



PUBLIC ENTITIES AND POLICIES

# EVALUATION OF PUBLIC POLICY TO COMBAT THE PROLIFERATION OF GREEN ALGAE IN BRITTANY

Thematic public report

Summary

July 2021

The purpose of this summary is to facilitate the reading and use of the Court of Auditors' report.

Only the report is binding on the Court of Auditors.

The responses given by the relevant administrations, organisations and communities are included at the end of the report.

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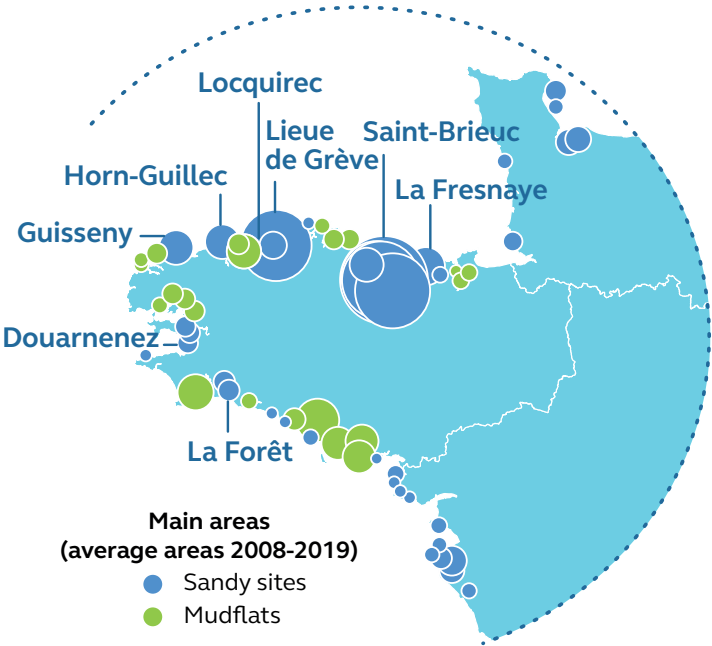
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# Introduction

The massive proliferation of green algae has affected many sites on the coasts of Brittany since the seventies. These strandings of green algae, also called “greentides”, have important consequences in terms of health, costs and image for the concerned areas and for Brittany. It is worth recalling the accidental deaths of joggers in Saint-Michel-en-Grève in 1989, then in Hillion in 2016, of dogs on a beach of Hillion in 2008, of an employee in charge of transporting green algae to Binic in 2009 and of a horse in Saint-Michel-en-Grève the same year, followed by the hospitalization of its rider.

Algae strandings observed between 2008 and 2019



Source : CEVA—processed and edited by the Cour des comptes—sandy sites and mudflats, in hectares

# Introduction

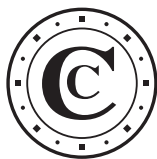
This proliferation also has an impact on ecosystems. It undermines the possibility of complying with the Water Framework Directive 2000/60/EC, which requires EU countries to achieve the good status of coastal water bodies by 2027 at the latest.

These consequences led the State and local authorities to set up, from 2010, two action plans to combat the phenomenon of green algae (PCGA) in eight territories and in conjunction with scientists, farmers' representatives and environmental associations. These plans followed earlier efforts to combat water pollution by nitrates from agricultural sources, including the "Prolittoral" program from 2002 to 2006, which concerned smaller areas. These action plans aimed at enhancing human health and the healthiness of the coastal area, by both improving the collection and disposal of green algae and preventing and reducing leakage of agricultural nitrogen that was responsible for nitrate concentrations in the streams of these eight bays.

Since 2010, the policy to combat the proliferation of green algae in Brittany has covered eight sandy bays and their watersheds located in the Côtes d'Armor and Finistère (see map above) and accounting for 7.3 % of the Utilized Agricultural Land (UAL), 10.5 % of farms and 6 % of the population of Brittany.

Focusing on the significant reduction in the proliferation of green algae, this evaluation is limited to the following three operational objectives: shifting agriculture towards production systems with very low nitrogen leakage, reconquering natural areas (wetlands, meadows, hedgerows, bocages) and strengthening scientific knowledge of the phenomenon. The evaluation time frame is 2010-2019, a period covering the two action plans : action plan 1 from 2010 to 2015, extended in 2016, and action plan 2 from 2017 to 2021.

In accordance with the standards for the conduct of public policy evaluations, particular attention has been paid to the compendium of views of stakeholders. A survey was conducted on the 2,784 farmers operating within the eight green algae bays to gather their views on plans to fight against green algae.



# 1 The proliferation of green algae : a scientifically explained phenomenon that particularly affects Brittany

## Scientific consensus on green tide analysis

The proliferation of green algae in Brittany is the result of a phenomenon of eutrophication of coastal waters, due to excessive nutrients (nitrogen and phosphorus) from coastal rivers, combined with a specific morphology of the bays concerned. Scientific research shows that only an action on nitrogen can limit this phenomenon and that nitrogen (nitrates) present in the bays is more than 90 % of agricultural origin. By contrast, phosphorus fluxes can hardly be controlled given the importance and persistence of phosphorus stocks in estuary sediments.

Some scientific and technical uncertainties remain over the response time of watersheds, the contribution of muddy sediments to nitrogen release, the determination of concentration or flux levels to be achieved to significantly reduce algae proliferation, and the methods for limiting the precocity and

intensity of green tides. They remain to be dispelled through further research and studies but they do not prevent the maintenance and strengthening of the objective of reducing nutrient loads in rivers, and in particular, nitrogen of agricultural origin which remains the priority means of action to stem the proliferation of green algae in Brittany.

## A slight downward trend in stranding of green algae on sandy sites and rising on some mudflats

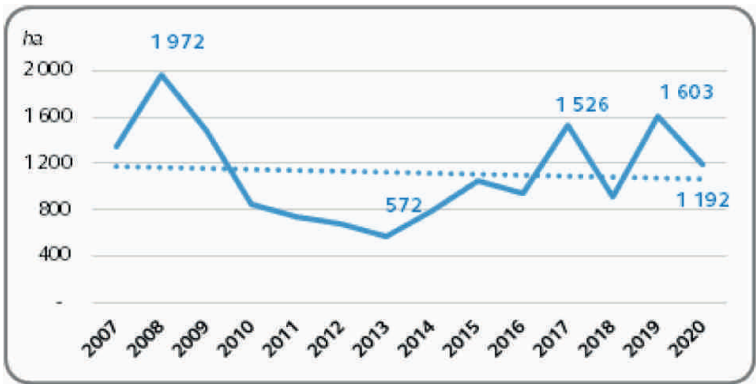
With regard to the results, the analysis of data on stranding surfaces and algae collection shows trends to be assessed with caution. Indeed, the level of annual stranding varies from one sector to another and from year to year, in particular depending on weather conditions (pluviometry, light, and temperature) and whether or not there is a stock of replenishment algae in the bays, at the end of winter.

