

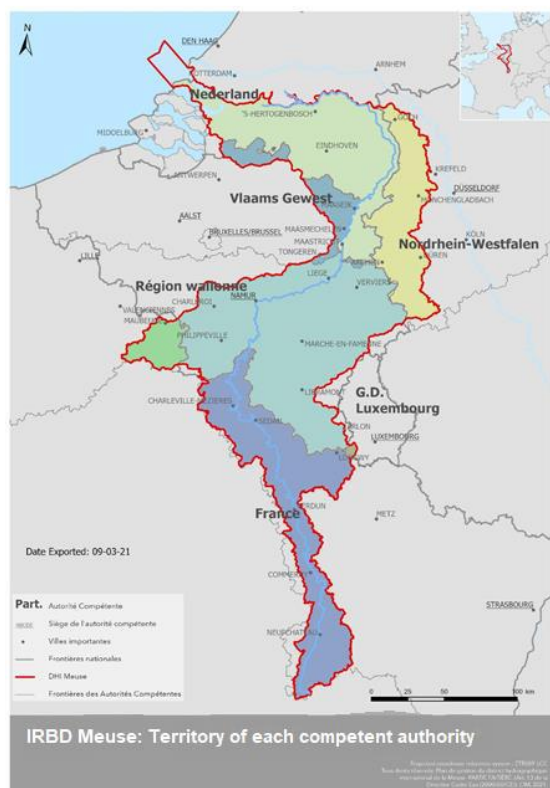
The international Meuse Commission (IMC)

Context

The Meuse rises at an altitude of 384 m in Pouilly-en-Bassigny in France. From its source to its mouth in the Netherlands, it is 905 km long. The Meuse basin consists of the main river and also tributary streams and branches.

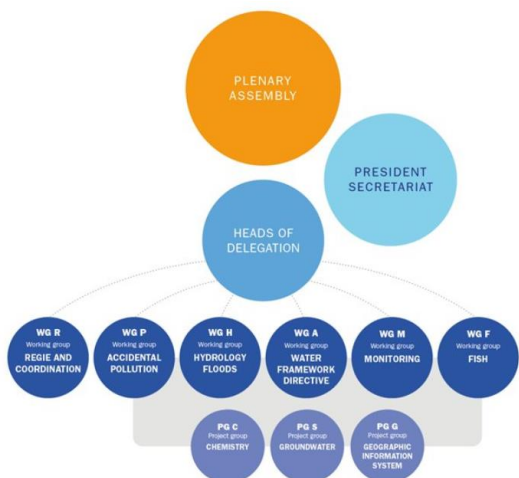
The Meuse River and its tributaries form the Meuse International River Basin District (IRBD). Multilateral coordination in the IRBD Meuse takes place within the framework of the International Agreement on the Meuse, signed in Ghent in 2002, whose Contracting Parties are France, Luxembourg, the Belgian Federal State, the Walloon Region, the Flemish Region, the Brussels-Capital Region, Germany and the Netherlands.

Within the IMC, states coordinate to implement the European directives that apply to the whole river basin, namely the Water Framework Directive¹ (WFD) and the Flood Risk Management Directive² (FRD). They also cooperate on other important issues for the waters of the Meuse basin, such as transboundary warning and alert in the event of accidents.



Competent authorities of the Meuse International River Basin District (IRBD)

The IMC has a mutually agreed working structure. The bodies meet regularly.



The work of the IMC is supported by a secretariat, based at the Commission's headquarters in Liège.



Picture: the Meuse in Givet (France)

Flood risk management plan 2nd cycle (FRMP 2022-2027)

Transboundary coordination for flood protection

In order to coordinate flood risk management, the IMC develops an international roof plan every six years. The implementation of the FRD by each State / Region of the IRBD took place in several steps, according to a predefined timetable:

- 22/12/2018: carrying out a preliminary flood risk assessment;
- 22/12/2019: establishment of flood hazard maps and flood risk maps;
- 22/12/2021: publication of a single FRMP coordinated at the level of the IRBD or the FRMPs of the States and regions covering each national or regional portion of the Meuse IRBD and coordinated at the level of the Meuse IRBD.

