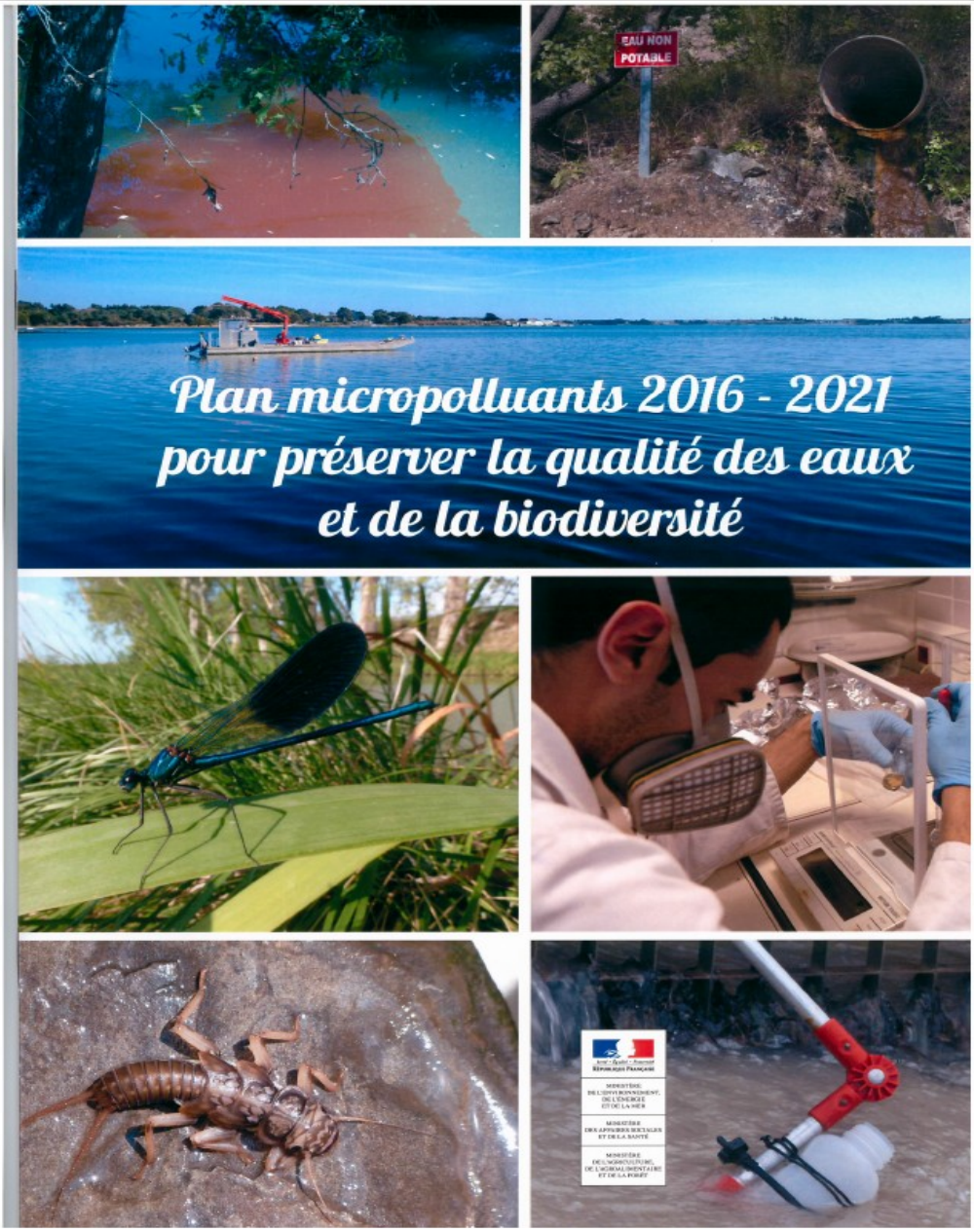
MINISTRY OF ENVIRONMENT, ENERGY AND SEA

MINISTRY OF HEALTH, SOCIAL AFFAIRS AND WOMEN'S RIGHTS

MINISTRY OF AGRICULTURE

# National plan against micropollutants 2016-2021

# to preserve water quality and biodiversity




*Translated and summarized version for WG Chemicals*

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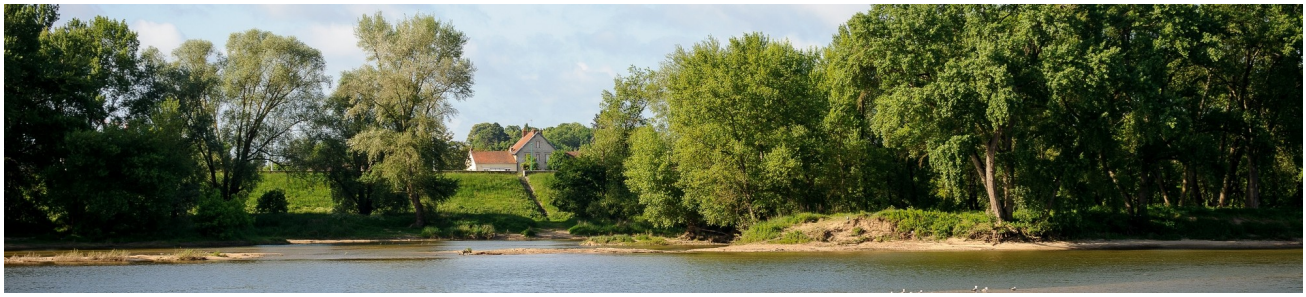
# DEFINITION

A micropollutant can be described as an undesirable substance that can be detected in the environment at very low concentrations (micrograms to nanograms per liter). Its presence is in part due to human activity (industrial processes, agricultural practices or everyday activities) and can have adverse effects – even at those very low concentrations – on living organisms because of its toxicity, persistence and bioaccumulation. Numerous molecules with various chemical properties can be included in that definition (more than 110 000 molexules are identified by European regulation). They can be organic or inorganic, biodegradable or not such as plasticizers, detergents, metals, hydrocarbons, pesticides, cosmetics or pharmaceuticals.



# The new national plan against micropollutants

**A new plan built on the results and experiences of previous plans**

Until then, specific crisis as well as the variety of chemical families had led public authorities to organize their action around three plans:

- National plan against PCB
- National plan against micropollutants
- National plan against pharmaceutical residues

The goal of the new plan against micropollutants 2016-2021 is to adress all types of molecules that could result in water pollution. This new plan is dedicated to protecting coastal and inland surface waters, groundwaters, biota, sediments and water for human consumption. It aims to achieve Water Framework Directive (WFD) objectives of good water status and contributes to Marine Strategy Framework Directive (MSFD) by limiting input of pollutants from river waters to marine waters.

