

The Livingston Ripley Waterfowl Conservancy



Research • Education • Conservation Action



SEPTEMBER 2010

Research Update

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LRWC BLACK DUCK RESEARCH

Historically, the American black duck (*Anas rubripes*) was the most abundant fresh-water duck in eastern North America. Numbers of black ducks have declined steadily since the 1950s, reaching all-time lows in the 1980s. The black duck has been identified as a species of priority concern in Connecticut and northeastern North America.

There are a number of factors that may be contributing to the decline of the black duck. These include changes in breeding and wintering habitat, hybridization and competition with mallard ducks, environmental contaminants, over harvest and poor productivity. In Connecticut, urban development, human disturbance and wetland degradation are primary factors contributing to the loss of breeding and wintering habitat.

Field research is underway to improve management efforts for black ducks. In 2007, the Connecticut Department of Environmental Protection (CTDEP) began a three-year study to learn more about the ecology of black ducks wintering in Connecticut. Researchers

are working to identify priority habitats and quantify available food resources that are critical to the winter condition of black ducks. During the first two years of the study, CTDEP biologists marked 60 adult hens with VHF radio transmitters. The VHF transmitters have provided information about winter survival and distributions of black ducks within the state.

This past winter, the Livingston Ripley Waterfowl Conservancy (LRWC) partnered



Black duck with satellite transmitter.

with CTDEP by providing three satellite transmitters for black duck research. The satellite technology will provide precise locations of black ducks during their daily activities throughout the year, in addition to information on migration and movements of these birds outside the state. Funding for the satellite transmitters was provided to LRWC by a generous grant from the Marilyn M. Simpson Charitable Lead Trust.

In February 2010, biologists from CTDEP trapped three black ducks (two males and



Swim-in trap for catching black ducks.

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LRWC BLACK DUCK RESEARCH

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one female) on the Connecticut coast. LRWC researchers fitted each bird with a GPS satellite transmitter using a backpack harness attachment. The harness is constructed using Teflon ribbon, which is soft and comfortable for the bird, but very durable.

The satellite transmitters are solar-powered, with a built-in solar panel across the top of the unit to keep the battery charged. Inside the transmitter there is a GPS receiver to record the daily locations of the birds, along with the satellite transmitter that sends the data to a small receiver mounted on an orbiting satellite. The transmitters are programmed to collect a precise GPS location three times a day, and download the information to the satellite every three days. Once the information is collected by the satellite, it is downloaded to a receiving station on earth and emailed directly to our research staff. This amazing technology allows us to track the daily movements of these birds from the LRWC office!



LRWC Director Sue Sheaffer holds a male black duck released with a satellite transmitter near the Connecticut Audubon Society Coastal Center at Milford Point.

Preliminary Results

The transmitters on these birds have provided detailed information about the timing and location of spring migration, and the specific habitats the birds use along the way. Of the three birds carrying transmitters, one of the males did not undertake a spring migration this year. Instead, he spent the last six months in the coastal marshes near the mouth of the Housatonic River in Connecticut. Black ducks are not uncommon in Connecticut during summer, and we are getting an unprecedented view of the daily movements of a local black duck and the habitats he visits.

The second male began spring migration on April 3rd,

traveling over 800 miles in one day to southern Quebec. After a months rest on the Quebec coast, he headed north into Labrador. By mid June, he had flown over 1,400 miles to northern Labrador, where he spent late June and July. He began fall migration in mid September, and at the date of this report he had travelled to southeastern Quebec.