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1 Eutrophication : excessive nutrient intake to water, resulting in plant proliferation, oxygen depletion and ecosystem imbalance

# The proliferation of green algae : a scientifically explained phenomenon that particularly affects Birttany

Evolution of the total area of green algae strandings on all eight green algae bays (hectares)



Source : Cour des comptes from CEVA (Algae study and valorization Center) data, stranding ulva surfaces in the eight green algae bays: sum of three annual inventories (May-July-September)

A slight overall downward trend in stranding areas and algae tonnage collected on sandy sites has been observed since 2007 throughout Brittany, particularly in the eight bays covered by the plan to combat green algae since 2010. However, new peaks were observed in 2017 and 2019. The Côtes d'Armor department remains the most affected by this phenomenon: alone, the bays of Saint Brieuc (56 %) and La Lieue de Grève (17 %) account for 73 % of the total stranding area of these eight bays. Due to the proliferation of green algae, the coastal water bodies of the eight bays covered by the action plan of 2010 remained classified in 2020 as "poor ecological status" or "moderate ecological status" (see map in Appendix 3).

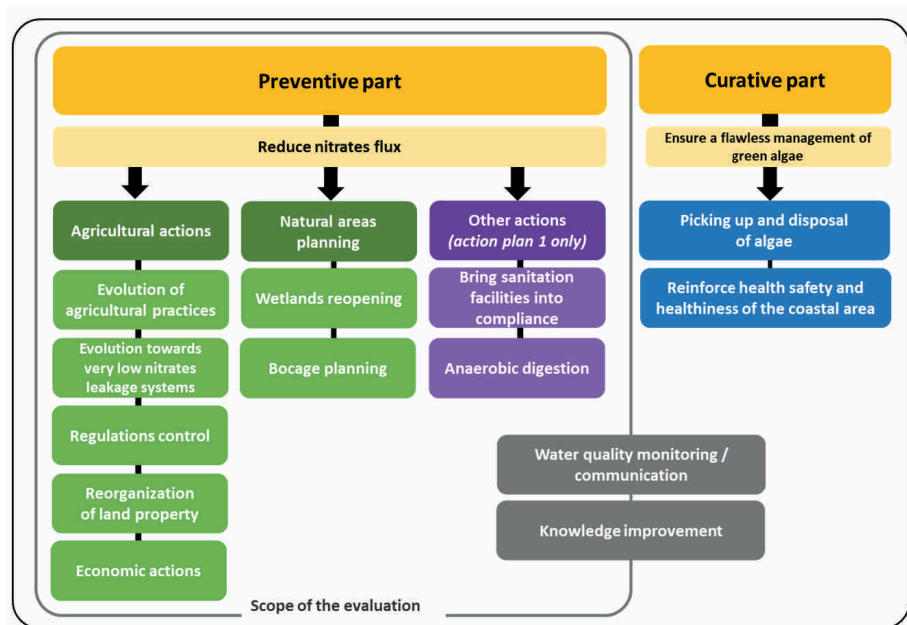
Conversely, at more than half of the main mudflat sites affected by stranding, a slight increase in areas has been observed since 2008. Morbihan alone accounts for 55 % of Breton stranding on mudflats, 34 % of which concern the Gulf of Morbihan. However, these mudflats are sensitive areas for public health because they can be dangerous for walkers and people fishing on the shore, given the risk of hydrogen sulphide emanations resulting from the mixing of accumulated vases and algae. The scope of actions to combat the proliferation of green algae should therefore be extended to sites of mudflat stranding.



## 2 A policy with poorly defined objectives and uncertain effects on water quality

Poorly defined objectives, whose ambition was further reduced between 2010 and 2017

Content of green algae control plans



Source : Cour des comptes

Summary of the Court of Auditors' thematic public report

The first action plan (2010-2015) did not set an explicit quantitative target for the reduction of algal blooms, but implicitly refers to a 50 % reduction target for green algae biomass by 2027. This initial ambition aimed at meeting the requirement of the

Water Framework Directive (WFD) to achieve the proper status of coastal water bodies by 2027 as well as public health issues. Although implicit, this objective is neither known nor—a fortiori—endorsed by most actors.

# A policy with poorly defined objectives and uncertain effects on water quality

The first action plan, on the other hand, has explicitly set a target to reduce nitrogen fluxes to the coasts by at least 30 % to 40 % by 2015 in all bays. This objective does not appear relevant: setting such a target on a two-to-five-year time horizon is not realistic with regard to the response time of the watersheds and to the time frame for the implementation of actions. This has therefore led to differences of opinion between partners involved in the plan on the causal link between the actions of the plan and the achievement of the objectives. It also led to a certain degree of demobilization of farmers.

The second PCGA (2017-2021) set differentiated targets for each bay, which met their demand. However, these objectives have not been the subject of sufficiently broad and in-depth scientific advice or of any environmental assessment. Most importantly, the analysis of the action plans shows that the targets set for 2027 are in line with the initial ambition to halve algal biomass by 2027 only in four bays (Saint Brieuc, La Lieue de

Grève, Locquirec and Douarnenez). On the other hand, in the other four bays (La Fresnaye, Horn-Guillec, Guissény, La Forêt), the objectives, although approved by the steering committee and therefore endorsed by the State, are not in line with this ambition.

The draft master plan for water natural and management scheme (Sdage) Loire-Bretagne 2022-2027 of October 2020 took note of this lesser ambition and proposed setting “less stringent targets” for seven of the eight coastal water bodies for 2027. This project, if confirmed, will however have to be forwarded to the European Commission. The Commission will then assess whether or not this situation puts France in a position to comply with its obligations under the Water Framework Directive.

## The uncertain effects of actions undertaken since 2010 on improving coastal water bodies

The first actions taken at the end of the 90s were accompanied by a significant decrease in the average concentration of nitrate streams in waterways.

Evolution of mean nitrate concentrations in Breton rivers since 1980 (mg/l)



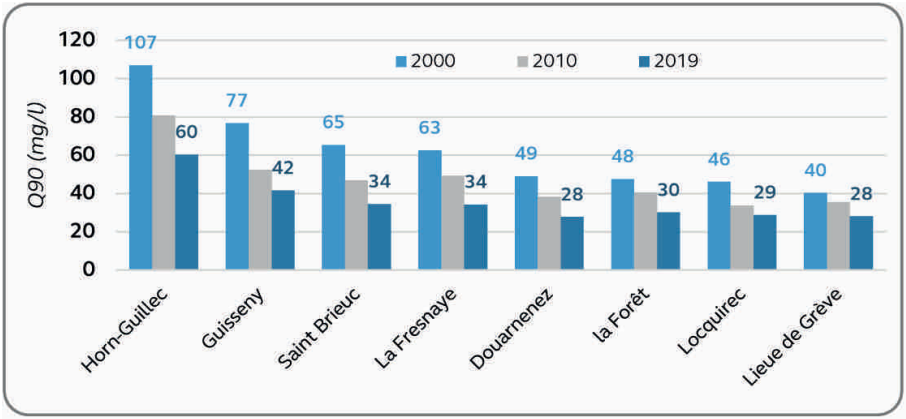
Source : Dreal Bretagne-Percentile 90 medium

# A policy with poorly defined objectices and uncertain effects on water quality

In the eight bays affected by the proliferation of green algae, the average decrease in nitrate concentrations in rivers was of 42 % in 19 years and six of the eight bays were able to drop below 35 mg/l nitrates in 2019. Ten years after the launch of

the action plans, however, it is difficult to highlight their specific impact. The late implementation of the actions and the average residence time of water and nitrates in this specific environment (over five years) delay the manifestation of their effects.

