Update the water sector management plans for the Artois-Picardie basin: your opinion is of interest to us…

Presentation of the SDAGE and the 2016-2021 Programme de Mesures (measurement programme)

Important

Water is part of the 'nation's shared heritage' and therefore everyone should take on the responsibility of its preservation.

A European Directive, called the **WFD**, coordinates the way in which this common good is to be managed. This international dimension is all the more important with our German, Belgian and Dutch neighbours, with whom we share two drainage basins, the Escaut and the Meuse, thereby underlining the fact that water knows no borders.

We have a resource that we can use to organise this management: the **Schéma Directeur d'Aménagement et de Gestion des Eaux** (SDAGE) (water management and development master plan). The current SDAGE covers the 2010-2015 period. It is used to attain certain objectives and implements long-term policies, particularly in the monitoring of the quality of the environment. Significant progress has been made but there still remains a lot of work to be done. The SDAGE contains **guidelines** and **provisions** aimed at creating a framework for the decision-making process of every entity, whose activities or facilities have an impact on the water resource of the basin.

The SDAGE comes with the **Programme de Mesures (PdM)** (measurement programme), which incorporates the key initiatives required in order to attain the SDAGE's **objectives**. Their purpose is to re-establish the balanced environmental conditions, needed in order to have water in sufficient quantity and quality and ensure the high standard of the aquatic environment.

The protection and preservation of the aquatic environment and groundwater resources as well as the restriction of the pressure exerted on the environment are key objectives for the SDAGE, which can be broken down into the following 5 goals:

- Maintaining and improving the biodiversity of the aquatic environments
- Ensuring high quality drinking water in sufficient quantity
- Making use of the way, in which the environments work naturally, to prevent and minimise the negative effects of flooding
- Protecting the marine environment
- Implementing public policies, which are in keeping with the water sector

The Artois-Picardie basin is a basin where the watercourses have been modified to fulfil certain uses in densely populated areas, where the industrial past is still very present. These are just some of the factors, which have been taken into consideration when determining the quality objectives of the watercourses. Indeed, the objectives set are not unrelated to pressures exerted on the environments.

The next SDAGE and its PdM will cover the 2016-2021 period. Your opinion is required regarding the guidelines proposed in these future documents.

WFD

1. *Drawing up the management plans: context*

Water Framework Directive

The European directive 2000/60/EC of 23 October 2000, commonly known as the Water Framework Directive (WFD), specifies 'ambitious' performance objectives in the European policy for water management. This Directive sets out a precise cyclical calendar for all the member states to attain the standards required for the water as well as the watercourses, lakes, wetlands, coastal waters and transitional waters as well as the groundwater.

The six-year cycle of the French policy in the water sector is governed by the cycles of the WFD. To start this new cycle, which will begin in 2016 and finish in 2021, a survey must be carried out. Among other things, this will look at the status of the water bodies of the Artois-Picardie region (66 watercourse water bodies, 5 lakes, 9 coastal and transitional water bodies and 18 groundwater water bodies) and the pressures exerted on them (diagram opposite). This report, as well as the major guidelines coming from the 2013 public consultation, set the level of ambition of the water policy's planning documents (SDAGE and PdM).

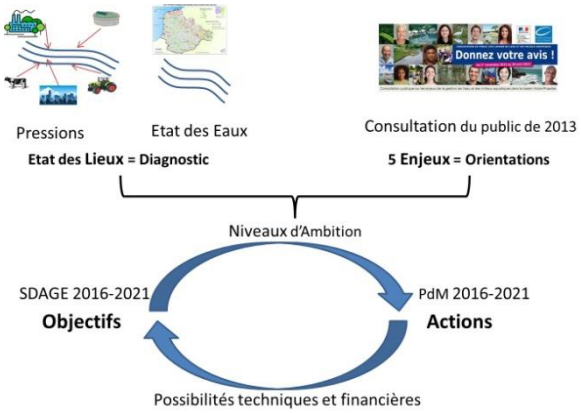


Figure1: Drafting of the SDAGE and the PdM

Pragmatic and mindful of both technical and financial realities, the WFD establishes possible exemptions to be applied regarding the deadline for achieving the 'good status' or the level required by introducing the idea of less stringent objectives. The grounds for these exemptions must be based on natural as well as technical or economic conditions, which are unfavourable to any rapid improvement in the status of the environment (like the canals for example).

What is an SDAGE?

SDAGE: Schéma Directeur d'Aménagement et de Gestion des Eaux (water management and development master plan)

The SDAGE:

- was instituted by the French water bill of 3 January 1992 and consolidated by the WFD transposition law of 21 April 2004
- combines the guidelines and provisions, which will be applied for a period of 6 years to the Artois-Picardie basin and which will contribute to the balanced management of the water resource.
- sets out objectives which the region's water bodies must attain.
- is a planning document aimed at providing a framework for the decision made by all the entities, whose activities of facilities have an impact on the water resource of the basin.

The administrative programmes and decisions in the water sector or certain schemes and local plans, which have an impact on the water resource, must be 'compatible or made compatible' with the provisions of the SDAGE as well as the PLU (Plan Locaux d'Urbanisme) (local town planning programme). In order to be consistent with public policies, the SDAGE contributes to

the objectives of French national plans such as the 'national climate plan'. 5 issues arising from the public consultation, held from November 2012 to April 2013, provided the basis, on which the SDAGE was put together.

What is a Programme de Mesures (PdM) (measurement programme)?

The Programme de Mesures

This document is linked to the SDAGE. It lists the **essential initiatives** to be carried out in order to achieve the environmental objectives set out by the SDAGE. However, the ambition and purpose of the measurement programme is not to set out an exhaustive list of all the initiatives to be implemented in the area of water. Depending on the parameters set for the bodies of water (2013 survey), essential initiatives, which affect these parameters, are reproduced in the measurement programme. It must be ambitious yet realistic from the technical and economic point of view.

Even if the SDAGE and the measurement programme both contribute to the objectives set, they each retain their own specific purpose and features. The **measurements,** which make up the PdM are practical initiatives, with a **cost** and a specified type of **works owner**.

The SDAGE is composed of provisions, which are general rules applying to the entire Artois-Picardie basin.

The measurement programme can be broken down into the following two measurement types:

- **Basic** measurements: coming from the core national regulations, they represent the strict application of the existing European texts and no exemptions can be made to these measurements, whether it is regarding the substance or the deadlines;
- **Complementary** measurements: coming from feedback regarding specific local problems, for which the basic measurements are inadequate in order to attain the objectives.

SDAGE and the Marine Environment

Link with the framework directive for the strategy regarding the marine environment

The **Marine strategy framework directive 2008/5/EC** or **MSFD** aims to implement action plans to promote the good status of marine waters and establish a framework, by which the member states can take all the measures needed to achieve and maintain the **good environmental status** of the marine environment by 2020 at the latest.

The marine and coastal spaces are where a very large number of human activities take place. The European commission estimated that 3 to 5% of Europe's GDP is generated by the activities of the maritime sector, including some which are expected to experience significant growth in the future. The integrated management of these activities implies a global approach that takes into account the different uses of the marine and coastal spaces, which are both fragile and highly sought-after. The WFD as well as other European texts (regarding swimming waters, shellfish farming, urban waste waters, etc.) incorporate the fact that the water coming from the earth carries with it a not insignificant amount of pollution, which ends up in the sea.

The WFD and the MSFD have the shared aim of achieving the good status of the waters, to which they apply, even though there is some duplication of these waters.

It is worth noting that the Artois-Picardie basin is affected by the Channel-North sea marine sub-region, which extends from the Belgian frontier to the southern edge of Brest.

Link with the floods directive

SDAGE and flooding

One of the components of the European Union's action plan for the management of flooding resulted from an increased awareness to form a united front and set ambitious targets regarding 'flood' risk management at the European level. These ambitions are governed by the **2007/60/EC directive**, or so-called **'floods' directive**, pertaining to the evaluation and management of flood risks. Its purpose is to get the member states to reduce the **negative consequences** on human health, the environment, the cultural heritage and business associated with **flooding**.

Consequently the SDAGE is focused on the preventive and ecological management of Floods. It refers to the 'plan de gestion des risques d'inondation' (PGRI) (flood risk management plan) for the crisis management section. The PGRI includes the preventive provisions of the SDAGE.

The different planning documents, which have an impact on the water cycle, are therefore consistent with each other.

