



sharp-shinned hawk

Hawks and Falcons

When the night sky brightens in the east, owls retire to hollow trees and shady thickets. Then enter the hawks; during the day, these fascinating birds continue nature's winnowing process—predation.

This wildlife note covers 11 Pennsylvania diurnal raptors which include hawks and falcons. The hawks are northern harrier (*Circus cyaneus*), sharp-shinned hawk (*Accipiter striatus*), Cooper's hawk (*Accipiter cooperii*), northern goshawk (*Accipiter gentilis*), red-shouldered hawk (*Buteo lineatus*), broad-winged hawk (*Buteo platypterus*), red-tailed hawk (*Buteo jamaicensis*), and rough-legged hawk (*Buteo lagopus*), and the falcons include American kestrel (*Falco sparverius*), merlin (*Falco columbarius*), and peregrine falcon (*Falco peregrinus*).

Hawks are quick, efficient predators. They have sharp talons and strong hooked beaks. Bills and feet vary in size and shape according to the species' prey preferences. Eyesight of some hawks is as sharp as that of a human looking through eight-power binoculars. The eyes of hawks are located in the front of the head; this gives the birds binocular vision and enables them to judge distance, important for successfully pursuing prey. Their hearing is acute, but their sense of smell—if they have one—is poor.

While hunting, hawks may soar high, sit and watch from a perch or strike their prey in midair. When a hawk drops to attack, tendons spread its feet; upon impact, the toes automatically clench and drive the talons deep. A snap from the hooked bill can crush a prey's skull or break its back but prey is usually dispatched with the talons. Hawks sometimes "mantle" prey after killing, crouching and spreading their wings to form a shield that hides it from other predators. The bird may eat on the ground or carry its kill to a feeding spot, often a fencepost or tree limb, where it plucks its prey and tears the meat apart with its beak. Smaller prey may be eaten whole. Hours after eating, a hawk will regurgitate a pellet of indigestible material, containing any feathers, fur or small bones swallowed during its meal.

Identifying hawks can be difficult and requires study and practice. Fortunately, Pennsylvania provides many



opportunities to study hawks at its several hawk watch sites. While males and females of the same species are generally of similar colors, individual variation often occurs within the species. Juveniles are especially hard to identify. Adult females are generally larger than their mates—in some cases, nearly twice as heavy. All Pennsylvania hawks have yellow feet and a yellow cere (waxy membrane at the base of the bill).

Many hawks mate for life. They nest high above the ground on sturdy limbs, in the crotches of trees or on rock ledges. Generally, nests are loosely built of sticks and twigs; some are lined with feathers and down plumules. A mated pair will either remodel an old nest or build a new one, occasionally starting on top of a squirrel or crow nest. The female may begin incubation before the last egg is laid, resulting in young of different sizes in the same brood. The female does most of the incubating and is supplied with food by the male. Two of Pennsylvania falcons, the American kestrel and peregrine falcon, do not build stick nests but use simpler scrape nests instead.

Newly-hatched hawks and falcons are altricial—helpless, unfeathered and covered with down, but they grow rapidly. After about two weeks, when the young no longer require constant brooding, the female joins the male in hunting to feed them. The young soon learn to tear meat apart and feed themselves. After five or six weeks, when flight feathers grow in, they begin taking short flights; several weeks later, the fledglings start to hunt.

Raptors help control insect, rodent and small bird populations. Prey species need to have good sight and hearing, be very alert, and react with speed to avoid these predators. Raptors also are environmental indicators, a gauge measuring habitat quality and pollution. If pollutants accumulate in natural food chains, avian predators are often the wild species to show ill effects most noticeably: failure to reproduce, thin eggshells and nesting failure, or outright mortality through poisoning. Heavy metals and chlorine-based pesticides such as DDT (now banned in the U.S. but continues to be used in countries where some hawks and falcons migrate through or spend the winter), aldrin, dieldrin and heptachlor drastically reduced hawks numbers during the middle of the twentieth century. These pollutants continue to alter ecosystems.

