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pH of streams in western Finland - a perspective from the
Middle Ages into the mid 21st century

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Abstract

In the central parts of western Finland, many streams are severely acidified as a result of land-use activities on overburden (soils) capable of producing and ultimately releasing extreme acidity. Consequently, the extent of the acidification problem is likely to have varied over time in response to the type and extent of contemporary land use. In this study, we have combined historical information on land use and knowledge on hydrogeochemical processes in order to assess the pH declines that are likely to have occurred in streams in this area since the Middle Ages. The results show that among several potentially acidifying activities, reclamation of mires for farmland (19th and 20th centuries) and subsurface drainage of acid sulphate soils (post-war times) are the major causes of the pH decline. Recent methods developed to combat the acidification and possible future changes in pH are discussed.

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