Trends in nitrate concentrations in the eight green algae bays (mg/l)



Source : Dreal Bretagne-synthesis of nitrate concentrations in rivers in each bay

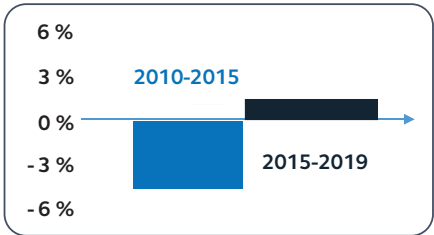
In the absence of harmonized objectives and indicators between watersheds, it is also difficult to analyze the effectiveness of measures to prevent leakage of nitrogen in the environment. There are, however, three findings.

After a strong mobilization of farmers during the first PCGA, the dynamics lost momentum during PCGA2. In most

watersheds, individual commitments of farmers were abandoned in favor of an approach targeting areas and practices at risk. Similarly, the applied nitrogen pressure has been stagnating since 2015 after decreasing significantly during the first action plan. Indicators used do not allow for a more qualitative understanding of the risk of nitrate leakage.

# A policy with poorly defined objectices and uncertain effects on water quality

Evolution of the total applied nitrogen pressure  
from 2010 to 2019

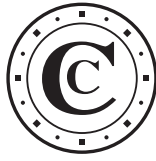


Source : Nitrogen flux statements, Sillage database

Actions to disseminate good farming practices have yielded few visible results to date, changes in practice developing over long periods. This is also the case for farming system changes (development of grassland or organic farming). Supporting measures have likely contributed to the observed developments but these are primarily linked to economic factors. Aid under the common agricultural policy is not in a position to effectively support these developments with the exception of investment aid which is heavily mobilized for pasture management. Agro-environmental and climatic measures mainly benefit a few watersheds oriented towards grassland cattle farming. Other agricultural activities (vegetables, pig

farming and poultry) do not benefit from appropriate measures.

Finally, the development and recovery of the environments (wetlands, rivers, bocage networks) showed disappointing results at the end of the first action plan, whose objectives were often disconnected from realistic evolution possibilities. These approaches require lengthy consultations, limiting the pace of implementation but helping to ensure the sustainability and effectiveness of developments. The objectives of the second action plan, although less ambitious, appear to be out of reach in many cases. Nitrogen gains from these actions, of varying quality, are rarely evaluated.



# 3 Mobilization of local actors and territories without sufficient public support

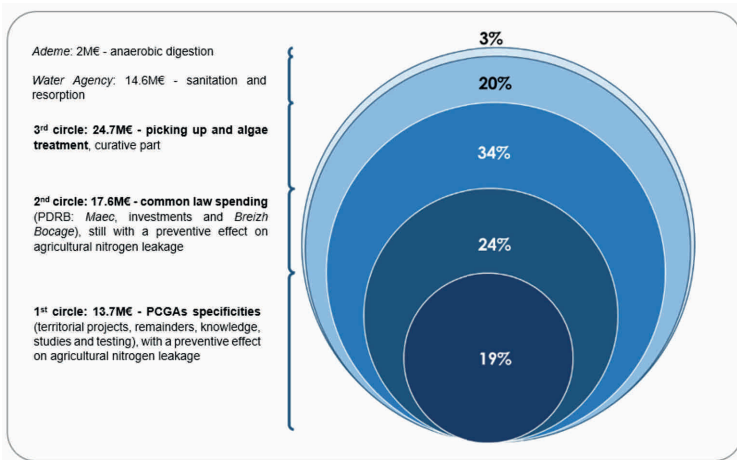
## The funding of the Plans remains modest

The overall cost of the action plans, not measured so far, is estimated by the Court to be EUR 150 M in commitments—action plan 1: 95 M€, action plan 2: 54.9 M€) and 109 M€ in payments (action plan 1: 72.7 M€, action plan 2: 35.7 M€) from 2011 to 2019 from public financiers (State, Region, Departments, Water

Agency Loire-Bretagne, Agency for the Environment and Energy Management—Ademe and the Chamber of Agriculture, excluding the own fundings of the local project managers.

However, by pure display effect, these amounts include up to 23 % of the first action plan expenditure not related to the prevention of leakage of agricultural nitrogen (sanitation, methanization).

PCGA 1 – Payments distribution



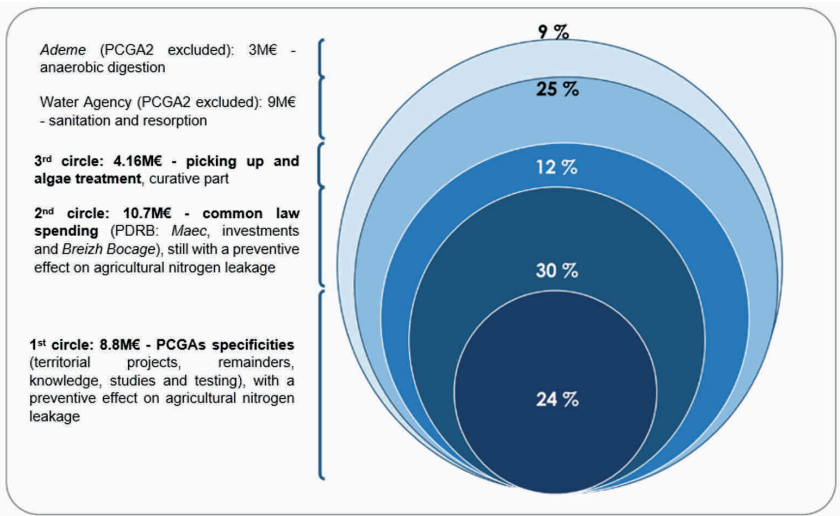
Source: Cour des comptes, using data from DRAAF and SGAR-MIRE

Only 19 % of action plan 1 payments (13.7 M€) and 25 % of action plan 2 payments (8.77 M€) are specifically devoted to preventing leakage of agricultural nitrogen per the territorial

contracts and cross-cutting projects, for an average of €18.7/ha UAL/year from 2011 to 2016 and €24/ha UAL/year from 2017 to 2019.

