

RAPTORS IN OHIO



division of wildlife
OHIO DEPARTMENT OF NATURAL RESOURCES



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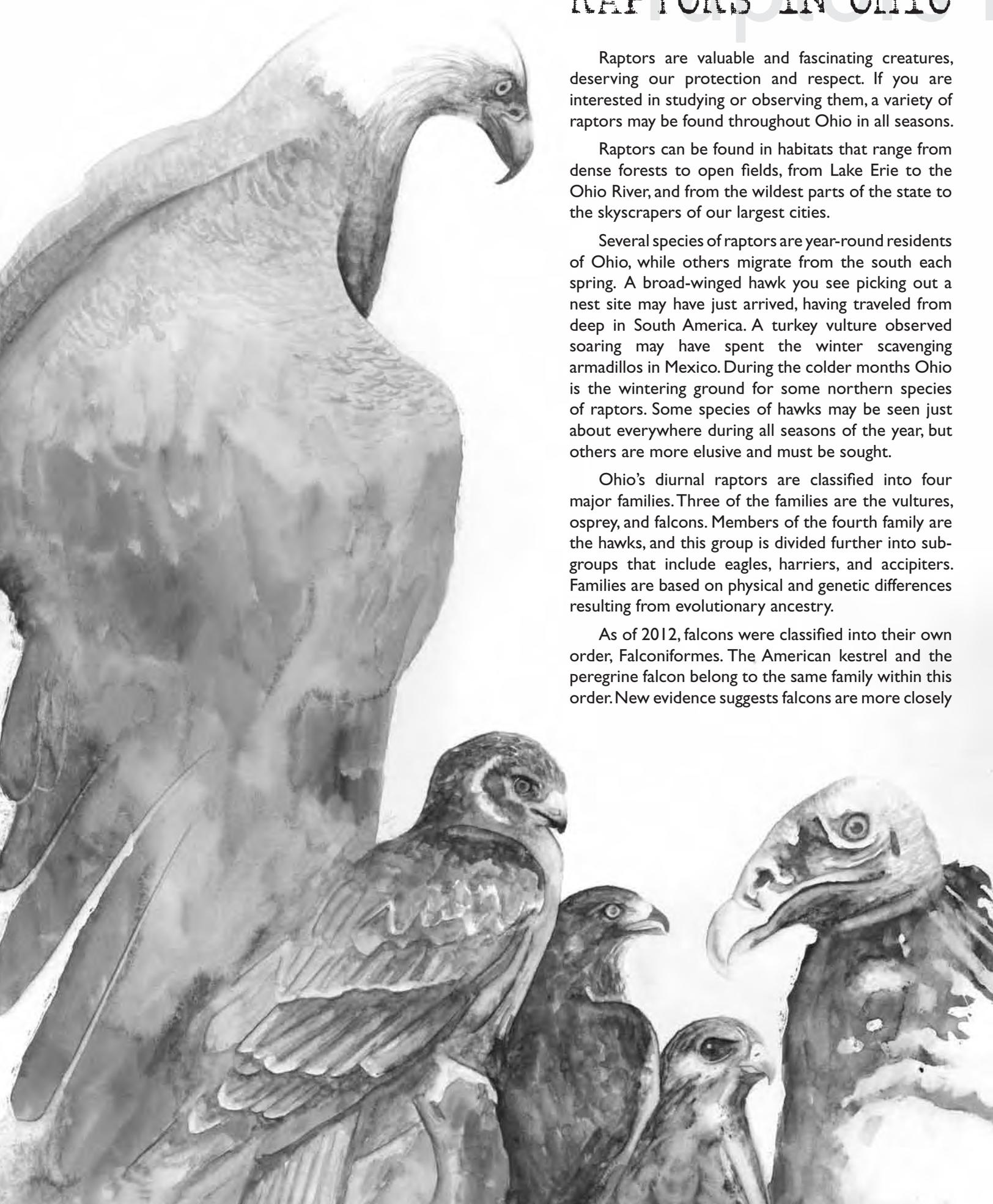
Raptors are valuable and fascinating creatures, deserving our protection and respect. If you are interested in studying or observing them, a variety of raptors may be found throughout Ohio in all seasons.

Raptors can be found in habitats that range from dense forests to open fields, from Lake Erie to the Ohio River, and from the wildest parts of the state to the skyscrapers of our largest cities.

Several species of raptors are year-round residents of Ohio, while others migrate from the south each spring. A broad-winged hawk you see picking out a nest site may have just arrived, having traveled from deep in South America. A turkey vulture observed soaring may have spent the winter scavenging armadillos in Mexico. During the colder months Ohio is the wintering ground for some northern species of raptors. Some species of hawks may be seen just about everywhere during all seasons of the year, but others are more elusive and must be sought.

Ohio's diurnal raptors are classified into four major families. Three of the families are the vultures, osprey, and falcons. Members of the fourth family are the hawks, and this group is divided further into sub-groups that include eagles, harriers, and accipiters. Families are based on physical and genetic differences resulting from evolutionary ancestry.

