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## Agricultural and Food Science - abstract



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Assessment of aquatic pollution, remedial measures and  
juridical obligations of an acid sulphate soil area in western  
Finland

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### Abstract

Reclaiming of Holocene sulphide-bearing sediments, widespread in the coastal areas of Finland, has enabled oxidation of sulphides to a depth of 1–3 m and the subsequent development of acid sulphate soils (pH < 4). This work is concerned with spatial hydrogeochemical patterns, remediation measures and the juridical obligation to improve water quality in one such area, i.e. the Rintala plain (23 km<sup>2</sup>) in mid-western Finland. Streams draining acid sulphate soils in Rintala are more acid (pH ~ 4 and acidity ~ 4 mmol l<sup>-1</sup>) and carry significantly higher concentrations of SO<sub>4</sub><sup>2-</sup>, Al, Ca, Cd, Co, Cu, F, Mn, Ni, Pb, Se, Sr and Zn than those draining forest and rural areas in the vicinity of the Rintala plain and organic-rich soils located on the plain. The juridical obligation to improve the water quality is inappropriate as it does not consider the main reason for the poor water quality, i.e. drainage by subsurface drainage pipes, and because of the equality principle (other acid sulphate soil areas have just as poor water quality but do not have such an obligation). Groundwater management, i.e. keeping the groundwater level as high as possible, is recommended as the best management practice.

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