

## ABSTRACT

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Title - Forty years of ecological change at Hager Lake Fen, Bonner County, Idaho

The peatland surrounding Hager Lake, Bonner County, Idaho, is of high biodiversity value in Idaho. Studies of the flora, vegetation, and water chemistry of the fen were originally conducted in the early 1950's. We reconstructed these studies in 1992. Numerous plant species have increased or decreased in prominence in all portions of the fen, including on the fixed and floating mats, in the littoral zone of the lake, and in the carr. Fourteen plant species have disappeared from the fen, including four rare species. Two factors appear to be responsible for these changes: altered hydrologic regimes and changes in the mineral content of surface waters. Both can be traced, in part, to anthropogenic disturbances in the fen and surrounding forest. Paleocological sampling from the top of the fixed mat corroborated our interpretation of the 40-year monitoring data. The most dynamic time during the 600-year history of Hager Lake Fen represented by a core coincided with human settlement of the area beginning about 80 years ago.