

Black Duck Project: Fall 2002 Update

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Background Information

Several years ago, Gwich'in hunters and elders began to wonder why black ducks (white-winged and surf scoters) were less common than they had been in the past. Similar concerns have been voiced by wildlife biologists across North America. Reasons for the decline are not well understood because so little research has been done on scoters, especially in the northern part of their breeding range. Through this study, I hope to address this lack of information by examining how wetland characteristics influence which lakes scoter use for breeding and brood rearing, and more importantly, where they breed successfully. My research attempts to answer three main questions. Do female scoters select wetlands that have a large amount of key food items, or have bays or shoreline vegetation that might provide physical protection for ducklings? Are these types of preferred wetlands widely distributed and available for use by scoters, or could a lack of suitable wetlands somehow be preventing scoters from breeding successfully in the region? What effect does forest fire have on scoter use of wetlands?

Summer Work

In 2002, I counted scoters during helicopter surveys of 258 wetlands located within 39 plots situated in the Delta and adjacent upland area. 10 plots and 83 wetlands were repeats from 2001. The remaining plots were distributed to include delta, upland unburned and upland burned habitat. Upland burned plots were located within the 1999 burn northeast of Tsiigehtchic. Each wetland was surveyed in June for breeding scoters and in late July/early August for broods. In mid-August, a subset of wetlands (1) used by breeding pairs only, (2) used by broods only, or (3) used by neither breeding pairs nor broods, was sampled more intensively. Each of these wetlands was visited using a float-equipped helicopter to collect water samples, suspected food items, and other measurements of the wetlands and their adjacent uplands.

Preliminary and Expected Results

To date, analyses have only been conducted on 2001 data so results are preliminary. I first attempted to identify patterns in scoter pair and brood distribution. Are they consistently using a particular kind of wetland or wetlands in a particular region? In 2001 white-winged scoter pairs were more common than surf scoter pairs, and pairs of both species tended to make use of upland lakes more often than delta lakes. Delta and upland lakes were used equally by broods of both species. It is interesting to note that there was very little overlap in the number of wetlands used by both pairs and broods of either species. This means that wetlands characteristics required by pairs could be different than those needed by broods.

Winter Work

My results to date indicate where scoters are found during the breeding and brood rearing periods of the summer. Next steps include analyzing data from both years to contrast characteristics and scoter use of burned and unburned areas, and to determine whether or not scoters actually select the wetlands they use. I hope this will allow me to determine what habitat characteristics scoters require to breed successfully in this part of their range. This information, combined with similar information for other species, could be used to help mitigate future impacts of proposed developments, and also provide a baseline from which causes of future changes in scoter populations could be determined more easily. I hope to finish my thesis and graduate from the University of Saskatchewan by August of 2003.

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