

**Sea Duck Joint Venture**  
**Annual Project Summary for Endorsed Projects**  
**FY 2003 – (October 1, 2002 to Sept 30, 2003)**

**Project Title: No. 31.** Migration and condition of long-tailed ducks (*Clangula hyemalis*) wintering in eastern Canada

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**Partners:** USFWS, SDJV; CWS-Ontario Region

**Project Description:**

Many sea duck populations are declining, and the status of others is simply unknown because there are too few data to adequately determine population information. The long-tailed duck, a small sea duck with a circumpolar breeding distribution, falls into this latter category. We do not understand where long-tailed ducks wintering on the Great Lakes move to for breeding, their migration pathways and habitats, and whether wintering and breeding sites correspond to discreet subpopulations. In western North America, the long-tailed duck appears to be declining, while in the east it appears to be stable, although information on which to base this assessment is extremely limited.

Numbers of long-tailed ducks overwintering on the Great Lakes appear to be increasing. Because of a paucity of banding information on this species, however, we do not know where these wintering populations return to breed. This study was designed to capture birds overwintering on Lake Ontario, and use satellite telemetry to track those birds through spring migration, breeding and into fall migration. This technique would allow us to identify important migratory pathways, important staging areas, and breeding sites.

**Objectives:** The primary objectives of this study are to gather information on the movements and important staging areas of long-tailed ducks that winter on the Great Lakes and move North to Nunavut to breed.

1. Capture wintering long-tailed ducks and implant satellite transmitters in 9 birds
2. Monitor migration movements of ducks
3. Identify breeding areas
4. Identify post-breeding movements
5. If satellite transmitters last, identify fall migration staging locations

**Preliminary Results:** In February and March 2003, satellite transmitters were implanted in 7 long-tailed ducks (4 adult male, 2 adult female, 1 juvenile male) on their wintering (or perhaps winter staging) grounds in Lake Ontario. Three birds implanted in February all died within 2 weeks, during a period of severe cold and heavy ice conditions. In March, the adult female died within 2 weeks, but as of September, all three adult males appear to be alive. However, the transmitter in 1 bird stopped transmitting locations within 3 weeks of implantation, so we have no record of movements for that bird. Hence, of 7 implanted birds, only 2 have provided information on movements, and both of these birds were adult males.

Implanted birds spent about three weeks (early April) in Lake Ontario, and then moved to Georgian Bay, Lake Huron, for a brief period. This was followed by a migration to Akimiski

Island in James Bay, where they staged for approximately 1 week. Following this, the birds moved northwest. One male traveled to the Churchill area of northern Manitoba. It spent approximately 1 month here, presumably with near its mate, before moving north to the western Hudson Bay coast near Rankin Inlet, where it remained for 2 months. The second male moved further north to central Keewatin District, near Baker Lake, where it remained for nearly 3 weeks, presumably with its mate. Following this it undertook a movement to the mouth of Chesterfield Inlet, where it spent nearly 2 months. In September, this male moved further north, across western Southampton Island, and has remained near Repulse Bay, south of the Melville Peninsula as of late September.

**Project Status:** The long-term goal of this study is to put satellite transmitters on an adequate sample of individuals of long-tailed ducks to track their use of the Great Lakes and their movements to and from Canadian breeding grounds. However, the loss of the birds implanted during winter calls in to question the current feasibility of implanting female long-tailed ducks with transmitters, at least until technology permits a smaller implant. The opportunities to implant 2 more birds may present themselves this winter, at which time additional implantations will be considered. Clearly additional data will be required to adequately characterize the movements and staging areas of these birds, and to design future research work.

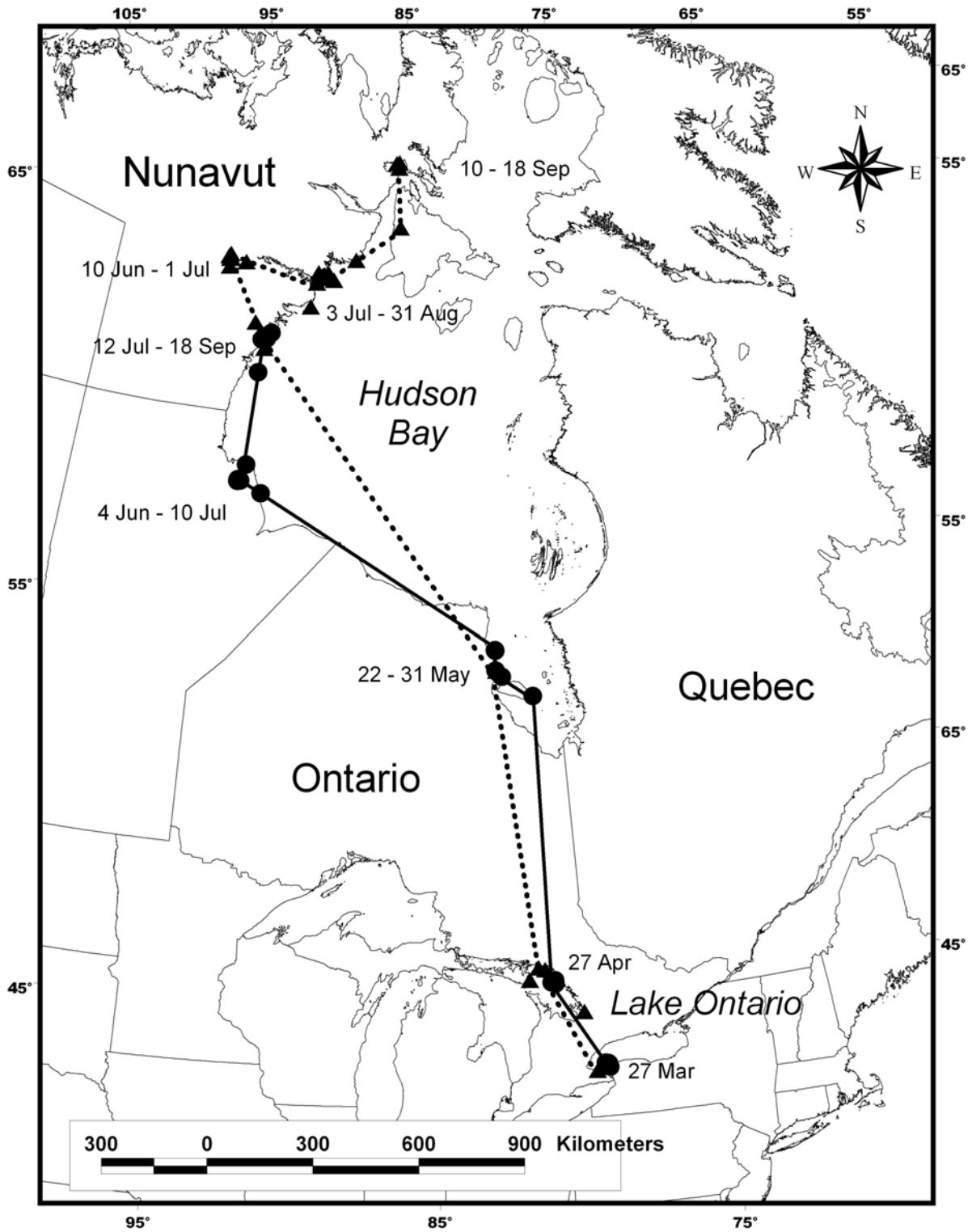


Figure 1. Movements of satellite marked long-tailed ducks from Ontario to Nunavut, 2003.