



# Eagles and Osprey

by Chuck Fergus

Large, striking birds of prey, the bald eagle, golden eagle and osprey seem to embody power and majesty. All three occur in Pennsylvania, although none are common here. On a continental scale, human encroachment on habitat and environmental contamination reduced the birds' numbers and lowered their breeding success. The Pennsylvania Game Commission, along with many other states, has been working to reverse that trend since the 1980s, and as a result, the birds are much more common now than they were in the 1960s, '70s and '80s.

Taxonomists place bald and golden eagles with the *buteos* — hawks with broad wings and broad, rounded tails. Other Pennsylvania *buteos* are the broad-winged, red-tailed, rough-legged and red-shouldered hawks. The osprey is the only species that's a member of the family *Pandionidae*.

**Bald Eagle** (*Haliaeetus leucocephalus*) — The bald eagle's taxonomic name means "white-headed sea eagle." The word "bald" is a misnomer. The mature eagle's head is covered with gleaming white feathers. Its body is dark brown, its tail white. Immatures are brown, mottled with white on their wings and body. Full adult plumage is attained in the fifth year. Both adults and immatures have yellow bills and feet; legs are feathered halfway down.

Eagles were listed as a federally endangered species until 1995, when their status was upgraded to "threatened." In Pennsylvania, they remain a state endangered species.

Adults are 30 to 40 inches in length and weigh 8 to 14 pounds. Wingspan is 6 to 8 feet; standing height, about two feet. As with other birds of prey, the female is larger than the male.

Bald eagles fly with strong, deep strokes, or soar on flattened wings. Their eyesight is among the keenest in the animal world, five or six times sharper than a human's. An eagle's call is a rapid, harsh cackle, *kweek-kik-ik-ik-ik*, or a lower *kak-kokkak*.

Eagles feed mainly on fish (60 to 90 percent of their diet) either living or as carrion. They also eat birds and small mammals. Eagles soar above the water or sit on a convenient perch; when they spot a fish near the water's surface, they swoop down and snatch it in their talons. They use their talons for killing, and their heavy bills for tearing apart prey for eating. Sometimes an eagle will go after an osprey, forcing it to drop a captured fish, which the eagle grabs in midair.

Eagles mate for life, although when one partner dies, the other readily finds a new mate. Nesting is preceded by a spectacular aerial courtship, with the birds locking talons, diving and somersaulting in the sky.

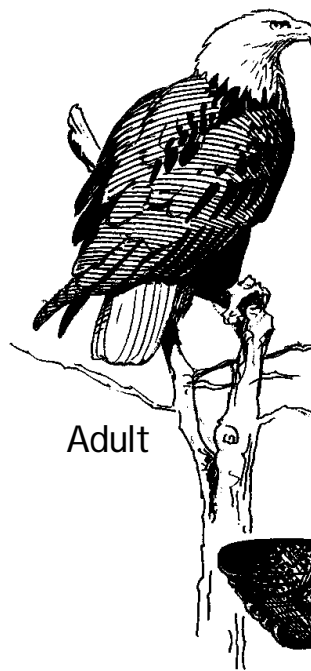
An eagle's nest is called an *eyrie*. The big raptors choose large, sturdy trees. Nest sites are near lakes, rivers, reservoirs and seashores.



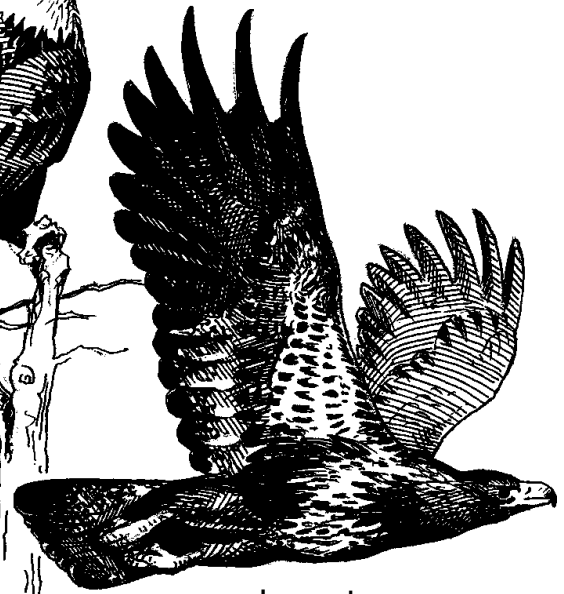
Bald Eagle



Osprey



Adult



Immature

Bald Eagle

A new nest is about five feet wide and two feet high, with an inside depression 4 to 5 inches deep and 20 inches in diameter. Often a pair returns to the same nest year after year, adding a new layer of sticks, branches and corn-stalks, plus a lining of grass, moss, twigs and weeds. Enlarged annually, some nests grow so big and heavy that they break the branches supporting them.