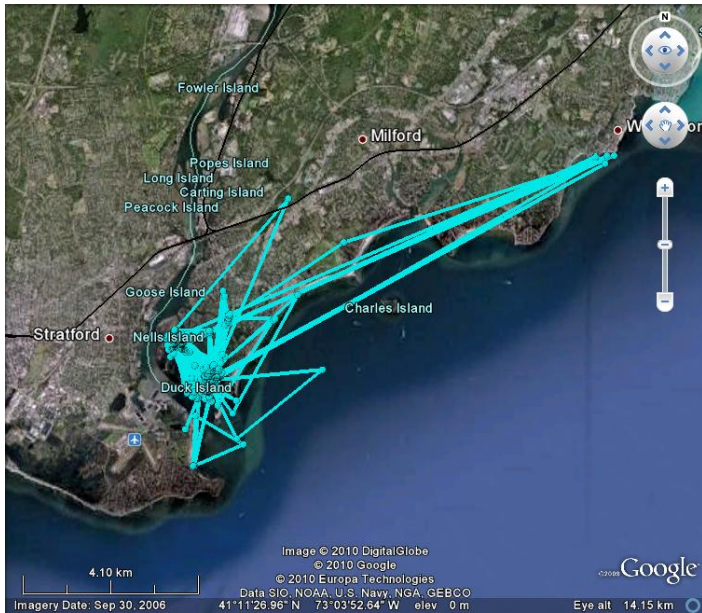
The female black duck waited until April 30th to depart on spring migration, flying 270 miles to the coastal marshes of Maine. In June she traveled another 230 miles to the wetlands north of the Bay of Fundy, between the borders of New Brunswick and Nova Scotia. She may have tried to

nest in late June as she restricted her movements to a relatively small area. However, if she attempted to nest, it appears that her nest was lost after 10 days. She remained north of the Bay of Fundy until early July, when she traveled another 200 miles to Nova Scotia.

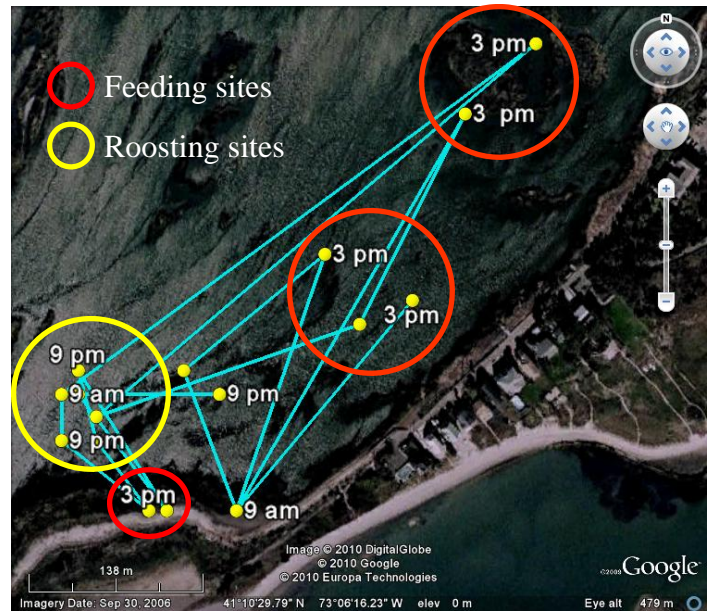
Future Endeavors

This winter we will be pairing the information from the black duck transmitters with the habitat information collected by our research partners. Our sample size of three birds is

small, but the satellite technology provides detailed insights into the daily movements of the birds throughout their range, which would be impossible to collect from field observations. Not only will we improve our information about black ducks in the northeast, the data from satellite transmitters will become a valuable education tool that can spark the interest of students of all ages. The successful deployment of the transmitters on black ducks also will serve as a foundation for funding initiatives designed to expand research efforts for black ducks and other waterfowl species. Check out our website for periodic updates about black duck research, and to follow the continued travels of the black ducks as they migrate this fall.