The three plans mentionned above have ended, prompting the creation of a new, unique plan to reduce micropollutant emissions in order to protect water quality and biodiversity. This new plan was designed by the Ministries of Environment, Health and Agriculture, with contributions from all relevant actors. Pilots from the previous plans were interviewed to better identify expectations and needs. The ministries, research and development institutes, national agencies and other relevant actors then drafted action sheets to answer those needs.

### 1.1. Articulation with other plans and national strategies

This plan reinforces the readability and transparency of governmental action when it comes to preserving water quality and biodiversity.

It follows the publication in May 2014 of the National Strategy on Endocrine Disruptors and is included in the 3rd National Plan for Health and Environment, launched in december 2014. Those two plans are closely linked and many actions from one contribute to the other.

Other national plans are mentionned here considering how several actions included in their objectives contribute to the decrease of water pollution. In particular, Ecophyto plans 1 and 2 for the reduction of pollutions by phytopharmaceutical products and two national plans on antibiotic consumption (both veterinary and human) are among those strategies that will synergize with this new plan.

As we are implementing the new River Basin Management Plans and Action Plans for Marine Environment 2016-2021, in accordance to WFD and MSFD, the plan allows us to display our ambitions regarding the reduction of emissions and preservation of water quality. It also facilitates territorial implementation of measures regarding pollution caracterisation and identification of relevant and cost-efficient actions of prevention.

In 2013, the National Office for Water and Aquatic Environments (ONEMA), the water agencies and the Ministry of Environment launched a call for projects about “Innovation and practice change: micropollutants in urban waters” for an amount of 10 million euros. In 2014, 13 projects were selected, many of which will contribute to a number of actions of this plan.

Actions on pharmaceutical residues will be complemented by the strategy that the European Commission should develop to fight against water pollution by pharmaceutical products within the context of the second WFD cycle.