Many hawks and falcons fly south each autumn. The species migrating in greatest numbers are often those that cannot find adequate food supplies in winter. Some hawks breeding in Pennsylvania winter as far south as Peru. During migration, a hawk can cover several hundred miles daily, depending on weather and wind conditions. In Pennsylvania, many migrating birds follow ridges paralleling the Allegheny Plateau, climbing high on thermals that rise along these ridges. Hawk Mountain Sanctuary, near Kempton in southeastern Pennsylvania, is a famous spot to observe migrating hawks. There are additional hawk watching sites along the Kittatinny Ridge and elsewhere in the state; Bake Oven Knob, Waggoner's Gap, Allegheny Front and Tussey Mountain are just a few of the sites with excellent opportunities to observe raptor migration.

Until recently, birds of prey were often labeled “chicken hawks” and shot, trapped or poisoned indiscriminately. Research has shown that while predators do kill some poultry and game, they more often keep dominant populations of rodents and other prey in balance. Today, many people enjoy observing hawks. In Pennsylvania, hawks are protected by both federal and state laws.

The 11 birds of prey covered in this note fall into two families, the Accipitridae which are generally called “hawks” and the Falconidae that includes the falcons. The hawks are further divided into three basic types: harriers, accipiters, and buteos. The northern harrier, formerly known as marsh hawk, is the only harrier regularly found in North America. It is long-legged, with long narrow wings and a long tail. It soars with wing-tips held perceptibly above the horizontal, much like a turkey vulture, quartering open country in search of prey.

Accipiters (northern goshawk, sharp-shinned hawk, Cooper's hawk) have small heads, long tails and short well-rounded wings. They fly with rapid wingbeats followed by a long glide. Extremely maneuverable, they are well-suited to the thick

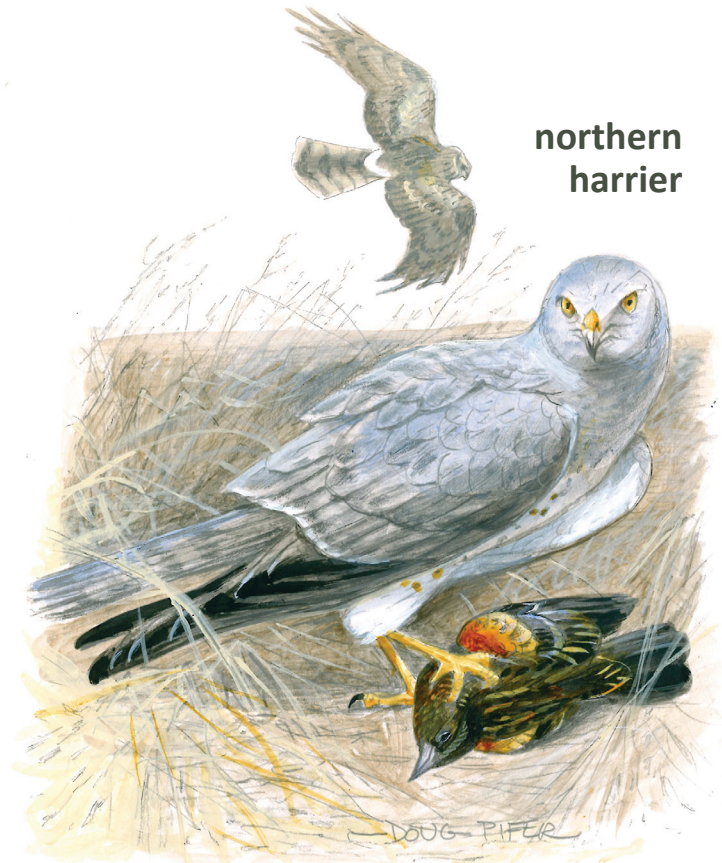
forest areas they inhabit. Accipiters feed largely on other birds but will also take small mammals.

Buteos (red-tailed, red-shouldered, broad-winged and rough-legged hawks) have stocky bodies, broad rounded wings, and short fanned tails. Most are brown in color; young are similar to adults, but in most cases are streaked lengthwise below, rather than barred. Some buteos perch in open country or soar in wide circles when hunting; small mammals are their main prey.