# Mobilization of local actors and territories without sufficient public support

PCGA 2 – Payments distribution (2017-2019)



Source: Court des comptes, using data from DRAAF and SGAR-MIRE

General law expenditure of the Rural Development Program of Brittany (PDRB) included - those are financed by the European Agricultural and Rural Development Fund (EAFRD) and include for example agri-environmental and climate measures, investments and the Breizh Bocage programme - expenditures on the control of nitrogen leaks of agricultural origin amount to 31.4M€ from 2011 to 2016 for an average amount of €42.7/ha UAL/year. They amount to 19.5 M€ from 2017 to 2019, for an average of €53.3/ha AUT/year.

These modest expenditures show that, while having a leverage effect on the mobilization of the bays, the amounts allocated to the action plans to combat the green algae have remained very limited. They remain derisory when compared to the amount of aid under the 1st pillar of the CAP in Brittany (435 to 614 million € per year over the last six years, meaning between 272€ and 384€/ha/year). The action plans (preventive component, excluding aid under general law) have just about maintained the average annual effort per hectare of the Prolittoral programme (2002-2006), while doubling the area concerned.

# Mobilization of local actors and territories without sufficient public support

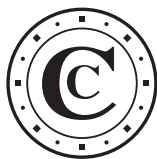
## A good mobilization of the territories, but insufficient means of support

The initial choice of a plan implemented and handled closer to the local territories, strongly supported by the actors and the agricultural profession, was justified by the pre-existing mobilization, in certain watersheds, on the issues of water pollution and by geographical, agricultural and institutional contexts varying from one watershed to another. Depending on the watersheds, the action plans are articulated in a variety of ways with the schemes of general law (water planning and management schemes for the water or Sage) and the territorial contracts setting them. This territorial approach has led to convince the most reluctant actors and paved the way for innovative experiments and approaches, even if project leaders are limited in their possibilities of action by a funding framework that is insufficiently empowering and lacks visibility.

However, this territorialization presupposes several conditions for success, which are insufficiently met in the two successive action plans. If the heterogeneity of the objectives and indicators could be justified in 2010, such a situation should not have continued. Lessons of the first action plan—indicators, animation, more structured exchanges between territories, sharing of knowledge, association of actors from the scientific research—have been taken into account by the State in the planning phase of the second action plan but the results were still highly imperfect.

Finally, the voluntary approach has been deprived of two essential complementary levers. Firstly, aid is insufficiently remunerative to encourage farmers to make more ambitious commitments and to change production systems in these basins. Secondly a credible strengthening of regulatory obligations for farmers refusing to commit is lacking – in form of creating areas under environmental constraints (ZSCE) and of deterrent controls.





## 4 A lack of coherence with certain fundamental aspects of the agri-food and environmental policies

### Lack of involvement of agri-food chains

The lack of involvement of agri-food sectors in preventing nitrogen leakage is a finding shared by all stakeholders. These sectors have remained aloof from governance as well as from the economic initiatives of the territories to develop new channels or new quality requirements. Such an involvement is though indispensable and complementary to the efforts undertaken by the farmers themselves. The Brittany Region, which is responsible for economic development, and the Loire-Bretagne water agency have not, for their parts, conditioned their support to agri-food industries to counterparties in terms of preventing nitrogen leakage. In addition, in cases where public support is conditioned to a certification of a high environmental value, the content of the corresponding mandatory commitments falls far short of the already existing quality of fertilization practices.

### An agricultural land policy that is inadequate for environmental issues

The evolution of agricultural land in green algae watersheds has remained very limited for ten years.

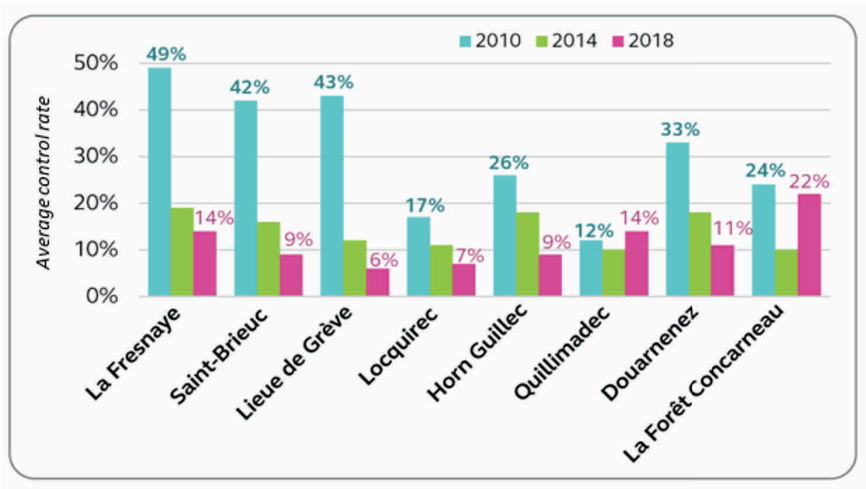
The disappointing action of Safer Bretagne (Land Use and Rural Settlement Corporation), inadequate tools and a lack of involvement of most of the communities present on these territories, partly explain the lack of results in this area.

### A receding authorization and control policy

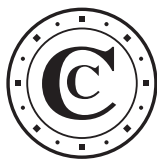
The lack of consistency between, on the one hand, the policy for the application procedure and the control of agricultural holdings and, on the other hand, the fight against algal proliferation results in a low quality of applications for authorization for the creation or extension of livestock and in a lack of tools for the investigation of these dossiers. In addition, the number of controls carried out in the green algae watersheds has been significantly reduced since 2010 (- 73 %), partly as a result of a decrease in the number of controllers (- 24 %). In ten years, there has been little decline in identified non-compliance cases as a result of these better-targeted controls: they amount to about half of the controlled farms. Finally, there is insufficient coordination between the State in charge of the control and the local authorities responsible for the action plan.

# A lack of coherence with certain fundamental aspects of the agri-food and environmental policies

Evolution of the average control rate per bay (2010-2018)



Source : DREAL Bretagne-DDTM AND DDPP 22 and 29-Average control rate: number of controls performed/total number of farms



## 5 Five levers identified to strengthen and extend the action taken

The evaluation resulting from these analyses and the territorial Court reports annexed to the principal report allow us to identify paths for evolution, which are all conditions for the success of the fight against the proliferation of green algae.