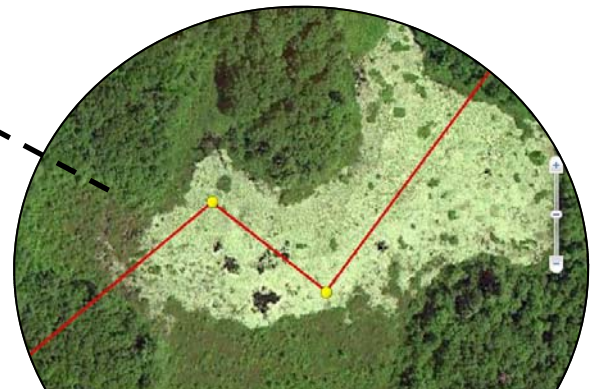
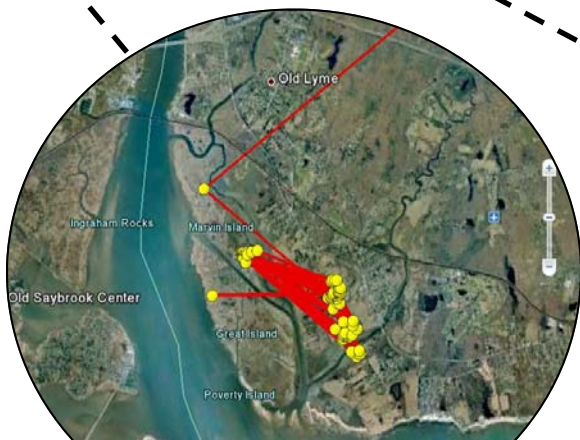
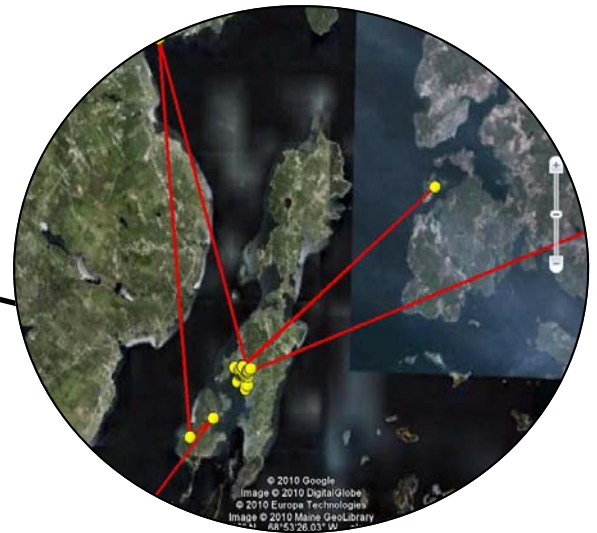
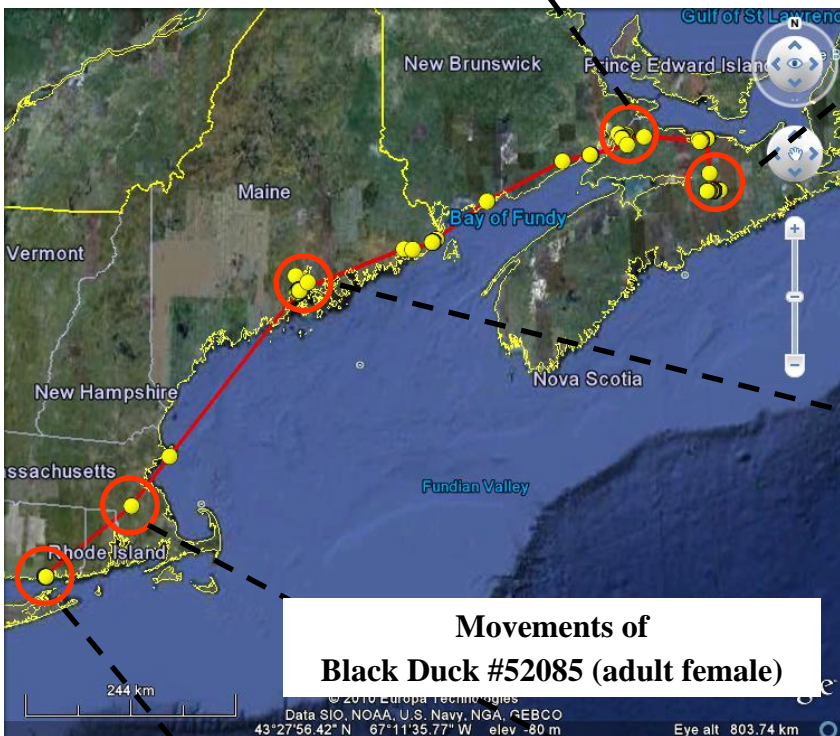
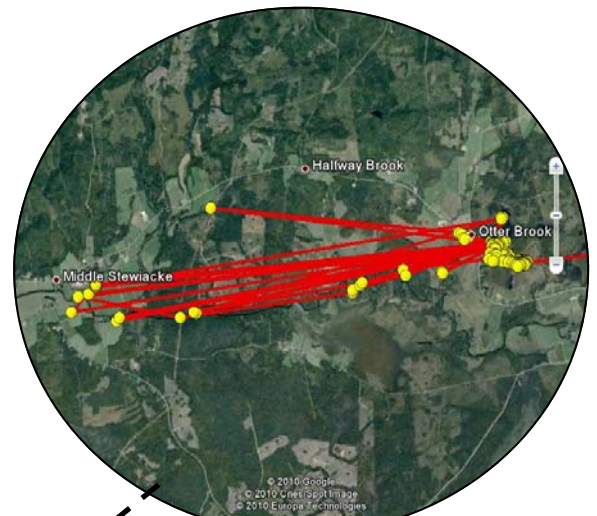
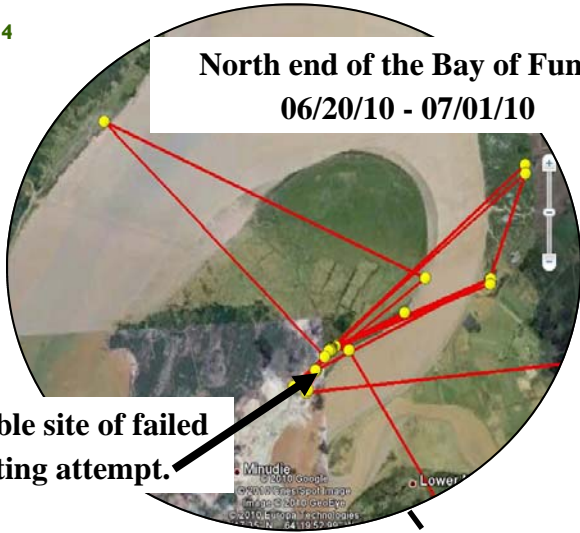
Movements of a male black duck on the Connecticut coast during February - August, 2010.

