

## Description manual lake monitoring program Lake Erken

### Lake sampling protocol

Water samples are collected with an integrated water sampler ('Rambergör') water sampler in 2 m intervals in (0-2 m, 2-4 m, 4-6 m, 6-8 m, 8-10 m, 10-12 m, 12-14 m, 14-16 m, 16-18 m, 18-20) at the deepest point of the lake (coordinates) and mixed according to their proportion to the total lake volume:

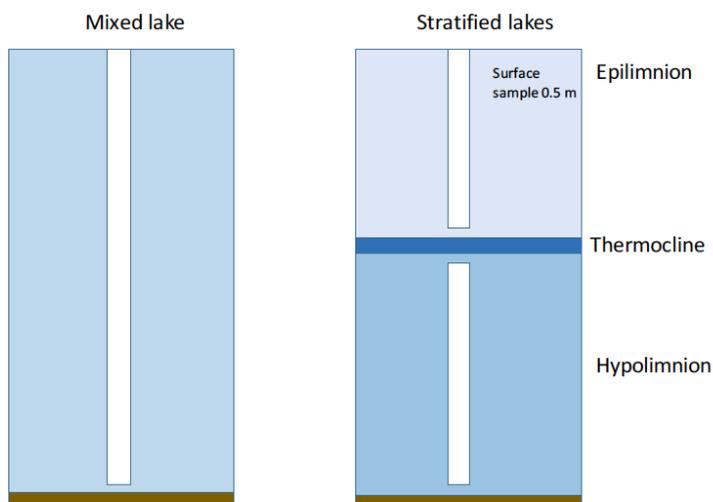
Layer (m)	0-2	2-4	4-6	6-8	8-10	10-12	12-14	14-16	16-18	18-20	total
Volume (10 <sup>6</sup> m <sup>3</sup> )	45.02	40.36	35.57	30.75	25.77	19.01	10.64	4.64	1.59	0.17	213.5

If the lake is circulating all sample layers are mixed in proportion to their contribution to the total volume, if the lake is stratified the respective layers in the epi- and hypolimnion are mixed accordingly. These water samples are used for water chemistry analyses, phytoplankton and zooplankton counting and bacterioplankton analysis (16S rRNA sequencing).

**Fig 1.** Example of Ramberg sampler



**Fig 2.** Conceptual overview of the sampling strategy in Lake Erken



2016-08-30

## **Water chemistry and plankton analyses**

The samples are all analysed in our laboratory that is certified by SWEDAC (Swedish Board for Accreditation and Conformity Assessment), for sampling and analysis of water and sediment, as well as phytoplankton and zooplankton analysis. The detailed protocols (in Swedish only) can be found here:

<http://www.ieg.uu.se/erken-laboratory/analytical-services/>

For phyto-and zooplankton analyses only epilimnetic samples are used when the lake is stratified. Subsamples of 100 ml are filled directly into phytoplankton bottle. For zooplankton samples a volume of 10 L is filtered through a plankton net (mesh size 65 µm) and then transferred into a sampling bottle. All phyto-and zooplankton samples are then preserved with a few drops of acidic Lugol's solution and stored at +4°C in the dark until they are counted.

Protocols to characterise bacterioplankton by 16S rRNA sequencing are established and data will be available soon.