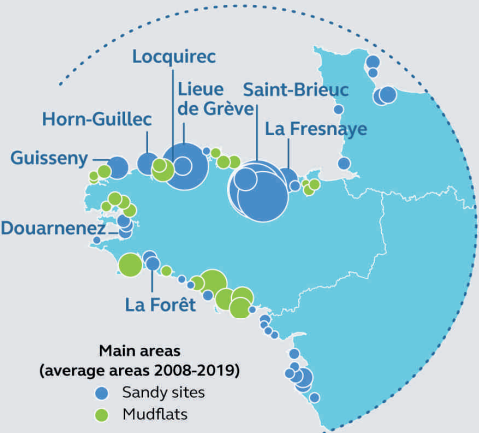
The Court notes the need to pursue the actions carried out and to ensure maximum stability and visibility for the future to local elected officials and technicians operating in the bays, as well as farmers themselves. This policy in favor of low nitrate leakage needs time; it must be designed to last. It is therefore important to avoid any interruption of action, such as what took place in 2016-2017 between the two action plans and was debilitating for all actors and for farmers in the first place.

At the same time, the concerns of other Breton watersheds and regions also affected by the proliferation of green algae must be addressed.

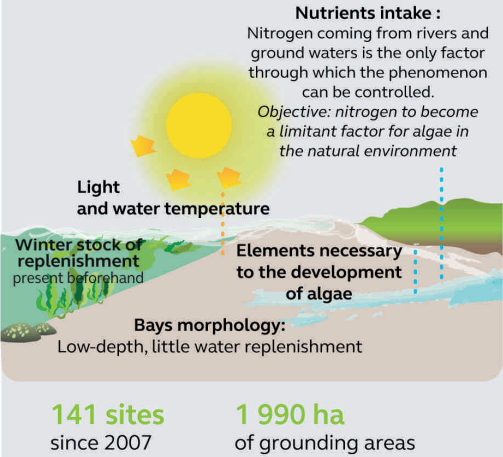
In order to increase and extend the action taken, five guidelines must be implemented quickly:

- extending the fight against the proliferation of green algae beyond the eight Breton bays concerned by the action plans by using the general law tools of territorial contracts for the implementation of water management and development schemes (Sage);
- define evaluable objectives and monitor their achievement at the watershed level;
- in the context of the next programming of the common agricultural policy, redefine the levers to change agricultural practices and systems;
- mobilize the levers of agricultural land and agri-food sectors;
- adapt and enforce regulations.

# The green algae phenomenon in Brittany

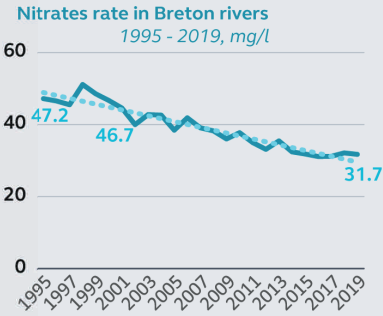


Figures in Brittany (2019)

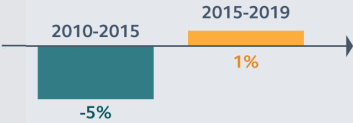


**Fewer controls**  
Between 2010 and 2018:

- A 73% decrease in the controls of the watersheds
- In 2018, about half of the controlled farms are non-compliant



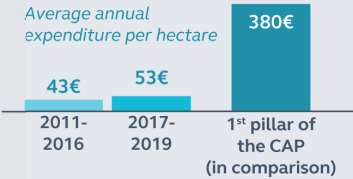
A nitrogen pressure that is not decreasing anymore



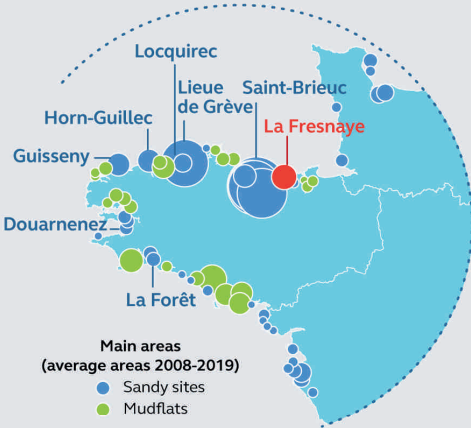
## Action plans in 8 watersheds

10.5% of farms  
7.4% of agricultural land  
92% of tonnage collected

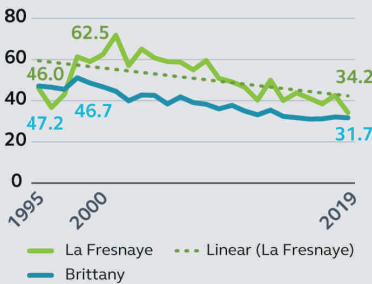
## Modest expenditures



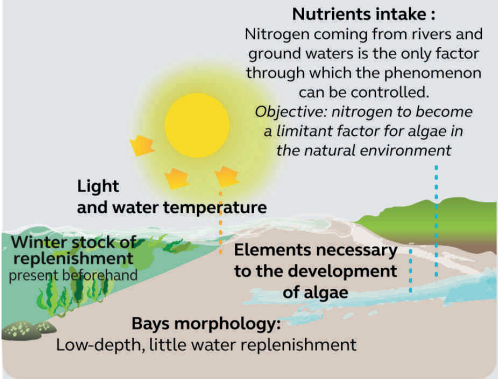
# The green algae phenomenon in the bay of La Fresnaye



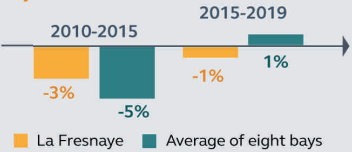
Nitrates rate in Breton rivers  
1995-2019, mg/l



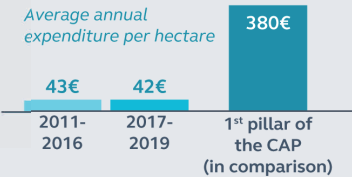
Figures in Brittany  
(2019)



A nitrogen pressure that is not decreasing anymore

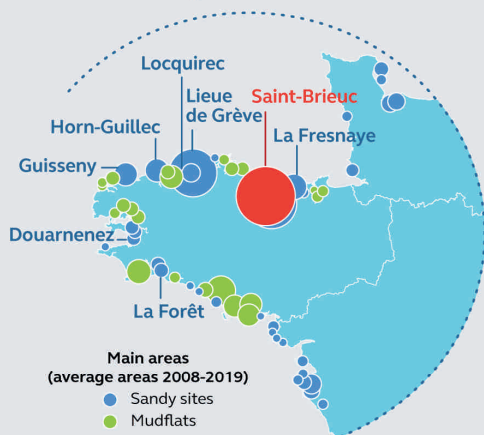


## Modest expenditures

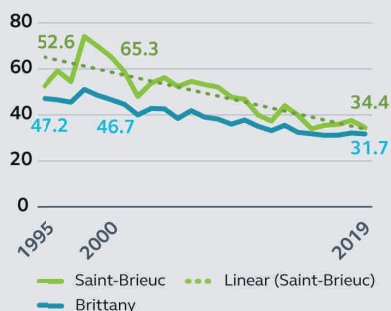


168 sites  
8 852 ha of grounding areas  
7,3 ha of grounding surface  
Good ecological status of coastal water body

