

The international river district Meuse: a status assessment

FIRST STEP IN THE IMPLEMENTATION OF THE WATER FRAMEWORK DIRECTIVE



Commission internationale de la Meuse
Internationale Maascommissie
Internationale Maaskommission

*Il neige il neige sur Liège
Et la neige sur Liège pour neiger met des gants
Il neige il neige sur Liège
Croissant noir de la Meuse sur le front d'un clown blanc
Il est brisé le cri
Des heures et des oiseaux
Des enfants à cerceaux
Et du noir et du gris
Il neige il neige sur Liège
Que le fleuve traverse sans bruit*

*Il neige il neige sur Liège
Et tant tourne la neige entre le ciel et Liège
Qu'on ne sait plus s'il neige s'il neige sur Liège
Ou si c'est Liège qui neige vers le ciel
Et la neige marie
Les amants débutants
Les amants promenant
Sur le carré blanchi
Il neige il neige sur Liège
Que le fleuve transporte sans bruit*

*Ce soir ce soir il neige sur mes rêves et sur Liège
Que le fleuve transperce sans bruit*

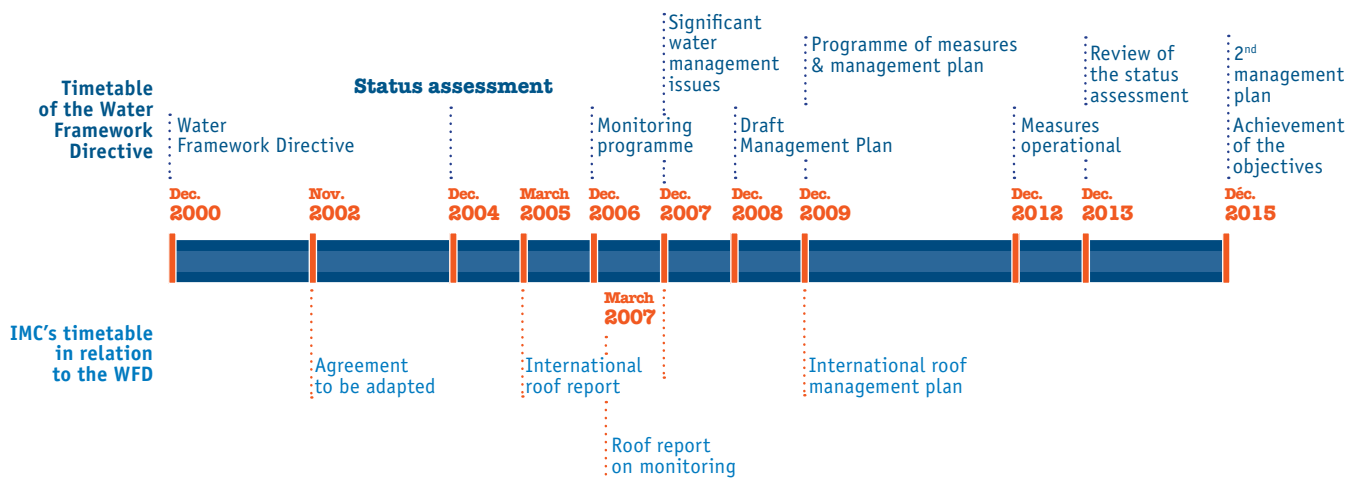
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CONTEXT

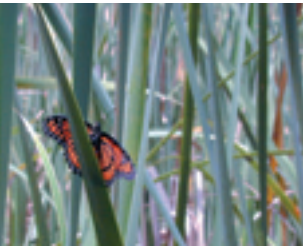
Water is essential to life and as such to most human activities. To improve our knowledge of it, to respect it, and to live in harmony with it are among the objectives assigned to Member States by the European Parliament and the Council of the European Union. Since the end of 2000 and under a strict timetable, a new approach to water management has gradually been established through the Water Framework Directive* (WFD).



*DIRECTIVE 2000/60/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 October 2000 establishing a framework for Community action in the field of water policy



“Good status” is the objective set by the WFD, to be achieved for the water environment by 2015. For surface waters, good status corresponds to both good chemical and good ecological status. For groundwater, it corresponds to good chemical and quantitative status.



The Member States of the European Union must therefore take a series of new measures in order to achieve “good status” for the totality of their waters. The status assessment is a tool for checking whether the water management which is now in place, and the measures that are part of it, are adequate to achieve this objective. If this is not the case, new measures will need to be envisaged. As water does not respect borders, its management needs to be coordinated at the scale of the international river basin district.

The International Meuse Commission (IMC) has been tasked with implementing the International Meuse Agreement, signed in December 2002 in Ghent. In particular, the IMC provides the framework for multilateral coordination of the implementation of the WFD within the international river basin district Meuse.

