2014 Was a Banner Year for Nesting Piping Plovers

Written by Rebecca Foster, DEEP Wildlife Division; photos by Paul Fusco, DEEP Wildlife Division

The piping plover and least tern nesting season in Connecticut came to a close with the arrival of autumn. With the impending winter ahead, most plovers and terns have completed their lengthy migrations and are feeding at their wintering grounds from the southern United States down to the Caribbean.

The piping plover is a small shorebird that nests on sandy beaches along our shoreline. It is listed as a threatened species on both the state and federal level. The DEEP Wildlife Division actively manages piping plovers and their nesting habitat in the state. When quality nesting habitat, territories, and nests are located, the Wildlife Division places stake and string "psychological" fencing around the areas, complete with bright yellow signs that say "Please Stay Away." This prevents beachgoers from accidentally stepping on well-camouflaged nests and chicks, while also providing the nesting pair with a buffer from disturbance.

Piping plovers scrape a shallow depression in the sand in which they lay three to four tan and brown spotted eggs. After the fourth egg is laid, an "exclosure" may be installed around the nest. The exclosure, which is a large metal cage with fine netting covering the top, is effective in preventing predators from eating plover eggs. After 27-30 days, tiny precocial (feathered and able to move freely) chicks will hatch. DEEP staff and many dedicated volunteer monitors intensively observe the chicks for a month or more to determine the number of young that reach the age at which they can successfully fly (also called fledging). High piping plover fledge counts indicate a successful nesting season because more individuals are added to a population than are naturally lost.

2014 Results

The number of piping plover pairs returning to Connecticut to breed was the higher this year than last – 51 pairs compared to 45 in 2013. Over the last seven years, the number of plover pairs nesting in Connecticut has remained steady or increased slightly, averaging 47 pairs. This year, a new record number of plover chicks fledged in Connecticut – 116 – surpassing the previous high of 101 in 2008!

A number of factors likely contributed to this high level of fledging success. Overall, nest and chick losses due to inclement weather or wash-outs from high tides were low. Only seven nests statewide were washed over by high tides, and one of these was still able to hatch eggs. No "heat waves" or significant storms were reported during the peak plover nesting window and food availability seemed adequate.

Another important element contributing to piping plover success was the assistance of more than 400 people who monitor and protect Connecticut's threatened shorebirds. Partner groups include the U.S. Fish and Wildlife Service (USFWS), Audubon Connecticut, Connecticut Audubon Society, Audubon Alliance for Coastal Waterbirds, The Nature Conservancy, and the Bridgeport WildLife Guards, as well as municipalities, private landowners, and many other volunteers, like the Master Wildlife Conservationists. These volunteer monitors not only watch the nesting shorebirds and notify DEEP of urgent management concerns, but also educate hundreds of beachgoers about the plight of piping plovers and least terns (see article on page 16 to learn more). Nesting birds benefitted immensely from the increased level of public education, as well as the significant monitoring presence on nesting beaches and quick responses to address issues.

Historical nesting beaches continued to be the most productive for piping plovers in Connecticut; Old Saybrook, Milford, and West Haven again supported the greatest number of nesting plover pairs. In 2014, plovers nested on or attempted to nest on a few unexpected beaches as well.

Predators and Exclosures

Even with the overall successes of the nesting season, predators had a substantial negative effect on piping plover hatching and fledging rates at a few sites that historically have been productive. For example, all three attempted nests on a nesting beach in Stratford were lost to fox predation. Predator-related losses also were recorded at Groton, West Haven, and Old Lyme beaches. Predator pressure continues to be evaluated at these locations.

The use of nest exclosures has consistently proven to increase plover hatching success throughout the region. However, recently it has been observed that predators are "keying in" on the large metal cages. This happens when predators learn to associate the exclosure with a food source (i.e., eggs or adults), either from experience or observation of other predators. In areas where this is happening, the use of exclosures will be limited. This

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year, biologists observed piping plovers "refusing" exclosures on three occasions. "Refusal" means that after an exclosure is installed around a nest, the adults refuse to enter the cage and resume incubation. After a waiting period (determined by scientists to allow maximum opportunity for the birds to return but also minimizes exposure of the eggs to the elements), the exclosures were unassembled and quickly removed. In all three documented cases, the plovers immediately resumed incubation once the exclosure was removed.

