

OSPREY *Pandion haliaetus*



Identification

The osprey, formally known as the fish hawk, is one of New Jersey's largest raptors, and well known along coastal marshes. The bird is distinguished by its dark underwing patches and the crook at the wrist joint of the long, narrow wing. Adult birds have dark brown upper parts and wings contrasting with their white crown, neck and undersides. Broad dark streaks (or stripes) appear on either side of the head, running through the eye. The eye color changes from red to orange to yellow as they mature. The tail is light with fine dark bands and a broad terminal bar edged in white. Both sexes have similar plumage. The female is slightly larger than the male and exhibit a more prominent "necklace" of dark feathers on their chest. Osprey's average wingspan is 63 inches and weighs about 3 pounds.

Distribution & Habitat

The osprey is one of the most widely distributed birds in the world, yet its preference for fish requires that it live close to the water. In North America, its range extends from Alaska to Baja, California and along the Atlantic coast from Labrador to Florida. In New Jersey, ospreys nest along the Atlantic Coast from Sandy Hook to Cape May, and along the Delaware Bay and River in Cumberland, Salem, and Gloucester counties. As a result of reintroduction efforts on northern New Jersey lakes, ospreys also nest along the upper Delaware River. Ospreys prefer to build their large stick nests close to water on tall, dead trees, live trees, channel markers, old duck blinds, and telephone poles. More recently, man-made structures placed on the marsh for their nesting have replaced trees and are largely responsible for the recovery of ospreys in the state.



Ospreys winter in Florida, the Gulf Coast states, and as far down as Central and northern South America. New Jersey ospreys fitted with satellite transmitters have been tracked to Venezuela and Colombia to Brazil's Amazon River Basin.

Diet

Special adaptations make the osprey exceptional at fishing. Most notable is the bird's outer toe, which can reverse to oppose the other two (most birds grip with three toes in front, and one in back. The osprey can, however, reverse its outer third toe—which means it can grab prey with two toes forward, and two toes back, ensuring a better grip). Its toes are equipped with tiny spines, or spicules, that enable them to grasp slippery fish. The osprey will dive several feet into the water, feet first, after fish. When carrying a fish, the bird keeps the fish's head forward to reduce wind resistance. An osprey's diet consists almost entirely of fish, although occasionally during the breeding season some bird carcasses have been observed near the nest.

Life Cycle

In New Jersey, ospreys arrive on breeding grounds in late March, usually to the same nests each year. Pairs begin courtship and nest building in early April. Eggs are laid in mid-April to early May, usually three buff colored, brown spotted eggs. Incubation lasts 32-42 days, and most young hatch in late May. The chicks are helpless and require close parental care. Young birds fledge the nest at 7-8 weeks of age in mid-late July. Adults continue to feed young in the area of the nest for several weeks while young ospreys learn flying and hunting skills. In late August and early September, ospreys leave New Jersey for their winter habitat.

Management & Research

Prior to 1950, over 500 osprey nests were found along the New Jersey coastline. By 1974, only about 50 nests remained. Loss of nesting sites and widespread food contamination by persistent pesticides (mostly DDT) caused the birds' decline in New Jersey and throughout the eastern U.S. Consequently, the osprey was listed as "endangered" by New Jersey Division of Fish & Wildlife in 1974.

Efforts to recover the osprey population began in 1974, when biologists built and installed nest structures in and along the coastal marshes, to replace trees that had been lost to development. Biologists also transferred eggs and chicks from a Maryland population to New Jersey nests that were not producing healthy eggs at the time. Management efforts were successful in restoring osprey nesting in the state. In 1984 there were 108 nests and sustainable production, leading to the down listing of the osprey to "threatened" status in 1985. By 1990 osprey nests numbered 170, and by 1993 there were 200 nests, a four-fold increase since 1974. Today, there are over 475 nesting pairs.

One of the most important management techniques for New Jersey ospreys is providing adequate nest structures along the coast. Over 200 nest platforms have been installed. These structures require maintenance and replacement as they age. Donors and volunteers have been valuable in providing funding and assistance with installation of artificial nesting platforms. New structures have also helped the expansion of nesting in northern New Jersey and along the Delaware River.

Osprey are proven indicators of environmental health. Feeding largely on fish, their health reflects the health of a food source shared by humans. Biologists have found a recurrence of eggshell thinning in Delaware Bay ospreys, and higher levels of pesticides, PCBs and some heavy metals in their eggs and prey. Investigation of these contaminants, their sources and effects, will continue as part of osprey population studies.



Juvenile osprey in its nest. © Ben Wurst.

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