

Intensified land use on acid sulfate soils as a trigger for fish kills in an embanked freshwater reservoir in mid-western Finland

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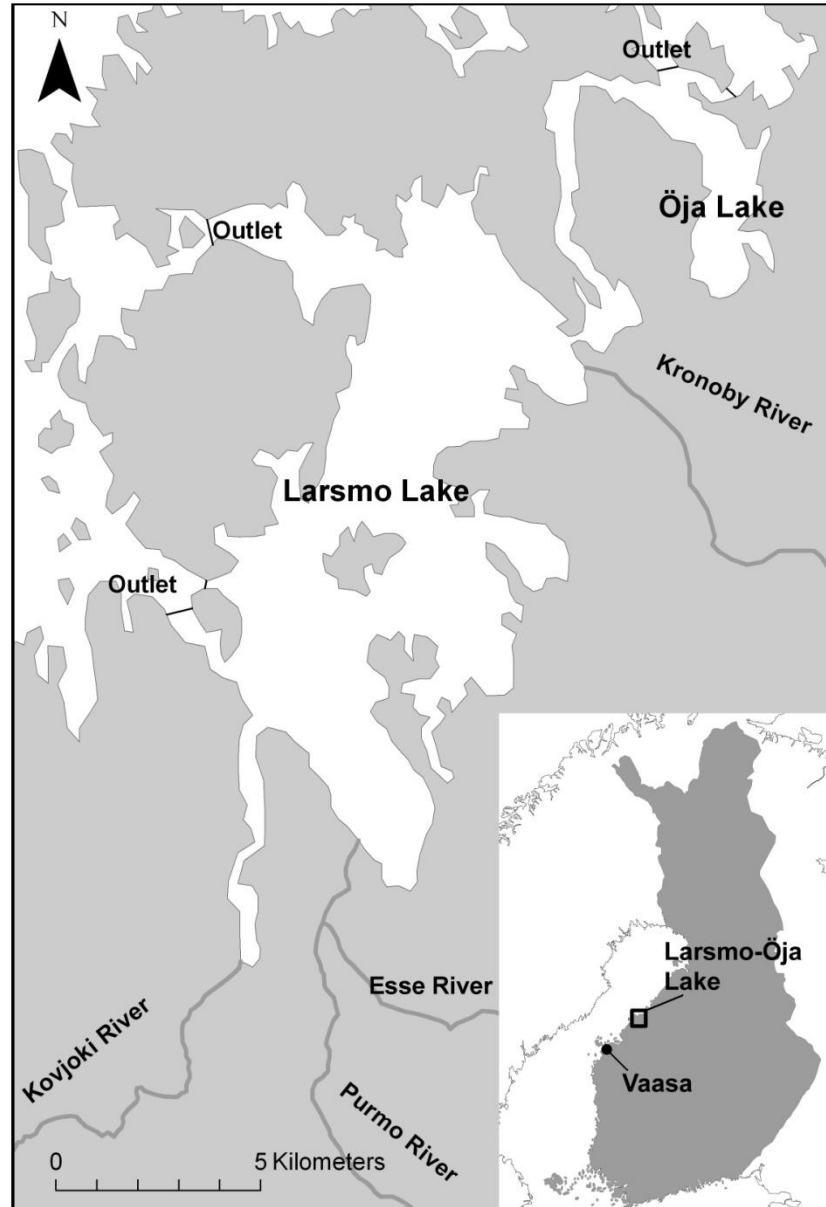
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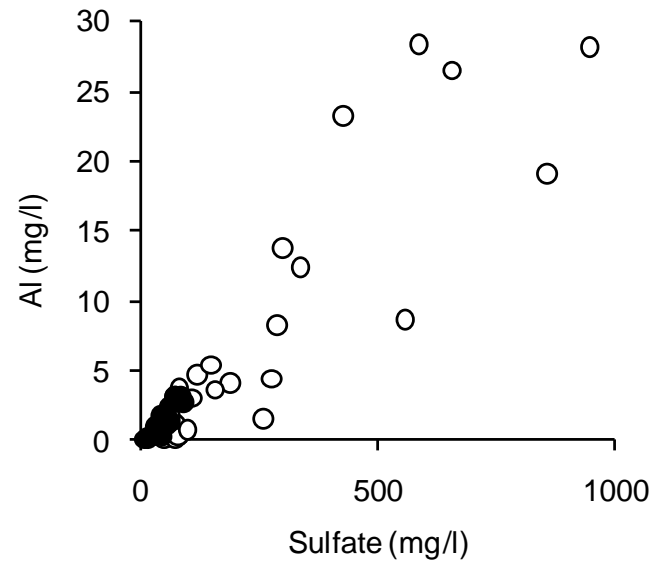
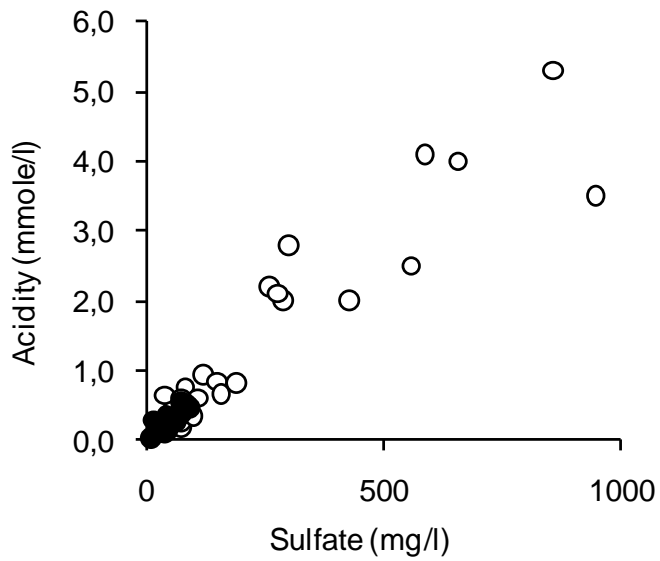
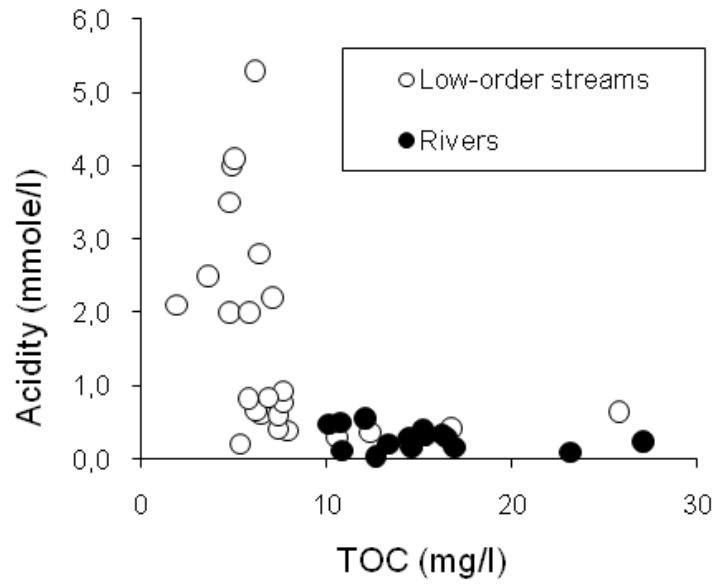
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Photo: Peter Österholm

Larsmo-Öja Lake





Effects of acidic metal discharge on fish reproduction in areas affected by a.s. soils



Photo: Markus Sällinen
and Juha Ojakangas



Burbot larvae (length 5.2 mm). Photo: Lari Veneranta



Sampling of burbot larvae in an optimal habitat in Larsmo-Öja Lake. Photo: Johan Ahlqvist

Conclusions

- Intensified land use on sulfidic sediments cause poor water quality in Larsmo-Öja Lake and streams
- Humic acids do not cause any significant acidic load
- Embankments are a secondary and local cause
- Low pH has a profound effect on the reproduction of burbot in Larsmo-Öja Lake
- Small acidic events may cause loss of production of young of the year fish in a.s. soil-affected rivers and estuaries
- The simple method to monitor the burbot larvae community could potentially serve as an inexpensive and effective biological indicator to measure the effects from acidic metal discharge
- Such methods are urged in e.g. the Marine Strategy Framework Directive (2008/56/EC).

Thank you!



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