The international river basin district (IRBD) can be defined as the river basin of the Meuse. It encompasses the surface waters (rivers, lakes), the groundwater and the coastal waters associated with it. The IRBD Meuse covers, upstream to downstream, parts of the territories of France, Luxembourg, Belgium, Germany and The Netherlands. In other words, every drop of water reaching the surface of the IRBD ultimately reaches the North Sea via the Meuse river.

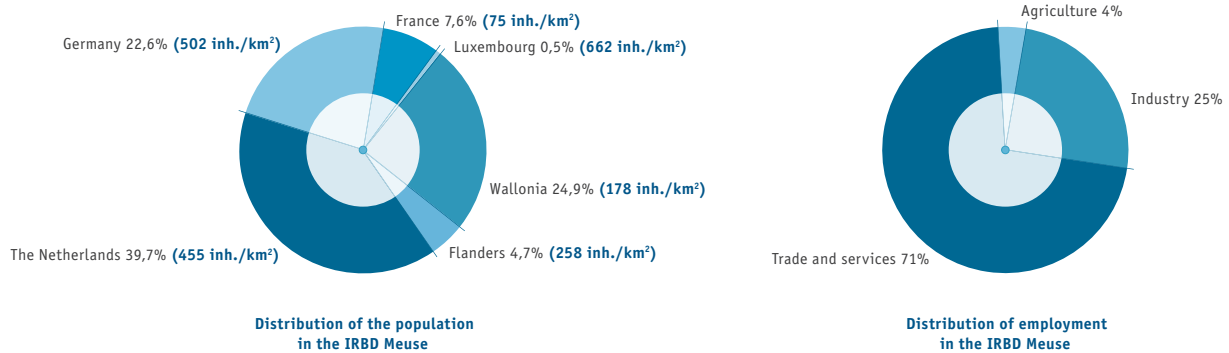
If the objectives of the WFD are to be met, cooperation and coordination among the countries and their various regions situated within the IRBD are essential. As a first step, they have established status assessments, each covering its own territory; they have also delimited those parts of watercourses, aquifers and water surfaces that display homogenous characteristics. Significant features at the level of the IRBD have subsequently been assembled into a roof report. That document describes the principal characteristics of the basin, such as its area, its main watercourses, its population, its climate,... The report also analyses the impact of human activities on water. Together with a predictive analysis of human activities that take place in the IRBD, the roof report allows a first forecast, as well as the identification of the main challenges on which future work needs to concentrate. In addition, the report includes an economic analysis of water uses. The report, which is based on the knowledge and the analyses of national and regional Parties, constitutes a first result of the multilateral coordination established within the IRBD Meuse for the implementation of the WFD.

Main features of the international roof report

GENERAL CHARACTERISTICS

Its total area of approximately 35.000 km² and its more than 9 million inhabitants demonstrate the importance of the IRBD Meuse. Its climate is of the temperate oceanic type: humid and fresh in all seasons, though the meteorological profile can vary significantly from one year to the next.

Linking the countries through which it flows, the river Meuse is the most important water course in the IRBD. Its source is situated on the Langres plateau in France, at an altitude of 384m, more precisely in Pouilly-en-Bassigny in the commune of Châtelet-sur-Meuse. It flows into the North Sea in the Netherlands. Its length, from its source to its mouth in the North Sea, is over 900 km.



During its course, the river flows through three main regions:

/// the first stretches from the source of the Meuse to immediately downstream of Charleville-Mézières in France. The soil is permeable and the velocity of the river is low. This is a sparsely populated zone, mainly devoted to agriculture and raising livestock and containing many valuable natural spaces;

/// the second stretches from Charleville-Mézières to Liège in Belgium. The bedrock here has a low permeability. The river is navigable and flows through heavily urbanized and industrialized areas;

/// the third area stretches from Liège to the deltaic region of the Netherlands and presents a variety of characteristics. The most upstream part has a bed of calcareous rock and clay. North of Maastricht, the soil is mainly sandy, while the bottom of the flood plain consists mainly of gravel. This part of the Meuse river basin in The Netherlands is characterised by a very dense population, intense agriculture and many industrial installations.



During the 70s, safety and flood control works were carried out on the Meuse delta in order to protect the populations from the tides. These dikes and sluices prevent the river water from directly mixing with seawater.