As of 2012, falcons were classified into their own order, Falconiformes. The American kestrel and the peregrine falcon belong to the same family within this order. New evidence suggests falcons are more closely



related to woodpeckers and parrots, and have developed similar attributes to hawks and eagles through convergent evolution. Vultures, hawks, eagles, and the osprey all belong to the same order, Accipitriformes.

Raptors exhibit physical adaptations that make them highly efficient predators. For example, raptors are generally light in weight, yet powerful for their size. Sharp talons (or claws) and sharp, hooked beaks suit the raptors' carnivorous lifestyle. Even the shapes of their wings reflect the types of hunting techniques each species uses.

Wing shapes vary from species to species, but many raptors have wings that are wide in proportion to their length—this aerodynamic adaptation makes it possible for some raptors to soar on light breezes as they hunt for their prey and maneuver well at low speeds in the air as they move in close for a kill. The falcons that mainly hunt other birds (where speed is more important than the ability to soar) tend to have narrower wings with more pointed tips; on the other hand, vultures, whose diet mainly consists of the carcasses of dead animals (where hunting speed is definitely not necessary), have broader wings.

The eyes may be the raptors' most marvelous adaptation. Raptors' eyes are positioned on their heads to be forward-facing with overlapping fields of vision. Eyes in this arrangement give hawks "binocular vision," allowing them to judge distances with amazing accuracy. Binocular vision is essential for animals that hunt to survive, especially when pursuing fast-moving prey where distance is constantly and rapidly changing. The eyes of raptors are structured somewhat like telescopes—a flat eye lens, far from the retina, projects large visual images; curved eye corneas and large pupils let in a lot of light, making the images bright; and the retina is tightly packed with light-receptor cones that produce sharp, fine-grained images. Evidence indicates that raptors can distinguish their prey

at two to three times the distance that a human being could—this feature is especially amazing considering that humans also have highly developed visual abilities.

Each species of raptor has developed the particular adaptations that fit its methods of survival, and the sheer variety of shapes, sizes, and behaviors among species of raptors also make them interesting subjects to study or observe. Most species of raptors survive by hunting one or more types of live animals for food. Other species survive by consuming animals that have already died, while still other species use a combination of hunting for live food and scavenging for dead animals. Several examples show the range of foods consumed by hawks. The red-tailed hawk eats mostly rodents and rabbits; the osprey eats mostly fish; the American kestrel and Northern harrier eat a variety of reptiles, amphibians, insects, and small mammals; the accipiters eat mostly other birds; and the bald eagle, although majestic in appearance, scavenges a significant amount of dead animals.

As predators and scavengers, raptors form vital links in the web of life. Predators help maintain the dynamic balance between habitats and the plant and animal life those habitats are capable of supporting. Vultures that scavenge to survive play a role in cycling energy back into ecosystems.

Seeing a raptor soaring serenely high in the sky adds to our sense of beauty and appreciation of the natural world. Fortunately for us, Ohio has a wide diversity of raptors to observe.

Brief descriptions of the 13 species of diurnal raptors that are most likely to be seen in Ohio are contained in this brochure.



vultures

VULTURES

There are two species of vultures (commonly but incorrectly referred to as buzzards) in Ohio: The turkey vulture and the black vulture. Like the garbage man who hauls away trash to keep it from building up around our homes, vultures perform the less-than-glamorous task of disposing of the carcasses of dead animals (carrion). Unlike trash, which normally ends up being wasted in landfills, the vulture's actions ensure that valuable life-giving nutrients are quickly returned to the environment.

Vultures are unique looking birds: They have "naked" heads (the lack of feathers on their heads is an adaptation that allows them to eat carrion without soiling their feathers, which could create disease problems). Although the bodies of both species of buzzards in Ohio are blackish in color, the turkey vulture's head is red as an adult while the black vulture's head is gray.

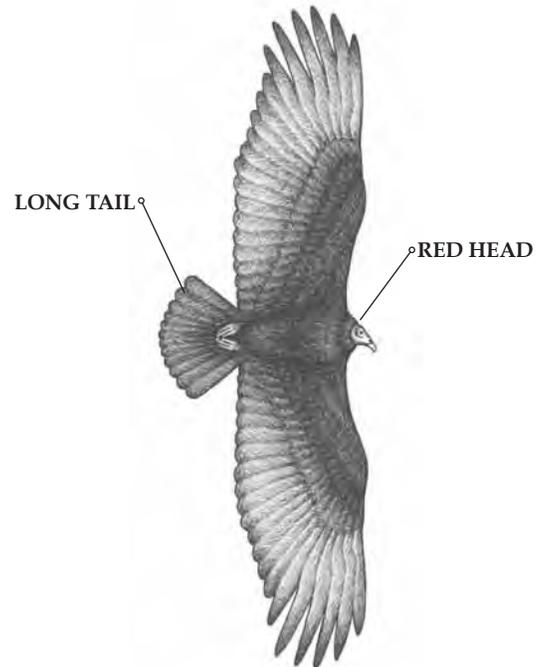
Besides being conspicuous because of their large size and the shallow "V" shape that their wings form in flight, vultures can be seen throughout the state soaring through the sky for hours. During flight they are able to ride thermals (column-shaped bodies of rising warm air) and to sail buoyantly on slight breezes passing over hillsides and slopes. People often see vultures along roadways, where animals struck and killed by vehicles provide the birds with a dependable food source.