Exclosures will continue to be used during the 2015 nesting season as an important management tool. However, exclosure use will be site-specific and based on predator history and the individual plover acceptance of the exclosure.

Overall, least tern productivity in 2014 was disappointing. Only 258 pairs attempted to nest statewide and 75 young fledged. One theory explaining the lack of success may be a possible shortage of food for young chicks.

Interesting Observations

This season, monitors made a number of unusual piping plover behavioral observations. For example, an exclosure was placed around a nest in which one pair of plovers laid four eggs. The birds returned to the nest and resumed incubation. On a subsequent visit, five eggs were counted in this same nest. While not unheard of, scientific literature states that five-egg nests are rare. In this instance, only four of the eggs hatched.

Another interesting observation was piping plover responses to high tide events inundating their nests. Most seasons, it is common for the higher tides to wash over a number of plover nests that are located on low-lying sandy beaches. In three such cases this year, plovers dug new nests further back from the high tide line and rolled their eggs into the new nests. All three pairs continued to incubate their eggs. Two of the nests failed to hatch, but one nest successfully hatched two of four eggs. Monitors and staff will continue to note atypical behaviors and incidents at nesting beaches.

Least Tern Numbers Low

DEEP also intensively manages and monitors another state threatened shorebird, the least tern. Least terns are colonial nesting birds that use the same sandy beaches as piping plovers. Similar to plover management, least tern management involves the use of wooden fencing and educational signage for protection of nesting colonies. In addition, large sections of heavy-duty metal fencing may be used on the most productive sites. The fencing encompasses an entire tern colony and prevents predators, like skunks and foxes, from preying on the terns' ground nests. The use of metal fencing is limited as installation is both difficult and labor intensive. In 2014, metal "tern fencing" was only used at one site.

Overall, least tern productivity in 2014 was disappointing. Only 258 pairs attempted to nest statewide and 75 young fledged. One theory explaining the lack of success may be a possible shortage of food for young chicks. While results from this year's fisheries surveys are still being analyzed, early indications are that some populations of small baitfish, which are food sources for chicks, still seem to be recovering from very low numbers in 2013.

While the poor least tern productivity over the last few years in Connecticut is alarming, biologists have looked at population numbers in neighboring coastal states (Massachusetts, Rhode Island, and Long Island, New York) to try to put Connecticut's situation into perspective. When considering least terns from a regional standpoint, the pooled number of pairs has stayed fairly consistent. Birds do not take state lines into account when they decide where to nest. Biologists are encouraged that regional populations have remained stable.

Locations in Connecticut with the largest numbers of nesting least terns included Old Lyme, Milford, Westbrook, and Waterford. The greatest fledging success was recorded at a site in Old Lyme with 30 fledges, followed by a site in Waterford with 28 fledges, and a site in Westbrook with seven fledges. DEEP will continue to manage the least tern population in Connecticut and work with conservation partners throughout the region to determine the factors limiting tern nesting and fledging success.

Looking Ahead to 2015

The Wildlife Division will be ready in 2015 to use all of the tools, data, and manpower available to effectively manage imperiled shorebird populations in our state. Anyone who wishes to become a USFWS piping plover/least tern volunteer monitor should contact the Audubon Alliance for Coastal Waterbirds at ctwaterbirds@gmail.com. More information about the shorebird monitoring program is available on the Audubon Alliance website at www.ctwaterbirds.blogspot.com.

THANK YOU!

The Wildlife Division would like to thank the incredibly dedicated group of conservationists that made 2014 such a success for the piping plover!

