

Governing nutrient pollution in Brittany: a systemic approach

Executive Summary

This report introduces an agri-food system approach to the governance of nutrient pollution and harmful algal blooms in Brittany. It presents nine new policy proposals focused on major actors beyond the farm to influence farm-level nutrient management. Algae blooms cause a range of health, ecological, economic and social impacts, and have proliferated as a result of nutrient-induced (specifically nitrogen and phosphorus) eutrophication and the unique geography of the afflicted bays. This report focuses exclusively on nitrogen, as phosphorus stocks are much more challenging to manage in Brittany.

Today, 90%-95% of the nitrate losses (a waterborne form of nitrogen pollution that is a central driver of harmful algae blooms) in Brittany are from the agricultural sector, with a significant majority from livestock production. As a result, policies to reduce nitrate run-off have focused almost exclusively on farmers. While this has had some success, algae blooms continue to occur at large scales in Brittany, causing beach closings in addition to human and animal casualties.

We believe that a central reason for the inadequacy of current policies is the lack of consideration given to other actors in the agri-food system who significantly influence farm-level practices, as noted in a 2021 Cour des Comptes¹ report. Consequently, our report focuses on these actors beyond the farm – from multinational food companies, to farmer cooperatives and educational institutions, to banks and insurance companies, among others, with the aim of driving further reductions in nitrate losses.

Expanding the policy horizon is at the heart of our project. The nine policy proposals presented here should be considered together as a set of overlapping, synergistic ideas, hence why we have grouped them according to three overarching themes.

#	Name	Description
Engage actors beyond the farm		
#1	Target the incentives driving fertilizer advice and sales	Reform the agricultural advisory business-model - shifting away from quantity-based compensation and towards a service-based compensation scheme. This could include a legal responsibility to stimulate nitrogen loss reductions.
#2	Flexible VAT rates depending on a food product's nitrogen footprint	Use the flexibility allowed for by the European Union to raise VAT on products with a high nitrogen footprint and lower VAT for products with a lower footprint.
#3	Integrate the mitigation of nitrogen pollution	A new guidance document outlining the responsibility major corporations (from food producers to banks and insurance

¹ The French administrative court responsible for financial and legal audits of most public institutions and some private institutions.

	into corporate due diligence requirements	companies) have to reduce nitrogen pollution across their value chains.
Stimulate transition		
#4	Leverage animal welfare efforts	Make animal welfare requirements more stringent, thereby requiring a larger surface area per animal, which should, on average, reduce nitrogen pollution flows per unit area (due to the lower number of animals). On the supply side, this could be stimulated via an investment program to improve existing livestock infrastructure. On the demand side, a labeling program to better inform consumers.
#5	Maintain buffer zones to limit nitrate run-off	Financing of buffer zones could be extended beyond the planting of trees and hedges to include ongoing maintenance.
#6	Monetize livestock waste to limit over-application	Create a Brittany manure market, including the online interface and the logistical support system behind it, to connect sellers and buyers of organic nutrients and transform manure from a waste product to an important input.
Cross-cutting measures: Financing and training		
#7	Formally recognize the role of farmer-researcher	Formalize the role of farmer-researcher, which would make farmers with this title eligible for tax credits and enable large-scale data collection, which would be especially useful for scientists working on the transition towards more sustainable agriculture
#8	Train and mentor current farmers in nitrogen best management practices and technologies	Create a new training and certification ("certinitrates") for farmers exclusively focused on addressing nitrogen pollution. The onus would be on educational and commercial institutions, such as the regional Chambre d'Agriculture, to develop such materials.
#9	Train farmers of the future	For young people training to become the farmers of tomorrow, begin teaching on nitrate pollution at the secondary school level



Our policy proposals (numbered #1 through #9), positioned at the points in the agri-food system where they would take effect. The flags represent the scale at which the proposals would be implemented (regional, national et European).

These nine policy proposals represent a new way of thinking about harmful algae bloom governance in Brittany. However, these proposals will only be relevant and implementable if they are adopted and adapted by the policymakers and various stakeholders in the agri-food system to which they apply. This list is, of course, non-exhaustive, with many more proposals possible.

The main goal of this report is to demonstrate the potential benefits of taking a more systemic approach to addressing harmful algae blooms and the nitrate run-off that is their dominant cause. We hope this encourages others - policymakers, stakeholders, students - to think of additional measures we haven't included here. More broadly, we believe this approach to environmental pollution from agricultural sources is relevant beyond harmful algae blooms, and should be applied to issues from pesticides to animal antibiotics.