**Strengths and Weaknesses of Sutherland Pond vs. Fen Archive, Black Rock Forest, NY**

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Sutherland Fen, approximately the same size (4 ha) as adjacent Sutherland Pond, NY, is located in Black Rock Forest, southeastern NY. A previous study documented the pond paleovegetational history. We utilize a new pollen stratigraphy coupled with a high-resolution (2-cm) macrofossil record from the fen to improve our understanding of the local and regional signature of vegetation in both depositional environments. Both records indicate initial sedimentation about 15,000 years ago, and while the pond clays indicate a sparse pinetundra pollen assemblage lacking macrofossils, tundra/spruce forest is represented in the fen clays (willow, spruce). The A-123 pollen zone features similar percentages of pine (up to 50%) and oak (up to 20%) in both environments, and a Pinus banksiana needle is present in the fen. However, spruce pollen % is higher in the fen where needles are abundant locally, while fir percentages are higher in the pond, reflecting the upland preference for the latter. The overlying colder Younger Dryas (A-4) zone contains both spruce and fir macrofossils in the fen. But as pine pollen percents decline in the pond, birch and alder pollen increases are pronounced there, reflecting regional disturbance. Lack of fen shallow aquatics suggests deeper water. The warming Holocene (B zone) is marked by significant increases in pine (up to 60% in pond, 40% in fen) and oak (up to 30%) concurrent with the demise of spruce and fir, and abundant White Pine macrofossils in the fen. Herbs and sedge percentages are extremely low, implying a drier climate. While the overlying oak-hemlock zone (C-1) records fen increases in oak pollen to 35%, oak achieves 70% in the pond, showing regional significance. Pitch Pine needles in the fen are characteristic of this zone, signifying a drier climate, while alder macrofossils also become abundant. The oak-hickory (C-2) zone records peak drought with similar pollen percentages to the previous zone, but the aquatics give way to emergent fen taxa such as Chamaedaphne and Cephalanthus. The uppermost oak-chestnut zone (C-1) records declines in pine percentages in the fen only, and pond increases in human-induced disturbance species (i.e., ragweed).

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