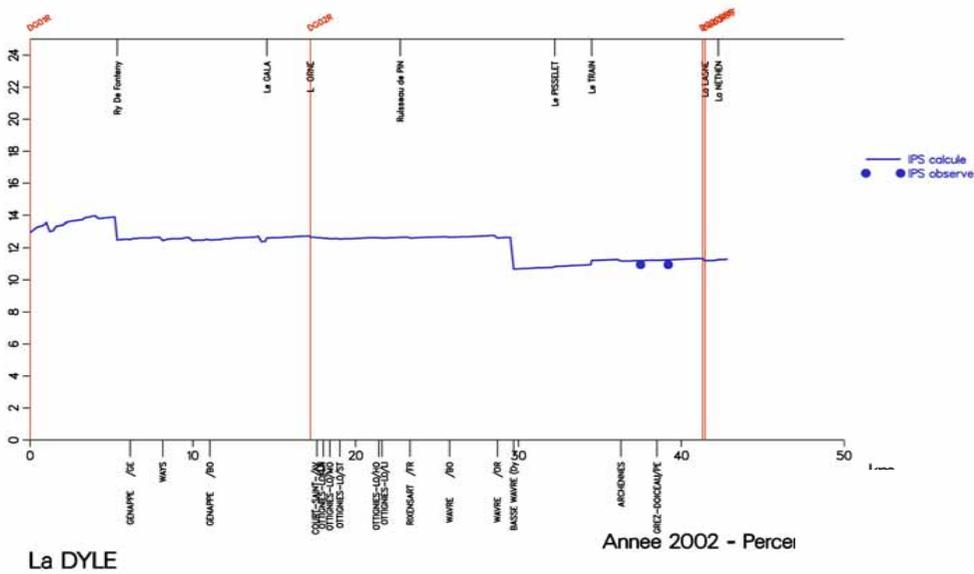


Integrated Water Resources Management in WALLONIA

Instruments / Tools (cont.)

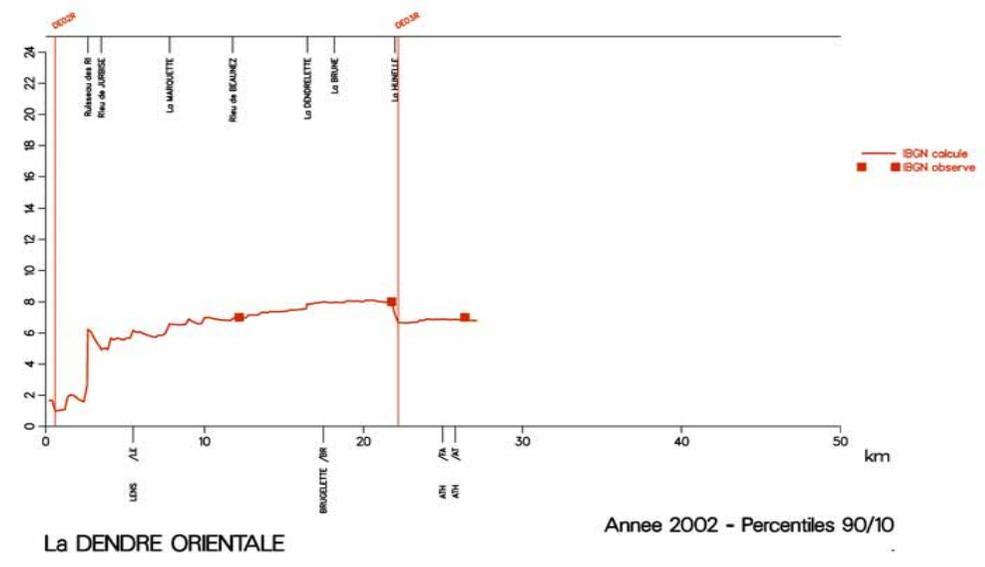
- River management takes into account the ecological functions of the rivers
- State of the environment : a set of synthetic indicators has been developed (DPSIR approach)
- Modelling and data bases :
 - ! Modelling is a powerful tool for IRBM
 - . Water quantity : sub-basins and most of the rivers are modelled
 - . Water quality : all the basins and all the rivers are modelled (PEGASE model)
 - Developments have been made for the modelling of biological indexes and for the coupling with economic analysis
 - . Various Data bases / GIS applications are progressively gathered

REGION WALLONNE - PEGASE
 INDICES DE QUALITE BIOLOGIQUE : IPS
 RW2 Situation actuelle - Annee 2002