With a view to the WFD review that will take place in 2019, new elements might be introduced to the plan during the 2016-2021 period. Any other new action not included in the plan at this point but that demonstrate its contribution the objectives of the plan can also be included during years to come. There will be a midway review to take into account research and development studies funded by ONEMA for the 2019-2021 period. The scientific comity of the new French Agency for Biodiversity will be consulted at that time.

### 1.2. Governance

A steering committee will meet at least once a year to report on the advancement of actions. It will be chaired by the Ministry of Environment, with the support of the Ministries of Health and Agriculture. Ad hoc thematic committees may be created, regrouping several actions or objectives if needed. Pilots will rely on action leaders to organize these ad hoc committees. The overall steering architecture is the following:

Objective 1: Water and Biodiversity department

Objective 2: National Office for Water and Aquatic Environments

Objective 3: Water and Biodiversity department

### 1.3. A plan that focuses on reducing emissions at the source

The cost of water pollution by micropollutants remains high: for example, eliminating one kilogram of pesticides in water to produce potable water costs between 60 000 and 200 000 euros (http://www.developpement-durable.gouv.fr/Couts-des-principales-pollutions.html).

The cube meter cost of curative treatment is 2.5 as high as that of preventive treatment (source : French Court of Auditors).

The cost of measures aiming at restoring good water status is far superior to the cost of water monitoring. The estimated cost of WFD monitoring is around 30.5 million euros per year, to which we must add an additionnal 15 million for additionnal monitoring networks between 2007 and 2010. In comparison, the budget for the program of measures amounts to 27 billion euros between 2010 and 2015 (http://www.reseau.eaufrance.fr/webfm_send/2480).

Between 1998 and 2008, close to 400 catchments (out of 34 000) were abandoned each year: problems linked to water quality were the first cause of for this situation (41%). Diffuse pollution from agriculture (nitrates and/or pesticides) are the main cause of water quality problems and catchment abandonment (19%). This data was gathered by the Ministry of Health in 2009.

That is why the ministry of environment, together with the ministry of health and the ministry of agriculture, have decided to develop a plan that is primarily focused on tackling micropollutant emissions at the source.

### 1.4. Structure of the plan : Reduce, Know, Prioritize

The new plan against micropollutants to preserve water quality and biodiversite revolves around 3 objectives, 14 levers and 39 actions.The first objective develops practical actions to reduce emissions that have already been identified. The second objective includes numerous research and development actions which aim at identifying substances present in water, sediment or biota and at characterizing the danger they represent. The third objective establishes lists of pollutants that should be adressed, using work done thourhg objective 2.

**OBJECTIVE 1- REDUCE NOW THE EMISSIONS OF RELEVANT MICROPOLLUTANTS FOUND IN WATER AND AQUATIC ENVIRONMENTS**

Sub-objective 1 - Limit emissions and discharges

Sub-objective 2 - Educate a wide audience to water pollution

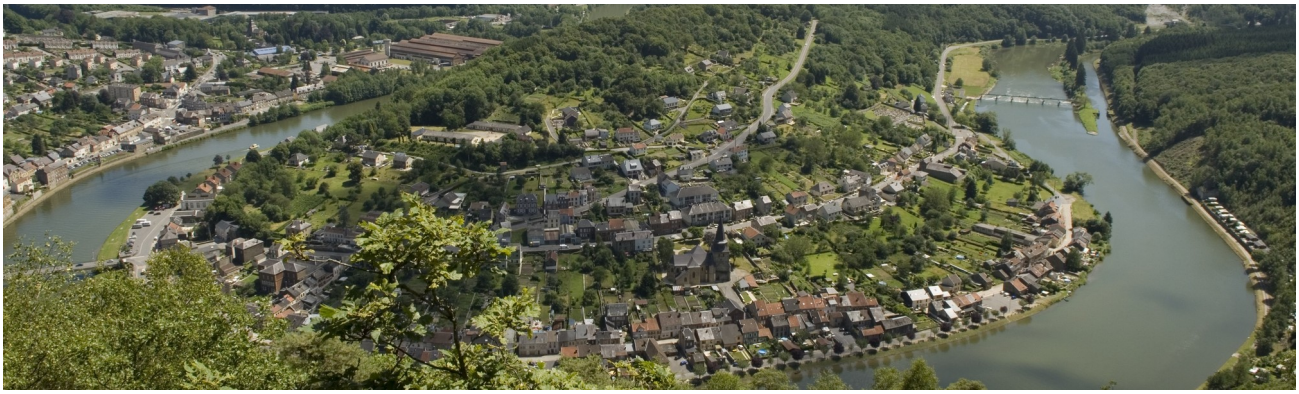
**OBJECTIVE 2- STRENGTHEN KNOWLEDGE TO BETTER TACKLE WATER POLLUTION AND TO PRESERVE BIODIVERSITY**

