More Than Just Coasting by...

2010 Results of Annual Breeding Coastal Bird Survey at Boston Harbor Islands

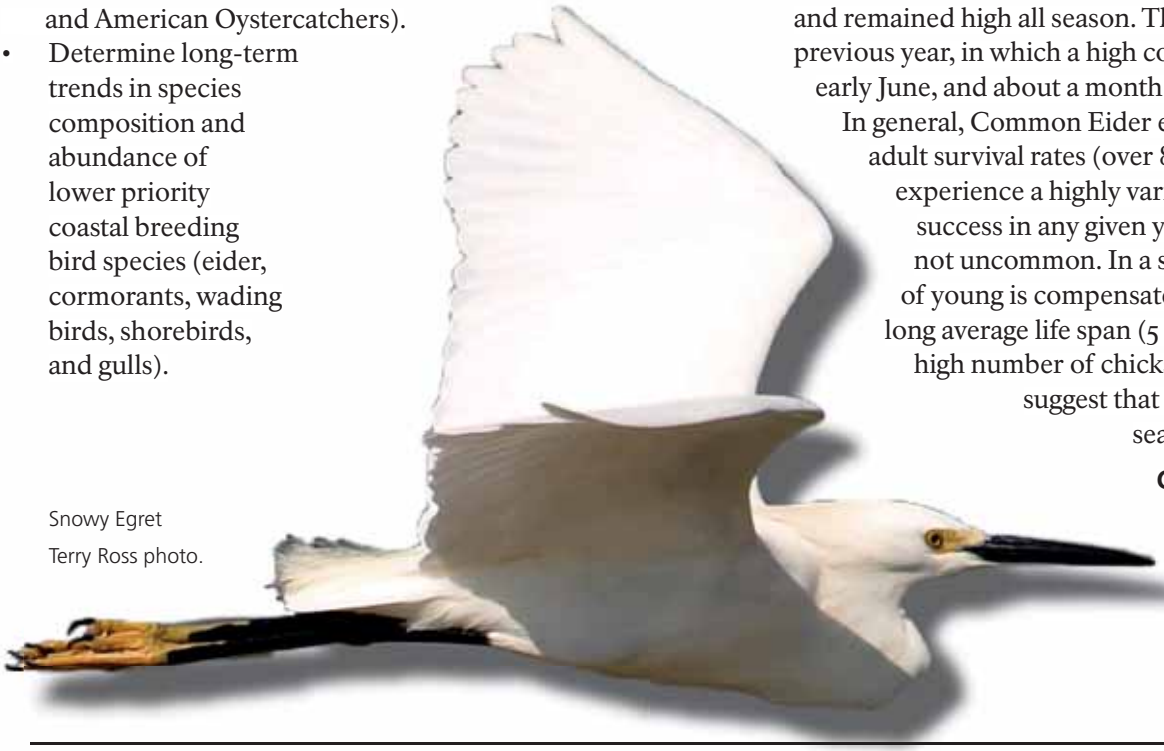
Background

Boston Harbor Islands National Park Area (referred to henceforth as "the Islands") includes 34 islands and peninsulas situated within the Greater Boston shoreline and is one of thirteen park units included in the Northeast Temperate Network (NETN). The Islands are a Massachusetts Important Bird Area (IBA) and provide habitat for a significant number of colonial-nesting waterbirds, including Least and Common Terns, which are both listed as species of special concern in the state. Because waterbird populations can fluctuate widely, a consistent and comprehensive long-term monitoring protocol was established in order to accurately measure population trends over time. Since 2007, a dedicated group of highly skilled volunteers have assisted lead scientist Carol Trocki with waterbird surveys in the Islands.

Purpose and Scope

The objectives of the coastal breeding bird monitoring program are to:

- Determine annual changes and long-term trends in abundance of high priority coastal breeding bird species (Least Terns, Common Terns, and American Oystercatchers).
- Determine long-term trends in species composition and abundance of lower priority coastal breeding bird species (eider, cormorants, wading birds, shorebirds, and gulls).
- Conduct an annual surveillance program within the park to identify future use by threatened or endangered coastal breeding bird species, such as Piping Plover and Roseate Tern.



Snowy Egret
Terry Ross photo.

Results and Findings

The following is a brief summary of findings from the 2010 monitoring season. For complete details download the full report on NETN's website.