turkey vulture (*Cathartes aura*)

Turkey vultures are relatively common throughout the state. Ohio's countryside, which generally consists of a patchwork of cultivated farm fields, woodlands, streams, and abandoned fields suit the habitat preferences of the turkey vulture. Turkey vultures usually make their nests in hollow stumps, rock crevices and barn lofts; both adults help incubate the eggs.

Turkey vultures patrol the landscape alone or in small groups during the day in search of food, but at night, they congregate in large communal roosts during the non-nesting season. They roost in tall dead trees, where they remain through the morning until breezes stir or until temperatures are warm enough to create the thermal updrafts of air needed to sustain their flight. When flying, turkey vultures usually soar in circles in order to stay within an air thermal; they tilt slowly and gracefully from side to side, occasionally flapping their large wings.

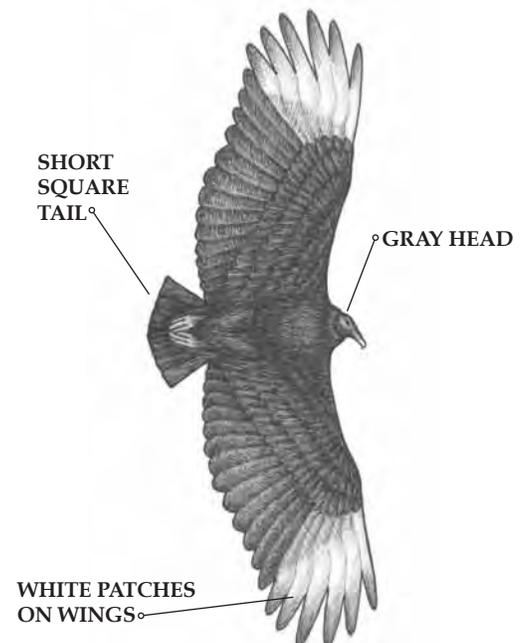
Besides the difference in head color, turkey vultures also have a shorter neck and longer, slimmer tail than the black vulture. Turkey vultures have a well-developed sense of smell which aids in their ability to locate dead animals from considerable heights and distances. While some turkey vultures spend the winter in Ohio, most migrate to the southeastern United States.



black vulture (*Coragyps atratus*) Species of Concern

Because their body structure is different from the turkey vulture's, black vultures need stronger air thermals—more typical of warmer climates than Ohio—in order to stay aloft. Black vultures reach the northern limits of their range in southern Ohio and are much more common in the southern United States. In flight, the black vulture can be identified by its gray head, short square tail that extends just beyond the back edge of their wings, and large white patches near the tips of its wings.

They fly with rapid flaps and short glides, locating food primarily by sight rather than smell. Black vultures prefer open lowland areas and avoid heavily forested regions. They are family-oriented birds, roosting communally year-round in large groups of related individuals or joining up with other extended families. It is believed that they can communicate with each other in these large groups about the location of food sources. They nest in hollow stumps and tree cavities, but they also sometimes nest on the ground in dense vegetation. They winter within the United States with some remaining in Ohio.



osprey (*Pandion haliaetus*)

The osprey is one of the most widely distributed species of bird in the world. It nests in Eurasia, North Africa, the East Indies, and Australia, but only within limited areas of North America. The population of ospreys was drastically reduced in the United States by pesticide contamination during the 1950s and 1960s, but their numbers have increased in recent years.

Migrating individuals are regularly sighted flying in Ohio over bodies of water in spring and fall searching for their primary food—fish. Ospreys hunt by hovering 30 to 100 feet above the water, then plunging feet-first to grasp fish with their talons. The soles of osprey feet are unique, with spiny projections that give them a firm grip on their slippery prey.

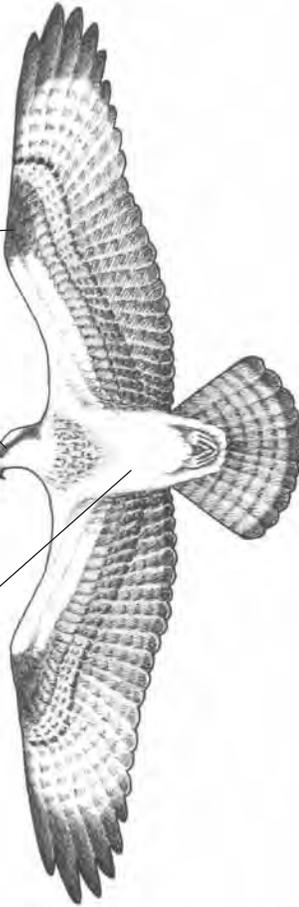
Ospreys can be identified by both their habitat and the way they look. For example, because they are fish eaters, they are normally only seen near lakes and large rivers. In flight, ospreys have a distinct bend about midway on their wings; they are colored dark brown above and white below with a dark patch near the wing bend. They also have a distinctive dark patch on the side of their heads behind their eyes.