The FRMP focuses on prevention, protection, preparedness and return to normality. The FRD highlights the solidarity between states:

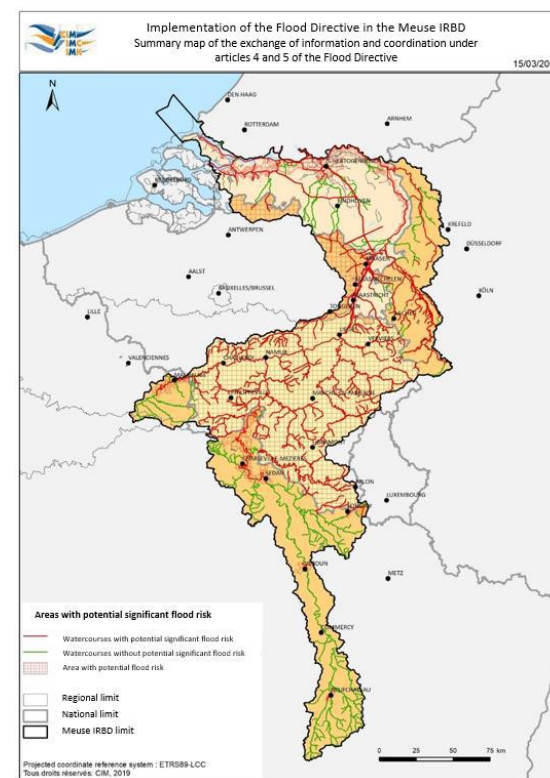
- Member States shall not include measures that may have negative transboundary impacts unless they have been coordinated between the Member States concerned and an agreed solution has been found.
- Member States should be encouraged to seek a fair sharing of responsibilities where flood risk management measures are jointly decided for the common benefit.

The transnational objectives of the Meuse IRBD are the following:

- International coordination and relevant coordination of measures with transboundary impact;
- Improved flood forecasting and warning;
- Improved systemic knowledge of floods.

The Flood Risk Management Plan of the Meuse IRBD for the period 2022-2027 was published in December 2021 and it has been posted on the IMC website:

<http://www.meuse-maas.be/CIM/media/PGRI-dec-2021-en-anglais/Roof Report Mregie 21 1def en.pdf>



Areas with potential significant flood risk

The Meuse Webgis is a mapping application for the visualisation of homogenised data on the territory of the Meuse International River Basin District (Meuse IRBD).

The tool was developed by the “Service Public de Wallonie” and is accessible at the following address:

<http://geoapps.wallonie.be/WebGISMeuse/Public/>

Webgis Meuse allows :

- visualise geodata relating to the Meuse IRBD (all producers),
- perform simple tasks using basic geographic tools,
- present predefined views that allow the user to quickly visualise the data related to a given topic (surface water, groundwater, monitoring network, etc.).

¹ 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

² Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks

River Basin Management Plan for the International Meuse River Basin District (2022-2027)

With the updated management plan of the Meuse IRBD for the 3rd cycle of the Water Framework Directive, the IMC Contracting Parties strengthen their cooperation in order to jointly meet the ambitious challenge for surface and groundwater and associated aquatic ecosystems.

The important issues of the Meuse IRBD are the following:

- (1) Impact of hydromorphological changes on the free flow of fish;
- (2) Nutrient discharges from point and diffuse sources;
- (3) Discharge of pollutants from point and diffuse sources;
- (4) Impact of priority substances and other pollutants (pesticides, solvents, heavy metals, hydrocarbons, medicines) on the aquatic environment;
- (5) Diffuse discharges of nitrogen and pesticides mainly from agriculture;
- (6) Increased frequency and severity of low flow periods;
- (7) Increased risk of flooding.

