River Basin Management Plan Scheldt and Meuse 2022-2027

Draft for Public Consultation

Non-technical summary

This non-technical summary provides a broad and accessible overview of the main elements of the river basin management plans

INHOUD

INTRODUCTION

WHY FOCUS ON WATER?

A healthy, robust water system is essential for a healthy, productive and pleasant living environment. A healthy and robust water system is capable of absorbing (climate) shocks, protects ecosystems and offers at once many functions and services. It protects against flooding, offers water storage, and provides drinking water, process water and cooling water. It delivers on irrigation and water drainage. It supplies opportunities for transport, recreation and experiences.

Only with a well-considered and sustainable water policy will the water system be able to fulfil all its functions well and permanently. This core idea of an integrated water policy was laid down in the European Water Framework Directive in 2000, the directive at the basis of the river basin management plans. Flanders even went a step further and integrated the flood risk management plan as implementation of the European Floods directive as well as a water scarcity and drought risk management plan in the river basin management plans.

THE WATER FRAMEWORK DIRECTIVE AND THE DECREE ON INTEGRATED WATER POLICY: AN INTEGRATED APPROACH

The water system is a coherent whole. It includes not only watercourses, but also groundwater, lakes, seas and oceans. It also includes the river banks and valleys, infrastructure such as weirs and sluices, and the plants and animals that live there. The water system is a coherent and functional whole of surface water, groundwater, soils and land, with natural boundaries and transitions.

An integrated approach to the water system pays attention to all functions (shipping, recreation, drinking water supply, industry, agriculture, nature, drainage, etc.), but also to all bottlenecks which make the system less healthy or robust:

- the water quality which is not yet good, taking into account ecological and chemical quality, as well as hydrological and structural aspects (the "hydromorphology")
- the water use, which should be sustainable, balanced and fair and consider the long-term protection of the water resources
- flood and drought events, and the need to mitigate their negative impacts
- discharges, emissions and losses of priority hazardous substances, that should be reduced or phased out

The (draft) river basin management plan analyses all these aspects, confirms objectives or proposes modifications, explains measures and proposes additional policies. The plan thus mentions both current policies and new proposals. Moreover, this is done at different scales: for Flanders as a whole, per river basin or groundwater system or per individual water body. As a result, the river basin management plan has become a complex (and voluminous) document, or rather a pile of documents:

- River Basin Management Plan Scheldt and Meuse 2022-2027
- Programme of measures accompanying the River Basin Management Plan for the Scheldt and Meuse 2022-2027
- 11 Sub-basin specific volumes (Yser, Bruges Polders, Ghent canals, Lower Scheldt, Leie, Upper Scheldt, Dender, Dijle-Zenne, Demer, Nete and Meuse)
- 6 Groundwater system specific volumes (Coast and Polder, Central Flemish, Baserock, Central Campine, Meuse and “Bruland”-Chalk)
- Fact sheets per water body
- Draft Environmental Impact Assessment
- A range of background documents, providing additional clarification and explanations

The purpose of this non-technical summary is to guide the reader through the main outlines of the River Basin Management Plan and to highlight important elements.

RIVER BASIN MANAGEMENT PLANS IN PUBLIC CONSULTATION - THE PLANNING CYCLE

The river basin management plans must be reviewed every 6 years. They are submitted to the public through a public consultation. The River Basin Management Plans 2022-2027 represent the third generation since 2000.

The river basin management plans are part of a larger policy cycle. Each plan is preceded by preparatory documents such as the timetable and work

programme, the significant water management issues and the water policy note.

The implementation of the current river basin management plan is reported annually via the Water Implementation Programme (WUP) and an interim evaluation is published halfway through the policy period.

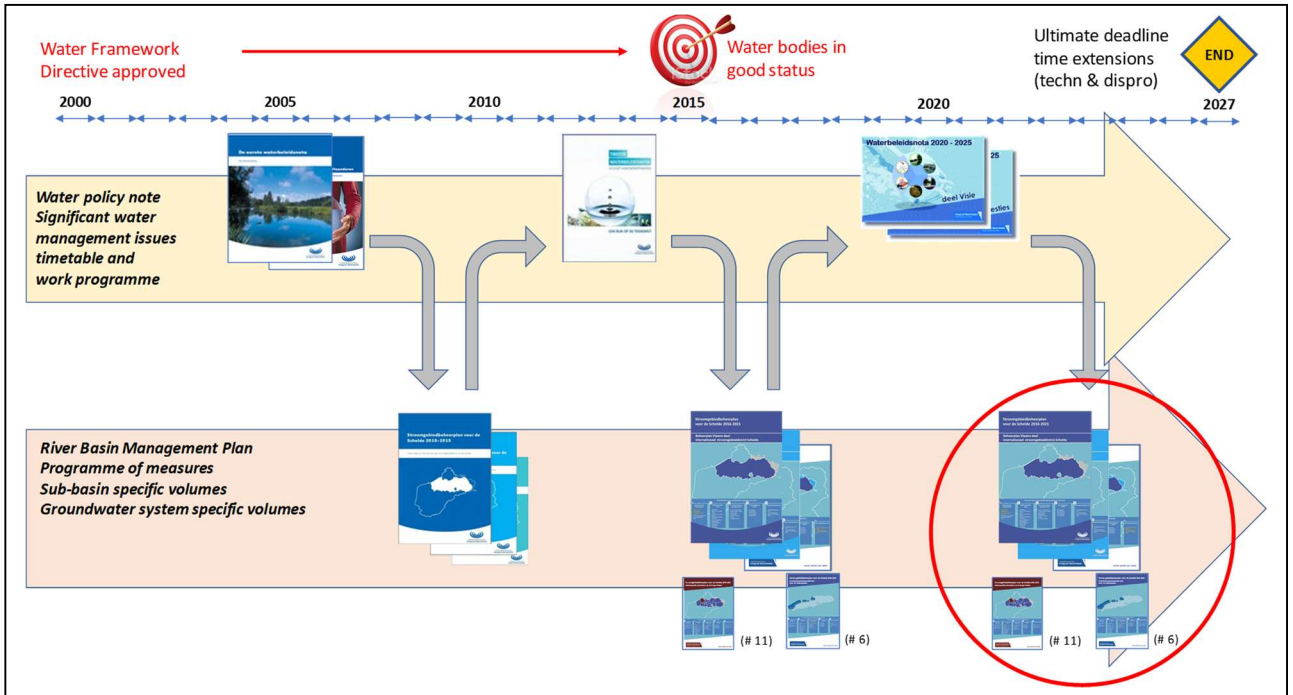
The river basin management plan integrates all water policy, but this does not imply that other plans (sometimes mandatory within European legislation) no longer have their own decision-making process. Thus, logical links are established, measures are mentioned and new proposals are made both within water policy (e.g. urban wastewater) and outside water policy (e.g. agricultural policy).

COORDINATION COMMITTEE FOR INTEGRATED WATER POLICY

The Coordinating Committee for Integrated Water Policy (CIW) prepares the river basin management plans and also organises the public consultation.

The CIW is an official consultation forum in which all entities with an essential role in water policy are represented. At the level of the Flemish Region, the CIW takes care of -the preparation of- planning, monitoring and follow-up of the integrated water policy. Its tasks include guarding the uniform approach to basin management, preparing the water policy note and the river basin management plans, preparing the guidelines for the water check, disseminating knowledge and implementing the decisions of the Flemish Government in the area of integrated water policy.

Figure 1: The planning cycle of the River Basin Management Plan



The cycle of the River Basin Management Plan:

- The first river basin management plans had to be adopted and published by December 22th 2009. Since then, the river basin management plans have been reviewed every 6 years.
- The water policy note and significant water management issues as well as the timetable and work programme appear two years ahead of the river basin management plans
- The River Basin Management Plan 2022-2027 is the 2nd review of the plans

Public consultation of zoning plans and areawide implementation plans, definition of flood plains and riparian zones

Together with the river basin management plans, a number of other plans are under public consultation. These are initiatives which are strongly linked but which have an impact on a more local level. We mention them here, but do not go into further detail:

- the revision of the zoning plans and areawide implementation plans, which concern the urban waste water treatment infrastructure
- the definition of some flood areas in function of purchase obligations and compensation obligations

The fact that this text does not go any further into zoning plans and SIPs does not mean that they are not relevant to water policy. On the contrary, the zoning plans and SIPs are the instruments used to outline the necessary reduction efforts at municipal level in terms of urban waste water.