Ospreys build large nests near water bodies, often using the same nest year after year. They will also use artificial nesting platforms. Interestingly, the female is fed by the male from the time the pair forms a bond until after she lays her eggs. The male then typically helps with the brood by sitting on the eggs about 30 percent of the time and by bringing fish back for the female and young. Ospreys travel as far as South America (Chile and Argentina) to overwinter.

BLACK WING
PATCH

DARK PATCH
BEHIND EYE

WHITE BELLY



Bald Eagle

bald eagle (*Haliaeetus leucocephalus*)

Native only to North America, the bald eagle is second only to the California condor in size as a wild bird of prey. Adult bald eagles have a snow white head and tail, brownish-black body, long heavy yellow beak, and wingspan that can exceed seven feet. The head, tail, and body of immature eagles, however, is brownish; while in flight, they show white on the underside of the interior of their wings. It takes up to five years for immature eagles to attain full adult plumage. Bald eagles feed on both live and dead fish, waterfowl, muskrats, squirrels, groundhogs, and a variety of road-killed animals; some eagles learn to “pirate” freshly killed fish away from ospreys and dead fish from crows.

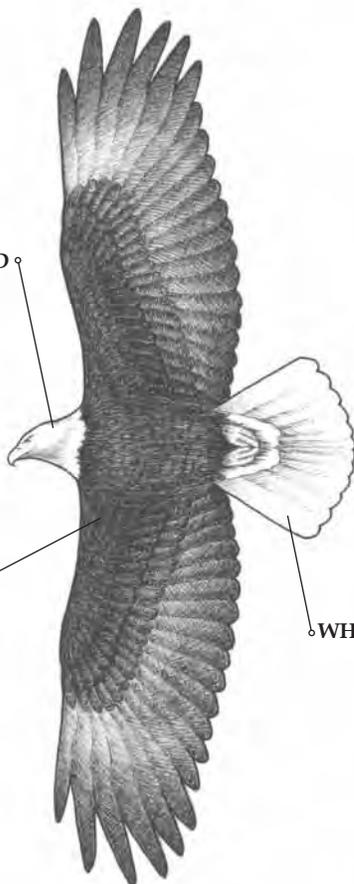
The Lake Erie region harbors the most significant populations of bald eagles in Ohio, although many are found statewide. They build massive nests, usually in forks of tall trees. Males and females form long-term pair bonds, but will replace a mate quickly if one of the pair is lost.

Bald eagles provide an example of both the negative and positive effects that human activities can have on wildlife. For instance, in 1975 and 1979, there were record lows of only four nesting pairs of wild bald eagles in Ohio. However, as a result of the combined positive effects of federal restrictions on pesticide use, wetland habitat protection, and vigorous reestablishment efforts by the ODNR Division of Wildlife, the state has been recording a steady increase in the number of breeding pairs of bald eagles since 1979. In 2012, there were 213 known nests in 62 Ohio counties.

WHITE HEAD

DARK BODY
AND WINGS

WHITE TAIL



buteos

BUTEOS

If you asked someone what hawks look like, there is a good chance they would picture a buteo. With their powerful build and large size, broad wings and wide, rounded tails, and their habit of soaring majestically high in the sky, buteos embody many people's image of a hawk. In fact, the name "buteo" comes from the Latin word for hawk. There are four species of buteos commonly found in Ohio.

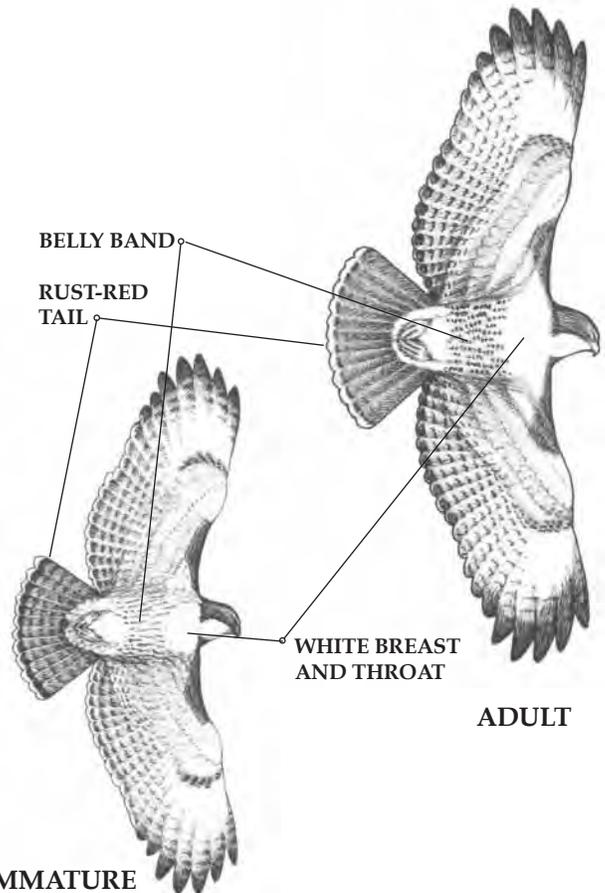
red-tailed hawk (*Buteo jamaicensis*)

