

Quantification of nutrient flux in a shallow freshwater lake in the south of Sweden

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Abstract

The nutrient load and export of nutrients from the lake "Arkelstorpsviken" in southern Sweden were monitored for one year (2019-04-01 to 2020-03-31). The purpose was to study whether the lake's eutrophication status is a symptom of internal load or caused by the load from the environment. The results can be used in a remediation plan for the heavily eutrophied lake Arkelstorpsviken, where extensive monitoring was carried out. Sampling stations in the main three upstream streams were set up to record the daily flow, supplemented by a 14-day sampling period for chemical analysis. In addition, small agricultural ditches and the local municipal treatment plant were monitored. Both total phosphorus and total nitrogen were reduced during transit through the lake. This indicates that the lake still acts as a nutrient sink contrary to the prevailing suspicion that the sediments are leaking phosphorus.

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