Falcons (peregrine, merlin, kestrel) have large heads, broad shoulders, long pointed wings and a long tail. They are streamlined and built for speed, flying in a direct path with deep rapid wingbeats. They do not usually soar, although the kestrel sometimes hovers with rapid wing strokes. In hunting, the peregrine falcon and merlin often fly above smaller birds and then dive to the attack, striking prey while in full flight.

Northern Harrier (*Circus cyaneus*)

Length, 18 to 24 inches; wingspread, 40 to 47 inches; weight, 12 to 26 ounces. The northern harrier is an open-country and marshland bird. Northern harriers, formerly known as marsh hawks, have a white rump patch and a ruff of feathers around the face, much like the facial disks of owls. Males are pale bluish-gray above, white below; the tail, gray with dark bands. Females are brown above, light brown with dark streaks below; tail is barred with black and buff. Immatures resemble females. Harriers inhabit fresh or saltwater marshes, wet meadows, bogs and flat open grassland, and farmland.



northern
harrier

They use extensive foraging areas where they prey on mice, voles, insects, frogs, reptiles, small birds and rabbits. The northern harrier hunts on the wing by cruising low over fields, at times hovering over one spot, and then diving onto its prey in an aerial ambush. The harrier uses its acute sense of vision to locate prey but also relies on its hearing, which is enhanced by the facial disk and specialized feathers on its face. The species tends to congregate in winter. Its voice is a weak nasal *pee, pee, pee*. Northern harriers nest on or near the ground, usually in open fields or meadows in dense clumps of vegetation and occasionally on a branch over the water. Nests are made of sticks, straw, grasses and are lined with feathers. Eggs: four to six, usually five, oval, dull white to pale blue. Incubation is mostly by the female and takes about 28 to 36 days. Northern harrier populations have declined in Pennsylvania with a 43 percent decrease in the number of blocks reporting observations between the first breeding birds of Pennsylvania atlas period (1983-89) and the second atlas period (2004-09). Because it is at risk of becoming endangered if losses continue, the Pennsylvania Game Commission has categorized the northern harrier as threatened. It is listed as a species of "high level concern" in the state's Wildlife Action Plan because of its small, localized and vulnerable populations that are scattered in pockets of open wetland, grassland or farmland habitat.

Sharp-shinned Hawk (*Accipiter striatus*)

Length, 10 to 14 inches; wingspread, 20 to 27 inches; weight, 3 to 8 ounces. Identification of this species is often difficult, as large female sharp-shins are nearly the size of small male Cooper's hawks, which they closely resemble. While the two species are forest-dwelling hawks, the sharp-shinned is more exclusive of conifer and dense forest habitat and less likely to frequent open habitats and wooded parks and neighborhoods, except during winter when it may take advantage of the hunting opportunities presented around bird feeding stations. Sharp-shinned hawks also have a visibly smaller head as seen when perched and in flight compared to the Cooper's hawk. Adults have red eyes and are blue-gray above, with light rufous barring on the breast. Immatures are brown above, heavily streaked below. These are small hawks with short rounded wings and a long square-tipped tail. Sharp-shins feed almost exclusively on small birds such as sparrows, warblers, vireos, etc. They fly and sail rapidly through the woods or hunt from a perch. Favored habitat is large tracts of forest, and forest edges. Sharp-shins breed throughout much of North America and are found across Canada and parts of western United States south to Mexico. Sharp-shins breed throughout the eastern United States, from New England south through the Appalachian Mountains to Alabama. They prefer to nest in conifers, about 30 to 35 feet up near the top of a tree under dense cover, usually building a new nest each year. The broods include four to five white or bluish eggs with brown blotches. Incubation is by both sexes, mostly by the female, and takes 21 to 35 days with eggs hatching at one- to two-day intervals. Around the nest, adults make a *kek kek kek* sound; in flight a shrill scream. Because of its dependency on conifer trees and large tracts of forest, the sharp-shinned hawk is listed as

a species of Maintenance Concern in Pennsylvania's Wildlife Action Plan (PGC-PFBC 2005).