The red-tailed hawk is the most common hawk in Ohio and the eastern United States. They perch on sites—such as trees and fence posts—that provide them with a lookout point from which they can watch over the landscape for their prey and approaching danger. Their greatest numbers occur in agricultural areas containing scattered woodlots, wooded fencerows, and isolated tall trees, but they are quite adaptable. The red-tailed hawk also inhabits suburban and urban areas, as well as heavily forested areas where highways and utility line rights-of-way provide clearings for them to hunt; some red-tails even make it their practice to capture birds from backyard feeders. Typically, however, rodents are estimated to comprise about 85 percent of the red-tailed hawk's diet.

Adult red-tailed hawks can be identified by their rust-colored tail feathers, white breast, and dark streaking across a white belly. Immature birds are dull in color and lack the rust-colored tail, but they do have the white underside and dark streaking on their belly.

The typical red-tailed hawk nest is situated in the crotch of a large tree with a commanding view of the surrounding land. They often use the same nest year after year, although some will use alternating nest sites in different years.

Some red-tailed hawks are year-round Ohio residents; others from farther north migrate to the state for the winter while others spend the colder months in the southern United States.



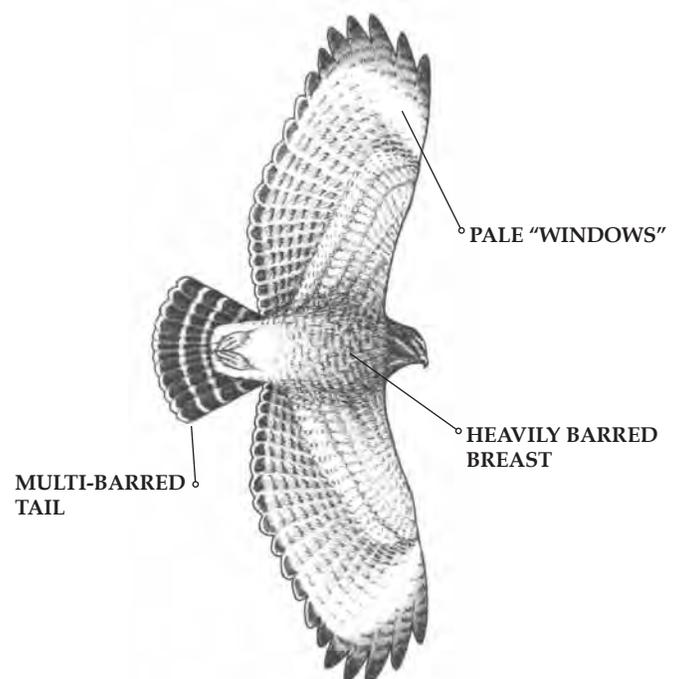
red-shouldered hawk (*Buteo lineatus*)

The red-shouldered hawk could easily be considered Ohio's most handsome resident buteo. This striking raptor has a red body, rusty shoulders, black and white barred back, and narrow white bands on a dark bluish tail. They are very vocal birds and are often heard before seen.

The distribution of the red-shouldered hawk is directly related to the availability of suitable wet woodland habitat. These hawks occupy mature lowland woods—such as wooded swamps and river corridors. They hunt for amphibians, reptiles, and birds in the summer, and birds and mammals in the winter.

Seeing a red-shouldered hawk was once only a rare treat, however this species is becoming more abundant. They can tolerate human disturbance if mature trees and high woodland canopies are available and will nest in proximity to human habitation.

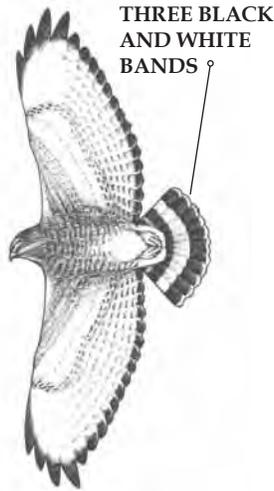
Kin or pairs of red-shouldered hawks will often use the same territory for years. When proclaiming a new territory or protecting an established one, groups of one to four birds may spiral upward to 1,500 to 2,000 feet above nest sites, then descend in dives and sideslips. Some red-shouldered hawks are permanent Ohio residents while others overwinter in the southern United States.



broad-winged hawk (*Buteo platypterus*)

Broad-winged hawks are found primarily in southeastern Ohio where large areas of mature wooded habitat exist. They are the smallest of the buteos (about the size of a crow). In addition to their small size, they can be identified by three alternating white and black bands on their tails.