WFD and climate change

SDAGE and climate change

The guidelines and provisions, which aim to attain the objectives of the European Framework Directive, will make it possible to adapt to climate change with these measures, which represent about 60% of the SDAGE. The remaining 40% will minimise the risks associated with climate change.

The major themes, which will make it possible to adapt to climate change, are set out in the list below:

- **The restrictions put on discharging waste into the environment**: Climate change will reduce the discharges into the Artois-Picardie basin and therefore reduce the dilution effect: less pollutant discharges will help to reduce the pressure on the destination environment by increasing its resilience.
- **Encouraging infiltration**: The replenishment of the groundwater supplies will be increased by the infiltration of rainwater while restricting the permeability of the ground.
- **The management of the coastline**: In the case of the sea level rising as a result of climate change, coastline management is a major issue
- **Reducing withdrawals**: Within a context where the replacement of the groundwater supplies is falling, reducing withdrawals helps to reduce the pressure on the groundwater.
- **The preservation of Wetlands**: Wetlands help to reduce extreme climatic phenomena as they can often provide a holding capacity for floodwaters. These zones also help to replenish groundwater supplies

Although the timescale is not the same, it is important to take into consideration the effects of climate change immediately.

2. The features of the Artois-Picardie basin

Features of the region

The aims of the SDAGE and PdM projects are suited to the main features of the Artois-Picardie basin.

Here are a few figures about the Artois-Picardie basin:

- A little under **8%** (population 4.7 million) of the French population on about **3.5%** (19,800 km^2) of the surface of mainland France
- **235 residents per km^2** (national level of 106).
- **1.5%** of the national network with a total flow from its watercourses of less than **1%** of the overall flow of the watercourses of mainland France;
- **75%** of the population of the region lives in town;
- **70%** of the region is occupied by farmland (usable agricultural farmland) (55% of the national average);
- **95%** of the drinking water comes from the groundwater;
- Bygone mining and industrial activities

This situation has resulted in the following:

- high pressure (household and industrial pollution) on a small number of watercourses, which also have a low rate of flow (resulting in little dilution of the pollution discharged, even after substantial water treatment);
- high pressure (farming and household pollution) on the groundwater (strategic resource for drinking water).

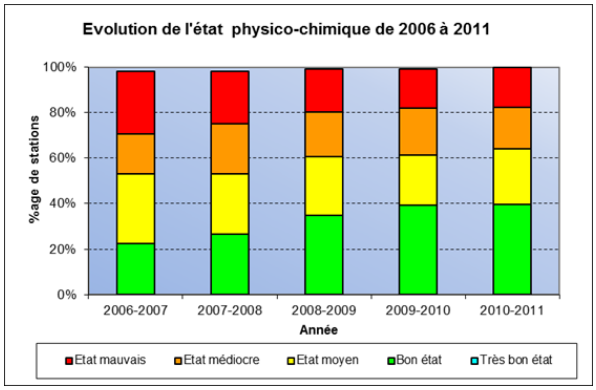
*This explains, for example, why the entire Artois-Picardie basin is classified as a **zone that is at risk of eutrophication** in accordance with the urban waste water directive and is classified as a **zone that is vulnerable to nitrates from farming activities** in accordance with the Nitrates directive, except for one part of the Boulonnais region, one part of the Somme and one part of the Avesnois (December 2014).*

3. The report of the previous management plan: progress achieved

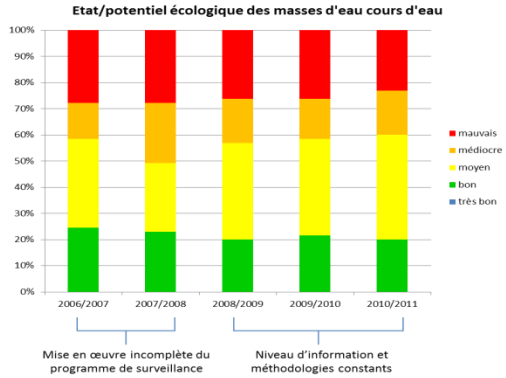
The surface water bodies:

Report

The first 2010-2015 management plan had focused its attention on improving the physical-chemical aspects. The 2013 SDAGE dashboard shows that the discharges of nutrients, such as phosphorus, have diminished, and that the physical-chemical quality has improved. The first 'battle' has therefore been won. Let's keep up our efforts. This graph shows that the number of centres in good status has risen from 20 to 40% between the 2006-2007 and 2010-2011.



When one looks at the overall quality of the waters, and especially the ecological status, this improvement is masked by the biological indicators, which take time to react to an improvement in the quality of the water. It is also worth pointing out that a single parameter is sufficient to downgrade the watercourse, which leaves little room for overall improvement:



The 'Grenelle de l'environnement' environmental roundtable set a target in 2008 of achieving an average rate of 66% of water bodies in good environmental status by 2015 for France. The basin agreed to an objective of 50% given its special characteristics.

The objectives for the surface water bodies have not yet been reached. Given the disparity between the current status (2011-2012) and the 2015 objectives, it is likely that the commitments will not be respected. Indeed, the reaction time of the environment to the measures taken is longer than foreseen in the scenarios. Furthermore, the increased sophistication of the monitoring programme has highlighted additional problems in attaining the good status. In particular this includes the evaluation of the fish index, which has resulted in water bodies being unexpectedly downgraded.

As for the lakes, their quality varies little over the course of one management plan because they are enclosed environments with minimal water replenishment. They experience a number of different pressures, which are, for the most part, unidentified.

Coastal and transitional water bodies are not only affected by the flows of nutrients coming from the continent but also those coming from the 'coastal rivers', which drive the plume coming from the Seine, bringing less salty water loaded with pollution. The concentration of the pollution in the coastal and transitional waters explains the postponed deadline for achieving the good status.

The reports of the measurement programme at end 2011 points out that 40% of the expected measurements were obtained within the first 24 months of the operational phase of the 2010-2015 measurement programme.

The groundwater bodies:

Compared with the objectives set during the 2010-2015 SDAGE, the 2011 quantitative status is in keeping with the objectives. Despite the lack of any significant change in the chemical status in 2011 compared with the first cycle, there is reason to believe that a return to good status will not be achieved within the time period of a single management plan, given the fact that new substances are currently being detected and it takes a long time for the surface waters to permeate underground.

4. *The SDAGE and associated Programme de Mesures projects*

The SDAGE sets out the objectives, which the PdM implements. Conversely, the objectives of the SDAGE depend on the financial and technical capabilities of the various categories of users of the basin. These capabilities are broken down in the measurement programme.

The status of the water bodies for the 2010-2011 period (data from the 2013 survey)

Water bodies	Total number	Qualitative good status	Quantitative good status
Groundwater	18	33% (6 out of 18)	95% (17 out of 18)
Watercourses	66	21% (14 out of 66) (eco)	N/A
Lakes	5	20% (1 out of 5)	N/A
Transitional waters	4	0 %	N/A
Coastal waters	5	0 %	N/A

SDAGE 2016-2021: Objectives

The objectives for the water bodies of the region:

Key figures:

	Type of WB	Total	Status	2015 (2010 status)	2021	2027	Less stringent
				%	%	%	%
Surface waters	Watercourses	66	ecological	21	17	42	20
			Chemical without PAH	82	0	18	-
	Coastal and transitional	9	ecological	0	0	100	0
			Chemical	66	0	34	0
	Lakes	5	ecological	20	0	80	0
			chemical	100	0	0	0
Groundwater	-	18	Quantitative	95	0	100	0
			Chemical	33	0	67	0

Appendices:

The maps and tables of the objectives by water body are available in the appendix of this document.

Guidelines and provisions of the 2016-2021 Artois-Picardie SDAGE

The 2016-2021 SDAGE is in keeping with the first SDAGE and consolidates the policies, which are currently being implemented. Three new sections have been added, namely the marine environment, floods and climate change sections. These key points are incorporated within 5 strategic issues, 34 guidelines and 79 provisions. It was drafted by updating the elements of the current SDAGE and the results of the public consultation of 2012.

