

LAKE ERTEVANNET

Poor water quality in an important lake – how can we reverse a negative trend?



Ertevannet is a eutrophic lake in southeastern Norway where the ecological condition has deteriorated over the past ten years. Agricultural runoff since the 1960s, combined with browner water, has been identified as the main causes of the negative development in the lake. How can we work towards improving the ecological condition under these circumstances? We have datasets and surveys available for further research.

Ertevannet is located in Rakkestad Municipality, Østfold County, Norway. The lake covers an area of approximately 1130 decares. The catchment area consists of 71% forest, 21% cultivated land, 4% lake area, and 2% marshland. The deepest point is 11 meters.

Agriculture around the lake and along its inflow streams includes grain production, grass cultivation, and livestock farming. Improvements have been made to scattered wastewater systems.

The ecological condition has deteriorated over the past 10 years, despite increased focus on runoff mitigation measures and improvements to point-source pollution.

It is likely that browner water has led to more stable stratification of the lake, and that the still high nutrient content contributes to reduced oxygen levels and internal nutrient loading from the sediments.

Reducing nutrients and particles is a major focus in our region, to improve the condition of both local watercourses and the Oslofjord, which is in ecological imbalance. Therefore, the goal is to intensify measures that can improve the condition of our eutrophic water bodies and foster local engagement in water environments, biodiversity, and a changing climate.



Data

There have been annual monitoring series in the lake since 2011, focusing on nutrients and phytoplankton, which are available. Annual monitoring reports can be found here: [Glomma Sør | Rapporter](#), and all data are accessible in the national water environment database [Vannmiljø](#)

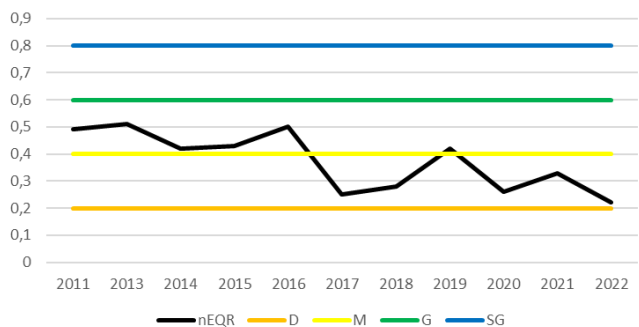
In recent years, monitoring has also been conducted in the inflow streams to Ertevannet to map nutrient transport into the lake.

Sediment core analyses have been carried out to study the historical development of the lake over the past 90 years.

An action report has been prepared for Ertevannet, describing the current condition and proposing environmental improvement measures for the lake, as well as a report following test fishing in 2024: [Glomma Sør | Prosjekter](#)

Ertevannet is at the moment a case-area for a project that evaluates the social benefits from agricultural mitigation measures to improve water quality, looking at the cost going in to measures and the benefits from them.

Ecological status lake Ertevannet



Stakeholders

Around the lake and the surrounding streams, there are a lot of agricultural activity, both crop productions and livestock farming. The households are scattered and holds private sewage systems and use the streams as recipients.

Ertevannet is an area used by the local population and community, such as schools for educational purposes. There are also cabins in the catchment area, and the lake is important for recreation, such as canoeing and fishing. The lake holds several fish species and has hosted fishing competitions some years ago.

The noble crayfish are found in the watercourse and their presence is depending on both water quality and places to live and breed.



Needs

Stricter agricultural requirements have been introduced since 2023. Existing reports identify the main causes of the changes in ecological condition. There is a need to consider additional measures beyond those currently covered by pollution regulations. For example, could actions in forested areas or the upper parts of the catchment help improve conditions downstream?

Could various measures that also support biodiversity and climate adaptation be implemented to achieve broader effects beyond the traditional water environment tools already in our toolbox?

It is also important to continuously consider stakeholder involvement to ensure local anchoring of both issues and measures. The water area has a large network of public and private stakeholders.