The female builds a new nest each year over a three- to five-week period. The nest is made from sticks, twigs, and dead leaves, and lined with inner bark strips, lichen, evergreen sprigs, and green leaves. These hawks tend to nest in large deciduous trees, but will also nest near the trunks of conifers. The male hunts birds, reptiles, and insects and brings the food back to the nesting female and chicks. This hawk migrates in huge flocks called “kettles” which can number into the thousands in prime locales. Ohio kettles tend to be smaller—dozens to hundreds of birds. In Ohio, spring migration peaks in late April to May and September. Broad-winged hawks overwinter in Central America, as well as in Peru, Bolivia, and Brazil.

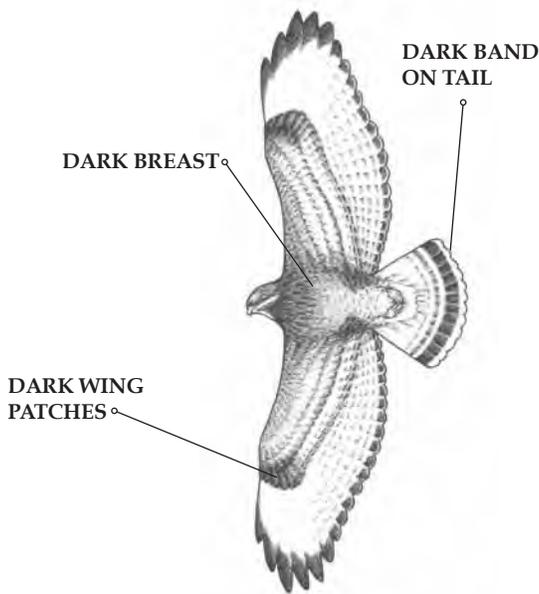


rough-legged hawk (*Buteo lagopus*)

This hawk's species name—*lagopus*—comes from the Latin word meaning “hare's foot” because its feathered legs and feet resemble a rabbit's furry foot. The largest of the buteos seen in Ohio, rough-legged hawks can be spotted during the winter hovering over farm fields, reclaimed surface mines, and marshes in search of voles and other small mammals; they often hunt at dusk.

There are two color variations (morphs) in this species: light and dark. Light morph rough-legged hawks can be identified by their light-colored tail with a broad dark band at the tip and by a distinctive black patch near the bend of their light underwing. Dark morph birds appear almost entirely black when perched. In flight, a white rump patch and light underwings are visible. Light morph birds typically outnumber dark ones.

Rough-legged hawks do not breed in Ohio but nevertheless put on an impressive courtship display. The pair spiral tightly in the air, soar together, and call out with a sound like a cross between a whistle and a hiss; the male executes spectacular U-shaped dives. Their nests are usually situated on the ground, clifftops, or stream banks and are lined with grass, feathers, and down. Rough-legged hawks are a true northern species, for they are common in the tundra region near the Arctic Circle; they overwinter within North America.

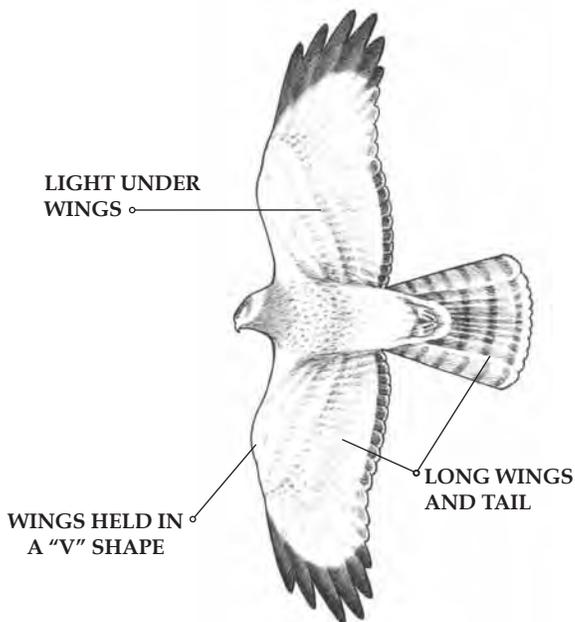


northern harrier (*Circus cyaneus*) Endangered

Formerly called the “marsh hawk,” this species is the only North American member of a group of hawks known as harriers. The Northern harrier hunts by cruising very close to the ground—between five and 10 feet—over open fields and cropland in search of small mammals (especially voles), birds, snakes, frogs, insects (especially grasshoppers), and carrion.

Northern harriers are relatively easy to identify in the field because of their low-cruising hunting technique, large size, and wings that form a shallow “V” shape similar to the vulture. Interestingly, they have a curved ruff of feathers around their face—like owls—that focuses sound toward their ears, thus allowing them to use their hearing while they hunt. The adult male harrier is pale gray in color (known as the gray ghost), while the female and immature birds are mostly brown. Both sexes display a white rump patch.