Increasing Awareness About Beach-nesting Birds One Pledge at a Time

By Corrie Folsom-O'Keefe, Important Bird Area Program Coordinator, Audubon Connecticut

Connecticut beaches provide important nesting habitat for the federally and state threatened piping plover and the state threatened least tern and American oystercatcher. These species arrive in Connecticut from late March through early May and lay their camouflaged eggs in small scrapes in the sand. Young piping plovers are precocial; upon hatching they are mobile and can feed themselves but rely on the adults for protection from the elements and predators. Least terns chicks are fed by the adults until they are capable of flight. American oystercatcher chicks may stay with adults for up to a year while learning to use their strong bills to feed on mollusks. Disturbance by unaware beachgoers can have a real impact on the breeding success of these species. If beachgoers tread into nesting areas, eggs and chicks may get stepped on or adults may leave their young unattended. Dogs being walked on beaches during the nesting season has a similar effect, as these birds see dogs as predators, even when leashed. Birds scared off of nests by dogs will take longer to return to a nest than when disturbed by humans alone. Lastly, trash left on beaches attracts predators, reducing the survival of eggs and chicks.

This past summer, to increase awareness of beach-nesting birds, the Audubon Alliance for Coastal Waterbirds, in partnership with DEEP and the Stewart B. McKinney National Wildlife Refuge and with support from the EPA's Long Island Sound Futures Fund, launched the "Be a Good Egg Program" in Connecticut. The program, which originated in North Carolina, establishes information stations staffed by volunteers at beaches where birds are nesting. The volunteers play a key role in increasing community awareness about beach-nesting birds, the threats they face, and the small actions people can take to help the birds successfully reproduce. Visitors to the beach are asked to take the "Be a Good Egg" Pledge, which is to 1) stay out of the string fencing areas where birds are nesting, 2) keep dogs off the beach during the breeding season, and 3) pick up trash that attracts predators.

Thirty-three volunteers, with assistance from Audubon and Stewart B. McKinney staff, worked tables at Sandy Point Important Bird Area (IBA) in West Haven, West Beach in Westbrook, and Long Beach in Stratford (part of the Great Stratford Meadows IBA) every other weekend from Memorial Day to Labor Day. Sandy Point and Long Beach are important nesting areas for shorebirds, while the Westbrook Barrier Islands IBA, just off shore from West Beach, is a significant nesting area for American oystercatchers. The Wild-Life Guards, 13 high school students employed for eight weeks this past summer as beach-nesting bird stewards at Bridgeport's Pleasure Beach, also shared their knowledge about beach-nesting birds with visitors.

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"Be a Good Egg" volunteer Deborah Johnson stands ready to share information about beach-nesting birds with visitors to Sandy Point in West Haven.

Over the course of the summer, volunteers put in 186 person hours and engaged nearly 900 beachgoers. Over 600 people took the "Be a Good Egg" Pledge and volunteers reported seeing visitors picking up trash from the beach. So much can be gained from simply making people more aware about beach-nesting birds. Many people visit the beach every day and see the bird nesting signs and string fencing, but they are not necessarily thinking about the birds and instead are thinking about swimming or fishing. But, when you engage them face-to-face, they become more aware, understand what the string fencing protects, and are more likely to stay out of nesting areas. The beach visitors become familiar with the birds and want to give them the opportunity to breed, while enjoying the beach themselves. If you would like to take the pledge, visit: https://docs.google.com/forms/d/1ITJL3aOZ1A9qeWBEE-g4-GY0S-WgSQbaVikBztGeygc/viewform?c=0&w=1.

Those interested in volunteering for the "Be a Good Egg" Program at Sandy Point or Westbrook next summer should contact Corrie Folsom-O'Keefe (cfolsom-okeefe@audubon.org) or Kris Vagos (kristina_vagos@fws.gov), respectively.

THANK YOU!

We would like to thank the many volunteers from a number of organizations, including the Friends of the Westbrook Barrier Islands, the West Haven Watershed Restoration Committee, the New Haven Bird Club, Menunkatuck Audubon Society, and the Hartford Audubon Society, who helped make the "Be a Good Egg" Program a success. We would also like to thank the city of West Haven and the towns of Westbrook and Stratford for supporting this valuable program.