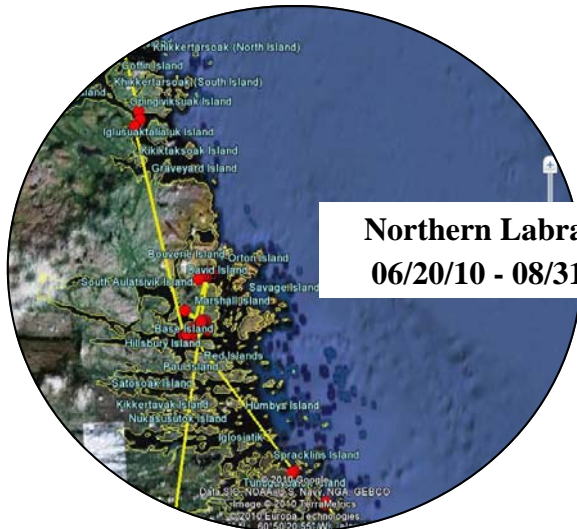


Locations of a male black duck during one week in March. GPS precision allows identification of distinct feeding and roosting sites.

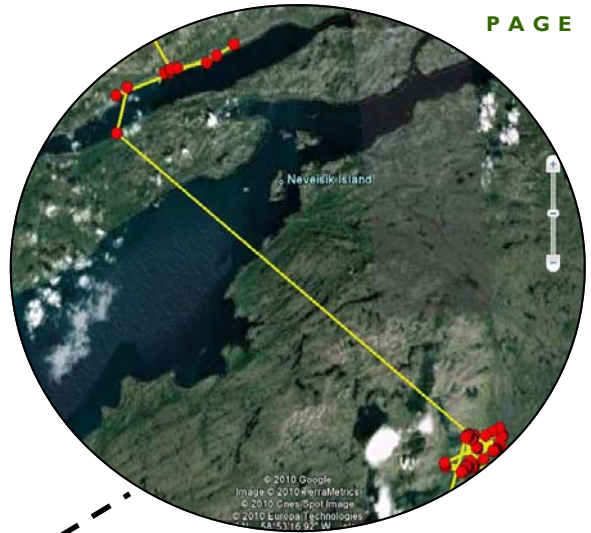


Spring movements of a female black duck that wintered in Connecticut. Satellite technology identifies the timing of migration and the duration of stopovers along the way.