The Meuse, strengthened by smaller streams and rivers, zig-zags through fields and towns and constitutes a precious resource. Whether providing drinking water, or used domestically or in agriculture, the water of the Meuse has multiple functions. It is used by industries, for navigation, and for the many forms of recreation made possible by its meandering course (kayaking, swimming, fishing, sailing...). As to the environment, the landscape of the Meuse basin is structured by the many remarkable ecosystems it contains. However, as the Meuse and its tributaries are mainly fed by rainfall, at times the river breaks its banks and at others it exhibits extremely low flows.



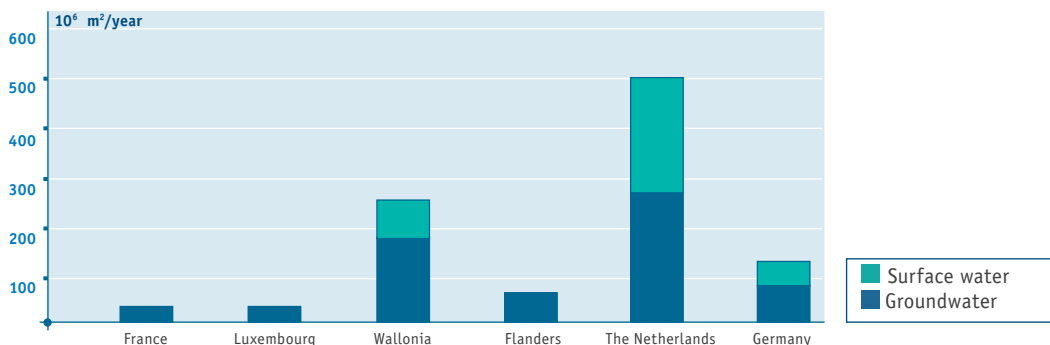


PRESSURES ON THE WATER IN THE IRBD

Human activities engender a number of pressures. The Meuse—together with the Sambre—has indeed been the main artery of the first industrial revolution in continental Europe! Pressures on its water have therefore always been, and still are, considerable.

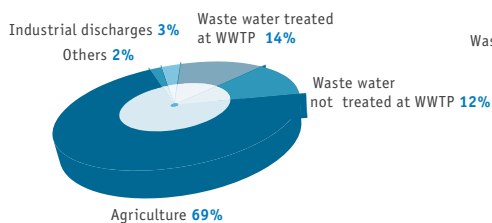
Urbanisation and industrialisation have required substantial interventions on the river and its banks in order to protect populations against floods and to ensure that the river is navigable.

The natural character of the river has been significantly modified by interventions on the watercourse, such as dikes, dams and abstractions. About 1/3 of the water bodies have been altered. As it flows downstream, the river increasingly shows a “heavily modified” character: from 5% in France to 85% in the Netherlands. Cost/benefit analyses will need to establish whether it will be feasible to reinstate the natural character of the river.

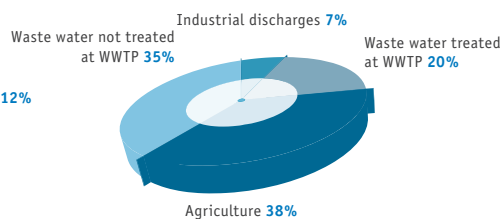


Water abstraction in the IRB Meuse for the provision of drinking water

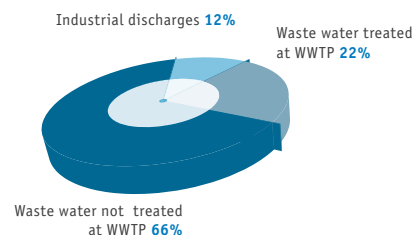
Water pollution from major activities (households, industry, agriculture) also constitute pressures. For example, organic matter (chemical oxygen demand, nitrogen and phosphorous emissions) contributes to the eutrophication of the rivers and of the North Sea.



Sources of nitrogen emissions



Sources of phosphorous emissions

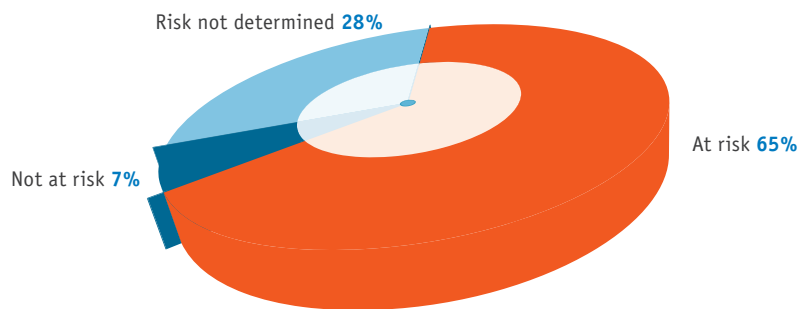


Chemical oxygen demand / Contribution from various sources

*WWTP = Waste water treatment plant

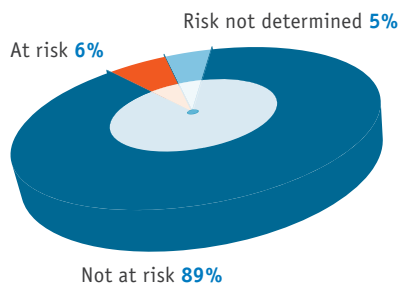
RESULTS FOR THE WATER IN THE IRBD

The roof report resulting from the international coordination highlights the fact that 7% of all **surface water bodies** will achieve good status by 2015. For the others, further studies are necessary and additional measures will probably need to be taken.