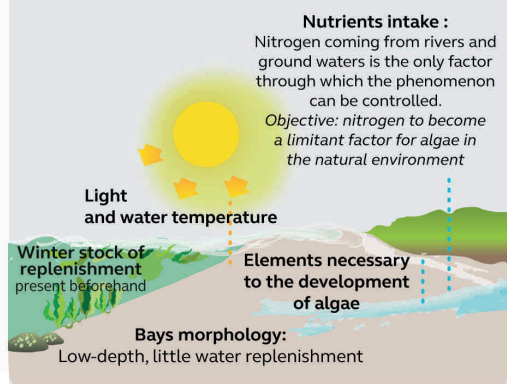
# The green algae phenomenon in the bay of Saint-Brieuc



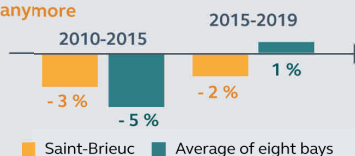
Nitrates rate in Breton rivers  
1995-2019, mg/l



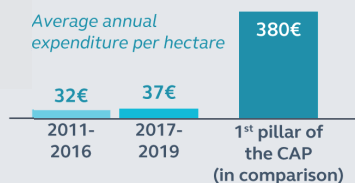
Figures in Brittany  
(2019)



A nitrogen pressure that is not decreasing anymore



Modest expenditures



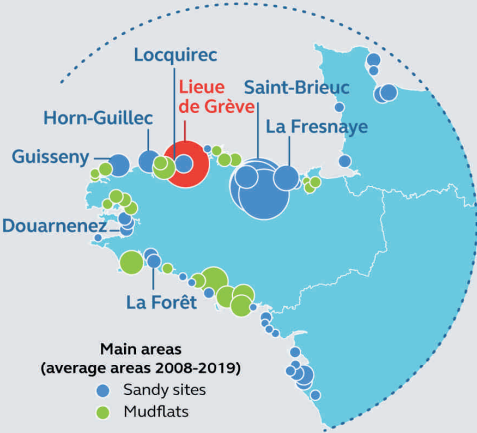
1 089 sites

57 900 ha of grounding areas

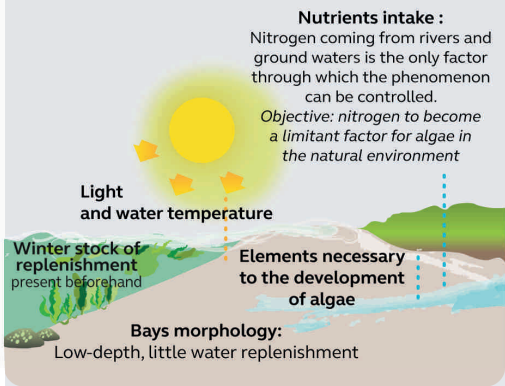
397,8 ha of grounding surface

Poor ecological status of coastal water body

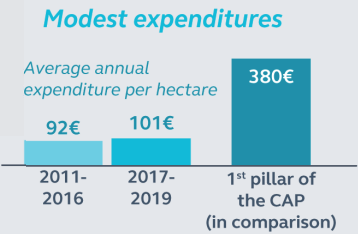
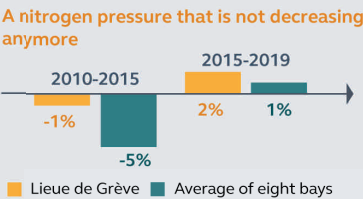
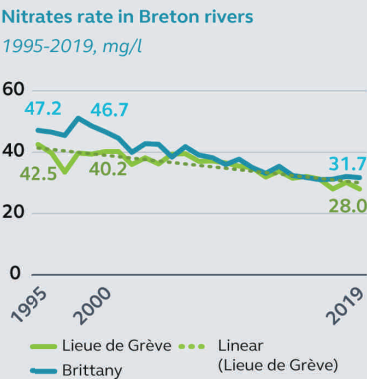
# The green algae phenomenon in the bay of **Lieue de Grève**



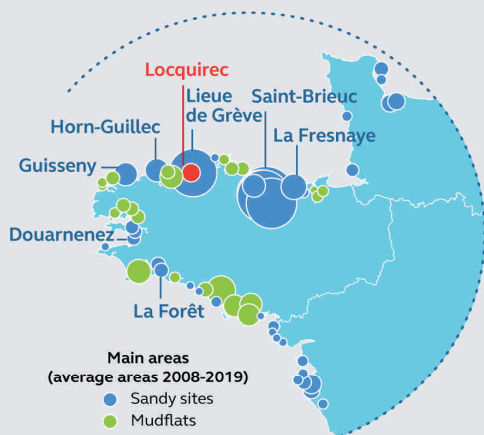
Figures in Brittany (2019)



139 sites  
 6 295 ha of grounding areas  
 56,3 ha of grounding surface  
**Poor ecological status** of coastal water body

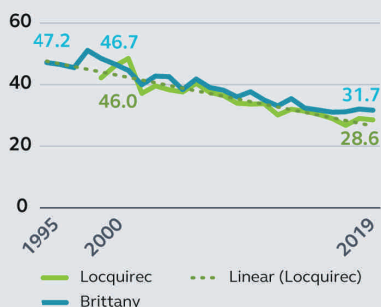


# The green algae phenomenon in the bay of Locquirec

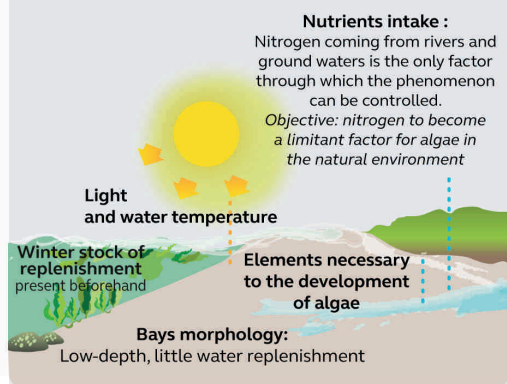


Nitrates rate in Breton rivers

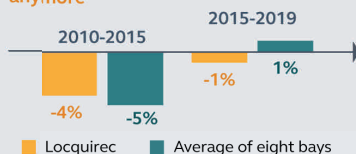
1995-2019, mg/l



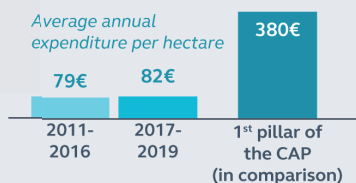
Figures in Brittany (2019)



