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Volunteers Help Tern Out Another Successful Year of Monitoring

2012 coastal bird survey results for the Boston Harbor Islands NRA

Background

Boston Harbor Islands NRA 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 park is a Massachusetts Important Bird Area (IBA) and provides 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. In 2007 and 2008, waterbird surveys were conducted in the park to support the development of a long-term monitoring protocol (completed in 2010). Beginning in 2009, monitoring based on the protocol was implemented and annual summary reports and resource briefs such as this one available for those previous 3 years.

Purpose and Scope

The objectives of the coastal breeding bird 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.

Results

Common Eiders

A total of 112 nests were detected in the Outer Harbor Islands in 2012. The high count for eider ducklings was 217 observed in the end of May, but by mid June they had declined precipitously. In previous years, high counts ranged from 155 in 2008 to 341 in 2010. The highest duckling counts have generally occurred in mid-June, but have also varied from early or late June.

In general, Common Eider experience high annual adult survival rates (over 80% in several studies), but they can experience highly variable degrees of reproductive success in any given year, and years of 'near disaster' are not uncommon. In a stable population, low survival of young is compensated by their comparatively long average life span (5 to 6 years). The number of ducklings observed in 2012 was within the range generally observed and does not suggest a particular concern for nesting eider productivity.

Cormorants and Gulls

A boat-based survey of nesting cormorants and gulls was conducted in the Outer Harbor Islands in mid-May using two independent observers. Preliminary investigations into the use of high-resolution digital photography to document nesting were promising in 2010, but the methods require additional refinement and weather conditions which were not achievable in 2011 or 2012. Boat-based surveys are not possible for all park islands, such as Great Brewster, because boat navigation is prohibited by navigational hazards. Ground-based nest surveys for gulls and cormorants are more precise but require considerably more effort and are not feasible for cliff-based colony sites. They also can cause much greater disturbance to nesting individuals.



Wading Birds

Wading birds were scheduled to be comprehensively surveyed in 2012, but not all colonies were visited during an appropriate survey window. In addition to active nest searching, during surveys on Outer Brewster, an observer was positioned above the colony to count the number of flushing adults which was significantly greater than the number of nests detected. One Great Egret, 27 Snowy Egrets, 135 Black-crowned Night Herons, and 7 Glossy Ibis adults were observed attending the colony site on Outer Brewster.

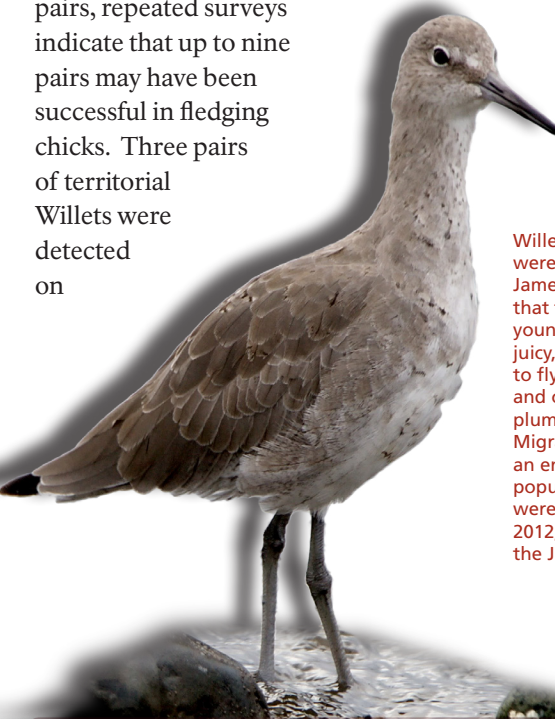
Wading bird nesting activity was noted on Sarah Island and Sheep Island during boat-based surveys in the end of May, but comprehensive surveys were not conducted due to disturbance concerns given the advanced stage of development of chicks. Great Egrets, Snowy Egrets, Black-crowned Night Herons, and Glossy Ibis were all present at both sites.

While study organizers were not able to comprehensively survey all wading bird colonies in 2012, a successful survey of Outer Brewster was accomplished, a laudable feat considering its large size, boat landing restrictions, dense vegetation, and topography. Compared to numbers observed in 2009, it would appear that the Outer Brewster colony has grown; both the total number of nests detected and the adult flush count increased. Without comparable numbers for all island colonies, it is difficult to draw any conclusions about the local wading bird population beyond acknowledging a general consistency in colony locations, relative size, and species composition.

American Oystercatchers and Willets

A combination of boat-based and ground-based surveys detected a total of 23 American Oystercatcher pairs on 13 islands in the park.

Although it was not possible to track productivity for all pairs, repeated surveys indicate that up to nine pairs may have been successful in fledging chicks. Three pairs of territorial Willets were detected on



Willets, along with other shorebirds, were once popular for food. John James Audubon himself once penned that the eggs were delicious, and the young "grow rapidly, become fat and juicy, and by the time they are able to fly, afford excellent food." For this and other reasons, Willet populations plummeted by the early 1900's. The Migratory Bird Treaty Act of 1918 put an end to market hunting and Willet populations have recovered. Willets were seen on Snake Island again in 2012, but no nests were located during the June survey. Reck Leche photo.

Snake Island once again defending territory in June of 2012, but no nests were located and only a limited survey effort was conducted due to disturbance concerns. Many nest locations appear to be used repeatedly, which should increase search efficiency for known nesting locations. Willets 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 Willet territories on other islands in the park, given their visible and highly vocal nature.

Terns

In 2012, four Least Tern nests were detected on Lovells Island in mid-June. Based on early season reports, it is believed that the colony had previously been significantly larger in size, but was overwashed in early June and that the mid-June observations were a re-nesting effort. Subsequently, the colony was abandoned, apparently due to the nasty business of a rat infestation. During a visit to the Spinnaker Island platform in mid-June, 163 adult Common Terns were observed attending the colony. No terns were detected nesting on Snake or Rainsford Islands in 2012.

Although only a small number of Least Terns attempted nesting on Lovells Island in 2012, 75 were observed nesting there in 2011. A smaller colony was present in the same location in 2010, presumably as the result of a re-nesting effort following a predation event at nearby Winthrop Beach. Prior to this re-colonization, Least Terns had been absent in the park since another predation event on Lovells Island in 2007. As mentioned earlier, it is believed that nesting in 2012 was disrupted by both an early season overwash event and by predation by rats later in the season. Predator control efforts may be warranted if tern nesting is a desired outcome for the park. The variable history of nesting efforts also highlights the importance of continuing to manage for terns in the park, even in years when they may not be present. It is highly recommended that island managers continue to post informational signage and employ all other reasonable efforts to reduce human disturbance at previously known colony sites on Rainsford, Lovells, and Snake islands every season so that appropriate habitat remains available for future use.

More Information

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Resource Briefs and Full Report online at:

<http://science.nature.nps.gov/im/units/netn/monitor/programs/coastalBirds/coastalBirds.cfm>



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