

# Protecting surface water from pollution from agricultural areas

## Nature-based methods and possibilities for their implementation in Poland

**Water pollution by nutrients stemming from agriculture is a huge problem all over Europe. However, there are relatively easy-to-implement solutions with proven high effectiveness in reducing pollutant runoff and providing many other important benefits for the agricultural economy itself. These include vegetated buffer strips with limited agricultural use or different types of wetland buffer zones. The former can be applied successfully at the level of individual farms, the latter requires restoration at the scales of entire catchments.**

In some European countries, such solutions are promoted among farmers or implemented as part of nationwide programmes. In Poland, so far the coverage of this topic in existing policies and strategic documents is insufficient or non-existent. Considering the urgent need to reduce eutrophication, the situation needs to change.

As part of the project 'Buffering and reducing Baltic Sea nitrate pollution by implementing natural-based solutions', we gathered knowledge on nature-based solutions to reduce area-based nutrient run-off (primarily from agricultural land). In addition, we carried out an analysis of existing policies, strategies and programmes in Poland in the context of regulations enabling the implementation of such solutions.

The report 'Protection of surface water against pollution from agricultural land. Nature-based methods and possibilities for their implementation in Poland' includes:

- A brief analysis of the over-fertilisation of surface waters and the Baltic Sea (PhD Agnieszka Bednarek, UNESCO Chair of Ecohydrology and Applied Ecology, Faculty of Biology and Environmental Protection, University of Lodz);
- Characteristics of two types of nature-based methods - buffer strips and wetland buffer zones - together with a description of the ecosystem services they provide (Aleksandra Pępkowska-Król, Zofia Bierkowska, OTOP);
- An analysis of the costs and benefits of creating or maintaining and the effectiveness of functioning of wetland buffer zones (Sviataslau Valasiuk, Warsaw Centre for Ecological Economics, Faculty of Economic Sciences, University of Warsaw);
- A cost-benefit analysis of the creation or maintenance and the effectiveness of the functioning of wetland buffer zones (Sviataslau Valasiuk, Warsaw Centre for Ecological Economics, Faculty of Economic Sciences, University of Warsaw);
- Characteristics of eco-hydrohydrological biotechnologies (PhD Agnieszka Bednarek, UNESCO Chair of Ecohydrology and Applied Ecology, Faculty of Biology and Environmental Protection, University of Lodz);
- An assessment of the Polish agricultural policy for 2023-2027 in terms of requirements and incentives for the protection and restoration of wetlands and aquatic ecosystems (Aleksandra Pępkowska-Król, OTOP);
- An analysis of key strategic documents and policies to include wetland buffer zones (Paweł Pawlaczyk, Naturalist Club).

[These solutions are discussed in more details in the full report \(only available in Polish\).](#)