The 5 strategic issues, retained after this consultation, are as follows:

- Maintaining and improving the biodiversity of the aquatic environments: ***Strategic issue A***
- Ensuring high quality drinking water in sufficient quantity: ***Strategic issue B***
- Making use of the way, in which the environments work naturally, to prevent and minimise the negative effects of flooding: ***Strategic issue C***
- Protecting the marine environment: ***Strategic issue D***
- Implementing public policies, which are in keeping with the water sector: ***Strategic issue E***

The elements, which were addressed in greater detail than the first cycle, were as follows:

- Reducing overflows in rainy conditions
- Restoring the shape of so-called 'natural' watercourses
- Combating toxic industrial, agricultural and household pollution
- Minimising transfers of pollutants to the groundwater
- Rehabilitating polluted water catchments and preserving strategic water catchments

Strategic issue A: Maintaining and improving the biodiversity of the aquatic environments

In order to **maintain and improve the biodiversity of aquatic environments**, the guidelines (O) and provisions (D) are still in keeping with previous work, namely, the reduction of temporary and diffused influxes of macro-pollutants (OA-1 and DA-11.2). The SDAGE advises that the temporary discharges of macro-pollutants should be adapted to the environmental quality objective (DA-11.1 example).

EXAMPLE

Provision A-11.1: Adapting the discharges of pollutants to the quality objectives of the natural environment

In keeping with the provisions, on the which its authority is based, the administrative authority adapts the instructions to the requirements of the destination environment. These instructions are those that it imposes as part of its inspection responsibilities regarding registered installations, water or the nuclear safety authority for discharges into aquatic environments, into the public networks and the self-monitoring systems, which require it.

The pressures associated with the diffused pollutants (OA-2 and OA-3) as well as the overflows of the collection networks during heavy rain or those originating from farming activities are also treated (DA-2.1 to DA-4.1).

Wetlands are remarkable environments because they have significant biodiversity benefits, provide pleasant surroundings and create a buffer zone for flooding and rainwater infiltration to the groundwater. They act as a genuine 'sponge', soaking up water when it rains and returning it when water levels fall. For these reasons, these environments have their own specific guidelines (OA-9). The corresponding provisions aim to preserve them by preventing urban developments and by introducing the following doctrine: '**prevent, minimise, compensate**' (DA-9.1 to 9.3).

The dashboard of the SDAGE has highlighted the fact that pastures are being replaced by developed or cultivated areas. This can have harmful effects because it increases the risk of surface run-off, erosion and the transfer of pollutants (OA-4). Provision A-4.3 aims to restrict their disappearance

The upkeep and restoration of aquatic environments appear to be necessary (but not sufficient) to attain the good status (DA-5.4). The provisions and guidelines aim to maintain and preserve the environments and restore the continuity of the watercourses (OA-5 to 7).

Finally, they create a framework for new elements, which can disrupt watercourses, such as lakes (DA-7.3) or the extraction of quarry materials (OA-8).

New pollutants (bisphenol A, hormones, etc.) are creating an increasingly significant problem in public opinion. This is why the SDAGE recommends an improvement in the information provided about these issues (OA-10) while also aiming to reduce, as a precautionary measure, their use and combat their discharge (OA-11).

The Artois-Picardie basin bears the marks of its industrial past in the polluted sites it has inherited. The SDAGE's A-12 guideline aims to improve information about their impact on groundwater in particular.

Strategic issue B: Ensuring high quality drinking water in sufficient quantity

The 1st article of the French law on water and aquatic environments (Loi sur l'Eau et les Milieux Aquatiques - LEMA) advocates 'the right to drinking water and the conditions, which are economically acceptable to all'. In order **to ensure a sufficient quantity of high-quality drinking water**, the protection of catchment water supply areas (OV-1) is achieved by modifying the use of the land plots (DB-1.5). It promotes preventive to remedial measures by recommending that the quality of the resource be restored rather than treating the waters for the purposes of drinking (DB-1.6).

Securing the supply of drinking water is achieved through the balanced management of the water resource (OB-2), which involves incentives to use water economically (OB-3) and organising a crisis management system (OB-4), which takes into consideration the crisis thresholds of the rates of flow of the watercourses (DB-4.1). The leaks on the distribution networks will be minimised in order to increase the performance of the networks (DB-5.1 example).

EXAMPLE

Provision B-5.1: Minimising the water leaks in the distribution networks

Local government works on minimising the leaks in the distribution networks in accordance with decree 2012-97 of 27 January 2012, which involves carrying out a diagnostic assessment of their system and creating an action plan that includes searches for leaks and a multi-annual schedule for the replacement of the pipes and facilities.

The situation of the basin on two international districts introduces an international dimension to water management, which is incorporated in the SDAGE through the potential association of the Belgian organisations in creating the border SAGEs (DB-6.1) and the organisation of a coordinated water management system (D-6.2) within the International Commissions.

Strategic issue C: Making use of the way, in which the environments work naturally, to prevent and minimise the negative effects of flooding

The SDAGE recommends **relying on the natural operations of the environments to prevent and restrict the negative effects of flooding** by maintaining the natural dynamic flow of the watercourses in particular (OC-4) and limiting surface run-off (OC-2). This is to limit the damage associated with flooding (OC-1).

Strategic issue D: Protecting the marine environment

In keeping with the MSFD, the SDAGE strives **to protect the marine environment**. The connection between the land and the sea is very important and the pollution generated on the continent ends up in the sea. That's why guideline no. 24 aims to combat the eutrophication of the marine environment.

Furthermore, the marine environment is very biodiverse and its protection is taken into consideration when completing the conchological and bathing profiles (OD-1 and OD-2). Development work, such as the extraction of aggregates, is undertaken without damaging marine aquatic environments (DD-6.2), in order to preserve them (OD-3 to D-7).

Strategic issue E: Implementing public policies, which are in keeping with the water sector

The 'Schémas d'Aménagement et de Gestion des Eaux' (SAGE) (water management and development plans) are consistent hydrographic units, which are used to manage the water resource in a balanced and sustainable way. The increased role of the SAGEs contributes to **the implementation of public policies, which are in keeping with the water sector** (OE-1). It is also important to provide training and information and build awareness among all citizens (OT-3). The aim of the OE-2 guideline is to attract works owners for operations, which cannot find a backer. The adjustment, development and streamlining of the available knowledge also ensures that the policies are more consistent with each other (OE-4).

The PdM

Once the measures aimed at reducing the pressures, which cause the water bodies to be downgraded, have been identified, the measurement and sizing of the targeted measures designed to restore the good status or good potential for the 2016-2021 cycle, come to a total of €2.2 billion, which is broken down by major subject in the following way:

	2016-2021 section €m*
Water treatment	1,200
Agriculture	570
Aquatic environments	160
Drinking water	140
Industry	110
Total	**€2,180m**

*All the figures are expressed exclusive of tax or inclusive of tax, whether the works owner recovers the VAT on its expenses or not. This total does not take into account the running costs of the urban and industrial water collection and treatment works, or the redevelopment of the water treatment and drinking water networks.

Example of the measurements by major theme:

Water treatment:

- Rebuild a now obsolete water treatment plant
- Redevelop a network, which transports the household wastewater

Agriculture:

- Reduce transfers of fertilisers
- Adjust cultural practices on the land plots located in the strategic zones

Aquatic environments:

- Complete a wetland restoration operation
- Re-establish the continuity of a watercourse by removing a dam

Drinking water:

- Protect the access and the drinking water supply
- Protect the catchment replenishment areas for drinking water

Industry:

- Reduce the discharges of hazardous substances
- Adjust the processes so that they consume less water

Economic evaluation:

The European Water Framework Directive (WFD) has encouraged the widespread use of economic tools in the water management sector for the last 15 years. This has been given further impetus by the progressive implementation of the 'Schémas d'Aménagement et de Gestion des Eaux' (SAGEs) (water management and development plans).

These economic tools, which are used first and foremost for evaluating policies (ex-ante and ex-post), form part of an approach that is more socio-economic than financial. In this way, they aim to analyse all of the interactions between the economic agents (public agents (region, state, etc.); businesses, farmers, private individuals) as well as on their environment. More specifically, all of the economic and social interactions implied by the SDAGE and its measurement programme (PdM) will be appraised by adding the environmental component.

So that the economic evaluation of the consequences of the initiatives and projects can be carried out, the uses must be specified first of all. This stage, which was conducted as part of the survey, identified the significant uses of the water as well as the basin's level of activity and the factors liable to affect the pressure and quality levels of the water. All of the costs will be precisely specified at a later stage so that the set objective(s) can be attained (unit costs and scoping of the planned initiatives).