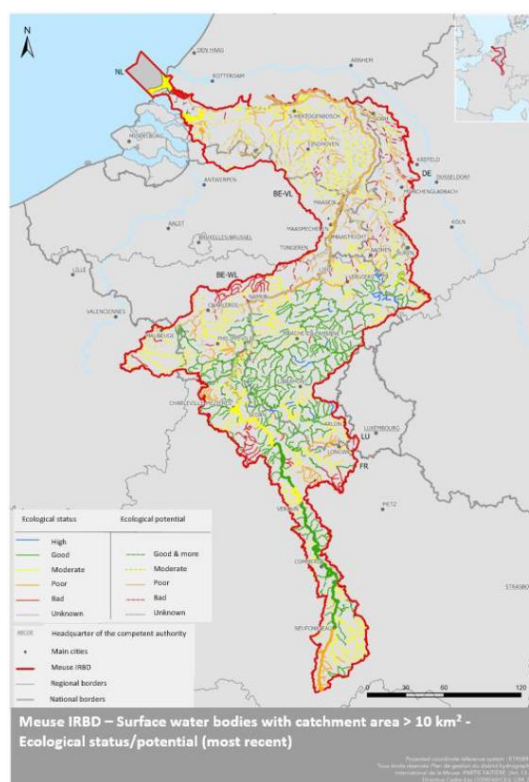
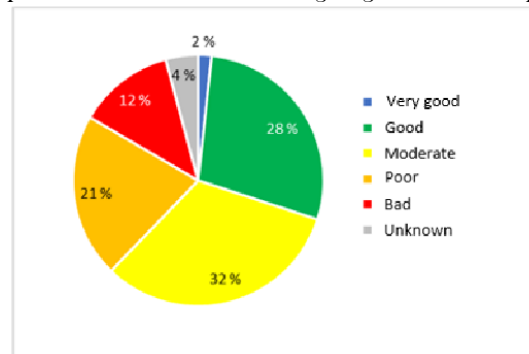
The water from the Meuse IRBD is used for:

- Hydraulic regulation of the river (retention, storage, discharge)
- Supply of water for human consumption (drinking water)
- Agriculture
- Industry (including hydroelectric production and cooling of nuclear power plants)
- Navigation (freight transport and recreational boating)
- Recreation

The competent authorities of each State/Region of the Meuse IRBD have delimited surface water bodies within the meaning of the Framework Directive according to their typology and the pressures they are subject to:

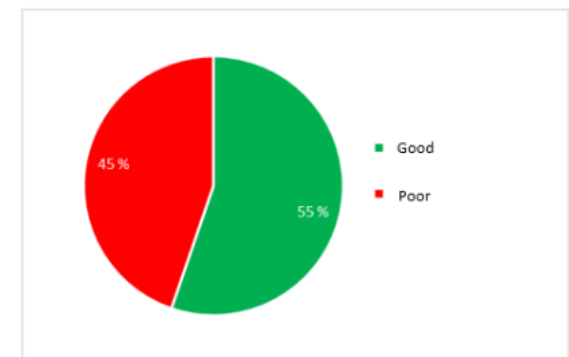
	Number of water bodies		
	Total	Natural	Heavily modified/Artificial
France	153	142	11
Luxembourg	3	2	1
B-Wallonia	257	210	47
B-Flanders	18	9	9
Netherlands	153	12	141
Germany	229	77	152
Total	813	452	361

With regard to ecological status/potential, 30% of the surface water bodies have a good or very good status. The distribution of the surface water bodies of the Meuse IRBD according to status classes is presented in the following figure and map:



According to current estimations, at least 7.3% of additional surface water bodies will achieve good ecological status by 2027.

The current status of groundwater bodies is summarised in the following figure:



According to current estimations, between 58 and 67% of the groundwater bodies in the Meuse IRBD will achieve the WFD objectives by 2027.

In order to achieve the objectives of the WFD, States and regions of the Meuse IRBD must establish programmes of measures. The contracting parties have coordinated the national and regional programmes of measures as far as possible:

- Improving ecological continuity and other measures for migratory fish
- Measures to restore and re-naturalise waters
- Reduction of nutrient inputs to surface waters
- Optimisation of wastewater treatment and other measures to reduce the discharge of pollutants into surface waters
- Reduction of emissions of substances relevant for the Meuse and other pollutants into surface waters
- Prevention and reduction of the consequences of accidental pollution with a transboundary risk
- Improving chemical status of groundwater by reducing diffuse inputs of nitrogen and pesticides.