The Northern harrier is a species that inhabits prairies, wet meadows, and marshes. Some winter as far south as the Bahamas and Cuba, while others stay in Ohio and can be frequently seen cruising over large grassland areas in search of prey. This endangered species is a rare breeder in the state, sometimes nesting in large grasslands.



ACCIPITERS

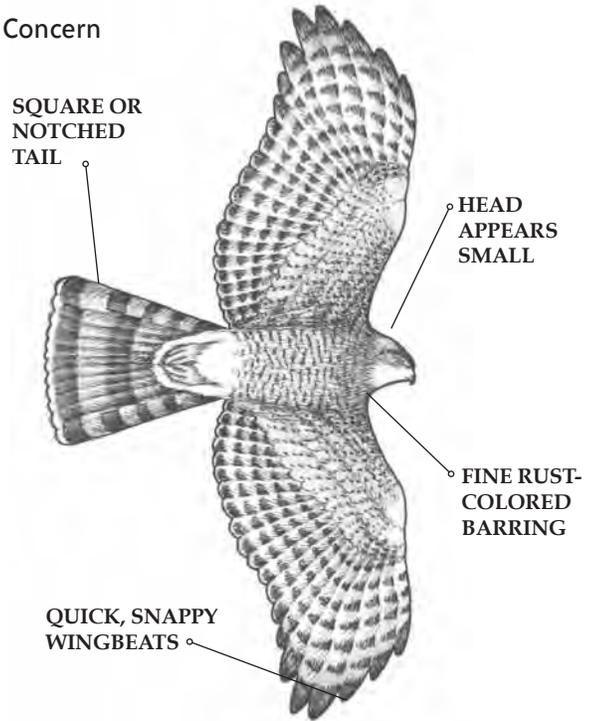
Accipiters are highly maneuverable, swift-flying, short-winged hawks. These hawks are sometimes called “bird hawks” because their diet consists mostly of other birds. Unlike falcons their hunting style is up close using stealth while near their preys’ cover. The short, broad wings enhance this hunting style by allowing attack into heavy vegetation and a long tail increases the steering ability they lose from having shorter wings. Adult female accipiters are much larger then their male counterparts.

Sharp-Shinned Hawk sharp-shinned hawk (*Accipiter striatus*) Species of Concern

Sharp-shinned hawks can be seen during their spring and fall migrations (April/May and September/October) throughout Ohio, with most nesting activity occurring in the forests of southern and eastern Ohio. While sharp-shinned hawks have increased in numbers throughout most of North America, they are less common than the Cooper’s hawk in Ohio. They are impressive flyers, capable of moving quickly through dense woods and snatching other birds right off their perches. Male sharp-shinned hawks are small—10 to 14 inches long with a wingspan of 21 inches (not much larger than a blue jay). Females are much larger.

In color adults are slate gray above and pale below, with fine rust-colored barring on their front, and black bands on their tail as adults. Immature birds show longitudinal striping on their underside with a brownish back. The underneath side of their wings also exhibits stripes, and the tip of their tail is square.

They build stick nests near the trunks of trees, often nesting in dense conifers and sometimes using abandoned squirrel or crow nests. The male brings food back to the female while she is incubating the eggs and while the chicks are still in the nest. After the young learn to fly, they depend upon the adults for another three to four weeks. Some winter in Ohio, but most move to the southeastern states.

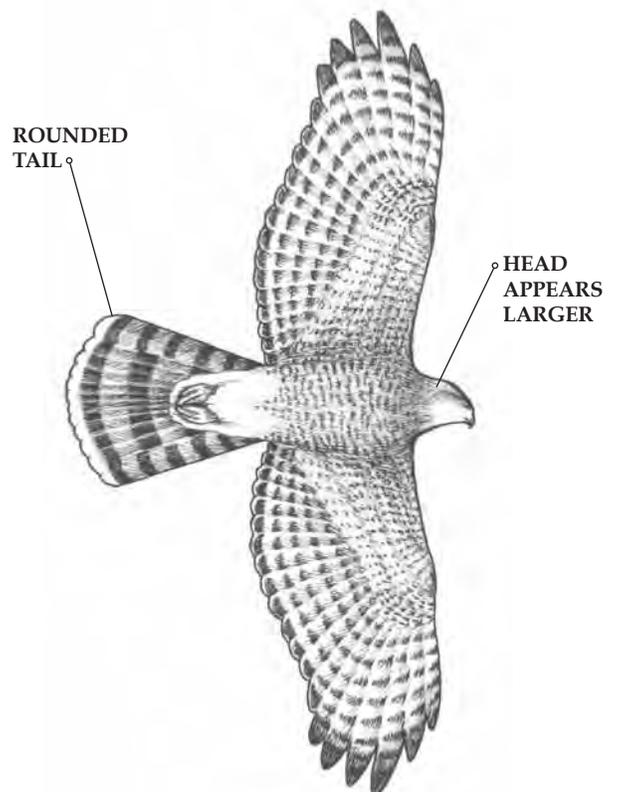


Cooper's Hawk cooper's hawk (*Accipiter cooperii*)

Cooper’s hawks are very similar in appearance to sharp-shinned hawks. Cooper’s hawks, however, are slightly larger—about 14 to 21 inches long with a wingspan of 27 to 36 inches. Their diet consists of primarily birds (80 percent), with the balance made up of small mammals and, occasionally, reptiles and amphibians. They typically prefer to hunt small birds in dense vegetation within forested areas.