The economic appraisal will aim to assess the impact of these projects and will be broken down into the following 2 stages:

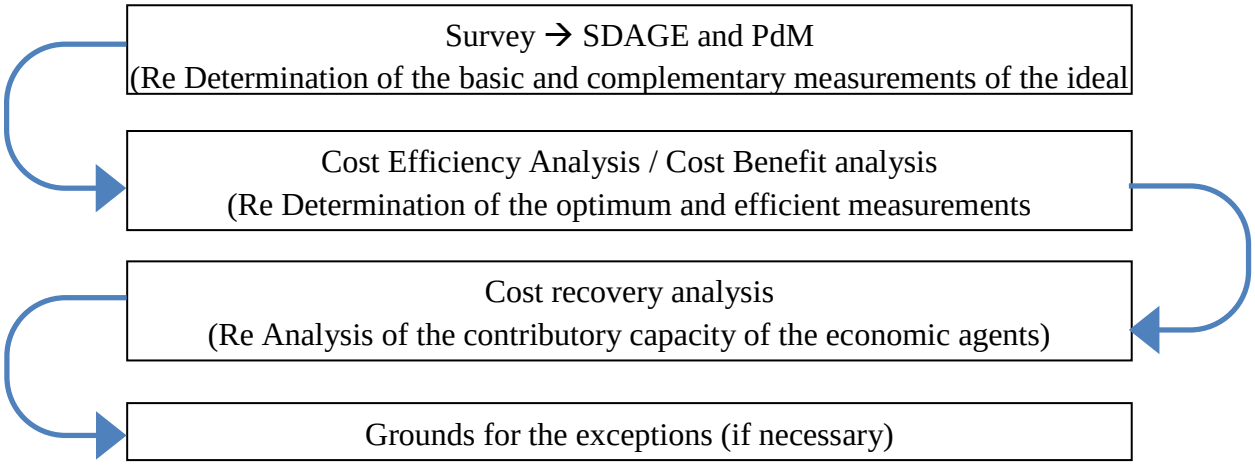
- First of all, an economic appraisal of the environmental impact is carried out, by evaluating the environmental goods and changes in status of the environment. The objective is to compare these estimated values with the economic values (costs or financial resources) in order to measure the potential environmental benefits or losses of the projects[1].
- The other aspect of the economic evaluation involves analysing the effect of the projects and the associated costs on the socio-economic agents. The objective here is to determine

[1] Two types of analysis are carried out: Cost Effectiveness Analyses (CEA) and Cost Benefit Analyses (CBA). The CEA is used to identify the most effective initiative from a series of initiatives, in attaining an objective. As for the CBA, it is designed to ascertain whether the project's impact on the environment and socio-economic sphere will not cause more damage than it repairs.

whether or not the users of the water are bearing the costs incurred for the use of the water, which are largely paid through the prices for the water services. This is known as the cost recovery analysis.

PdM 2016-2021

Lastly, the economic tools can be used to justify exceptions in terms of deadlines and/or objectives (in conjunction with an environmental reason and/or technical feasibility) if they show that the completion of the required projects within the deadlines set by these projects would result in excessive costs.



Conclusion

The good status of the waters has not been attained. That's why the work must continue in consultation with the departments of the state, local government, farmers, industrialists and citizens. You are therefore being consulted in order to ensure a transparent decision-making process. Your opinion regarding the objectives and the resources required is of interest to us!

Appendices: (in bold, the water bodies concerned by a cross-border issue)

- State/ecological potential of the surface waters

WB no.	WB name	Ecological status objectives	grounds for exemption	
FRAR01	Channelised Aa	Good potential 2021		
FRAR02	River Aa	Good status 2015		
FRAR03	Airaines	Good status 2027	Technical feasibility natural conditions	Difficulties of on-site work on private land reaction time of the environment
FRAR04	Ancre	Good status 2027	Technical feasibility natural conditions	Difficulties of on-site work on private land reaction time of the environment
FRAR05	Authie	Good status 2015		
FRAR06	Avre	Good status 2021		
FRAR07	Upstream Sensée	Good status 2027	Technical feasibility natural conditions *disproportionate costs?*	Difficulties of on-site work on private land Long time taken to complete actions reaction time of the environment
FRAR08	Canal from Aire to La Bassée	Good potential 2027	Technical feasibility *disproportionate costs?*	Long time taken to complete actions
FRAR09	Hazebrouck Canal	less stringent	Technical feasibility *disproportionate costs?*	Long time taken to complete actions
FRAR10	Saint Quentin Canal	Good potential 2027	Technical feasibility *disproportionate costs?*	Long time taken to complete actions
FRAR11	Nord Canal	Good potential 2021		
FRAR12	Maritime canal	Good potential 2015		
FRAR13	Canche	Good status 2015		
FRAR14	Clarence	Good potential 2027	Technical feasibility Natural conditions *disproportionate costs?*	Difficulties of on-site work on private land Long time taken to complete actions reaction time of the environment
FRAR16	Cologne	Good potential 2027	Technical feasibility	Difficulties of on-site work on

			natural conditions *disproportionate costs?*	private land Long time taken to complete actions reaction time of the environment
FRAR17	The Deûle Canal up to the confluence with the Aire Canal	less stringent	Technical feasibility *disproportionate costs?*	Long time taken to complete actions
FRAR18	Ecaillon	Good status 2027	Technical feasibility natural conditions *disproportionate costs?*	Difficulties of on-site work on private land Long time taken to complete actions reaction time of the environment
FRAR19	Erclin	less stringent	Technical feasibility natural conditions *disproportionate costs?*	Difficulties of on-site work on private land Long time taken to complete actions reaction time of the environment
FRAR20	**Channelised Escaut from lock no. 5 Iwuy downstream to the confluence**	**Good potential 2027**	**Technical feasibility** ***disproportionate costs?***	**Long time taken to complete actions**
FRAR22	**Grande Becque**	**less stringent**	**Technical feasibility** ***disproportionate costs?***	**Difficulties of on-site work on private land** **Long time taken to complete actions**
FRAR23	Hallue	Good status 2015		
FRAR26	Hem	Good status 2015		
FRAR27	**Hogneau**	**Good status 2027**	**Technical feasibility** **natural conditions** ***disproportionate costs?***	**Difficulties of on-site work on private land** **Long time taken to complete actions** **reaction time of the environment**
FRAR28	Cayeux Canal	Good potential 2027	Technical feasibility *disproportionate costs?*	Difficulties of on-site work on private land Long time taken to complete actions
FRAR29	Upstream Lawe	Good status 2027	Technical feasibility natural conditions	Difficulties of on-site work on private land