The River Basin Management Plan for the Meuse IRBD for the period 2022-2027 was published in March 2022 and it has been posted on the IMC website:

http://www.meuse-maas.be/CIM/media/PUBLICATION-PFPG-mars-2022/PFPG_Maqua_21_14def_en.pdf

The WFD requires that all waters be of good status and that their status does not deteriorate. Good status should in principle be achieved by 2015, at the latest by 2021. By then, all measures required to achieve good status must be taken.

For a large number of water bodies that were not at good status by 2021, extensions of the deadline were necessary.

An extension of the deadline beyond 2021 has been foreseen by States and Regions of the IMC for 70.0% of surface water bodies with respect to achieving good ecological status/potential and 85.1% with respect to achieving good chemical status.

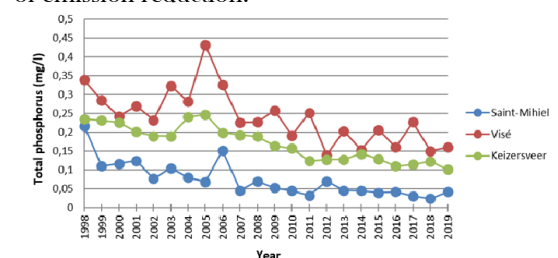
Report on the assessment of the water quality of the Meuse River basin (2017-2019)

The quality of the main course of the Meuse and its main tributaries is jointly monitored at international level by the Meuse riparian countries in a "homogeneous measurement network" (HMN) with regard to various physico-chemical parameters and a number of biological parameters. There are 39 HMN measurement sites spread over the main course of the Meuse (16 monitoring sites) but also over its tributaries (23 monitoring sites).

This report showed a generally positive evolution of the water quality of the Meuse and its tributaries since the end of the 1990s.

This observation, already made in the previous report, is confirmed by the new data recorded for the period 2017 to 2019.

In terms of macropollutants (substances that occur mostly naturally in watercourses and are non-toxic in reduced concentrations), this improvement is very clearly attributable to the efforts made by the States and Regions of the Meuse IRBD in the field of emission reduction.



Temporal evolution of the annual average concentration of total phosphorus in 3 sites of the Meuse River

The situation is less favourable for micropollutants (substances present in water at concentrations of the order of micrograms or nanograms per litre and which can be toxic even at low concentrations).

Concentrations of toxic substances such as certain heavy metals and PAHs (Polycyclic Aromatic Hydrocarbons) remain problematic at many HMN monitoring stations.

We must also remain vigilant in the face of the arrival of new substances (known as "emerging substances"), whose effects on living communities are increasingly well known.

The Report on the assessment of the water quality of the Meuse River basin based on data from the IMC's Homogeneous Measurement Network (HMN) was published in December 2021 and it has been posted on the IMC website:

http://www.meuse-maas.be/getattachment/696fa181-9ae0-46fb-9d46-cf22fbf45b39/Rapport-triennal-2017-2019_Mmonitor_21_1def_en.aspx

Master plan for migratory fish in the Meuse River basin (2011-2020)

In 2011, the International Meuse Commission decided to follow up on the implementation of a master plan for highly migratory species in the Meuse basin at international level. Actions implemented in this plan can be classified into 6 categories:

- Restoration of ecological continuity for upstream migration
- Development of spawning and juvenile habitats
- Stocking of migratory fish
- Improvement of continuity and efficiency of downstream migration
- Fisheries measures
- International coordination of measures

Restoration of ecological continuity for upstream migration

Since the drafting of the IMC Master Plan for Migratory Fish, many obstacles on the main course of the Meuse River have been made passable for fish.