THE RIVER BASINS, SUB-BASINS AND GROUNDWATER SYSTEMS IN FLANDERS: AN INTRODUCTION

RIVER BASINS, SUB-BASINS, GROUNDWATER SYSTEMS AND WATER BODIES

There are four river basins in the Flemish Region: the catchment areas of the Scheldt, the Meuse, the Yser and the Bruges Polders. These river basins are grouped into river basin districts. For the Scheldt and the Meuse, these are the international river basin districts of the Scheldt and the Meuse. The two smaller river basins of the Yzer and Bruges Polders have been added to the Scheldt river basin district.

- The River Basin Management Plan for the Scheldt and Meuse 2022-2027 and the accompanying Programme of Measures cover the entire Flemish territory. The two river basin management plans are integrated in one document.
- There is also an overarching International River Basin Management Plan and an overarching International Flood Risk Management Plan. These “roof reports” are drawn up in the international river commissions for the Scheldt and the Meuse in cooperation with the other countries and regions forming part of the river basin district.

River basins consist of one or more sub-basins. Flanders has 11 sub-basins: Yzer, Bruges Polders, Leie, Ghent Canals, Upper Scheldt, Lower Scheldt, Dender, Dijle-Zenne, Nete, Demer and Meuse.

For groundwater, 6 groundwater systems are distinguished, which occur at different depths above and next to each other: “Bruland”-Chalk system, Central Campine system, Central Flemish system, Coastal and Polder system, Baserock system and Meuse system.

- In the River Basin Management Plan the different characteristics and problems of the sub-basins and systems are documented
- In the sub-basin specific volumes and the groundwater system specific volumes, the analyses and measures are expanded persub-basin or groundwater system respectively

Surface water and groundwater are divided into management units called water bodies. A surface water body means a distinct (part of a) stream, river or canal or a standing water such as a lake or a water basin. A groundwater body means a distinct mass of groundwater within an aquifer or aquifers (or in a part thereof).

- the standards, objectives, prioritization and generic measures are part of the River Basin Management Plan
- the water body specific actions are described in the sub-basin specific and groundwater system specific volumes
- fact sheets are provided for each water body

The chapters "2. Analyses and Protected Areas" and "3. Objectives and Assessments" of the River Basin Management Plan are composed of different subjects such as a description of water users, the characterisation of surface water and groundwater, a description of the monitoring systems, and so on.

These chapters are primarily descriptive and technical in nature. After all, many procedures and methods are laid down because of European and Flemish regulations.

In addition to the general update, there are a number of important changes compared to the previous river basin management plans:

- the delimitation of surface water bodies has been modified: ditches are no longer considered as water bodies. An adapted framework of standards and protection for ditches will be developed.
- background levels and threshold values[1] for the chemical assessment of groundwater bodies have been changed (in 2016), and non-relevant metabolites of active pesticides are no longer taken into account
- a water scarcity and drought risk analysis was included as an additional chapter

[1] Not the same concept as the “treshold values” in the Directives; those are known as “groundwater chemical standards” in Flanders

- the flood risk analysis now includes a preliminary flood risk assessment
- a proposal for the delimitation of surface water protected areas in the context of drinking water abstraction was included
- an analysis on climate change and adaptation describes the expected climate scenarios and their impact on water

Figure 2: The eleven sub-basins in Flanders

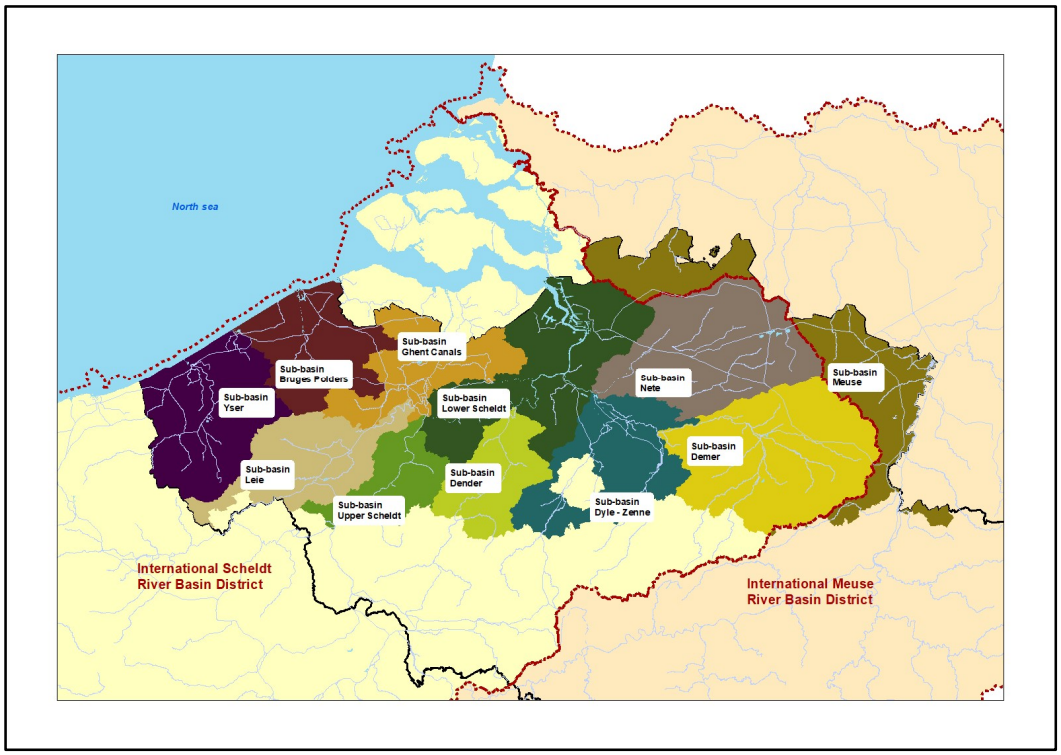
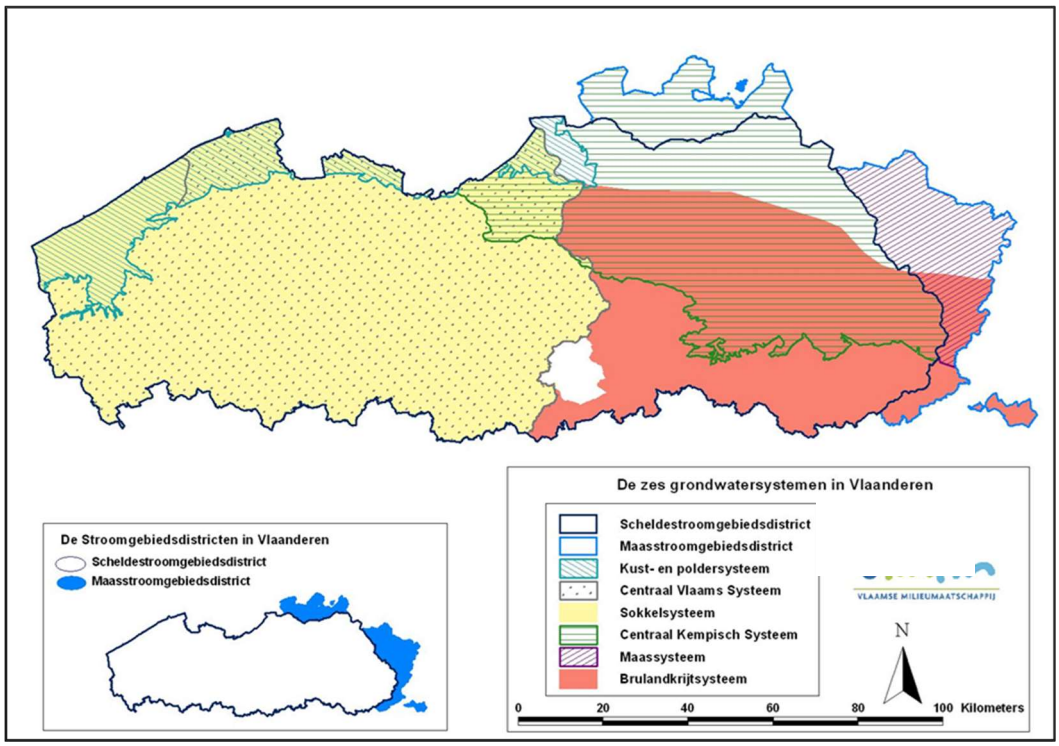


Figure 3: The six groundwater systems in Flanders



WHAT DO WE WANT TO ACHIEVE?

GOOD STATUS AND NO DETERIORATION

Good status

Through the Water Framework Directive, Member States committed themselves to achieving good status of the water system by 2015, except for situations where exemptions may be invoked. This "good status" sets the bar high; water bodies should only "*show low levels of distortion resulting from human activity"* or "*deviate only slightly from those normally associated under undisturbed conditions*". Exemptions may be invoked due to technical feasibility, disproportionate costs or natural conditions such as slow recovery rates.

The assessment methods are explained in chapters "*2. Analyses and Protected Areas*" and "*3. Objectives and Assessments*" of the River Basin Management Plan. The broad outlines are presented here.