Cooper's Hawk (*Accipiter cooperii*)

Length, 14 to nearly 20 inches; wingspread, 27 to 36 inches; weight, 8 to 20 ounces (slightly smaller than a crow). The Cooper's hawk is a medium-sized accipiter found in Pennsylvania and the one most likely to be found around town. Adults look like large sharp-shinned hawks—red eyes, blue-gray back and a rusty breast, except the Cooper's have rounded tails and the sharp-shins have square-tipped tails. Male Cooper's hawks are significantly smaller than females, enough that they get confused with large female sharp-shinned hawks. Cooper's hawks tend to have a slightly crested appearance while sharp-shinned hawks invariably look round-headed. Named in 1828 after William Cooper, a New York naturalist, Cooper's hawks prey mainly on birds the size of robins and jays. Other common prey species include European starling, northern flicker, mourning dove, rock pigeon, ruffed grouse, and blackbirds. While hunting, they prefer to perch and wait for prey. Favored habitat is forest and woodland but they have adapted to human environments where they



Cooper's hawk

are common residents of wooded suburbs, urban woodlots and city parks. As illustrated by the second Pennsylvania breeding bird atlas, Cooper's hawks have expanded their range in southern Pennsylvania to include the urbanized landscapes around Pittsburgh and Philadelphia. Although seemingly adaptable, a Cooper's hawk inhabiting an urban center faces greater survival challenges, especially from fatal window strikes, collisions with cars, electrocution, and other predators. Between the first atlas period (1983-89) and second atlas period (2004-09) there was an annual population increase of about 5 percent statewide. Unlike many forest-related species, the Cooper's hawk has reacted well to the fragmentation of forest in the southern corners of the state. Cooper's hawks breed throughout most of southern Canada and the United States. They nest in trees 20 to 60 feet above the ground, often about two-thirds of the way to the tree top. They usually have broods of four to five white eggs, that are incubated by both sexes but mainly by the female for 30 to 36 days. Woods where Cooper's hawks nest may remain heavily populated with songbirds, as these hawks hunt away from their nest area. Call is similar to that of the sharp-shinned hawk only with a much lower pitch, a string of repeated *kac-kac-kac* given in vicinity of the nest. They are usually silent outside of the breeding season.

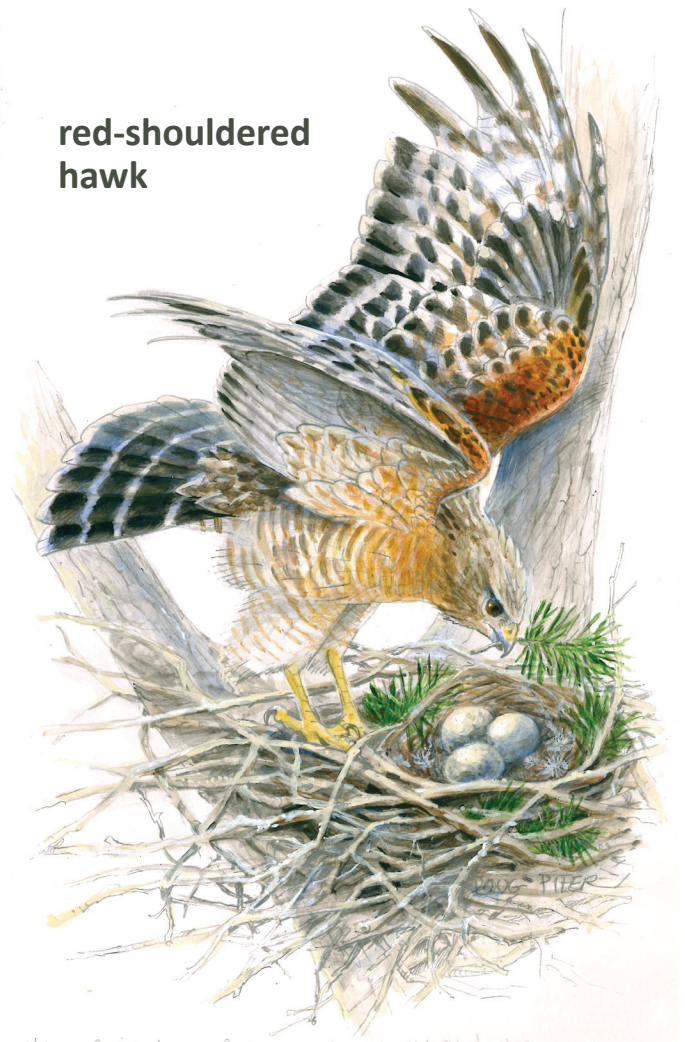
Northern Goshawk (*Accipiter gentilis*)