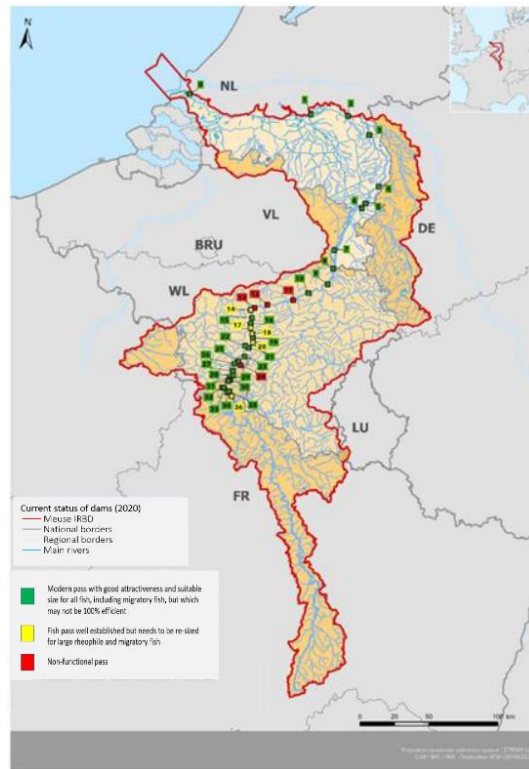


The fish pass of the hydroelectric power plant in Roermond (Netherlands) (Photo: Johan Coeck)

Some obstacles still need to be removed to allow migratory fish to pass from the mouth of the Meuse River to France. Indeed, there are still nine dams blocking the free migration of fish.

International coordination of measures

The measures taken within the framework of the "Master Plan Migratory Fish for the Meuse River" are discussed in the project group "Ecology" of the International Meuse Commission. There is also a regular exchange with the fish experts of the International Commission for the Protection of the Rhine (ICPR), who are working on the implementation of the "Master Plan Migratory Fish Rhine».



Current status of fish passage facilities at dams in the Meuse River basin (2020)

A cooperative programme between the Netherlands, Germany and Wallonia to transport returning salmon and sea trout caught in the Meuse River to the fish farm in Erezée (W) is working well. Since 2010, the number of young farmed salmon reintroduced into the Meuse River basin has increased significantly. Similar reintroduction efforts were made for eels, another migratory fish present in the Meuse River basin. In recent years, several hundreds of thousands eelers have been released into the rivers of the Meuse River basin.

Improving continuity and efficiency of downstream migration

The disruption of the downstream migration is currently one of the most important obstacles to the sustainable recovery of migratory fish populations in the Meuse River basin downstream of the Ourthe River. Several actions are currently being implemented to improve the situation, in particular by reducing the mortality of downstream fish at the turbines of hydroelectric power plants.

The progress report on the implementation of the "Master plan for migratory fish in the Meuse River basin" for the period 2011-2020 was published in December 2021 and it has been posted on the IMC website:

http://www.meuse-maas.be/getattachment/81496053-cc3b-4979-8037-182c63e8868f/Rapport-grand-public_Mecol_21_12def_en.aspx

Plan of approach for exceptional low water events in the Meuse basin

The IMC is concerned about the effects of climate change on rivers, in particular low water events. The current joint low water monitoring network consists of 21 flow measurement stations spread over the main course of the Meuse (10 stations) or its tributaries (11 stations). In recent years there has been an increase in the frequency of low water due to the summer drought.

The plan of approach for exceptional low water events makes a number of recommendations:

- + coordination between Regions and States, to achieve good status;
- + exchanges between Regions and States, to improve drought management;
- + cooperation between Regions and States, to establish a link between low water levels and the status of water bodies at each periodic update of the roof management plan;
- + consultation with more parameters and more complete data sets, to optimise the IMC measurement network;
- + coordination of measurement networks, for better basin management;
- + exchanges of information between Regions and States on projects impacting flows, in order to understand their effects;
- + communications with the general public, to increase awareness of the problem;
- + monitoring, extended to tributaries in particular, for better hydrological knowledge;
- + monitoring of surface water temperature, to better assess the current and future status of ecosystems;
- + exchanges between Regions and States of studies related to climate change, to better understand the consequences and potential impacts.



The Plan of approach for exceptional low water events in the Meuse basin was published in December 2020 and it has been posted on the IMC website:

http://www.meuse-maas.be/getattachment/25abc7a4-c407-4278-ac7d-f2f17e0fdc83/Plan_approche_19_21def_en.aspx