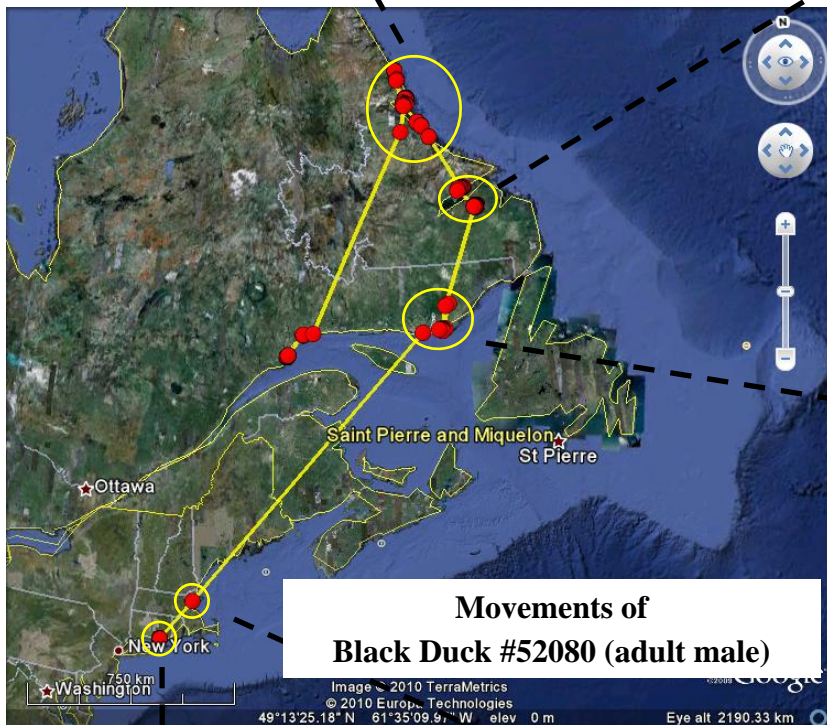




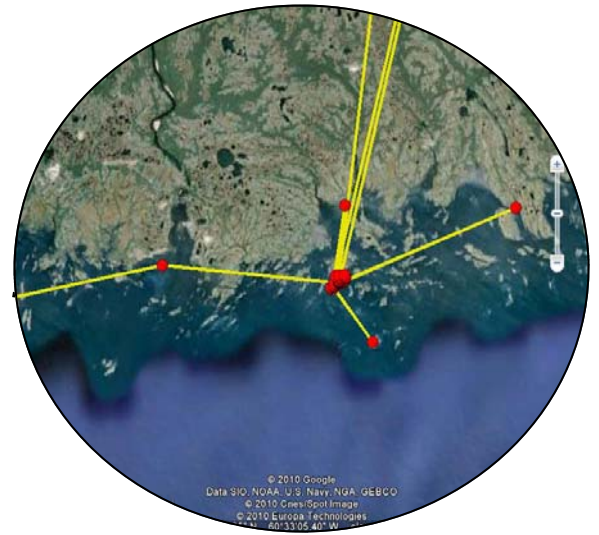
Northern Labrador
06/20/10 - 08/31/10



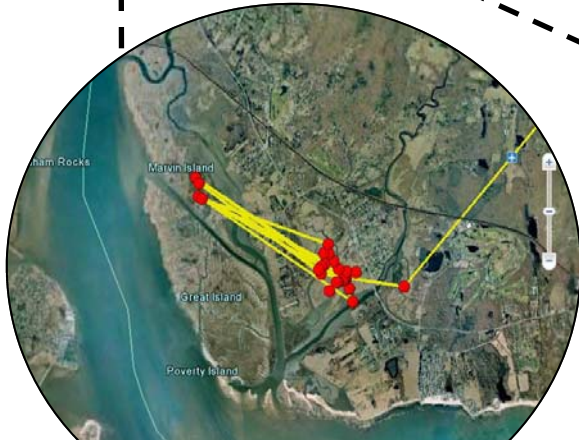
Stopover in central Labrador
05/02/10 - 06/20/10



Movements of
Black Duck #52080 (adult male)



Coastal Quebec migration stopover
04/04/10 - 05/02/10



Release location at the mouth of the
Connecticut River, February 2010.



Spring migration starts on 04/03/10.
First location: flying over Massachusetts