Beginning in the late 1940s, the population status of the Cooper’s hawk underwent a serious decline throughout the United States as a result of widespread pesticide contamination. By the early 1970s the hawk had disappeared from many Ohio counties and was limited to a few isolated pairs. Today the Cooper’s hawk can be commonly observed in both rural and urban areas throughout Ohio. This is the hawk that most commonly raids backyard feeding stations.

Female Cooper’s hawks have a reputation for their fierce defense of their nests—they will readily attack humans if they perceive them to be a threat. Cooper’s hawks prefer nest sites in woods with dense undergrowth and commonly nest in pine plantations. This is a common winter resident. Migrant birds tend to come north slightly ahead of the smaller sharp-shinned hawk.



falcons

FALCONS

Members of the falcon family have bullet-like heads, short necks, dark eyes, powerful shoulders tapered back to long pointed wings, and relatively long tails. Females are larger than males, as in all raptors. None of the true falcons build nests. Instead, they lay their eggs directly in hollows of trees, on bare rock ledges, and in abandoned nests of other birds such as hawks, eagles, and crows.



american kestrel (*Falco sparverius*)

The American kestrel, formerly called the sparrow hawk, is a small hawk—not much bigger than a blue jay. They are 9 to 12 inches long with a 21-inch wingspan. They have a rusty colored back and tail, and thick, black vertical bands below each eye.

American kestrels are quite adaptable in their choice of nesting habitats—therefore, they thrive throughout the state despite Ohio's changing land use patterns. They are the only cavity-nesting diurnal raptor in Ohio. Where natural tree cavities are not available, kestrels will raise their young in constructed bird nest boxes and other suitable man-made structures. Nest boxes typically need to be placed at least 12 feet above the ground for kestrels to use them. Their adaptability makes American kestrels the second-most abundant hawk in Ohio.

American kestrels prefer to hunt in grasslands, pastures, and open fields and also along roadways and ditches. They fly with rapid wing beats and short glides, often hovering in midair over the ground. Kestrels eat small mammals, as well as reptiles and amphibians; occasionally they eat other birds. Many stay in the state for the winter while others travel much farther south.



peregrine falcon (*Falco peregrinus*) Threatened

The name "peregrine" is appropriate for this bird, for the name comes from the same source as the word "pilgrim"—a Latin word that means "wanderer." This falcon has a greater worldwide range than any other bird. Peregrine falcons nesting in North America overwinter locally or they may migrate to Central America and the West Indies. Some travel as far as Tierra del Fuego at the southern tip of South America.

People have enjoyed a special relationship with the peregrine in the sport of falconry for over 4,000 years. Today, peregrine falcons are admired for many reasons, including their spectacular flying ability, the speeds they attain in pursuit of prey, and their ability to adapt to urban settings.

The diet of peregrine falcons includes a variety of birds such as shorebirds, waterfowl, and passerines (perching songbirds). One of their hunting techniques includes climbing high above flying birds, then plunging down after them at speeds of 100 to 200 miles per hour! As they hit their prey, they may produce a shower of feathers as they drive their talons into them.

After a pair of peregrines forms a bond, they hunt cooperatively—the female typically dives first and eats first, and she tends to take larger prey than the male. While they are nesting, however, the male does most of the hunting while the female broods and feeds the chicks.

Historically, there had never been a record of a nesting pair of peregrine falcons in Ohio. After a pair began nesting in Toledo in 1988, the ODNR Division of Wildlife conducted an introduction program to help restore the eastern population of these birds. Migrating peregrines are occasionally seen along western Lake Erie, and elsewhere but the best chance of viewing a peregrine is downtown in one of Ohio's major cities (Toledo, Cleveland, Columbus, Dayton, Cincinnati, and Akron) where these birds nest. A distinguishing feature of the peregrine falcon is the black stripe or "moustache" below the eye. Adults are slate gray above and light underneath with fine bands and spots of black.

comparative sizes of raptors

COMPARATIVE SIZES OF RAPTORS



BALD EAGLE 72-90"



NORTHERN HARRIER 42"



RED-SHOULDERED HAWK 40"



PEREGRINE FALCON 40"



BROAD-WINGED HAWK 33"



OSPREY 54-72"



BLACK VULTURE 54"



ROUGH-LEGGED HAWK 52"



RED-TAILED HAWK 48"



TURKEY VULTURE 72"



COOPER'S HAWK 28"



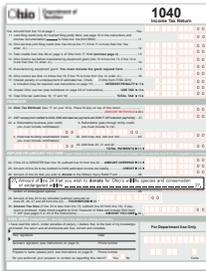
SHARP-SHINNED HAWK 21"



AMERICAN KESTREL 21"

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