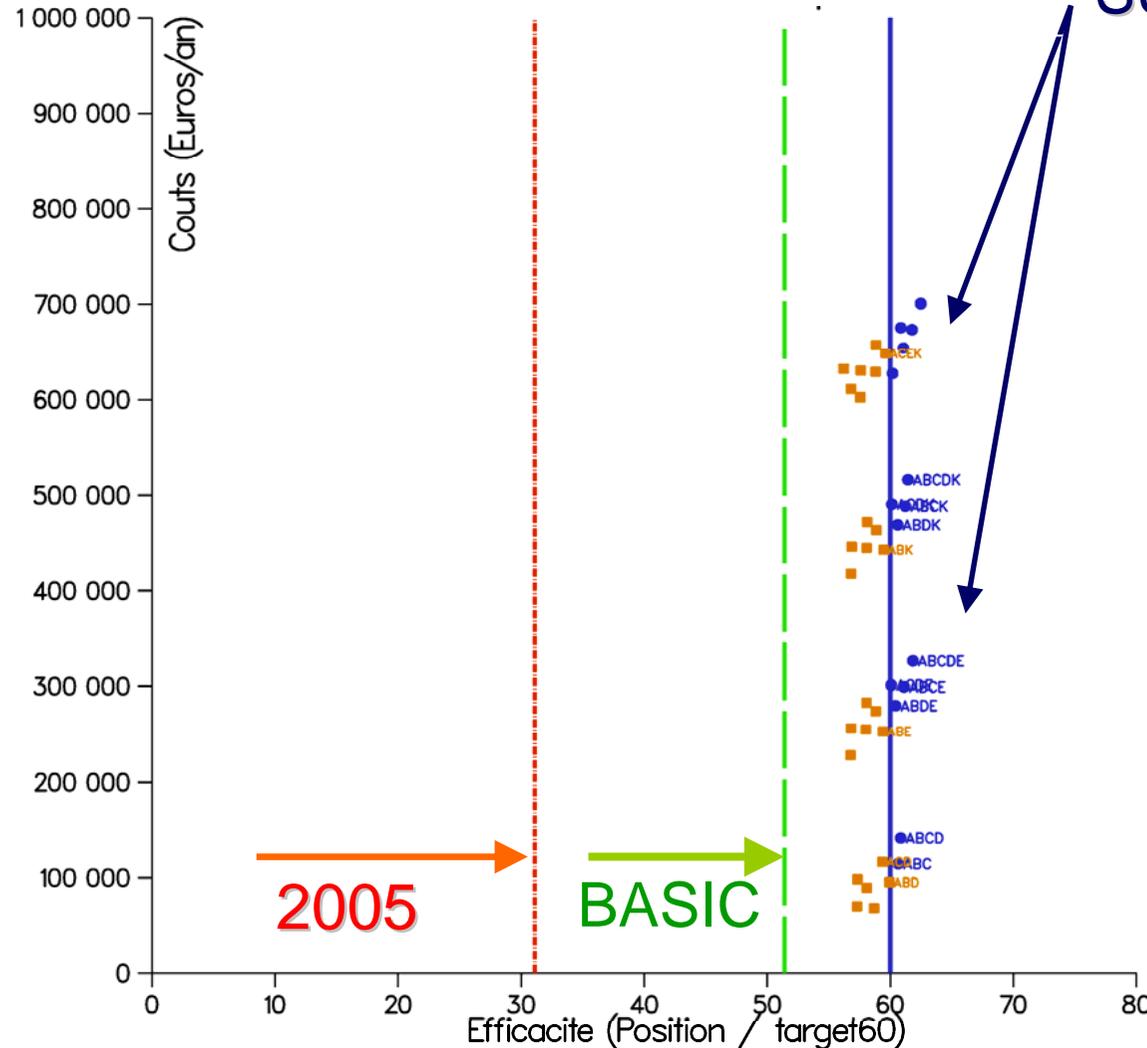
Integrated Water
 Resources Management
 in WALLONIA (cont.)

REGION WALLONNE - PEGASE
 INDICES DE QUALITE BIOLOGIQUE : IBGN
 RW2 Situation actuelle - Annee 2002



SAMBRE sub-basin - Water Body SA17R

COST



SUPPLEMENTARY

- IQ atteint avec situation de reference (IQ=31.1)
- IQ atteint avec mesures de base (IQ=51.4)
- Limite bonne qualite (IQ=60.0)