The achievement of good status is assessed for surface water on the basis of 5 biological elements, supporting physico-chemical elements such as oxygenation and nutrients, pollutants such as metals and pesticides, and hydromorphological elements such as profile, bed and bank, flow, etc. For the assessment 5 categories are used: "high", "good", "moderate", "poor" and "bad".

For groundwater, quantitative criteria such as water levels and chemical elements such as salts and pollution are taken into account.

The lowest scoring element determines the overall assessment. This is known as the "one out, all out" principle.

No deterioration

The status of a water body must not deteriorate, even if good status has not yet been achieved. This too must be considered for each element individually.

Here again, a number of exemptions are specified, such as extreme weather conditions or new developments of overriding public interest.

MULTI-LAYER SAFETY APPROACH IN FLOOD AND DROUGHT RISK MANAGEMENT

The flood policy in Flanders implements the Floods Directive (FD) which requires a better risk assessment of flooding and measures to limit damage.

Flanders strives for a sustainable reduction of the flood risk with sufficient protection for human health, economic activity, the environment and cultural heritage.

The policy is based on the principles of multi-layer flood risk management, focusing on protecting against critical floods ("protection"), on preventing damage caused by floods ("prevention") as well as on effective crisis management ("preparedness").

Protective flood measures include rainwater wells and green roofs as well as dikes and flood plains. Reserving space for water and adapted construction are forms of preventive measures. Preparedness comprises

One out, all out

When assessing the water status according to the "one out, all out" principle, the lowest scoring element determines the overall status.

More than 34% of water bodies score "good" for macro-invertebrates, but as only 8% reach it for "fish", only 8% reach "good status" when considered together.

Supporting elements, such as oxygenation and nutrients, cannot worsen the general status below " moderate".

GEP versus GES

If a water body, as a result of physical alterations by human activity is substantially changed in character to such an extent that it is impossible to achieve the ecological status, an appropriate system of standards can be used. The objective becomes the "ecological potential" for these "heavily modified water bodies".

"Human activity" includes, for example, situations (but not all) relating to shipping, port facilities, drinking water supply, renewable energy, flooding, irrigation and water management.

Chemical status for surface water

Chemical status refers to the quality standards for 45 dangerous and toxic substances ('priority substances'), which have been set at EU-level and apply throughout the Union.

These substances are often poorly biodegradable and accumulate in the environment. Well-known substances are mercury, cadmium, PFOS and PAH.

crisis management such as early-warning systems, temporary measures (e.g. sand bags) and rescue services

For the flood risk management objectives the indicators 'people potentially affected' and 'economic damage', 'obstruction of navigation due to high discharges', 'ecological impact' and 'drinking water shortage' are used.

A similar risk approach is used for the water scaricity management objectives. Flanders strives for a sustainable availability of water for human health, water supply, shipping, industry and agriculture, cultural heritage and recreation. Examples of protective measures in case of water scarcity are water retention systems, storage and infiltration infrastructure. Preventive measures to avoid water scarcity and reduce water demand are e.g. water saving techniques or adapted cultivation choices.

The indicators here are 'duration and intensity of drought', 'eco-hydrological regime', 'raw water availability' and 'number of draft limitations'.

Reducing the risk of flooding and water shortage is a shared responsibility of authorities, sectors and citizens.

INNOVATION, FINANCE, COOPERATION AND COORDINATION WITH OTHER POLICY AREAS

Water policy is running up against the limits of its policy options. For instance, water quality policy must evolve from an approach of specific, significant point source problems (large discharges, construction of water treatment infrastructure, ...) to an approach of more diffuse problems (fertilization, erosion, pesticides, atmospheric deposition, ...) and is hereby confronted with social processes (the Flemish agricultural model, international trade, intensive and fragmented use of space, increasing consumption, ...) that make the objectives of the water policy more difficult or even impossible to reach.

The new challenge is therefore to initiate change and innovation and to respond to evolutions within adjacent policies (agriculture, nature, space, soil, housing etc.).

WHERE ARE WE NOW ?

GOOD STATUS

While the quality of surface water evolves slightly favourably in general, and certainly at the level of individual quality elements, barely 1 out of all 195 Flemish surface water bodies is in good ecological status. Of the remaining 194 water bodies, more than 30% are in moderate status, more than 40% in poor, and about 25% in bad status.

Across Flanders, 9 water bodies achieve good status for all measured biological elements (i.e. without taking physico-chemical elements into account). There are 5 sub-basins where not a single water body achieves good status for all biological elements taken together (Upper Scheldt, Demer, Dender, Leie and Nete).

Moreover, because of a number of common substances, the chemical status is nowhere good. The main culprits are the 'ubiquitous substances' such as mercury and PFOS.

Taking chemical and quantitative status into account, 15 out of 42 groundwater bodies are in good status. Here again, when chemical and quantitative status are considered separately, the picture becomes more nuanced: 33 groundwater bodies have good quantitative status and 19 have good chemical status. A trend analysis has been carried out, which shows that some groundwater bodies must be labelled as “in a state of alert” because of unfavourable trends in groundwater levels or nitrate concentrations.

The enclosed figures give an overview of the main picture. More detailed information on the status assessment is available in chapter "3. Objectives and Assessments" of the River Basin Management Plan, in the sub-basin specific and groundwater system specific volumes and in the water body fact sheets.

The high population pressure, the intensive use of space, economic activities, the historical pollution and the quality of the water when it flows into Flanders from other regions and countries jointly determine the pollution that the watercourses have to deal with. The main pressures have historically decreased, but improvements are less pronounced than before. Moreover, the hydromorphology of the watercourses - the variation in flow velocity, the variation in depth and width, the structure of the river bed, the banks - remains in general inadequate.

As good status approaches, new bottlenecks are identified. Examples include climate change through altered water volumes or temperatures, and exotic invasive species such as the Chinese mitten crab.

PROTECTED AREAS

Protected areas were designated as such if they required special protection under other European legislation.

These comprise areas designated for drinking water production, Natura 2000, recreation and food production. Protected areas often do not cover the entire water body, but specific zones within it.

The status assessment shows that the quality at the drinking water abstraction sites is bacteriologically good, but a number of sites (surface water and groundwater) score poorly for pesticides or phosphate.

Two stricter environmental quality standards for surface water are in force within the Nature protected areas. The standard for BOD is achieved, but the standard for oxygenation in only half of the cases.

Figure 4: Flemish water bodies - assessment of biological quality elements and global biological assessment

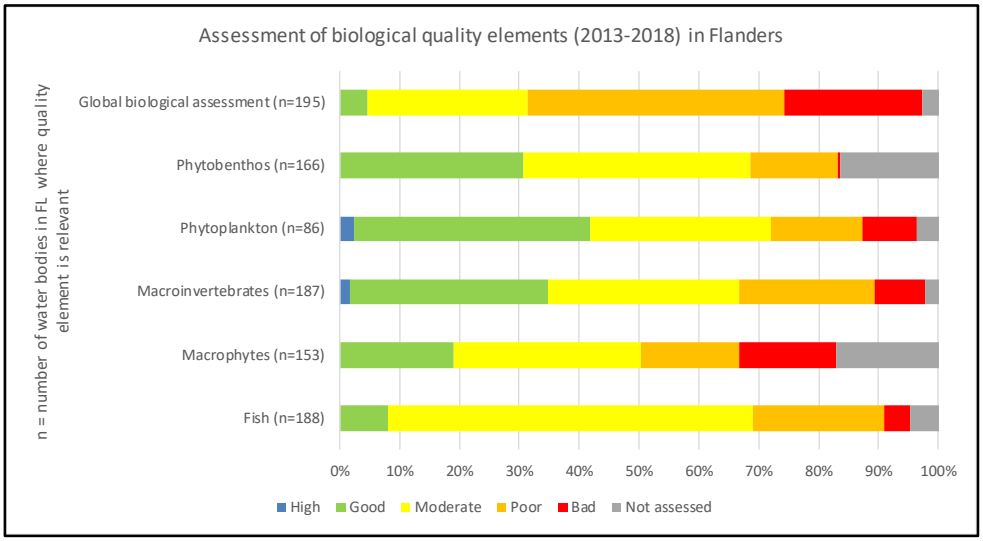


Figure 5: Flemish water bodies - assessment of general physico-chemical elements and global assessment