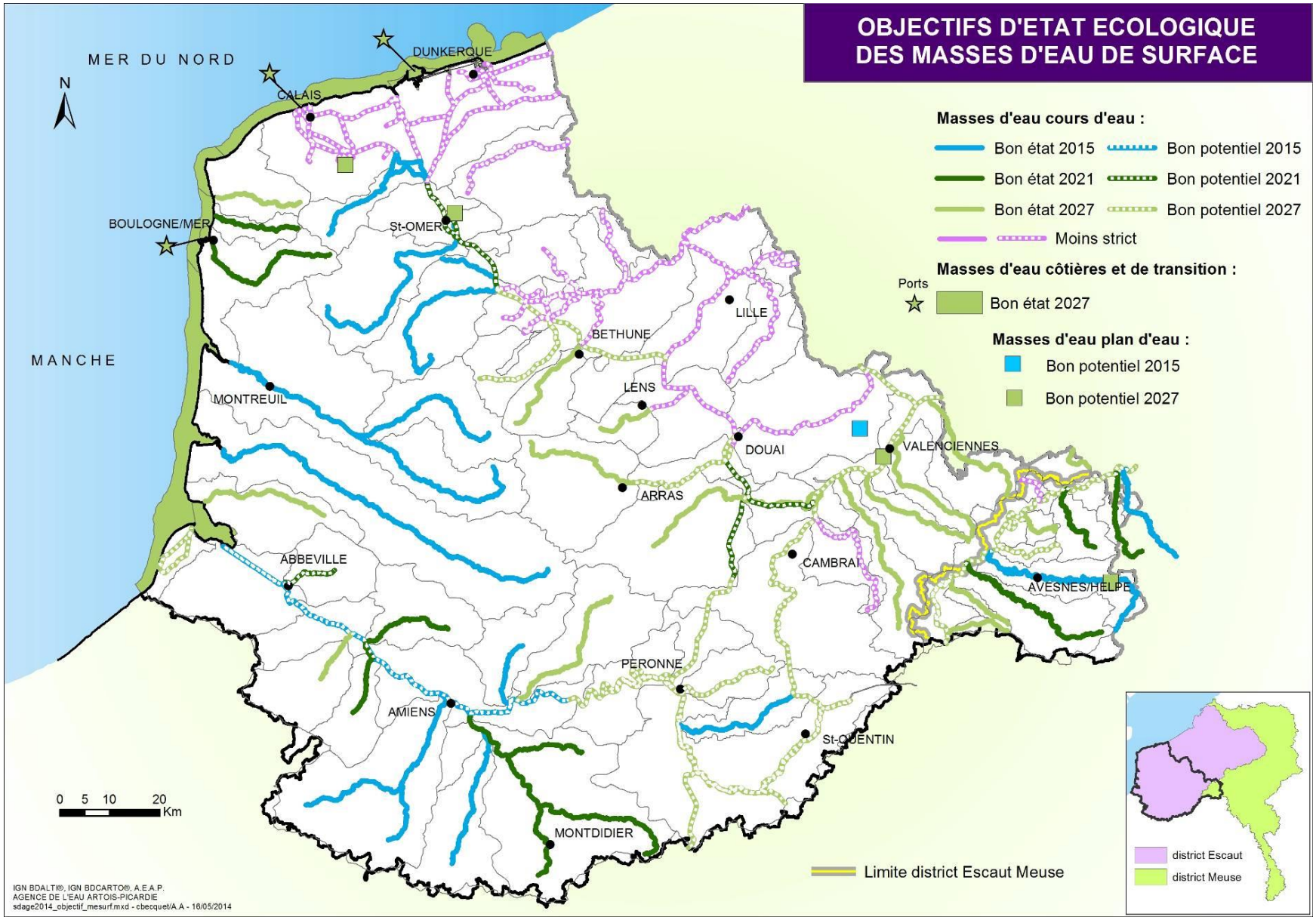
			disproportionate costs?	Long time taken to complete actions reaction time of the environment
FRAR30	Liane	Good status 2021		
FRAR31	**Channelised Lys**	**less stringent**	**Technical feasibility** ***disproportionate costs?***	**Difficulties of on-site work on private land** **Long time taken to complete actions**
FRAR32	**Deûle**	**less stringent**	**Technical feasibility** ***disproportionate costs?***	**Long time taken to complete actions**
FRAR33	**Channelised Lys from the Noeud d'Aire to the lock no. 4 Merville downstream**	**less stringent**	**Technical feasibility** ***disproportionate costs?***	**Difficulties of on-site work on private land** **Long time taken to complete actions**
FRAR34	**Marque**	**less stringent**	**Technical feasibility** **natural conditions** ***disproportionate costs?***	**Difficulties of on-site work on private land** **Long time taken to complete actions** **reaction time of the environment**
FRAR35	Maye	Good status 2027	Technical feasibility natural conditions *disproportionate costs?*	Difficulties of on-site work on private land Long time taken to complete actions reaction time of the environment
FRAR36	River Lys	Good status 2015		
FRAR37	Nièvre	Good status 2021		
FRAR38	Noye	Good status 2015		
FRAR40	Omignon	Good status 2015		
FRAR41	Rhonelle	Good status 2027	Technical feasibility natural conditions *disproportionate costs?*	Difficulties of on-site work on private land Long time taken to complete actions reaction time of the environment
FRAR43	River Scarpe	Good status 2027	Technical feasibility natural conditions	Difficulties of on-site work on private land

			disproportionate costs?	Long time taken to complete actions reaction time of the environment
FRAR45	Saint Landon	Good status 2021		
FRAR47	Scardon	Good potential 2021		
FRAR48	Channelised upstream Scarpe	Good potential 2027	Technical feasibility *disproportionate costs?*	Long time taken to complete actions
FRAR49	**Channelised downstream Scarpe**	**less stringent**	**Technical feasibility** ***disproportionate costs?***	**Difficulties of on-site work on private land** **Long time taken to complete actions**
FRAR50	Selle/Escaut	Good status 2027	Technical feasibility natural conditions *disproportionate costs?*	Difficulties of on-site work on private land Long time taken to complete actions reaction time of the environment
FRAR51	Selle/Somme	Good status 2015		
FRAR52	Downstream Sensée	Good potential 2027	Technical feasibility *disproportionate costs?*	Long time taken to complete actions
FRAR53	Slack	Good status 2027	Technical feasibility natural conditions *disproportionate costs?*	Difficulties of on-site work on private land Long time taken to complete actions reaction time of the environment
FRAR55	Channelised Somme	Good potential 2015		
FRAR56	Channelised upstream Somme	Good potential 2027	Technical feasibility *disproportionate costs?*	Long time taken to complete actions
FRAR57	Middle Somme	Good potential 2027	Technical feasibility *disproportionate costs?*	Long time taken to complete actions
FRAR58	Souchez	Good status 2027	Technical feasibility natural conditions	Difficulties of on-site work on private land reaction time of the environment
FRAR61	**The Aa delta**	**less stringent**	**Technical feasibility** ***disproportionate costs?***	**Difficulties of on-site work on private land** **Long time taken to complete actions**

FRAR62	Wimereux	Good status 2021		
FRAR63	**Yser**	**less stringent**	**Technical feasibility** **natural conditions** ***disproportionate costs?***	**Difficulties of on-site work on private land** **Long time taken to complete actions** **reaction time of the environment**
FRAR64	**Roubaix/Espierre Canal**	**less stringent**	**Technical feasibility** ***disproportionate costs?***	**Long time taken to complete actions**
FRAR65	**Trouille**	**Good status 2027**	**Technical feasibility** **natural conditions** ***disproportionate costs?***	**Difficulties of on-site work on private land** **Long time taken to complete actions** **reaction time of the environment**
FRAR66	Ternoise	Good status 2015		
FRB2R15	Cligneux	Good status 2027	Technical feasibility natural conditions *disproportionate costs?*	Difficulties of on-site work on private land Long time taken to complete actions reaction time of the environment
FRB2R21	Flamenne	less stringent	Technical feasibility natural conditions *disproportionate costs?*	Difficulties of on-site work on private land Long time taken to complete actions reaction time of the environment
FRB2R24	**Helpe major**	**Good status 2015**		
FRB2R25	Helpe minor	Good status 2021		
FRB2R39	**Thure**	**Good status 2021**		
FRB2R42	River Sambre	Good status 2027	Technical feasibility natural conditions *disproportionate costs?*	Difficulties of on-site work on private land Long time taken to complete actions reaction time of the environment
FRB2R44	Rivièrette	Good status 2027	Technical feasibility natural conditions	Difficulties of on-site work on private land

			disproportionate costs?	Long time taken to complete actions reaction time of the environment
FRB2R46	**Channelised Sambre**	**Good potential 2027**	**Technical feasibility** ***disproportionate costs?***	**Difficulties of on-site work on private land** **Long time taken to complete actions**
FRB2R54	Solre	Good status 2021		
FRB2R59	Tarsy	Good potential 2027	Technical feasibility natural conditions	Difficulties of on-site work on private land reaction time of the environment
FRB2R60	**Hante**	**Good status 2015**		
FRAC01	**Belgian frontier - Malo**	**Good status 2027**	**natural conditions**	**Influence of the continental and marine upstream flows**
FRAC02	Malo - Gris-Nez	Good status 2027	natural conditions	Influence of the continental and marine upstream flows
FRAC03	Gris-Nez - Slack	Good status 2027	natural conditions	Influence of the continental and marine upstream flows
FRAC04	Slack - La Warenne	Good status 2027	natural conditions	Influence of the continental and marine upstream flows
FRAC05	La Warenne - Ault	Good status 2027	natural conditions	Influence of the continental and marine upstream flows
FRAT01	Somme Bay	Good status 2027	natural conditions	Influence of the continental and marine upstream flows
FRAT02	Port of Boulogne-sur-mer	Good status 2027	natural conditions	Influence of the continental and marine upstream flows
FRAT03	Port of Calais	Good status 2027	natural conditions	Influence of the continental and marine upstream flows
FRAT04	Port of Dunkerque	Good status 2027	natural conditions	Influence of the continental and marine upstream flows
FRAL01	Romelaere	Good potential 2027	natural conditions	long reaction times of these closed environments
FRAL02	Mare à Goriaux	Good potential attained in 2015		
FRAL03	The Vignoble Lake	Good potential 2027	natural conditions	long reaction times of these closed environments
FRAL04	Ardres Lake	Good potential 2027	natural conditions	long reaction times of these

				closed environments
FRB2L05	Val Joly	Good potential 2027	natural conditions	long reaction times of these closed environments