Common Eiders

Boat-based surveys for Common Eiders, which nest semi-colonially in tall grass or under overhanging vegetation on the rocky Outer Harbor Islands, were conducted in 2010. Beginning approximately 2-3 weeks following peak incubation, Common Eider chicks can be observed rafting in crèches of a few to over 150 ducklings offshore near nesting islands. Mother Common Eiders lead their young to water and are often accompanied by nonbreeding hens that participate in chick protection. Once formed, a crèche tends to stay together throughout the brood rearing period, although some of the attending females may leave. Boat-based surveys of the Outer Islands were conducted four times during the latter half of the nesting season to search for adult female eiders tending chicks. The number of eider chicks observed in 2010 reached a peak of 341 in mid-June, and remained high all season. This was high compared to the previous year, in which a high count of 196 was obtained in early June, and about a month later only 34 chicks remained. In general, Common Eider experience high annual adult survival rates (over 80% in several studies), but experience a highly variable degree of reproductive success in any given year with years of 'near disaster' not uncommon. In a stable population, low survival of young is compensated for by their comparatively long average life span (5 to 6 years). The consistently high number of chicks observed in 2010 seems to suggest that this was an unusually successful season for nesting eider.

Cormorants and Gulls

Because boat-based surveys of gulls and cormorants are known to produce highly variable results due to observer differences and the challenges of counting

incubating birds from a moving, bobbing-and-weaving boat, a high-resolution, image-stabalizing camera was used to photograph the shoreline of the nesting islands during surveys in 2009 and again in 2010. The overlapping photos were later stitched together to aid in counting nesting birds. The overall mean number of nesting cormorant and gull pairs detected during 2010 boat-based surveys in the Outer Harbor of Boston Harbor Islands were: Double-crested Cormorant = 1,097; Great Black-backed Gull = 73, and Herring Gull = 261.

American Oystercatchers and Willets

Boat-bound and binocular-bearing volunteers were successful in detecting territorial pairs of American Oystercatchers and Willets in 2010. Many nest locations appear to be used repeatedly, which should increase search efficiency for known nesting locations in the future. Statewide efforts to track banded American Oystercatchers have also been extended to the Boston Harbor Islands and will hopefully allow for improved management of this species. Currently, the islands support a significant portion of the state's nesting oystercatchers, an estimated 11% in 2010, based on preliminary data from the State of Massachusetts Natural Heritage staff shared at the annual Massachusetts waterbird meeting in August of 2010.

Willets were once again observed defending territory on Snake Island in 2010, but have not been observed on any of the other islands in the park. Regular surveillance of all islands will be undertaken on a 3-year rotation and should be sufficient to detect new territories elsewhere in the park.

Least Terns

Thirty-five Least Terns were observed nesting on Lovells Island in 2010, after being absent from the park since a predation event on that island in 2007. Since 2008, Least Terns have been nesting on nearby Winthrop Beach, outside the park boundary. It is presumed that the terns that appeared on Lovells Island midway through this season were pursuing a re-nesting effort following a predation event on Winthrop Beach. Researchers hope that the Terns will return to Lovells next year for their breeding grounds.

More Information

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Species Spotlight:

Least Tern

Around the turn of the century, the least tern was in danger of extirpation in the northeastern U. S. because of hunting to feed the fashion frenzy of putting bird feathers in women's hats. Entire breeding colonies numbering more than 10,000 birds were killed. One New York woman negotiated in 1884 with a Parisian millinery to deliver 40,000 or more bird skins hiring gunners to kill as many terns as possible at 10-cents a skin. The Lacey act of 1900 allowed the species to recover in the 1920's and 1930's, but in recent years human pressures have been causing another decline in populations of this species.

The smallest of American terns, the Least Tern is usually found nesting on sandy beaches on its northernmost breeding grounds by late April to mid-May, often arriving before Common Terns. They feed mostly on small fish caught by skimming the surface of the water or by making dives from the air. The Least Tern breeds in colonies of up to 200 birds. Nesting spots are modest scrapes in the sand, shell or gravel, and may be sparingly lined with small shells or other debris. Eggs are commonly laid in clutches of two from late May through June, and are incubated by both sexes. Least Terns are very defensive in the colony. Adults scream and dive at intruders. Where they occur (none found in Boston Harbor Islands – yet) Piping Plovers, another endangered beach-nesting bird, are commonly found nesting in association with Least Terns. By late August and early September, they leave their northern breeding grounds to head for wintering areas.

Left to their own devices they can be a very long-lived bird (banding studies have shown individuals living up to 21 years), but pressures from coastal development that destroys breeding habitat and recreational activities can disrupt reproduction and lead to early mortality. Increases in species that associate well with humans, like the more aggressive gulls, have led to competition for nesting sites. Some colonies are severely limited by predation from rats, great horned owls, raccoons, black-crowned night herons, dogs and cats.

Least Tern feeding chick on Lovells Island, 2010. Carol Lynn Trocki photo.

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