

## **Increasing trends in discharge N, P, and TOC exports from drained peatland forests**

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Previous studies indicated that discharge nutrient concentrations from forestry-drained peatlands return to similar levels as they are in pristine peatlands during about 20 years after drainage. We analyzed discharge total nitrogen (TN), phosphorus (TP) and (TOC) concentrations from 53 pristine peatlands and 67 drained peatland forests in Finland, and had data with significantly older drainage areas with respect to the timing of the initial drainage than in previous studies. To quantify the exports from drained peatlands during the whole stand rotation, hydrological simulations were performed on 861 Scots pine dominated forests in Central Finland.

Our results showed that the TP, TN and, TOC concentrations from drained peatland forests were increasing and largely doubled during 40-50 years since initial drainage. Our results indicated that forestry-drained peatlands contribute to water quality in forested catchments considerably more than estimated previously.