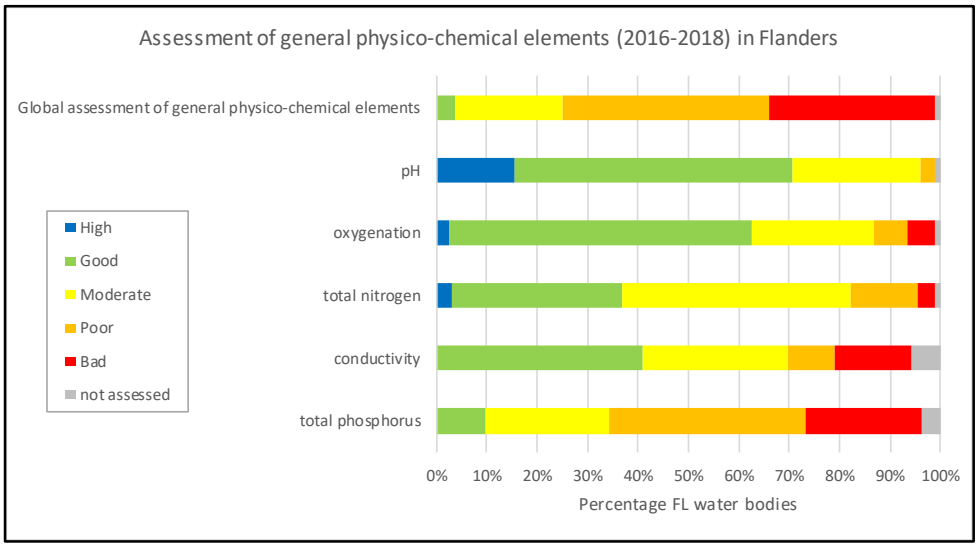


Figure 6: Hydromorphological quality of the Flemish water bodies

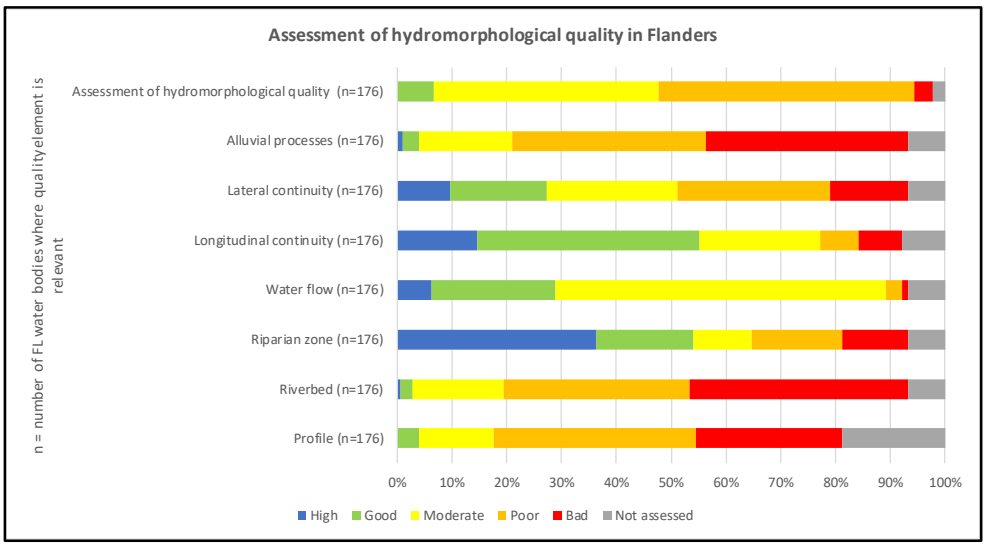


Table 1: Assessment of groundwater bodies
mainly phreatic regime (top) and confined regime (bottom)

GWB phreatic regime	chemical status	quantitative status	global assessment	RBD
BLKS_0160_GWL_1M				Meuse
BLKS_0160_GWL_1S				Scheldt
BLKS_0400_GWL_1M				Meuse
BLKS_0400_GWL_1S				Scheldt
BLKS_0600_GWL_1		N -		Scheldt
BLKS_0600_GWL_3				Scheldt
BLKS_1000_GWL_1S				Scheldt
BLKS_1100_GWL_1M				Meuse
BLKS_1100_GWL_1S				Scheldt
CKS_0200_GWL_1				Scheldt
CKS_0200_GWL_2				Meuse
CKS_0220_GWL_1				Meuse
CKS_0250_GWL_1				Scheldt
CVS_0100_GWL_1				Scheldt
CVS_0160_GWL_1				Scheldt
CVS_0600_GWL_1				Scheldt
CVS_0800_GWL_1				Scheldt
CVS_0800_GWL_3				Scheldt
KPS_0120_GWL_1				Scheldt
KPS_0120_GWL_2	N +		N +	Scheldt
KPS_0160_GWL_1				Scheldt
KPS_0160_GWL_2	N +	N -		Scheldt
KPS_0160_GWL_3	N +		N +	Scheldt
MS_0100_GWL_1				Meuse
MS_0200_GWL_1				Meuse
MS_0200_GWL_2	N +		N +	Meuse
GWB confined regime	**chemical status**	**quantitative status**	**global assessment**	**RBD**
BLKS_0400_GWL_2M				Meuse
BLKS_0400_GWL_2S	N +			Scheldt
BLKS_0600_GWL_2		N +	N +	Scheldt
BLKS_1000_GWL_2s				Scheldt
BLKS_1100_GWL_2M				Meuse
BLKS_1100_GWL_2S				Scheldt
CVS_0400_GWL_1				Scheldt
CVS_0600_GWL_2	N +	N +	N +	Scheldt
CVS_0800_GWL_2	N +		N +	Scheldt
SS_1000_GWL_1	N +			Scheldt
SS_1000_GWL_2				Scheldt
SS_1300_GWL_1		N -		Scheldt
SS_1300_GWL_2				Scheldt
SS_1300_GWL_3				Scheldt
SS_1300_GWL_4	N +			Scheldt
SS_1300_GWL_5	N +		N +	Scheldt

Green = Good status
Red = Poor status
N+ = Assessed as “poor” in 2012 – improvement
N- = Assessed as “good” in 2012 – deterioration

EXEMPTIONS

For all water bodies where it is expected that good status will not be achieved by 2021, Flanders will have to resort to the use of exemptions. The failure to reach good status is a common problem in all Member States, partly due to by the "one out, all out" principle mentioned above.

Exemptions can be applied on the basis of technical feasibility, disproportionate costs or natural conditions.

Concretely, Flanders applies “extension of the deadline” for 194 surface water bodies and for 27 groundwater bodies. For surface water this is based on "disproportionate costs" (in the form of affordability) and to a lesser extent on "technical feasibility", for groundwater mainly because of "natural conditions".

Concerning the objectives for surface water in the River Basin Management Plans 2016-2021, i.e. achieving good status in the 17 priority zones, these are not achieved. However, the objectives for groundwater were reached. A detailed evaluation was carried out for the 17 priority zones.

No use is made of the 'less stringent objectives' exemption possibility.

PREVENTING DETERIORATION

In 48 surface water bodies, a possible deterioration of status was identified. These surface water bodies were subject to a more detailed analysis, as deterioration of status is not permitted.

In 16 cases the observed change was considered as "misclassification" and in 28 cases as "temporary deterioration" (e.g. due to exceptional drought). 4 water bodies are given a specific approach (e.g. special research) to reverse the deterioration.

For a large number of phreatic groundwater bodies, a decreasing short-term trend (2012-2018) has been observed which may be mainly due to the cumulative precipitation deficit that has built up in recent years. Given its link with drought, this decline is considered "temporary" and a return to good status is certainly feasible. For one confined body of groundwater (Carboniferous Limestone) a deterioration has been identified and transboundary coordination is necessary.

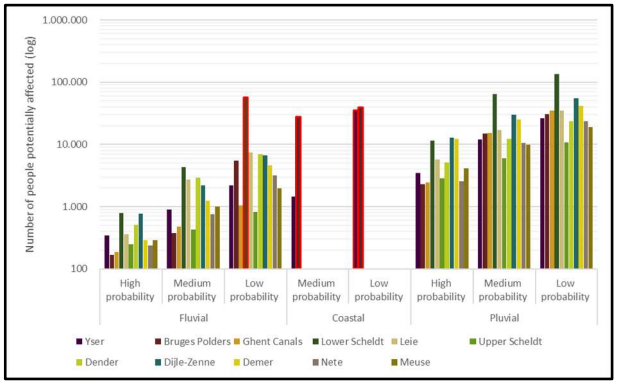
FLOOD RISK ASSESSMENT

The flood risk assessment shows that the subsequent economic damage and the number of people potentially affected as a result of floods with high, medium and low probability is severe to critical in most sub-basins.

In three sub-basins (Yser, Bruges Polders and Lower Scheldt) catastrophic consequences can occur in the event of floods with low probability. Overall, this means that, if possible, the situation must be improved by means of cost-effective actions.

In the Bruges Polders, the number of potentially affected people and the economic damage caused by medium-risk floods is catastrophic. This is due to flooding from the sea. These catastrophic consequences at medium risk contribute significantly to the overall flood risk and are unacceptable.