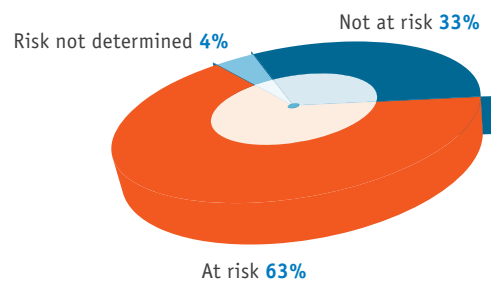


IRBD Meuse : Numerical distribution of water bodies between the 3 risk categories

A similar analysis for **groundwater** indicates that from a quantitative point of view, approximately 90% of the water bodies will achieve “good status” by 2015. However, from a qualitative point of view, only 33% of these water bodies will achieve “good status” by 2015.



Numerical distribution of water bodies between the 3 categories for quantitative risks



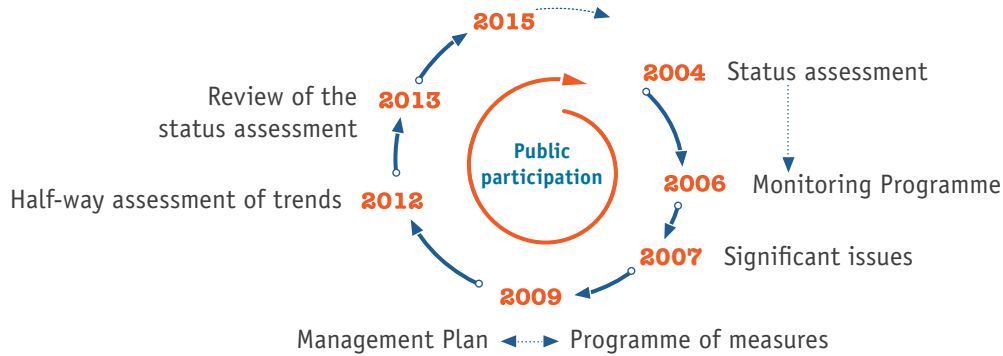
Numerical distribution of water bodies between the 3 categories for qualitative risks

A water body is the distinct part of a water course, aquifer, water surface,... displaying homogenous characteristics. Under the WFD, waters are divided in these basic units, which are to be assessed for the risk of not achieving “good status” by 2015.

A water body at risk is a water body that is at risk of not achieving “good status” by 2015.

Public Participation

Information of the public is an essential element in implementing the WFD. This policy makes subsequent public participation possible through consultations organised by Member States. These consultations take place at key stages in the timetable..



CONCLUSIONS AND PERSPECTIVES

The main activities that affect the status of the water in the IRBD Meuse are urbanisation, industrialisation, agriculture and navigation. Several types of pressures co-exist: emissions of pollutants; sluices, weirs and dams; artificial banks; dikes; water abstraction.

These pressures, either in isolation or combined, have consequences for surface waters: alteration of ecosystems, obstacles to the circulation of fish, eutrophication and potential risks for water uses. They also have consequences for groundwater, such as impacts on terrestrial ecosystems, and potential risks for water uses.

The principal causes for designating water bodies as being “at risk” have been identified. They are:

- for surface waters: the most common pollutants (nitrogen, phosphorous...); pesticides; micro-pollutants (copper, zinc, PCBs); modifications of and discontinuities in the watercourse.
- for groundwater: excessive abstraction and contamination by nitrates and pesticides.

The present report is the result of multilateral coordination of status assessments between the different countries of the IRBD. It also constitutes the essential starting point for identifying the significant issues at the scale of the IRBD and for elaborating, by the end of 2006, internationally coordinated monitoring programmes. Finally, with a view to reducing the risk of not achieving “good status” by 2015, a coordinated management plan will need to be adopted by December 2009, based on the action programmes of the Parties.

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The roof report and other official documents can be downloaded from website www.meuse-maas.be (see 'Water Framework Directive' heading). A paper copy can be requested by e mail at the following address : secr@meuse-maas.be



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