The female lays two eggs (sometimes only one and occasionally three) in March or April. Eggs are about 2¾ by 2½ inches, dull white and unmarked. Both parents incubate. If all goes well, the eggs hatch after about 35 days. Young birds (eaglets) are fed by their parents. A large, healthy hatchling may kill a smaller, weaker one.

Eaglets develop most of their feathers by 3 to 4 weeks, walk in the nest at 6 to 7 weeks, and begin to fly at about three months. Young separate from their parents in autumn.

Eagles are uncommon in Pennsylvania, although they may show up here in all seasons. In spring, they migrate north to nest in April, with stragglers into May. August and September find eagles returning south, with most heading for Florida to winter. Pennsylvania's eagles seem to spend much of the winter near their nesting areas; apparently they do not migrate.

There were only three known bald eagle nests in Pennsylvania from 1963 through 1980, all in the Pymatuning/Conneaut Marsh region in the northwestern part of the state. From 1983-89, the Game Commission removed 88 eaglets from nests in Saskatchewan, and raised and released them through hacking. Hacking is a falconer's term for maintaining a young bird in a semi-wild condition, providing food until it can fend for itself. Every year since

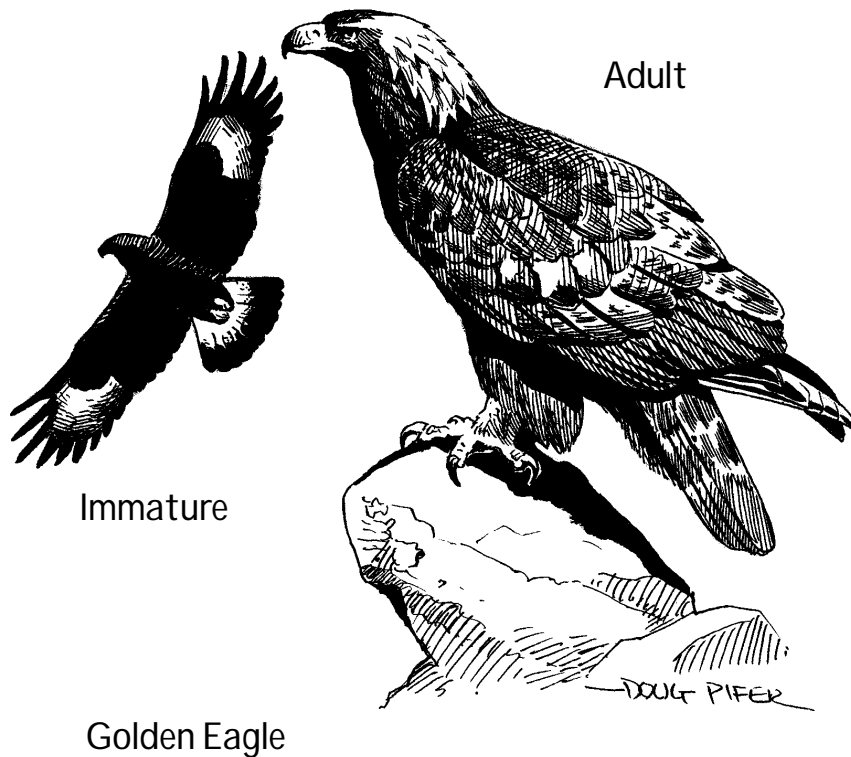
1990, new bald eagle nests have been found. By 1996, the state's nesting eagle population had climbed to 20 pairs. Six years later, eagles were nesting in at least 22 of Pennsylvania's 67 counties.