LISTE DES MESURES SIMULEES	COUTS EUROS/AN	IQmes Compl.	C marginal Keuros/pt
A : tert step exist 2000-10000	43 157	56.0	9.301
B : tert nouvel step 2000-10000	24 956	54.0	9.489
C : tert step exist 500-2000	46 275	53.5	22.573
D : tert nouvel step 500-2000	26 935	52.7	21.548
E : assainissement autonome	184 800	52.1	253.151
F : reduct 20% rejind IPPC non racc	0	51.4	-
G : reduct 20% suppl rejind IPPC non racc	0	51.4	-
H : reduct 20% rejind non IPPC non racc	0	51.4	-
I : reduct 20% suppl rejind non IPPC non racc	0	51.4	-
J : reduct 50% apports inconnus	0	51.4	-
K : reduct 20% apports diffus	374 400	52.2	480.001

EFFECTIVENESS

Integrated Water Resources Management in WALLONIA

TOPIC 3 : GOVERNANCE / PARTICIPATION PROCESS

- A 'Consultative Water Commission' elaborates recommendations to the Government
All types of stakeholders are members (incl. NGOs)
- In each sub-basin, a participatory body (*'Contrat de rivière'*) has been established : the mission is the communication between stakeholders and the hierarchisation of priorities
- Each Programme of Measures (POM) is submitted to a public inquiry before final approval

Integrated Water Resources Management in the MEUSE and SCHELDT international Districts

Meuse international district :

- area : 35.000 km²
- population (year 2006) : 8.4 Million inhabitants
- Competent Authorities : France, Luxemburg, Wallonia, Flanders, Germany, the Netherlands

Scheldt international district :

- area : 36.416 km²
- population (year 2006) : 12.8 Million inhabitants
- Competent Authorities : France, Wallonia, Flanders, Brussels-capital, Belgian federal State, the Netherlands

Integrated Water Resources Management in the MEUSE and SCHELDT international Districts

TOPIC 1 : LEGAL FRAMEWORK

- Since 1994 : the International Agreement on the Meuse and the International Agreement on the Scheldt organise the international / multilateral cooperation in the 2 basins
- In 2002 : new Meuse and Scheldt Agreements in order to improve the cooperation as regards the coordination imposed by the WFD in the international districts

Integrated Water Resources Management in the MEUSE and SCHELDT international Districts

TOPIC 2 : INSTRUMENTS / TOOLS

- The International Meuse Commission (IMC)
The International Scheldt Commission (ISC)

These commissions are **concertation** bodies
(NOT supranational management agencies)

Consensus is the rule for decision making, each partner has
one vote

Each Commission is helped by a secretariat (3 persons full time)

Integrated Water Resources Management in the MEUSE and SCHELDT international Districts

Instruments / Tools (cont.)

- Monitoring networks :

Homogeneous monitoring network have been established for the Meuse river / the Scheldt river

Objective : to assess in a highly coordinated and comparable way the water quality of the main river (from source to mouth)

A common data base is elaborated and maintained (French water Agencies)

A report on the water quality is published every year

Discussion began recently on the possible evolution of this network

- in order to give a representative picture of the water quality in the whole district (incl. tributaries and small rivers)
- in order to use the data obtained by the WFD Monitoring networks of the partners and used for the WISE reporting

Integrated Water Resources Management in the MEUSE and SCHELDT international Districts

