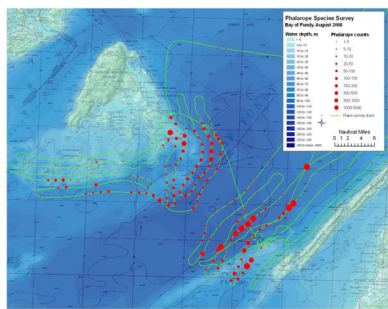


## Patuxent Wildlife Research Center

# Feasibility of Aerial Surveys to Census Red-Necked Phalaropes in the Bay of Fundy



- **The Challenge:** Is it possible to monitor numbers of migrating red-necked phalaropes (*Phalaropus lobatus*) in the Bay of Fundy? Currently aerial surveys are flown during late summer to determine location and approximate size of current stopover concentrations. This research will assess the effectiveness of using aircraft to conduct surveys; determine a protocol for the placement and spacing of transects; and explore multiple techniques for estimation of flock sizes, including aerial 35 mm and digital photography.
- **The Science:** There is no monitoring program to determine numbers or population trends for red-necked phalaropes. None of the existing monitoring programs, such as the International Shorebird Survey, the Maritimes Shorebird Survey, the Quebec bird checklist program called Étude des populations d'oiseaux du Québec (EPOQ), or the surveys developing under the Program for Regional and International Shorebird Monitoring (PRISM) provide useful population information about this species, which is pelagic away from the breeding grounds. Several species of shorebirds are declining in North America, including the Red-necked Phalarope. Numbers of breeding birds have declined in the Arctic, and concern for the species has increased dramatically following the virtual disappearance of birds from traditional migration stopover sites in the Bay of Fundy. Possibly 2 million Red-necked Phalaropes once congregated annually near the Maine-New Brunswick border on their July-September migration. However, numbers declined precipitously in the mid-1980s and by 1990, the birds were gone. Groups of hundreds and perhaps thousands have recently been observed in various parts of the Bay during southbound migration. Phalaropes have traditionally returned to three main areas in the outer Bay of Fundy to feed and then continue on their southward migration: Deer Island area of New Brunswick; south of Grand Manan Island, New Brunswick; and off Brier Island, Nova Scotia. Red-necked Phalaropes predominate at the first location and Red Phalaropes (*P. fulicaria*) predominate at the other two sites. There is no evidence of a decline in phalaropes from around Grand Manan or Brier Island. Recent boat surveys off Brier Island suggest that more Red-necked Phalaropes now use that area for feeding compared to the late 1970s and it is possible that an unknown proportion of Deer Island RNPs switched to Brier Island. The Brier Island site is much more "open-ocean" in character and the phalaropes there are spread out over a much wider area that they were at Deer Island.
- **The Future:** This is a collaborative project between USGS and USFWS, Canadian Wildlife Service, and the University of New Brunswick. Surveys have been flown in 2006, 2007, 2008, 2009, and 2010. Surveys have taken place at different times and using different flight configurations. The research to date had determined that phalaropes can be surveyed from aircraft. Survey height and configuration is being evaluated. Aerial surveys are being coordinated with boat surveys and limited telemetry work by a graduate student. The results will provide critical data for management of a species of federal and international concern.