In winter, an occasional eagle may turn up almost anywhere in Pennsylvania. Three popular wintering areas are Pymatuning; the upper Delaware River (primarily in the Pike County area); and the lower Susquehanna, between Lancaster and York counties. Wintering birds may form loose groups, or wander as individuals. Younger birds are more inclined to wander.

Bald eagles can live 30 years or longer in the wild. They have few natural enemies. Some are killed by thoughtless humans, and others are electrocuted when they land on power lines.

An estimated 50 percent of eaglets survive their first year. Factors depressing reproduction are many. If humans intrude on the nest area, eagles may abandon eggs or leave young vulnerable to severe weather or predators. Eagles do not breed until 4 or 5 years of age. Their natural reproduction rate is slow. Breeding habitat — tall, sturdy trees near bodies of water in remote areas — is dwindling. Toxic chemicals introduced into the environment cause repeated nest failures (see "Raptor Reproduction" section at the end of this Note).

The bald eagle was chosen the United States' national symbol in 1782. At that time, an estimated 25,000 lived in what is now the lower 48 states. Today the same area probably supports 4,000 breeding pairs, mostly in the South, the West and the Pacific Northwest. Fairly large populations still inhabit northwestern Canada and Alaska.



Immature

Adult

Golden Eagle

(Note: Persons wanting to see an eagle nest may do so from the Pennsylvania Game Commission's Pymatuning Waterfowl Museum, just south of Linesville. Eagles have been maintaining a nest on Pymatuning Lake's Ford Island for some time. The best time to watch is from early March to mid-May, before trees leaf out. Spotting scopes or binoculars are necessary.)

**Golden Eagle** (*Aquila chrysaetos*) — The golden eagle is a magnificent predator of remote, mountainous areas. The species occurs in Eurasia, North Africa and North America, where it's most common in the western United States, Canada and Alaska. The golden eagle is rare in the Northeast.

Adults and immatures have rich, dark-brown body plumage, with gold-tipped feathers on the head and neck. The legs are feathered to the toes. Adults resemble immature bald eagles, but the goldens are darker. Immature goldens have white wing patches and, for their first several years, a broad, white band at the base of the tail.

Golden eagles are classic buteos, with long, rounded wings. They flap less and soar more than bald eagles. Body length is 30 to 40 inches; wingspan, 6½ to 7½ feet; standing height, about two feet. Their call is a series of rapid, sharp chirps.

Prey includes small rodents, hares, rabbits, birds, reptiles and fish. Goldens crush prey in their sharp talons, and use their large, hooked beaks to rip it apart for eating. In the West, these fierce, powerful predators have been known to knock young mountain sheep and goats off high ledges, then feast on the remains below.

In Pennsylvania, golden eagles are regular migrants in

October; some also pass through in April and May. They do not breed in our state, although individuals are sometimes sighted in summer. Some occasionally winter here in rugged, remote terrain.

Most goldens breed across central Canada, in the western United States, Alaska and Mexico. In the Northeast, active nest sites have been reported in New York, New England and Quebec.

Breeding habits are similar to those of bald eagles, except goldens often locate their nests on cliffs. After fledging, young remain in the nest area during summer, then wander away from the site with their parents. They do not breed until five years of age.

Estimates place the North American population at anywhere from 8,000 to 50,000. The golden eagle is not on the federal threatened or endangered list, but has disappeared from most of the northeastern states.

**Osprey** (*Pandion haliaetus*) — The osprey is a large, eagle-like hawk found throughout North America and in the Eastern Hemisphere. It inhabits seacoasts and the areas near large rivers and lakes. In Pennsylvania, it shows up along the Susquehanna and Delaware rivers, and near creeks, ponds, lakes and reservoirs throughout the state, depending on the season.

Plumage is dark above, white below. Adults and juveniles are colored alike. The head is largely white, with a black patch across each cheek. A conspicuous crook to the wings and black "wrist" marks are good field identifiers.

Except when migrating, ospreys flap more than they sail. Wingbeats are slow and deep. Ospreys hover 50 to 150 feet up and then plunge to the water for their fish prey, sometimes going all the way under.

Ospreys are 21 to 24 inches from bill to tail. Their wings span 4½ to 6 feet. Standing height is about 1½ feet. Their call is a series of loud whistles, *cheep, cheep*, etc.