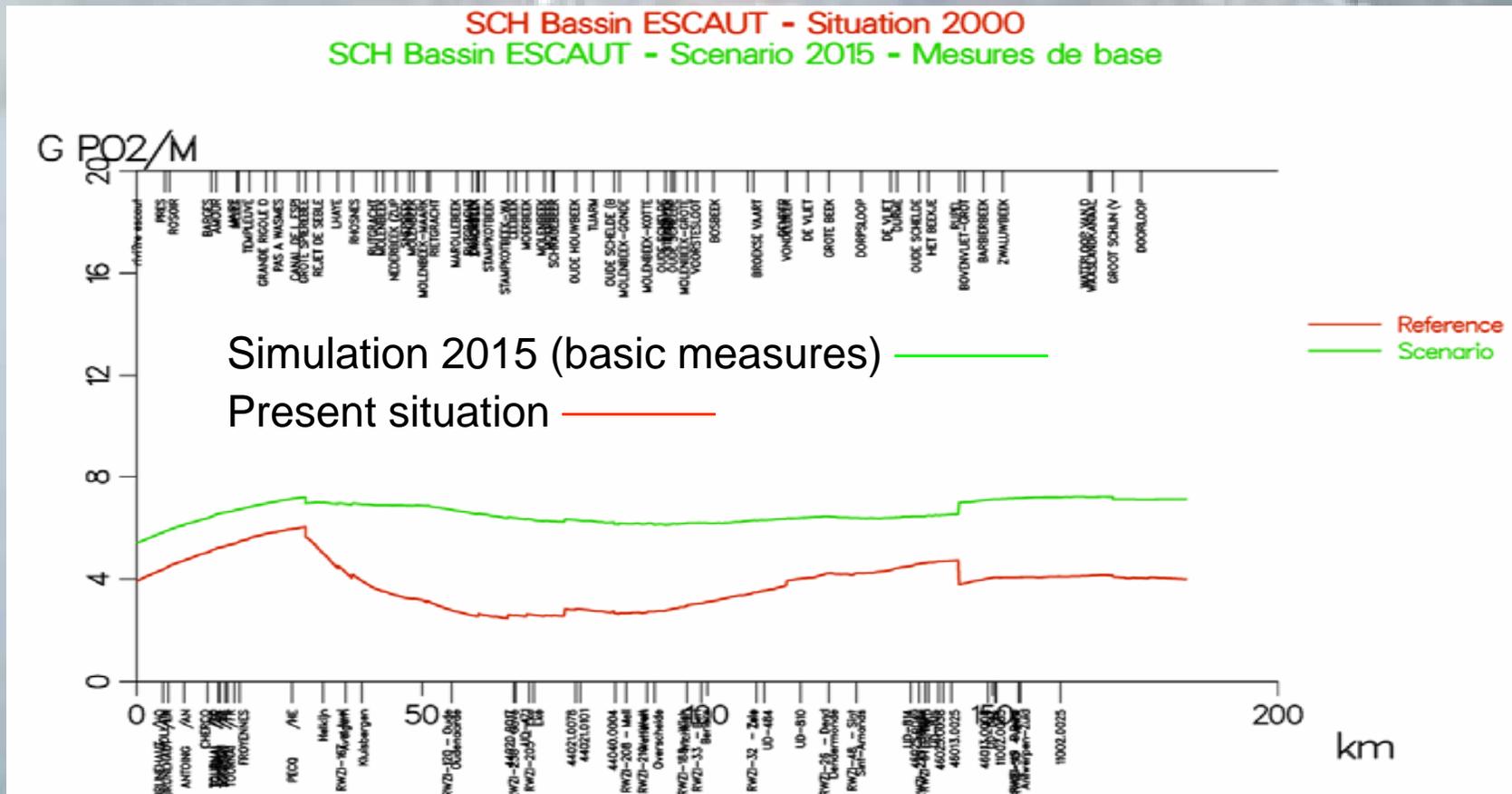
Instruments / Tools (cont.)

- Transnational Web-GIS applications
a web-Gis application has been set up (Wallonia - DGARNE) in order to draw up all the maps at the level of the district and thus to facilitate the international coordination
- Transnational modelling
a transnational modelling application (PEGASE model) has been developed and used in order to assess the cumulative effect of the POMs of the partners on the water quality in the district.
Application was made for the Schelt and the Mosel basins
Application for the Meuse basin is running presently

Integrated Water Resources Management in the MEUSE and SCHELDT international Districts