A nitrogen pressure that is not decreasing anymore



Modest expenditures



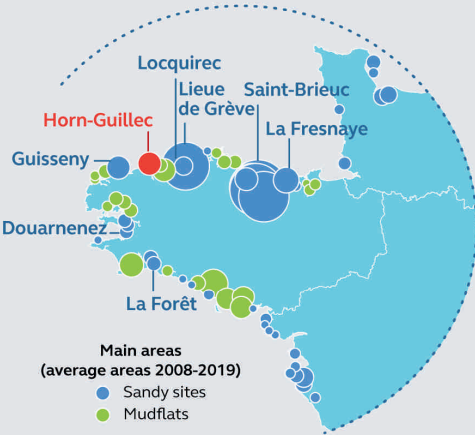
161 sites

6 283 ha of grounding areas

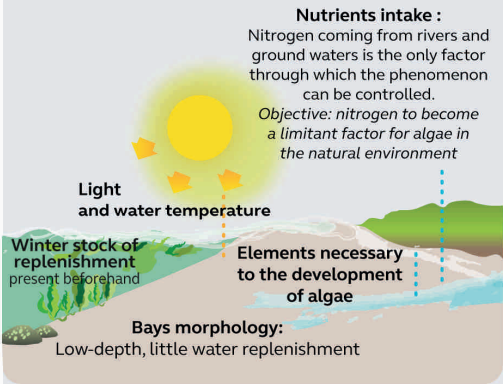
14,1 ha of grounding surface

Poor ecological status of coastal water body

# The green algae phenomenon in the bay of Horn-Guillec

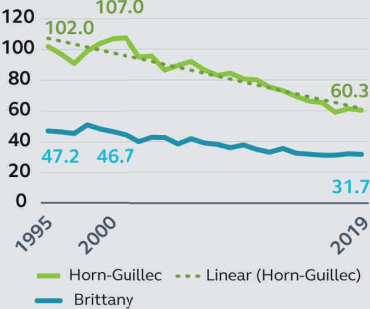


Figures in Brittany (2019)

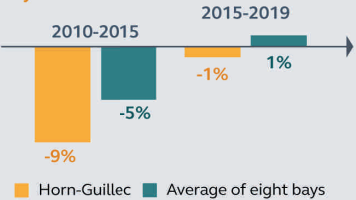


377 sites  
 12 789 ha of grounding areas  
 16,1 ha of grounding surface  
 Moderate ecological status of coastal water body

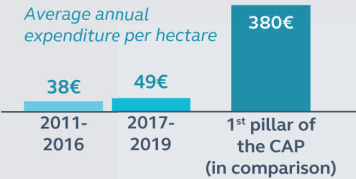
Nitrates rate in Breton rivers 1995-2019, mg/l



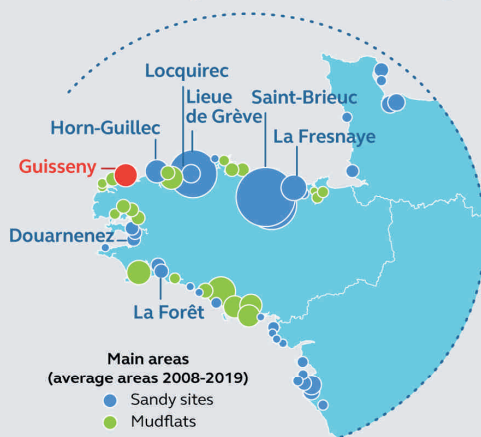
A nitrogen pressure that is not decreasing anymore



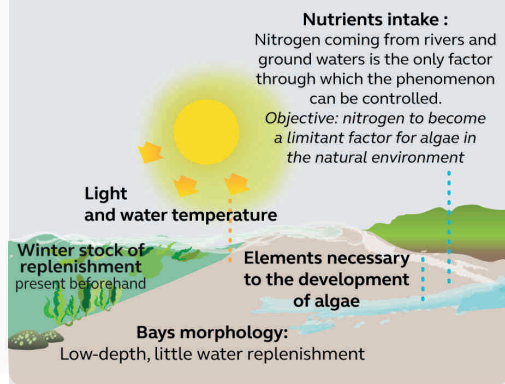
Modest expenditures



# The green algae phenomenon in the bay of Guisseny



Figures in Brittany (2019)



239 sites

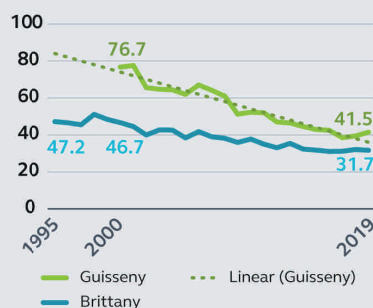
6 923 ha of grounding areas

17,5 ha of grounding surface

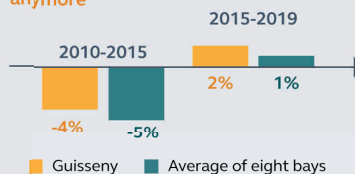
Moderate ecological status of coastal water body

Nitrates rate in Breton rivers

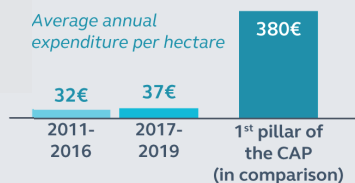
1995-2019, mg/l



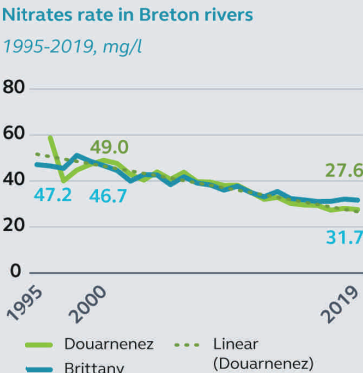
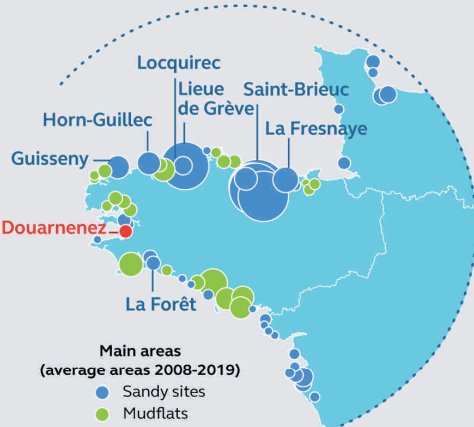
A nitrogen pressure that is not decreasing anymore