Figure 7: Overview of potentially affected inhabitants per sub-basin, per scenario, per source of flooding



Most of the flooded acreage of (very) valuable nature area is (moderately) tolerant to flooding. Only a small part is little or not tolerant. For this part, cost-effective actions must be applied to improve status. For the area tolerant to flooding the status is acceptable and no additional action is required.

The number of days 'obstruction of navigation due to high discharges' remains more or less stable and fluctuates around 30 days. Drinking water extraction has not experienced any problems due to flooding in recent years.

WATER SCARCITY

The drought indicators reveal that all recent years (2017 to 2019) were very dry years, with one or more indicators showing an extreme drought.

The sub-basins most sensitive to impacts on shipping because of water scarcity are the more westerly sub-basins. Draft restrictions have an immediate economic impact because fewer goods can be transported by ship and should therefore be kept to a minimum. Long-term draft restrictions jeopardise the reliability of water based transport as an alternative green mode of transport.

The assessment of raw water shortages for drinking water use as a result of water scarcity makes it possible to assess the situation. During the long drought of 2018 there was concern about reserves. However, drinking water supply was not immediately compromised.

The ecological aspect has not been assessed yet, but will be in the future through the assessment of the eco-hydrological regime. An assessment of the eco-hydrological regime is particularly important as an explanation for the failure of water bodies to meet the objectives.

Figure 8: Overview of economic damages per sub-basin, per scenario, per source of flooding

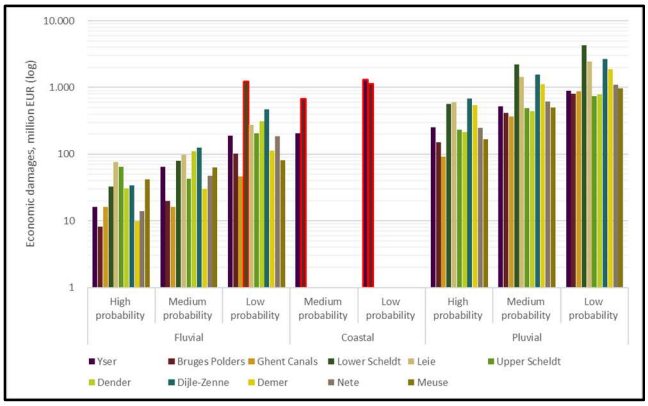
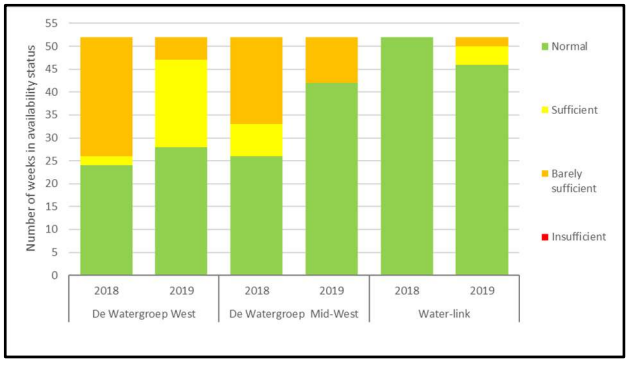


Figure 9: Overview of the three supply areas linked to surface water collection for 2018 and 2019



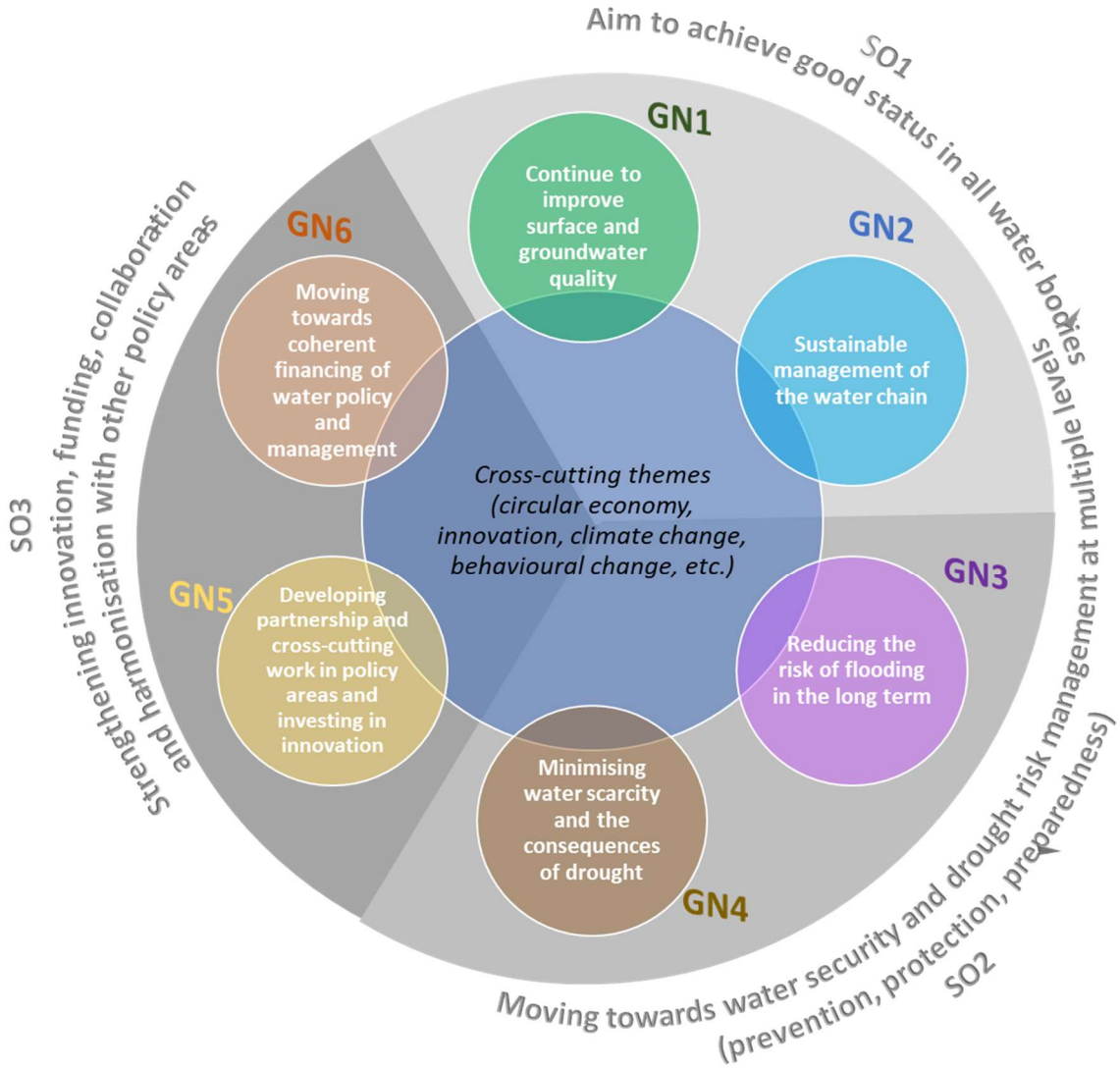
SUBSTANTIAL EFFORT IS STILL NECESSARY

Achieving the good status of our water system, as well as the flood and drought risk management objectives, will therefore still require substantial efforts.

The third Water Policy Note (2020) outlines the general vision for the integrated water policy to be implemented in Flanders, based on 3 strategic objectives and 6 guiding notions.

The programme of measures implements this vision.

Figure 10: Water Policy Note - Vision



WHAT DO WE PROPOSE: PROGRAMME OF MEASURES

ELABORATION OF PROGRAMME OF MEASURES: PHASING NECESSARY

Good status appears to be difficult to achieve for most water bodies, even by 2027. This does not alter the fact that Flanders wants to make every effort to achieve the quality objectives in accordance with the European timing.

There is no European deadline for flood and drought risk management, but Flanders nevertheless wants to limit the risk of damage as much as possible.

The programme of measures must contain all the measures necessary to achieve good status, unless these are technically unfeasible or disproportionate in terms of cost. This disproportionality analysis includes both the cost/benefit aspects (do the efforts and costs outweigh the benefits of the results - financially or otherwise?) and financeability/affordability (is the financial capacity sufficient to achieve this at this rate?):

- the analyses (pressure and impact analysis, economic analysis, flood risk analysis, drought risk analysis), the status assessments and the water policy note underpin the proposed actions
- actions have been grouped into groups of measures according to the main objective of the action, but as far as possible, the integrated approach is based on actions that are beneficial to several objectives
- for each group of measures, actions starting from 2022 onwards were specified. This concerns both actions specific to one water body and actions for Flanders as a whole ("generic actions")
- as in the previous programme of measures, in addition to the thematic prioritisation of actions and measures, a prioritisation/phased approach has been worked out for this programme of measures from an area-oriented perspective (priority zones and focus areas[2])
- the effectiveness and affordability of the programme of measures are examined with regard to the objective of good status by means of modelling the effects of measures and a disproportionality analysis. In addition, the programme of measures is also compared with a BAU scenario and a maximum scenario
- actions on flood safety and mitigating the effects of water scarcity and droughts are prioritised according to different criteria: impact, magnitude, costs, climate adaptation, climate mitigation, synergy with other policy objectives (such as good status), practicability, current flood risk, etc.