Length, 20 to 26 inches; wingspread, 40 to 47 inches; weight, approximately 1.5 to 3 pounds. Both immatures and adults have a prominent white line over each eye; the eyes of adults are bright red. In Pennsylvania, the northern goshawk is one of those species most closely associated with large tracts of wild forest. Adults are blue-gray above and white below, with light barring on the breast. Immatures are brown above and creamy white below, with heavily streaked undersides. The largest of Pennsylvania's accipiters, northern goshawks are rare but regular nesting birds, passage migrants, and winter visitors. In some years, populations are irruptive, when food



northern goshawk

red-shouldered hawk



scarcities force many goshawks south. The northern goshawk is listed as Near Threatened by the Pennsylvania Biological Survey and Vulnerable in Pennsylvania's Wildlife Action Plan (PGC-PFBC 2005). Between the first atlas period (1983-89) and second atlas period (2004-09) there was a 28 percent decline in the number of survey blocks with goshawks detected. Statewide, it is a rare breeding bird and restricted to heavily forested sections of central and northern Pennsylvania, particularly the Allegheny National Forest and other large forest tracts of northern Pennsylvania. Goshawks are swift, maneuverable and relentless, sometimes pursuing prey—birds and small mammals—through thick underbrush on foot. Goshawks breed in conifer, deciduous or mixed forest, preferring mature forest with large trees, often with an open understory. They nest up to 75 feet above the ground in trees, building bulky nests (3 to 4 feet in diameter). A pair often uses the same nest year after year or builds nests near previously occupied ones. They usually have a clutch of three to four off-white eggs that are usually unmarked, incubated 36 to 38 days by the female. Goshawks are highly territorial and defend their nests fiercely, sometimes attacking other animals or people that approach the nesting area; voice is a harsh *ca ca ca ca* around the nest. They are usually very secretive and tend to stay far away from human habitation.



broad-winged hawk

Red-shouldered Hawk (*Buteo lineatus*)

Length, 17 to 24 inches; wingspread, 33 to 50 inches, weight 1 to 2 pounds. Adults are colorful birds: dark brown above with chestnut-red shoulders, rich reddish-brown and white below tail strongly barred with black and white. Many diurnal raptors are attractive birds, but the red-shouldered hawk is a particularly strikingly marked and handsome hawk. Many individuals have a translucent area or “window” near the wingtips, visible when they are airborne. These buteos are shy and hard to approach. They favor mature mixed deciduous—coniferous forest, especially damp woods, river bottomlands and woodland swamps. They hunt from an exposed perch, below the canopy, offering a wide field of view or by circling high overhead, and prey on rodents, birds, frogs and snakes. Their voice is a piercing whistled *kee-yer*, which blue jays often mimic. red-shouldered hawks nest 20 to 60 feet above the ground in trees, often in a crotch near the trunk. Eggs: two to four, usually three dull white with brown markings; incubation is by both sexes and takes 32 to 40 days. With its reliance on riparian forest, the red-shouldered hawk is an indicator of high-quality and large scale forest and therefore is designated as a species of Maintenance Concern in Pennsylvania’s Wildlife Action Plan (PGC-PFBC 2005).

Broad-winged Hawk (*Buteo platyterus*)