Sub-objective 1- Improve our knowledge of emissions and predict occurrence of micropollutants in water and aquatic environments

Sub-objective 2 – Better assess the impacts of micropollutants on the quality of resources and the effects on human and environmental health

**OBJECTIVE 3 - PRIORITZE POLLUTANTS THAT NEED TO BE ADDRESSED**

All actions are detailed in action sheets that are public and attached to the plan. Those sheets develop the stakes, context, implementation, governance, partners, schedule and budget of each action.



## Reduction targets and efficiency indicators of the plan

### 1.5. Reduction targets

A circular by the Water and Biodiversity Department lists the national reduction targets for the second WFD cycle regarding prioritzy substances, priority hazardous substances and river-basin specific pollutants (http://www.assainissement.developpement-durable.gouv.fr/recueil/05_substances_dangereuses/Note%20technique%20DEVL1429906N.pdf )

To sum up:

- Emissions and discharges of priority hazardous substances registered in 2000 by the WFD must be suppressed by 2021;

- Emissions and discharges of anthracene and river-basin specific pollutants listed for the 2009-2015 cycle must be cut by 30% by 2021 except for linuron and chlordecone which are already banned;

- Emissions and discharges of DEHP, the 12 new priority substances listed in the 2013/39 Directive, river-basin specific pollutatins from the 2016-2022 cycle and the priority substances from the 2009-2015 cycle must be cut by 10% by 2021.

For substances of national concern that are not part of water status assessment through the WFD, public authorities are implementing specific monitoring throughout the second cycle. Meanwhile, national research institutes will need to develop environmental standards for those substances, should they enter regulation in the next cycle.

The plan against micropollutants also targets specific molecules marked as high-priority by the government during the Environmental Conference: perchlorates, bisphenol A and nitrosamines, parabens and phtalates).

One of the existing levers regarding reduction or suppression of emissions is to act on marketing authorization. Monitoring of emerging substances, river basin pollutants and priority substances is a great source of data to provide during marketing authorization or reviews of such authorizations.

The River-Basin Management Plans (RBMP) and Program of Measures contribute greatly to this objective. They are based on the analysis of surface water bodies and national reduction targets.

Several pollution tax such as the plant-protection products tax or the industry tax that includes a hazardous substance parameter are used to fund studies and measures on micropollutants.

The valuation of the European ecolabel on industrial products also encourages voluntary measures to reduce micropollutant contamination.

### 1.6. Efficiency indicators

Apart from the usual indicators on good chemical and ecological status of water bodies, several other efficiency indicators will be evaluated :

1 - Indicators on the reduction of pesticides emissions :

The indicators are those used in the Ecophyto Plan, still under discussion.

2 - Indicators on the reduction of micropollutant emissions :

This indicator will be based on the WFD inventory of emissions. It will take into account the number of substances included in the inventory as well as the evolution of flows (by substance and by emission path). This information will be extracted from the inventory of emissions implemented for the first and second WFD cycle.

3 - Indicators on the improvement on aquatic environments status :

Those indicators apply to all substances monitored through national networks (inland, coastal and ground waters).

The first indicator will be the frequency of quantification on all matrixes (water, sediment or biota), as well as threshold exceedance. This type of work is already implemented by the Observation and Statistics Department of the Ministry for all micropollutants. The information will be made available under various forms, such as a number of substances by frequency of quantification class.

The second indicator will be the frequency of EQS exceedance for priority substances and river-basin specific pollutants, according to the WFD status assessment rules. This may be complemented by threshold exceedance for selected substances of interest. Those frequencies will be considered for each parameter as well as over time to appreciate whether or not the level of exceedance is diminishing.

## 39 actions to preserve water quality and biodiversity

The detailed architecture of the plan can be found below. Each action comes with an action sheet that specifies its context, stakes, implementation, pilot and partners, expected results and indicators, calendar and funding.