PROGRAMME OF MEASURES 2022-2027

Thematic groups

The Flemish Integrated Water Policy Decree formally defines the content of the programme of measures in 13 thematic groups.

The Programme of Measures (document) contains the generic actions, i.e. actions that apply to the whole of Flanders. The water body specific actions are described in the sub-basin specific volumes and groundwater system specific volumes.

Enforcement, the essential final piece, is discussed in a separate chapter.

[2] "Speerpuntgebieden" = "Priority zones", "Aandachtsgebieden" = "Focus areas"

Table 2: Thematic groups in the Programme of Measures

Group 1	**European legislation** *By the time the Water Framework Directive came into force, there were already 10 other European (environmental) directives affecting the water system, such as the Urban Waste Water Directive and the Nitrates Directive. The measures implementing these directives are considered an integral part of the programme of measures.*
Group 2	**Cost recovery principle and polluter pays principle** *Member States must ensure that the various water use sectors (households, industry, agriculture) make a reasonable contribution to the recovery of the costs of water services. This contribution should take into account the polluter pays principle.* *Examples: levy on groundwater and surface water abstraction, drinking water price, water pollution levy, supra-municipal and municipal sewage treatment contribution*
Group 3	**Sustainable water use** *Measures aimed at both sustainable water supply and sustainable water use. Sustainable water use focuses on preventing wastefulness (sparing water use) and that quality water is only used for the appropriate process. Sustainable water supply focuses primarily on supplying and meeting water demand in a safe manner, within the carrying capacity of the water system.* *Examples: Strategic Plan Water Supply, water audit and water scan, permits, communication campaigns, pilot projects*
Group 4A	**Protected areas and wetlands - groundwater** *For groundwater, the nature protection areas (mainly groundwater dependent terrestrial ecosystems) and the drinking water protection zones are important.* *Examples: stricter environmental standards and restrictions on use, research, enforcement*
Group 4B	**Protected areas and wetlands - surface water** *Protected areas include nature protection and drinking water protection as well as recreational waters.* *Examples: stricter environmental standards and use restrictions, enforcement, control of invasive species*
Group 5A	**Groundwater quantity** *Measures taken in this group aim at sustainable and balanced resource management, with a focus on preventing problems and stabilising, improving and restoring resources in problem areas. In addition, these measures should also mitigate the impact of drought and prevent water scarcity.* *Examples: area-specific permit policy, approval of drilling companies, flow meters, etc.*
Group 5B	**Surface water quantity** *The aim is a robust water system that tries to balance supply and demand for water. Supply-increasing and demand-restricting measures are required to achieve good (quantitative) status and to reduce the probability of a crisis as much as possible, complemented by a reactive pillar which minimizes harmful impacts before and during a crisis.* *Examples: active water level management, increasing water availability, crisis coordination*

Group 6	**Floods** *Group 6 measures aim at managing and preventing the negative effects of flooding, with a focus on preventing those negative effects and on improving and restoring problem areas.* *Examples: preserving flood plains, flood-proof construction, retention basins and dikes, ditch maintenance, rainwater retention and infiltration*
Group 7A	**Groundwater pollution** *Reducing pollution from point sources (including soil pollution) as well as diffuse pollution (including pesticides and nutrients)* *Examples: Soil Decree, Manure Action Plan, rules for pesticide application*
Group 7B	**Pollution of surface water** *Pollution of surface water is caused by industrial point sources, point or diffuse sources within the agricultural sector, discharges of urban waste water (via WWTP or disperse domestic discharges), other diffuse sources and accidental pollutions. This group of measures therefore covers a wide range of policy instruments.* *Examples: environmental permits, erosion measures, CAP, urban wastewater treatment*
Group 8A	**Hydromorphology** *Hydromorphology includes aspects such as flow pattern, meandering and bank structure. Actions related to hydromorphology within protected areas were assigned to measure group 4B.* *Examples: river restoration, riverbank redevelopment, removal of migration bottlenecks, modified flow management*
Group 8B	**Sediment** *The strategy is based on 4 pillars: reduction of sediment supply and reduction of pollution sources, management of sediment quantity within the watercourse and improvement of riverbed quality, reuse of dredging sludge and knowledge building and information access.* *Examples: erosion policy, sediment dredging, sediment explorer*
Group 9	**Other measures** *This group includes measures that cannot be specifically allocated to one theme, but are more cross-thematic, such as knowledge building, broadening support, consultation and co-production, climate policy.* *Examples: evaluation biological elements and GEP, consultation via CIW and area-based consultation*

Generic and water body specific actions

In addition to the overarching programme of measures, actions are further specified in sub-basin and groundwater system specific volumes:

- a programme of measures at river basin level Scheldt and Meuse providing generic (or Flanders wide) actions
- action programmes in each of the 11 sub-basin specific volumes
- action programmes in each of the 6 groundwater system specific volumes

All actions can also be consulted via a “geoportal”. For each action, a fact sheet provides further description, location information, initiator(s), cost price estimate, etc.

Area-oriented prioritisation for good surface water body status

As in the Programme of Measures accompanying the previous River Basin Management Plans, an area-oriented approach and prioritisation is proposed.

Surface water bodies are prioritized taking into account the current status and the distance to target. Good status is to be achieved by 2027 for priority zones and significant progress for focus areas:

- the programme of measures aims to achieve good status in a third of all surface water bodies (the 66 priority zones) and a significantly better status in half of all (the 86 focus areas)
- for all surface water bodies, a reduction target applies
- in the priority zones, all measures must be implemented during the planning period, i.e. up to 2027, and the reduction target must be fully achieved
- for all non priority zones, the measures are spread over more time (several planning periods) and part of the reduction target must be achieved

Area-oriented approach for good status of groundwater bodies

In order to achieve a better balance between supply and demand, a differentiated groundwater policy has been elaborated corresponding to the quantitative status of each groundwater body. For groundwater bodies in poor quantitative status, “action areas” and “watching areas” have been established and remediation programmes implemented.

Area-oriented prioritisation in flood and drought risk management

In line with the philosophy of the Floods Directive, the criterion 'maximisation of social benefits' was used in order to prioritise flood actions. Prioritisation was based on the potential number of inhabitants affected per catchment area. The 75 catchment areas with a high social risk cover 85% of the total risk in Flanders.

There has been no specific area-oriented prioritisation for the drought and water scarcity actions.

DISPROPORTIONALITY ANALYSIS

In order to assess whether or not the programme of measures implies disproportionate costs, the assessment framework from the first and second generation river basin management plans was refined:

- reasonability of the scenario: are the total costs of a scenario proportionate to the expected contribution to the environmental objectives and the expected benefits? Do the social benefits outweigh the efforts made?
- affordability for target groups: are the costs proportional to the financial possibilities (carrying capacity) of industry, agriculture, households and government?

The cost-benefit analysis of the "Programme of Measures" scenario is certainly positive. As far as affordability for the target groups is concerned, only the increase in the water bill has a limited impact on affordability. Public annual expenditure increases by 3%. It has not yet been possible to take into account the burden on sectors because of self-services (e.g. erosion control in agriculture or additional treatment for industry).