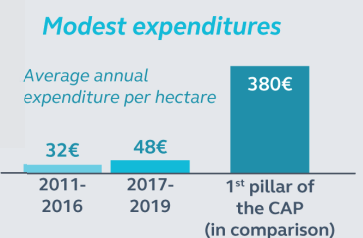
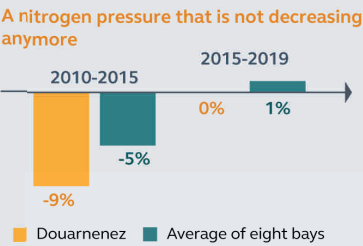
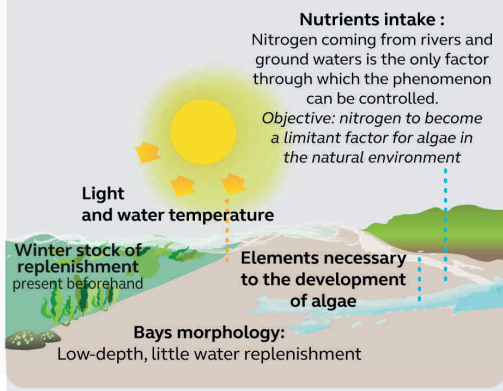
Modest expenditures



# The green algae phenomenon in the bay of Douarnenez

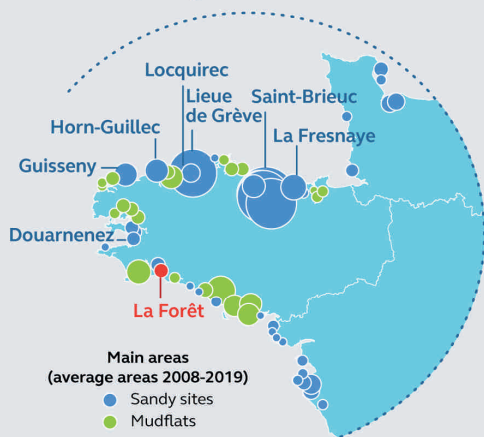


## Figures in Brittany (2019)

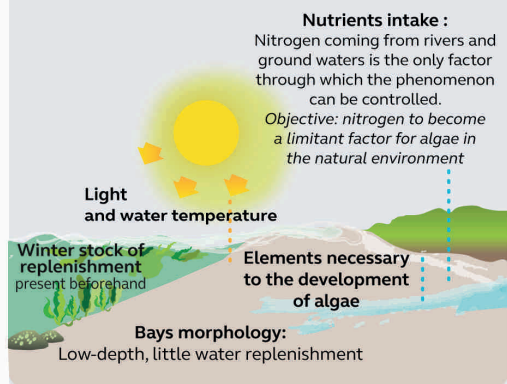


**369** sites  
**16 859 ha** of grounding areas  
**15 ha** of grounding surface  
**Poor ecological status** of coastal water body

# The green algae phenomenon in the bay of La Forêt



Figures in Brittany (2019)



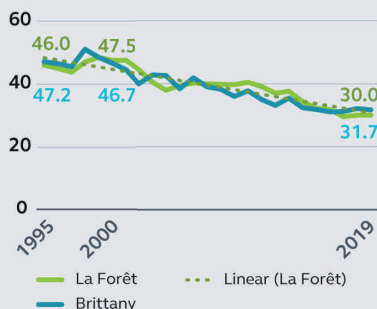
166 sites

7 381 ha of grounding areas

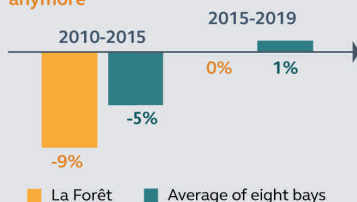
10,7 ha of grounding surface

Poor ecological status of coastal water body

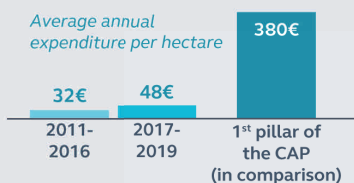
Nitrates rate in Breton rivers 1995-2019, mg/l



A nitrogen pressure that is not decreasing anymore



## Modest expenditures



# Summary of recommendations

## **Orientation 1: extending the fight against the proliferation of green algae beyond the eight Breton bays affected by the control plans**

1. (2022) In order to extend the fight against the proliferation of green algae to all sites of green algae grounding, particularly on mudflats, include in the territorial contracts plans for water planning and management schemes (Sage) a component to combat nitrogen leaks, with evaluable objectives (*authorities of the Sage, regional prefecture, department prefects, water agency*).

## **Orientation 2: define evaluable objectives and monitor their achievement at the scale of watersheds**

2. (2022) For each watershed, set targets for changes in agricultural practices by 2027 that are evaluable, in order to achieve the good status of coastal water bodies (*region prefecture, project manager of each territory*).

3. Carry out or update, as soon as possible, scientific modelling in order to determine the average nitrate concentration threshold of rivers that would reduce by half the stranding of green algae in the eight green algae bays and the main Breton mudflats sites (*region prefecture, Loire-Bretagne water agency, Creseb, Ceva, INRAE*).

4. (2022) Establish an integrated and shared information system on nitrogen leakage and fertilization

in Breton watersheds, as well as a consolidated financial monitoring of actions to combat green algae, draw up and publish annual reports (*Ministry of Agriculture and Food, Ministry of Ecological Transition, Regional Prefecture, Brittany Region*).

## **Orientation 3: redefine levers to change agricultural practices and systems**

5. (2021) In the context of the next programming of the common agricultural policy, provide for measures appropriate to the fight against leakage of nitrogen, which are sufficiently incentive and accessible to all types of agricultural activities and crops, based on the system of payments for environmental services currently being tested (*Ministry of Agriculture and Food, Ministry of Ecological Transition, Regional Prefecture, Brittany Region*).

## **Orientation 4: mobilise the levers of agricultural land and agri-food sectors**

6. (2022) Condition aid granted to companies in the agri-food industries to commitments on the prevention of nitrogen leakage (*Brittany Region, Loire-Bretagne water agency*).

7. (2022) Integrate into environmental certification tools (including the High Environmental Value Certification Level 3) the requirement for very low nitrogen leakage fertilization practices (*Ministry of Agriculture and Food*).

# Summary of recommendations

**8.** (2022-2023) Revise the regional master plan for farms to promote the allocation of parcels, in particular in the green algae basin, to farms with low nitrogen leakage projects (*Ministry of Agriculture and Food, Regional Prefecture*).

## **Orientation 5: adapting and enforcing regulations**

**9.** (2022) Include in the seventh regional action program of the nitrates Directive reinforced obligations (nitrogen leakage indicators, declarations of application plans and control of storage works) (*Ministry of Agriculture and Food, Ministry of Ecological Transition, Regional Prefecture*).

**10.** (2022) In the absence of results and on particularly sensitive perimeters, create, where necessary, areas under territorialized environmental constraints and based on agronomic logic (*Ministry of Ecological Transition, Department Prefects*).

**11.** (2021) Target and concentrate farm controls on the most nitrogen-contributing watersheds and, to this end, give the control services rapid, complete and free access to all animal identification databases (*Ministry of Ecological Transition, Ministry of Agriculture and Food, Prefecture of the Region, Prefects of Departments*).