Length, 13 to 17 inches; wingspread, 32 to 39 inches; weight, 9 to 20 ounces. This small buteo is easily recognized by its heavily-banded tail, with two dark and two light bands. Upper plumage is dark gray-brown; underparts are white, heavily streaked with brown. The broad-winged is a hawk of continuous deciduous or mixed deciduous forests, preying on snakes, amphibians, insects and small mammals. It is Pennsylvania’s most common forest hawk, fairly unwary and approachable. In Pennsylvania, it is a species of high responsibility because of its association with large, contiguous forests for breeding, as designated in the state Wildlife Action Plan (PGC-PFBC 2005). During migration, broad-wings congregate in “kettles” of rising air, which they use to gain height. Large flocks, sometimes reaching thousands of individual broad-wings, may be seen from hawk watch sites during peak migration in September. This long-distance migrant may travel more than 4,000 miles, to reach tropical forests of South America where they spend the winter. The broad-winged hawk’s most common vocalization is a high whistled *p-we-e-e-e-e*. Broad-wings breed mainly in large, deciduous forests and construct their small nests 24 to 40 feet up in trees. Their clutches include one to five eggs, usually two to three, that are dull creamy white with brown markings. Incubation (about 30 days) is mostly by the female while the male brings food to her.

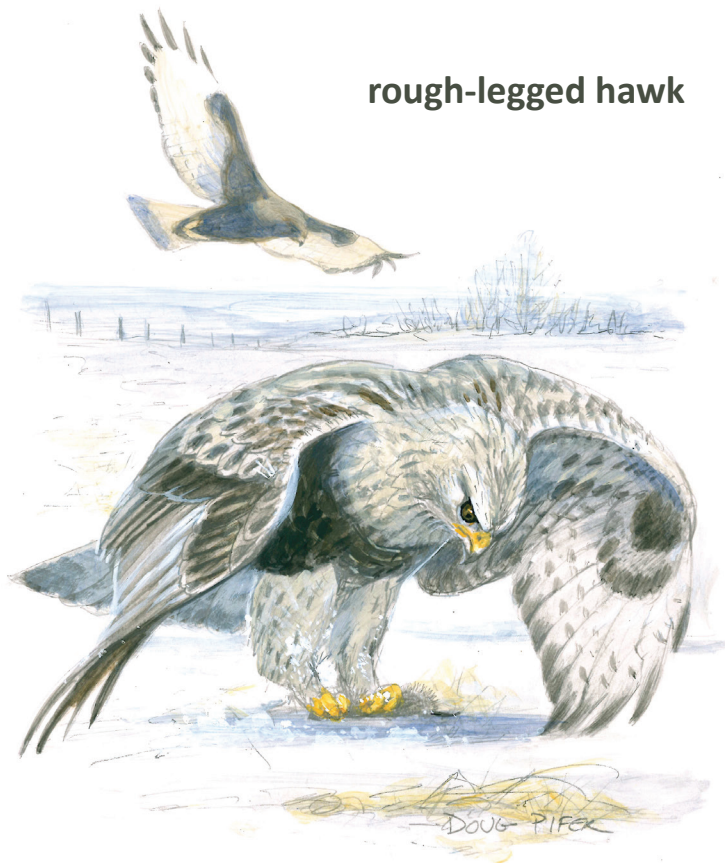
Red-tailed Hawk (*Buteo jamaicensis*)

Length, 17 to 25 inches; wingspread, 44 to 52 inches; weight, 2 to 3 pounds. The red-tailed hawk is a common and widespread buteo of open country and woodlots. Its upper plumage is dark brown, and the light undersides have a belly band of dark streaking. In adults, the upper side of the tail is rusty red; in young, dark gray. Red-tails inhabit a wide variety of open habitats in Pennsylvania and, along with an ample food source, scattered large trees for perching appears to be the habitat component they require. They occur in woodlots and patchy forests, farmland with tree-lines or fencerows, grasslands bordered by trees, highway corridors and cities and towns with light poles, trees or other elevated perches. Primarily soaring birds, they prey on mostly rodents and other small animals such as rats, mice, snakes, birds, rabbits, red and gray squirrels, chipmunks. This species is very adaptable and also can pursue prey in woods as well as open fields where they are more easily seen perching and hunting. The voice is a rasping *keer-r-r-r*, slurring downward. This wild sound is quite familiar and often used in mass media. Red-tails breed throughout North America. Their range extends across Canada south throughout the United States and into Mexico and Central America. They nest in trees 35 to 90 feet up, usually at the crown of a large tree with a panoramic view of the area, both sexes helping to build a stick-and-twigs nest lined with bark or green sprigs. They often refurbish a previously used nest. Eggs: one to five, often two, white and unmarked or with brown splotches. Both parents incubate, although the female



red-tailed hawk

rough-legged hawk



may spend more time on eggs while the male brings food to her. Eggs are incubated 28 to 35 days and nestlings fledge at about 45 days old. It seems as if many pairs occupy their territories year-round while other red-tailed hawks migrate through the state or spend the winter south of their nesting ground north of the state.