Figure 11: Good status: Area-oriented prioritisation of surface water bodies

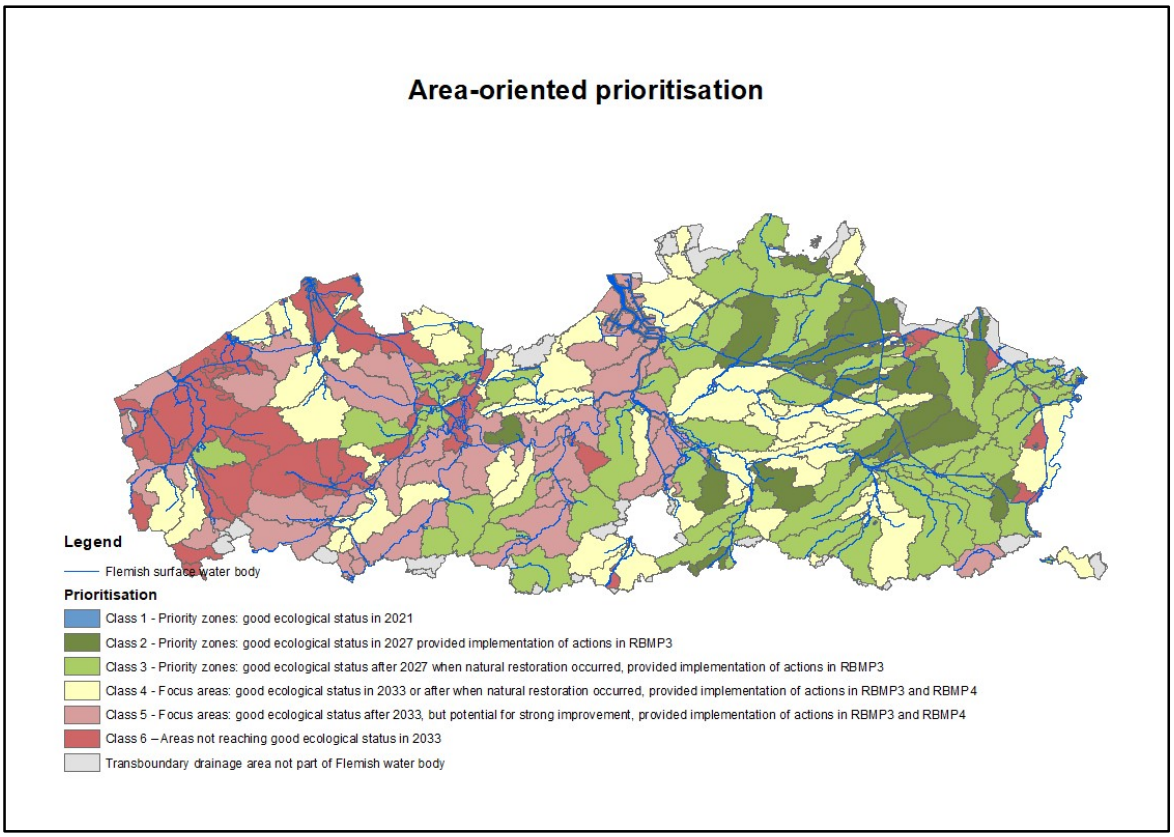
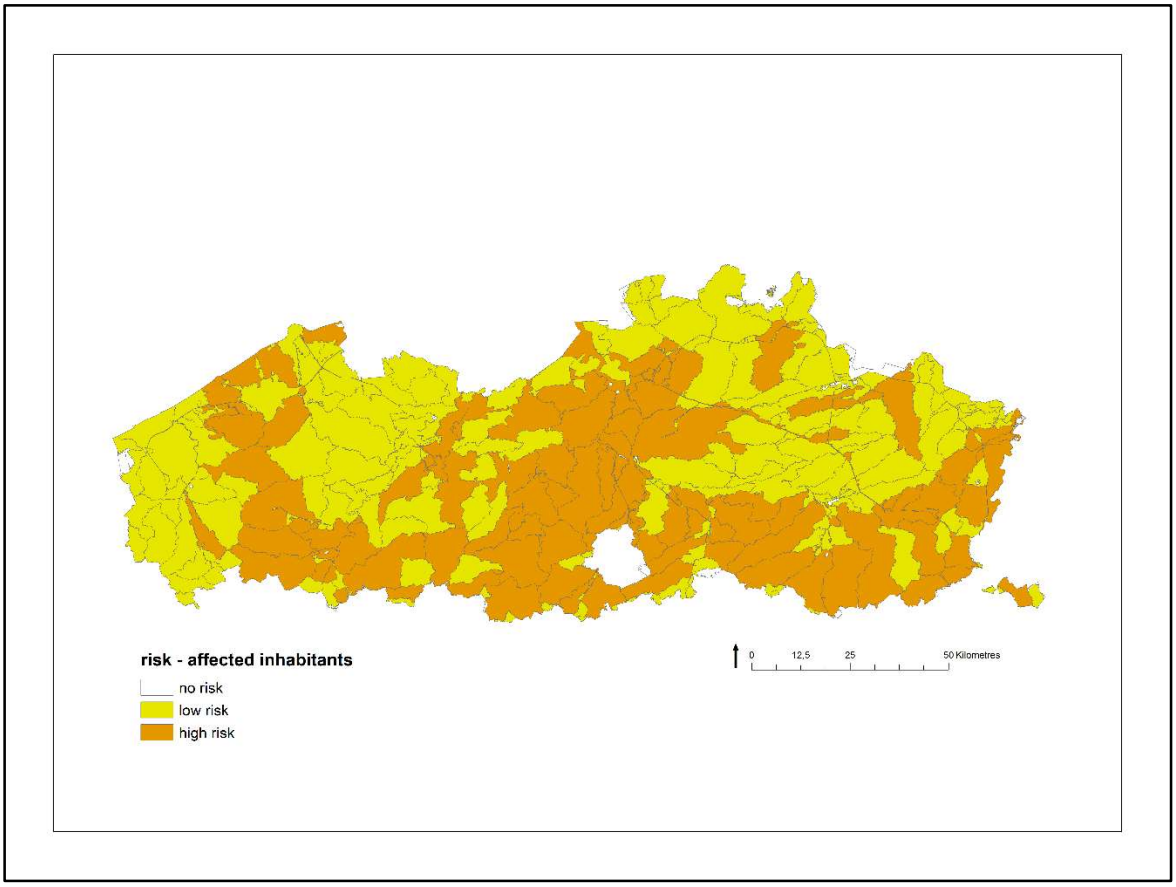


Figure 12: Water safety: Risk distribution - affected inhabitants of the catchment areas



PROGRAMME OF MEASURES 2022-2027: COSTS

Part of the programme of measures can be implemented with the available resources. However, in order to implement the entire programme of measures, additional resources will have to be made available in the next planning period, further referred to as the "additional cost".

The largest costs are in group 7B with a considerable investment cost for sewerage projects (development and optimisation of wastewater treatment), in group 6 with investments concerning flooding (the so-called "water sensitive open spaces") and in group 8B with actions in the area of sediment and riverbeds.

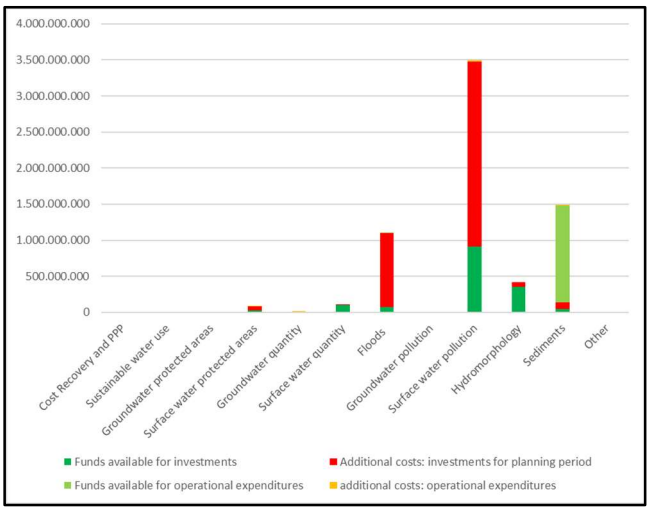
The investment costs for the generic measures amount to EUR 4 billion, more than EUR 3 billion of which amounts to additional costs. The costs for water body specific actions in the sub-basins are estimated at EUR 1,275 million of which EUR 672 million are additional costs, and the costs for groundwater system specific actions at € 2.3 million of which € 0.2 million are additional costs.