### OBJECTIVE 1- REDUCE NOW THE EMISSIONS OF RELEVANT MICROPOLLUTANTS FOUND IN WATER AND AQUATIC ENVIRONMENTS

**Action 1** : Write an operational guide on individual or appropriate systems (IAS) for municipalities in order to motivate practice changes

**Action 2** : Implement the national guide on handling pharmaceutical waste and liquid waste in healthcare facilities

**Action 3** : Pursue the decontamination plan of devices containing PCB between 50 and 500 ppm and improve the environmental monitoring of facilities using PCB

**Action 4** : Consolidate the monitoring of industrial discharges and implement reduction plans according to the results of the hazardous substances research action for industrial plants and nuclear electricity production plants

**Action 5** : Handle contaminated sediments with care during disruptive operations (dredging) and promote non hazardous contaminated sediments onland

**Action 6** : Implement demonstrators of good practices regarding the reduction of micropollutant emissions in several craft professions

**Action 7** : Assess the management of unused pharmaceuticals in healthcare facilities and suggest evolutions

**Action 8** : Draw conclusions on the single unit drug delivery experiment

**Action 9** : Assess the relevance of the swedish ranking of active substances based on their impact on the environment and the acceptability of suck a ranking for pharmaceuticals by health professionals in France

**Action 10** : Protect 1000 priority catchments against nitrates and pesticides

**Action 11** : Develop and implement a training strategy to support the plan

**Action 12** : Improve information on water status

**Action 13** : Improve our way to communicate with the public, the professionals and the municipalities

**Action 14** : Publish and broadcast guides capitalizing on the experience of the 13 innovating municipalities selected for the 2014 call for projects entitled «Innovation and practive changes : micropollutant in urban waters»

**Action 15** : Understand how citizens perceive the stakes of micropollutant contamination of waters and identify opportunities for behavioral changes

### OBJECTIVE 2- STRENGTHEN KNOWLEDGE TO BETTER TACKLE WATER POLLUTION AND TO PRESERVE BIODIVERSITY

**Action 16** : Better assess emissions through urban rainwaters, agricultural runoff and dredging, industrial and urban wastewaters

**Action 17** : Pursue the research of hazardous substances in untreated and treated waters in wastewater treatment plants

**Action 18** : Analyze new solutions, upstream and downstream of WWTP

**Action 19** : Build a methodology to promote and recycle non hazardous mineral waste for marine or immersed constructions

**Action 20** : Assess the impact of used tires in rainwaters storage structures

**Action 21** : Better characterize mercury flows downstream of former mining sites in French Guyana

**Action 22** : Improve the reliability of monitoring data to support national and local authorities as well as field operators

**Action 23** : Use our environmental samples banks to improve our knowledge of contamination trends

**Action 24** : Better understand contamination levels for crucial pollutants and better understand transfers between the various environmental compartments

**Action 25** : Assess innovative diagnosis and monitoring technologies

**Action 26** : Pursue a prospective monitoring strategy on emerging pollutants in river waters, catchments and coastal waters

**Action 27** : Inventorize and characterize storage sites of residues from former extractive industries

**Action 28** : Establish a map of groundwaters impacted by perchlorate ions from agriculture, those impacted by the destruction of ammunitions from the great wars and define their micropollutants signatures

**Action 29** : Assess mixture effects of micropollutants on aquatic flora and fauna, espcially those linked with endocrine disruption

**Action 30** : Improve the periodic diagnosis implemented for the water framework directive

**Action 31** : Work on data sharing to improve our knowledge of danger and exposure regarding human and veterinarian pharmaceutical residues in waters

**Action 32** : Pursue the development and update of platforms for chemicals data

**Action 33** : Capitalize on international studies and experience about health and environmental risks regarding micropollutants in waters

**Action 34** : Derive threshold values and methodologies to better assess water quality taking into account endocrine disruptors and relevant metabolites

**Action 35** : Assess healthcare issues related to micropollutants occurrence in waters for human consumption

### Objective 3- Prioritize pollutants that need to be addressed

**Action 36** : Identify metabolites of pharmaceutical products and assess analytical capacities in order to establish an early monitoring

**Action 37** : Rank chemicals based on the need for environmental knowledge

**Action 38** : Rank chemicals based on the risk of non achievement of good statuts (surface and ground waters)

**Action 39** : Rank chemicals based on the need and feasibility of emission reduction