OBJECTIFS D'ETAT ECOLOGIQUE
DES MASSES D'EAU DE SURFACE
MER DU NORD
MANCHE
N
DUNKERQUE
CALAIS
BOULOGNE/MER
St-OMER
BETHUNE
LILLE
LENS
MONTREUIL
DOUAI
VALENCIENNES
ARRAS
ABBEVILLE
CAMBRAI
AVESNES/HELPE
PERONNE
AMIENS
St-QUENTIN
MONTDIDIER
0 5 10 20
Km
Masses d'eau cours d'eau :
Bon état 2015
Bon potentiel 2015
Bon état 2021
Bon potentiel 2021
Bon état 2027
Bon potentiel 2027
Moins strict
Masses d'eau côtières et de transition :
Ports
Bon état 2027
Masses d'eau plan d'eau :
Bon potentiel 2015
Bon potentiel 2027
Limite district Escaut Meuse
district Escaut
district Meuse
IGN BDALTI®, IGN BDCARTO®, A.E.A.P.
AGENCE DE L'EAU ARTOIS-PICARDIE
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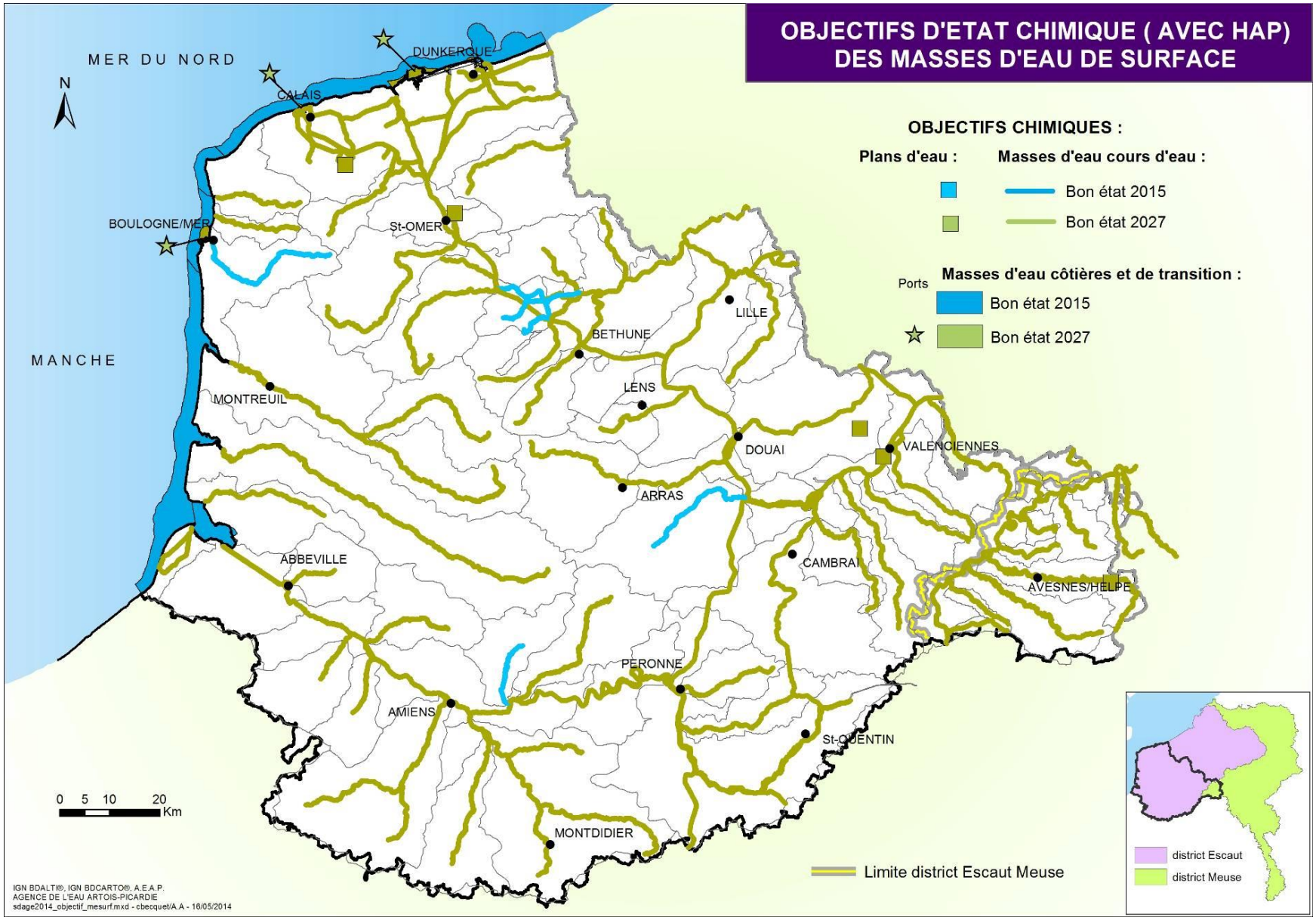
- Chemical status of the surface waters

		Objectives regarding the chemical status of the surface water bodies			
WB no.	**NAME**	**with ubiquist substance**	**without ubiquist substance**	**grounds for exemption**	
FRAR01	Channelised Aa from the confluence with the Neufossee canal to the confluence with the Haute Colme canal	good status 2027	good status 2027	technical feasibility	Pollution coming from numerous diffuse sources
FRAR02	River Aa	good status 2027	Good status attained in 2015		
FRAR03	Airaines	good status 2027	Good status attained in 2015		
FRAR04	Ancre	good status 2027	Good status attained in 2015		
FRAR05	Authie	good status 2027	Good status attained in 2015		
FRAR06	Avre	good status 2027	good status 2027	technical feasibility	Pollution coming from numerous diffuse sources
FRAR07	Upstream Sensée	Good status attained in 2015	Good status attained in 2015		
FRAR08	Canal from Aire to La Bassée	good status 2027	good status 2027	technical feasibility	Pollution coming from numerous diffuse sources
FRAR09	Hazebrouck canal	good status 2027	Good status attained in 2015		
FRAR10	Saint Quentin canal from the lock no. 18 Lesdins downstream to the channelised Escaut at the level of the lock no. 5 Iwuy downstream	good status 2027	Good status attained in 2015		
FRAR11	Nord Canal	good status 2027	Good status attained in 2015		
FRAR12	Maritime canal	good status 2027	Good status attained in 2015		
FRAR13	Canche	good status 2027	Good status attained in 2015		
FRAR14	Upstream Clarence	good status 2027	Good status attained in 2015		
FRAR16	Cologne	good status 2027	Good status attained in 2015		
FRAR17	The Deûle Canal up to the confluence with the Aire Canal	good status 2027	good status 2027	technical feasibility	Pollution coming from numerous diffuse sources
FRAR18	Ecaillon	good status 2027	good status 2027	technical feasibility	Pollution coming from numerous diffuse sources
FRAR19	Erclin	good status 2027	good status 2027	technical feasibility	Pollution coming from

					numerous diffuse sources
FRAR20	**Channelised Escaut from lock no. 5 Iwuy downstream to the border**	**good status 2027**	**Good status attained in 2015**		
FRAR22	**Grande becque**	**good status 2027**	**good status 2027**	**technical feasibility**	**Pollution coming from numerous diffuse sources**
FRAR23	Hallue	Good status attained in 2015	Good status attained in 2015		
FRAR26	Hem	good status 2027	Good status attained in 2015		
FRAR27	**Hogneau**	**good status 2027**	**Good status attained in 2015**		
FRAR28	Cayeux Canal	good status 2027	Good status attained in 2015		
FRAR29	Upstream Lawe	good status 2027	Good status attained in 2015		
FRAR30	Liane	Good status attained in 2015	Good status attained in 2015		
FRAR31	**Channelised Aa from the lock no. 4 Merville downstream to the confluence with the Deule canal**	**good status 2027**	**Good status attained in 2015**		
FRAR32	**Channelised Deule from the confluence with the Aire canal to the confluence with the Lys canal**	**good status 2027**	**good status 2027**	**technical feasibility**	**Pollution coming from numerous diffuse sources**
FRAR33	**Channelised Lys from the Noeud d'Aire to the lock no. 4 Merville downstream**	**Good status attained in 2015**	**Good status attained in 2015**		
FRAR34	**Marque**	**good status 2027**	**good status 2027**	**technical feasibility**	**Pollution coming from numerous diffuse sources**
FRAR35	Maye	good status 2027	Good status attained in 2015		
FRAR36	River Lys	good status 2027	Good status attained in 2015		
FRAR37	Nievre	good status 2027	Good status attained in 2015		
FRAR38	Noye	good status 2027	Good status attained in 2015		
FRAR40	Omignon	good status 2027	Good status attained in 2015		
FRAR41	Rhonelle	good status 2027	Good status attained in 2015		
FRAR43	River Scarpe	good status 2027	Good status attained in 2015		
FRAR45	Saint-landon	good status 2027	Good status attained in 2015		
FRAR47	Scardon	good status 2027	Good status attained in 2015		