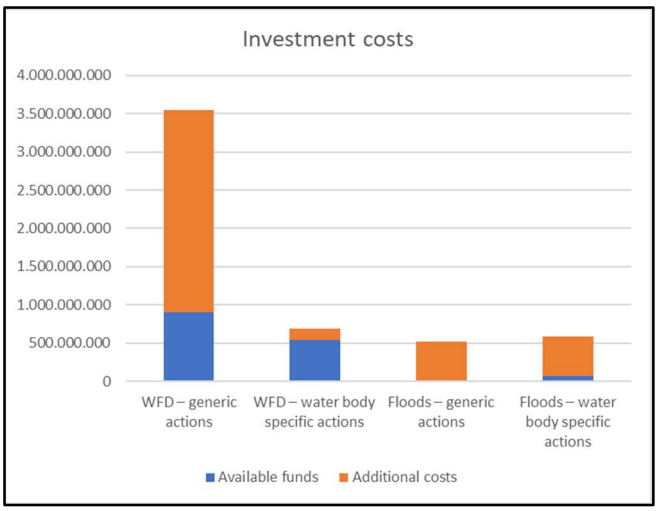
Table 3: Overview of costs for all actions (rounded off to 3 digits)

measures group	investment for planning period (€)	operating expenditures per year (€)	funds available for investments (€)	funds available for operational expenditures per year (€)	additional investments for planning period (€)	additional operational expenditures per year (€)	additional operational expenditures for planning period (€)
2	850,000	0	450,000	0	400,000	0	0
3	2,910,000	0	1,260,000	0	1,650,000	0	0
4A	1,890,000	290,000	75,000	0	1,810,000	290,000	1,740,000
4B	85,200,000	255,000	29,200,000	0	56,100,000	255,000	1,530,000
5A	7,680,000	1,160,000	1,260,000	0	6,420,000	1,160,000	6,930,000
5B	103,000,000	0	101,000,000	0	2,370,000	0	0
6	1,100,000,000	461,000	77,100,000	461,000	1,020,000,000	0	0
7A	3,390,000	0	2,500,000	0	900,000	0	0
7B	3,480,000,000	3,650,000	909,000,000	20,000	2,570,000,000	3,630,000	21,800,000
8A	419,000,000	0	349,000,000	0	70,000,000	0	0
8B	136,000,000	224,000,000	47,600,000	224,000,000	88,900,000	695,000	4,170,000
9	1,250,000	1,100,000	750,000	30,000	500,000	1,070,000	6,450,000
Total	5,340,000,000	231,000,000	1,520,000,000	224,000,000	3,820,000,000	7,100,000	42,600,000

Legend: 2: Cost recovery principle and polluter-pays principle, 3 Sustainable water use, 4A/B Groundwater/surface water protected areas, 5A/B Groundwater/surface water quantity, 6 Floods, 7A/B Groundwater/surface water pollution, 8A Hydromorphology, 8B Sediment, 9 Other measures

Figure 13: Overview of costs for all actions (full planning period)





Exploration study

The models BAM, NEMO, PEGASE and ELMO are used to evaluate the targets achieved for the elements oxygenation, nutrients and macro-invertebrates for the surface water bodies.

The results are compared between the reference scenario, a BAU scenario (decided policy), the implementation of the programme of measures and a maximum scenario.

The maximum scenario is used to examine how water quality will evolve if very ambitious measures are taken in the areas of urban wastewater, agriculture and industry, and whether the good status is achieved everywhere. Measures upstream (France, Brussels and Wallonia) cannot yet be taken into account as these plans are not yet available.

The model results show that phosphorus remains a general problem parameter as well as -in less cases- nitrogen after implementation of the programme of measures, but also even after implementation of the maximum scenario.

The model chain for surface water quality policy

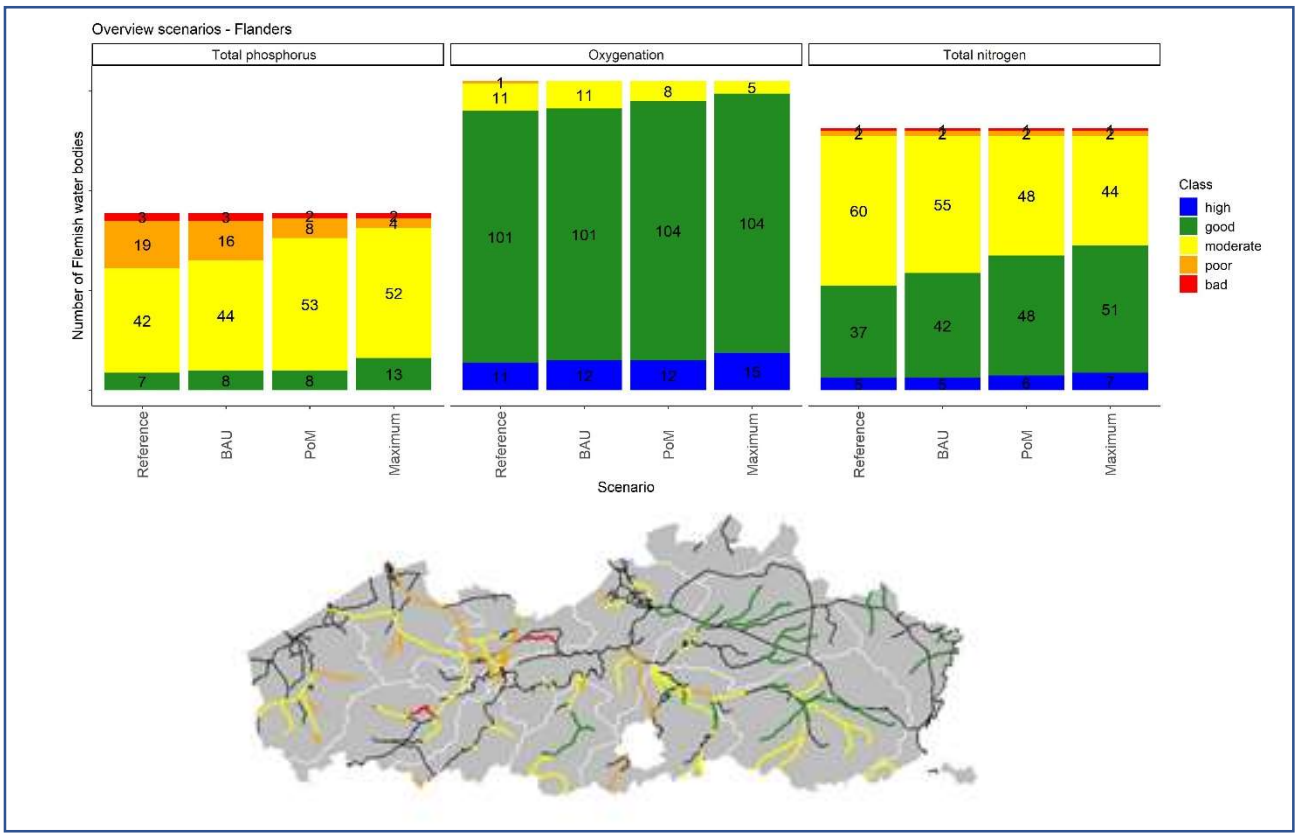
The Fertilisation Allocation Model or "BAM" calculates the amount of manure used for each agricultural field in Flanders.

The Nutrient Emission Model or "NEMO" calculates how nitrogen (N) and phosphorus (P) enter the watercourses from agricultural fields via the different routes through soil and groundwater. It uses BAM results as input.

PEGASE models oxygen management and nutrients concentrations using data on flows and discharges from households, agriculture (NEMO), industry and WWTPs.

ELMO is an aquatic ecological model. It models the distribution of biological organisms in watercourses in Flanders. *More information:* https://www.vmm.be/water/kwaliteit-waterlopen/waterkwaliteitsmodellen/postermodellering.pdf (in Dutch)

Figure 14: Results of the exploration study



WHAT HAPPENS NEXT?

PUBLIC CONSULTATION AND FORMAL ADOPTION

Water policy is everyone's business. That is why everyone is given the opportunity to formulate reflections, objections and suggestions for improvement during a public consultation.

The public consultation started on Tuesday 15 September 2020 and will run until Sunday March 14th 2021. The draft documents can be consulted at www.volvanwater.be.

The draft river basin management plan for the Scheldt and Meuse will also be submitted to the Socio-Economic Council of Flanders (SERV), the Environment and Nature Council of Flanders (MiNa Council) and the Strategic Advisory Council for Agriculture and Fisheries (SALV) for advice, as well as to the sub-basin water councils and boards. The competent authorities in the international river basin districts of the Scheldt and Meuse are also asked for advice.

The CIW examines all comments and opinions and incorporates them into a consideration document, amends the draft river basin management plan into a final draft and submits it to the Flemish Government.

The Flemish Government shall adopt the river basin management plan by December 22th 2021 at the latest.

2022-2027: LAST OPPORTUNITY PLANS ?

The River Basin Management Plan 2022-2027 is the second revision of the River Basin Management Plan. This cycle will continue every six years. Nevertheless, the coming planning period is particular for a number of reasons.

At the next review of the plan - in 2027 - the exemption providing a deadline extension for reasons of technical feasibility and/or disproportionate costs will no longer be available. In the absence of a revision of the Water Framework Directive, a less stringent objective will have to be set for all water bodies where good status has not been achieved. This complex exercise will require the commitment and involvement of all partners in integrated water policy.

Water is an indispensable part of our daily lives. That is why we plan its management with care.

We will do that together.

Take part in the public consultation and help shape the implementation of the water policy.

From September 15th 2020 to March 14th 2021,
you can provide your contribution to improve groundwater and surface water policy and to protect against floods and droughts:
the River Basin Management Plans for Scheldt and Meuse 2022-2027.

All information can be found at www.volvanwater.be.

Coördinatiecommissie Integraal Waterbeleid