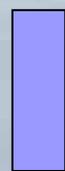
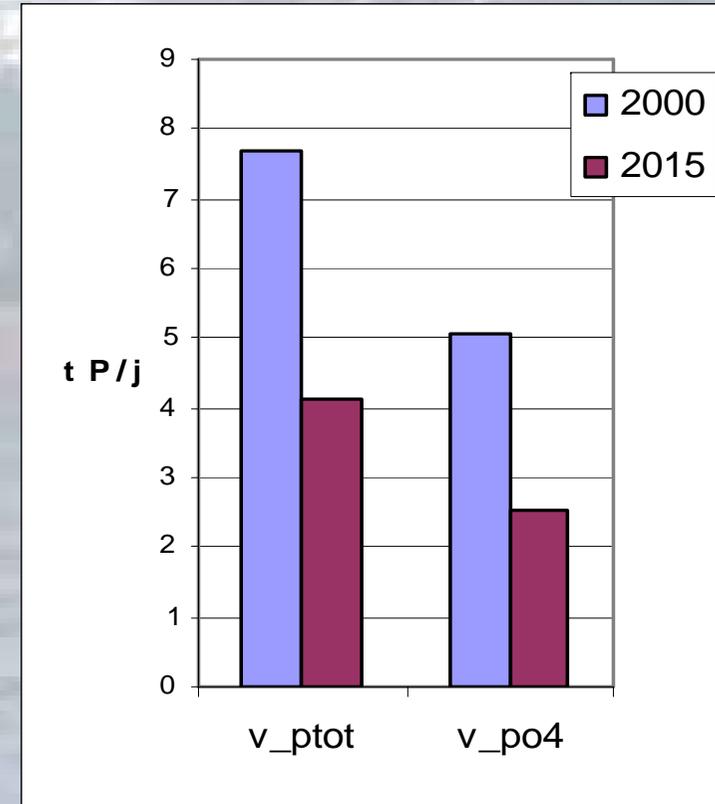
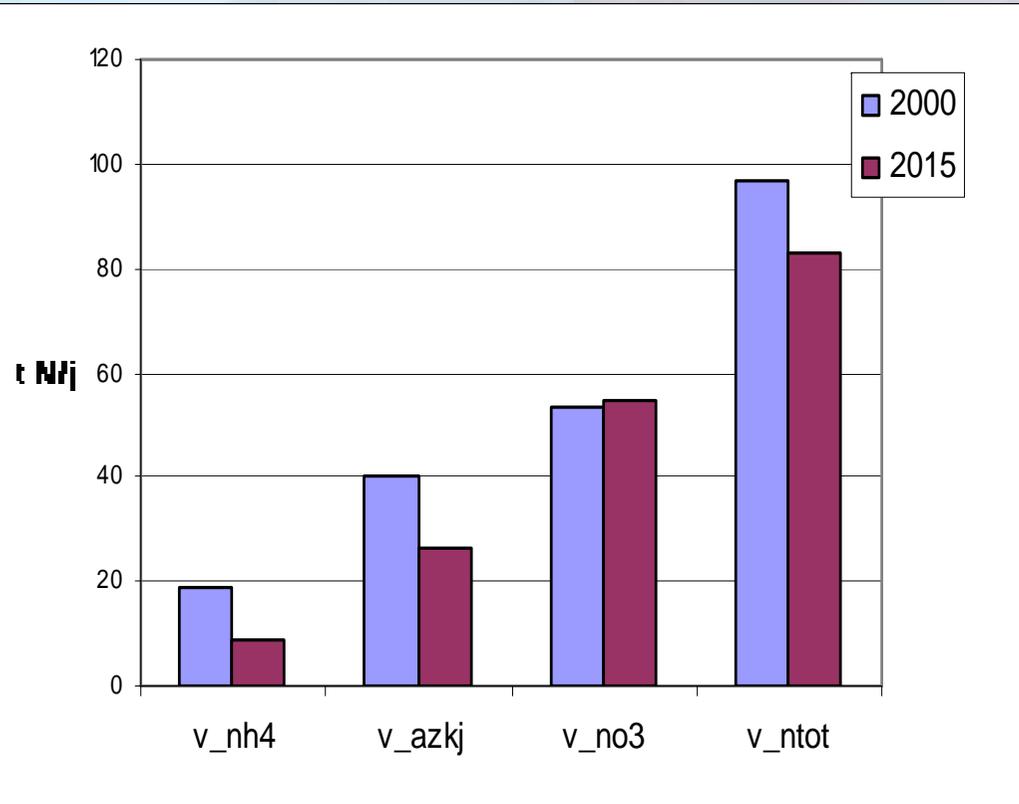
Instruments / Tools (cont.)

Transnational modelling Scheldt basin (PEGASE model)
 Longitudinal profile of Dissolved Oxygen concentration (mg/l)



Integrated Water Resources Management in the MEUSE and SCHELDT international Districts

Transnational modelling Scheldt basin (PEGASE model) : fluxes N, P



Situation 2000



Simulation 2015
(basic measures)

Integrated Water Resources Management in the MEUSE and SCHELDT international Districts

Instruments / Tools (cont.)

- WFD District management plan
Decision of the partners : the only one Management Plan of the Meuse / Scheldt districts will be composed of:
 - . an UMBRELLA report (elaborated in collaboration by all partners) :
this report describes the multilateral coordination efforts and results (incl. the coordination of the management plans)
 - . the different management plans / reports of all the partners in the district
- International EWAS systems are operational for the Meuse and for the Scheldt basins
Tests are made on a regular basis

Integrated Water Resources Management in the MEUSE and SCHELDT international Districts

TOPIC 3 : GOVERNANCE / PARTICIPATON PROCESS

- International Meuse Commission (IMC)
International Scheldt Commission (ISC)

These commissions are concertation bodies where the coordination takes place

Since the beginning : NGO's are observers

Since 2002 : NGO's participate in the working groups
and receive all documents

Integrated Water Resources Management Benchmarking in Wallonia / in the Meuse & Scheldt international Districts

CONCLUSIONS

Until now, NO formal Integrated Water Resources management Benchmarking process does exist in Wallonia nor in the Meuse / Scheldt international districts

But :

Many elements including Performance Indicators are present today and can feed a benchmarking process

The benchmarking process would be facilitated
IF a consensus can appear at the international level
on a general list of indicators

Thank you for your attention