FRAR48	Channelised upstream Scarpe	good status 2027	Good status attained in 2015		
FRAR49	**Channelised downstream Scarpe**	**good status 2027**	**Good status attained in 2015**		
FRAR50	Selle/escaut	good status 2027	good status 2027	technical feasibility	Pollution coming from numerous diffuse sources
FRAR51	Selle/somme	good status 2027	Good status attained in 2015		
FRAR52	Downstream Sensée	good status 2027	Good status attained in 2015		
FRAR53	Slack	good status 2027	Good status attained in 2015		
FRAR55	Channelised Somme from the lock no. 13 Sailly downstream to Abbeville	good status 2027	Good status attained in 2015		
FRAR56	Channelised Somme from the lock no. 18 Lesdins downstream to the confluence with the Nord canal	good status 2027	good status 2027	technical feasibility	Pollution coming from numerous diffuse sources
FRAR57	Channelised Somme from the confluence with the Nord canal to the lock no. 13 Sailly downstream	good status 2027	Good status attained in 2015		
FRAR58	Souchez	good status 2027	good status 2027	technical feasibility	Pollution coming from numerous diffuse sources
FRAR61	**The Aa delta**	**good status 2027**	**Good status attained in 2015**		
FRAR62	Wimereux	good status 2027	good status 2027	technical feasibility	Pollution coming from numerous diffuse sources
FRAR63	**Yser**	**good status 2027**	**good status 2027**	**technical feasibility**	**Pollution coming from numerous diffuse sources**
FRAR64	**Roubaix/Espierre Canal**	**good status 2027**	**Good status attained in 2015**		
FRAR65	**Trouille**	**good status 2027**	**Good status attained in 2015**		
FRAR66	Ternoise	good status 2027	Good status attained in 2015		
FRB2R15	Cligneux	good status 2027	Good status attained in 2015		
FRB2R21	Flamenne	good status 2027	Good status attained in 2015		
FRB2R24	**Helpe major**	**good status 2027**	**Good status attained in 2015**		
FRB2R25	Helpe minor	good status 2027	Good status attained in 2015		
FRB2R39	**Thure**	**good status 2027**	**Good status attained in 2015**		

FRB2R42	Sambre River	good status 2027	Good status attained in 2015		
FRB2R44	Rivierette	good status 2027	Good status attained in 2015		
FRB2R46	**Sambre**	**good status 2027**	**Good status attained in 2015**		
FRB2R54	Solre	good status 2027	Good status attained in 2015		
FRB2R59	Tarsy	good status 2027	Good status attained in 2015		
FRB2R60	**Hante**	**good status 2027**	**Good status attained in 2015**		
FRAC01	**Belgian frontier - Malo**	**Good status attained in 2015**	**Good status attained in 2015**		
FRAC02	Malo - Gris-Nez	Good status attained in 2015	Good status attained in 2015		
FRAC03	Gris-nez - slack	Good status attained in 2015	Good status attained in 2015		
FRAC04	Slack - la warenne	Good status attained in 2015	Good status attained in 2015		
FRAC05	La warenne - Ault	Good status attained in 2015	Good status attained in 2015		
FRAT01	Somme Bay	Good status attained in 2015	Good status attained in 2015		
FRAT02	Port of Boulogne-sur-mer	good status 2027	good status 2027	technical feasibility natural conditions	Pollution coming from numerous diffuse sources long reaction times of these closed environments
FRAT03	Port of Calais	good status 2027	good status 2027	technical feasibility natural conditions	Pollution coming from numerous diffuse sources long reaction times of these closed environments
FRAT04	Port of Dunkerque	good status 2027	good status 2027	technical feasibility natural conditions	Pollution coming from numerous diffuse sources long reaction times of these closed environments
FRAL01	Romelaere	good status 2027	Good status attained in 2015		
FRAL02	Mare à Goriaux	good status 2027	Good status attained in 2015		
FRAL03	The Vignoble Lake	good status 2027	Good status attained in 2015		
FRAL04	Ardres Lake	good status 2027	Good status attained in 2015		
FRB2L05	Val Joly	good status 2027	Good status attained in 2015		


OBJECTIFS D'ETAT CHIMIQUE (AVEC HAP)
DES MASSES D'EAU DE SURFACE
MER DU NORD
MANCHE
N
DUNKERQUE
CALAIS
BOULOGNE/MER
St-OMER
BETHUNE
LILLE
LENS
MONTREUIL
DOUAI
VALENCIENNES
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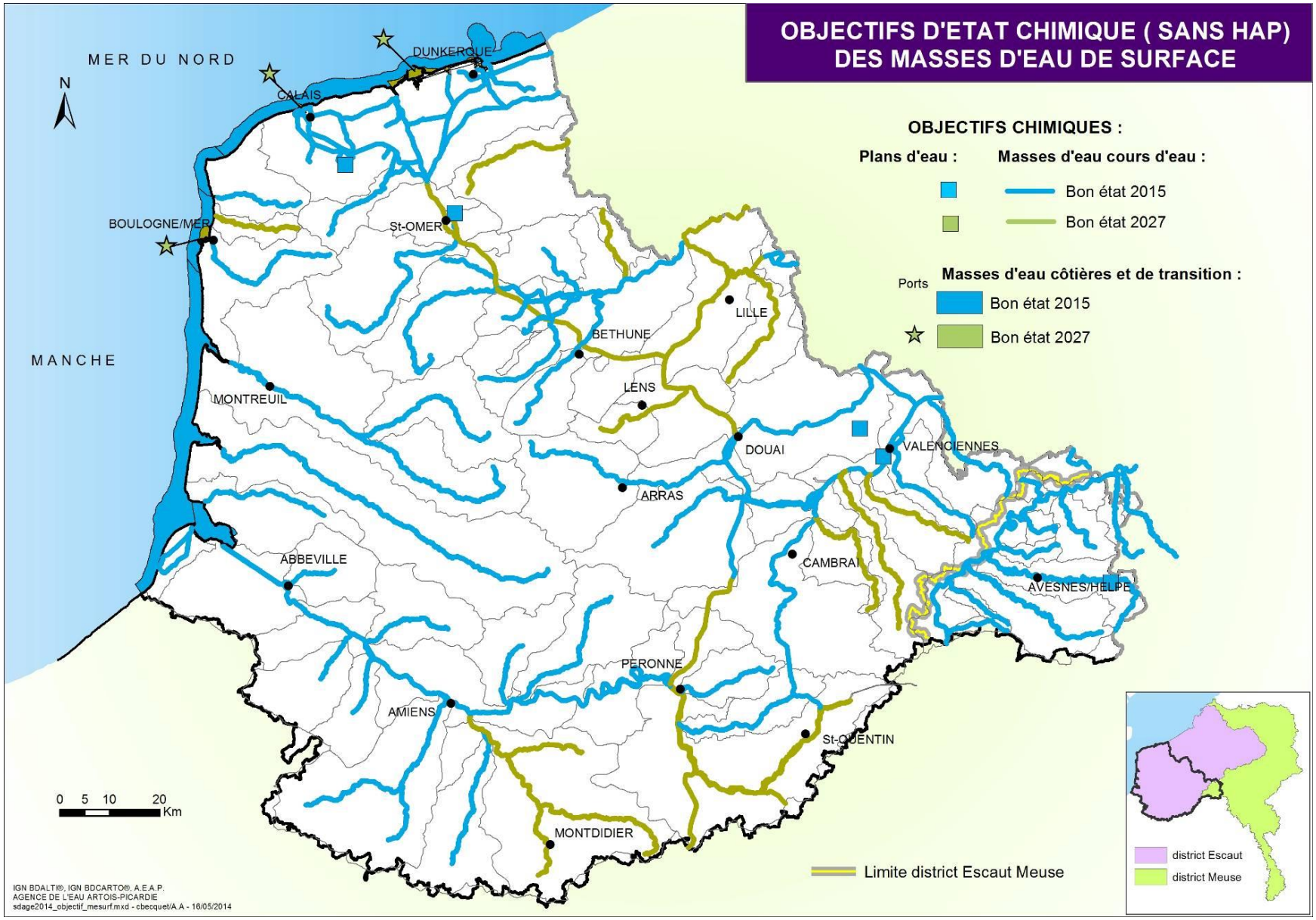
ABBEVILLE
CAMBRAI
AVESNES/HELPE
PERONNE
AMIENS
St-QUENTIN
MONTDIDIER
OBJECTIFS CHIMIQUES :
Plans d'eau :
Masses d'eau cours d'eau :
Bon état 2015
Bon état 2027
Masses d'eau côtières et de transition :
Ports
Bon état 2015
Bon état 2027
0 5 10 20
Km
Limite district Escaut Meuse
district Escaut
district Meuse
IGN BDALTI®, IGN BDCARTO®, A.E.A.P.
AGENCE DE L'EAU ARTOIS-PICARDIE
sdage2014_objectif_mesurf.mxd - cbecquet/A.A - 16/05/2014


