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Recent changes in peat properties and vegetation in Swedish mires

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In this investigation we have studied changes in peatland properties and vegetation during the 20th century in peatlands of eastern middle Sweden and the south Swedish uplands using archive material from a major peat survey carried out in the early 1900s. That survey was made with the purpose of estimating the peat resources in Sweden. In our study mires and coring sites from this old survey were identified on modern maps using the archived maps and diaries. In the field the peat properties was described using the same methods as in the early 1900s focusing on: type of peat, humification (von Post) and wetness but also the vegetation on the mire was described. The studied mires show significant changes in vegetation and a reduction in the formation of new peat is recorded compared with the early 1900s. In most of the investigated mires the uppermost part of the peat has a significantly higher humification than in the early 1900s and in peatlands affected by agriculture a reduced peat thickness is recorded. The investigated sites on the south Swedish uplands are characterized by a significant loss in *Calluna vulgaris* and an increase in small spruce plants on formerly open bog surfaces. In the eastern middle Swedish mires there is a tendency towards more nutrient demanding species and species preferring drier conditions on the mires. These changes in peat properties and vegetation are mainly due to an increased nutrient supply from atmospheric fallout and extensive forestry activities such as ditching.