

Bald Eagle, *Haliaeetus leucocephalus*

Status: *State:* Endangered

Federal: Threatened (proposed for de-listing)

Identification

Adult bald eagles are distinguished by their large size (7- to 8-foot wingspan), full white heads and tails and dark brown, almost black body. They reach their adult size by the time they can fly. Their adult plumage, however, develops in their fifth year. Prior to that, their juvenile appearance varies from year to year. In their first year, their wings are slightly broader and entirely dark brown. The next year they begin to molt their flight feathers and the trailing edge of their wings appears symmetrically serrated as shorter adult feathers replace the longer juvenile ones. Their plumage is usually mottled, brown and white, and is widely variable with a considerable amount of white on the breast and belly. Bald eagles are even more mottled in their third year and begin to show signs of change from dark brown to light yellow in their eye and bill color, and may have some lighter plumage appearing on their heads and tails.



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During their fourth year, bald eagles begin to appear unmistakable as our national symbol. This is when they are transitioning from juvenile to adult and appear for the first time with a white head and tail. At this age, they retain some brown in the white plumage, giving them a dirty appearance. They also retain some white flecking in the brown of their bodies. In their next molt, they attain the clean white head and tail and solid brown body plumage of a full adult bald eagle.

Habitat

Bald eagle habitat consists of areas of forest that are associated with bodies of water. With fish as their primary diet, bald eagles in New Jersey have historically been associated with the forests near the Delaware River and Bay as well as all the rivers that empty into the Atlantic Ocean and Delaware Bay (Niles 1995). In northern and central New Jersey, bald eagles are resident on inland reservoirs and on the Delaware River. Throughout the state, these large birds require a nesting location that is safe from the threat of human disturbance and usually choose their nest tree accordingly. Typically, the tree they choose for building their large nests is a “super-canopy” tree that is taller than the trees immediately surrounding it. By nesting in such a tree, eagles can place their nest within the shelter of the crown and still be above the surrounding trees, enabling them to arrive and depart from the nest with ease.

In the northern part of the state, where the topography is hilly or mountainous, eagles can nest in trees that are on a slope and therefore have one side that is higher than its neighboring trees on the slope below it. Occasionally,

bald eagles will choose a lone tree in an open field.

In addition to nesting habitat, eagles also have habitat requirements for foraging and wintering, which might overlap their nesting habitat, but not necessarily. Foraging habitat for bald eagles consists of large perch trees near a body of water. Both of these elements are critical due to the “sit and watch” foraging behavior of eagles. Wintering habitat consists of the same, with the added condition of open, ice-free water. Parts of the Delaware River, such as the Delaware Water Gap, where the current is swift and the river remains open, or deep reservoirs with enough current or a dam to keep part of the water ice-free, serve as good wintering habitat for eagles. The tidal areas of southern New Jersey marshes are also ideal locations for winter foraging.

Status and Conservation

Long before the introduction of the pesticide DDT after World War II, habitat destruction, shootings and poisonings had greatly reduced the population of bald eagles in the lower 48 contiguous states. But the widespread use of DDT, which caused eagles to lay thin-shelled eggs that were often crushed during incubation, pushed the bird to the brink of extinction. New Jersey, where DDT was heavily used, in part for mosquito control, was no exception. By 1970, only one eagle nest remained in the state. Consequently, the bald eagle was listed as endangered under New Jersey’s new Endangered Species Act in 1974 and listed as federally endangered throughout the lower 48 states in 1978.

Management of the state’s only nest began in 1982, when biologists began climbing the nest tree to retrieve the thin-shelled eggs. They were then incubated in the lab underneath chickens before being returned to the nest as 10-day-old chicks, which were quickly cared for by the nest’s adults. Shortly thereafter, the state launched a “hacking” program through which 60 eaglets, primarily from Canada, were released into the heart of New Jersey’s bald eagle habitat between 1983 and 1989. Those efforts, combined with the 1972 federal ban on DDT, paid off rather quickly, with the appearance of the state’s second eagle nest in 1988. Since

then, biologists also have been successful in encouraging eagles to nest in certain areas by building “starter nests,” which eagles add to once they adopt them for nesting (Clark and Niles 1998). Building nests for eagles works best when a pair has already claimed a territory, and the birds may be drawn to a sturdy nest in a super-canopy tree.

Since the second nest appeared, the number of eagle nests has increased steadily ever since. In 2001, a record 27 bald eagle nests were active statewide, mostly in southern New Jersey. A record 34 young fledged that year (Smith et al. 2001).