OBJECTIFS D'ETAT CHIMIQUE (SANS HAP)
DES MASSES D'EAU DE SURFACE
OBJECTIFS CHIMIQUES :
Plans d'eau :
Masses d'eau cours d'eau :
Bon état 2015
Bon état 2027
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Ports
Bon état 2015
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MER DU NORD
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PERONNE
AMIENS
St-QUENTIN
MONTDIDIER
0 5 10 20
Km
Limite district Escaut Meuse
district Escaut
district Meuse
IGN BDALTI®, IGN BDCARTO®, A.E.A.P.
AGENCE DE L'EAU ARTOIS-PICARDIE
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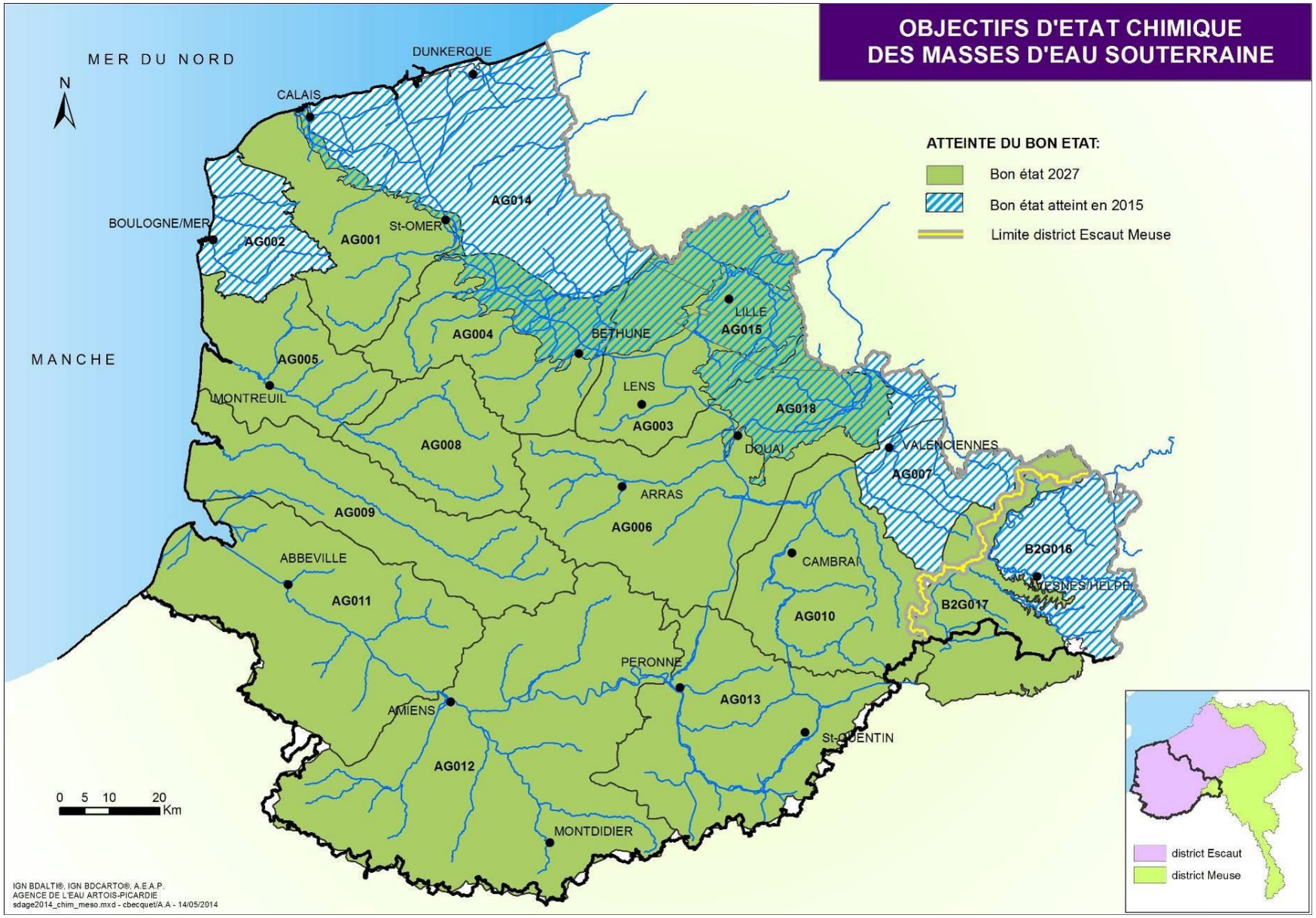
- Qualitative status of the groundwater

CODE	NAME	Qualitative status objectives	grounds for exemption	
AG001	Chalk of the Audomarois region	Good status 2027	natural conditions	Long reaction time for the chalk aquifer
AG002	Limestone of the Boulonnais region	Good status 2015		
AG003	Chalk of the Deûle Valley	Good status 2027	natural conditions	Long reaction time for the chalk aquifer
AG004	Chalk of the Artois and Lys Valley	Good status 2027	natural conditions	Long reaction time for the chalk aquifer
AG005	Chalk of the downstream Canche Valley	Good status 2027	natural conditions	Long reaction time for the chalk aquifer
AG006	Chalk of the Scarpe and Sensée valleys	Good status 2027	natural conditions	Long reaction time for the chalk aquifer
AG007	**Chalk of the Valenciennois region**	**Good status 2015**		
AG008	Chalk of the downstream Canche Valley	Good status 2027	natural conditions	Long reaction time for the chalk aquifer
AG009	Chalk of the Authie Valley	Good status 2027	natural conditions	Long reaction time for the chalk aquifer
AG010	Chalk of the Cambrésis region	Good status 2027	natural conditions	Long reaction time for the chalk aquifer
AG011	Chalk of the downstream Somme Valley	Good status 2027	natural conditions	Long reaction time for the chalk aquifer
AG012	Chalk up the middle valley of the Somme	Good status 2027	natural conditions	Long reaction time for the chalk aquifer
AG013	Chalk of the upstream Somme Valley	Good status 2027	natural conditions	Long reaction time for the chalk aquifer
AG014	**Sands of the Landénien des Flandres**	**Good status 2015**		
AG015	**Carboniferous Limestone of Roubaix-Tourcoing**	**Good status 2015**		
B2G016	**Limestone of the Avesnois region**	**Good status 2015**		
B2G017	Edge of the Hainaut	Good status 2027	natural conditions	Long reaction time for the chalk aquifer
AG018	**Sands of the Landénien d'Orchies**	**Good status 2015**		


OBJECTIFS D'ETAT CHIMIQUE
DES MASSES D'EAU SOUTERRAINE
ATTEINTE DU BON ETAT:
Bon état 2027
Bon état atteint en 2015
Limite district Escaut Meuse
MER DU NORD
MANCHE
N
DUNKERQUE
CALAIS
BOULOGNE/MER
St-OMER
LILLE
BETHUNE
LENS
DOUAI
VALENCIENNES
ARRAS
CAMBRAI
AVESNES/HELPE
ABBEVILLE
PERONNE
AMIENS
St-QUENTIN
MONTDIDIER
MONTREUIL
AG001
AG002
AG003
AG004
AG005
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AG007
AG008
AG009
AG010
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AG012
AG013
AG014
AG015
AG018
B2G016
B2G017
0 5 10 20
Km
district Escaut
district Meuse
IGN BDALTI®, IGN BDCARTO®, A.E.A.P.
AGENCE DE L'EAU ARTOIS-PICARDIE
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- Quantitative status of the groundwater

CODE	NAME	Quantitative status objective	grounds for exemption	
AG015	**Carboniferous Limestone of Roubaix-Tourcoing**	**Good status 2027**	**natural conditions**	**significant time needed to restore the initial level of the groundwater**