In spring, ospreys migrate through Pennsylvania in April and May. Several hundred individuals summer here. Fall finds these so-called fish-hawks heading south along the mountain ridges in August, September and October. Most winter in South America's Amazon River region.

Like eagles, ospreys build bulky nests of sticks and twigs, lined with inner bark, sod or grasses. Sometimes they add debris (rope, fish net fragments, cans, seashells, etc.). Nests are in living or dead trees, on the ground, or on man-made structures — utility poles, fishing shacks, billboards, channel buoys, chimneys and the like. Often added to and used year after year, the nests can become huge.

Eggs: three, sometimes two, and rarely four; 2¼ by 1¾ inches; white or pinkish-white with brown spots and

blotches. The female incubates 32 to 33 days, and young leave the nest when 51 to 59 days old.

Dr. Larry Rymon of East Stroudsburg University in 1980 began reintroducing ospreys to the state's northeastern counties. The first Pennsylvania-hatched osprey returned in 1983, and two years later the state documented its first nesting pair since 1910. By 1996 more than 260 ospreys had been hatched in the state. In 1996, Pennsylvania had 26 nesting pairs. An osprey has strong ties to the area where it was born, and usually returns there to breed.

### Raptor Reproduction

Reproductive failure is a problem for bald eagles and ospreys. Much of the problem stems from man's use of now-banned toxic chemicals. DDT, dieldrin, and other chlorinated hydrocarbons sprayed to kill insects, drain into rivers and get into fish. Bald eagles and ospreys eat a lot of fish, and accumulate the chemicals in their bodies. Other pollutants such as PCBs and heavy metals may also affect their reproduction.

The chemicals cause birds to lay infertile or thin-shelled eggs, which break under the weight of an incubating bird. Although environmental regulations have banned the use of "hard" pesticides, the chemi-

cals remain in our natural food chains because they do not break down rapidly. Still, it appears the alarming decline in raptor reproduction in the 1960s and '70s has leveled off, perhaps indicating some progress toward cleaning up the environment, or at least stabilizing present pollution levels, has been made.

### How You Can Help

Wildlife biologists are always looking for information about eagles and ospreys. If you find a bald eagle or osprey nest, report it to your local Wildlife Conservation Officer or Game Commission region office. Be careful not to disturb the birds.

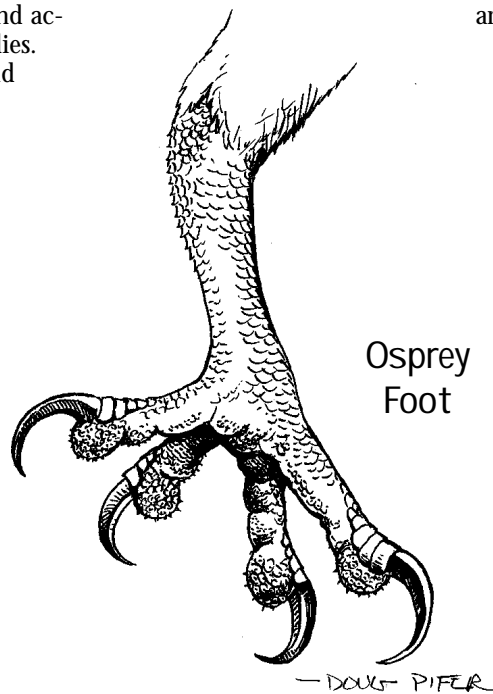
If you find an injured eagle or osprey or hear of one, call the Game Commission. Injured birds can often be treated and rehabilitated.

Eagles, ospreys and other birds of prey are protected by federal and state laws.

Report any violations.

Educate others about eagles and ospreys. Some people still believe these priceless natural treasures are detrimental to game and fish populations. They are not.

Contribute to the Game Commission's "Working Together for Wildlife" fund, and to private wildlife organizations and raptor rehabilitation centers.



Wildlife Notes are available from the  
Pennsylvania Game Commission  
Bureau of Information and Education  
Dept. MS, 2001 Elmerton Avenue  
Harrisburg, PA 17110-9797  
[www.pgc.state.pa.us](http://www.pgc.state.pa.us)

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