Rough-legged Hawk (*Buteo lagopus*)

Length, 19 to 24 inches; wingspread, 50 to 56 inches; weight, about 2 pounds. Rough-legged hawks are birds of open country in far northern latitudes. They do not breed in Pennsylvania but may be seen on migration and during winter. This species exhibits two color phases with wide individual variation in-between. Light phase: upper side light buff to white, streaked with brown; underparts white, with a brown "wrist mark" partway out the wing and a brown band across the abdomen. Dark phase: black or sooty brown, with white at the base of the underside of the tail. Feet are feathered to the toes, hence the name "rough-legged." This large buteo often hovers over fields, beating its broad wings in short rapid strokes much like a kingfisher or a kestrel. Its small sharp-taloned feet are adapted to kill rodents— meadow mice, voles, gophers. For such a large raptor, this species has remarkably small feet that are well-suited for taking small rodents. So, they often perch precariously on twigs and small branches on treetops and bushes. Rough-legged hawks often hunt at dusk. They nest in the Arctic tundra and subarctic regions of Alaska and northern Canada; like goshawks, most rough-leggeds come to Pennsylvania in the winter, when deep snow covers rodents on the northern feeding grounds

and other prey birds have migrated south. In Pennsylvania, they dwell mainly in open country, in large open fields and marshes, feeding mainly on voles and mice.

American Kestrel (*Falco sparverius*)

Length, 9 to 12 inches; wingspread, 20 to 24 inches; weight, about 3 ounces to nearly 6 ounces (males are robin size and females about 10 percent heavier). American kestrels, formerly known as sparrow hawks, have rusty red head caps, backs and tails, and a black and white face pattern. Males have blue-gray wings, females brown wings. The kestrel is one of Pennsylvania's smallest raptors and the most common falcon. Its flight is erratic and buoyant, and it often perches on utility poles or hovers in one spot on rapidly beating wings. Like other falcons, the kestrel is an expert aerial predator. With quick powerful wing beats, it is known to fly at 40 mph and may reach 60 mph when diving for prey. Its diet varies, although individual kestrels may focus their hunting effort on one type of prey, usually a locally abundant prey species. Insects and other invertebrates make up the bulk of their diet, particularly grasshoppers, moths, dragonflies, cicadas, butterflies and beetles. They also prey on small rodents, particularly meadow voles, and birds and occasionally frogs, lizards and small snakes. Voice is a shrill *killy killy killy*. The American kestrel is a grassland-dependent bird species which benefits from grassland preservation and restoration projects. It is a common resident of Pennsylvania's agriculture areas and inhabits open and semi-open landscapes with short ground covering vegetation, natural or man-made perch sites and available cavities for nesting, usually in the form of

American kestrel



merlin



standing dead trees. It is often seen in meadows, pastures, fields, open woodlots, forest edges, riparian woodlands, grassy medians along highways and urban areas with parks or vacant lots. Kestrels nest in existing tree cavities, such as abandoned woodpecker holes and natural hollows. They may also nest in the recesses or niches found on buildings and other structures and they readily accept nest boxes like those intended for the barn owl which has a similar habitat choice and diet of small rodents. The clutch includes three to five whitish eggs that are dotted with brown; the female incubates them for 26 to 32 days. Although it is the most abundant falcon in North America, American kestrel populations have declined in some areas, including Pennsylvania. Kestrels may be vulnerable to multiple environmental influences but research suggests loss of habitat is the primary reason for declines, specifically the conversion of farmland to development, but there may be other factors at play including use of pesticides.

Merlin (*Falco columbarius*)

Length, 10 to 13 inches; wingspread, 24 to 26 inches; weight, 6 to 8 ounces (size of a blue jay). Merlins look like miniature peregrines, with males blue-gray above and banded black on the tail. Females and young birds are dusky brown above, white below. The old name "pigeon hawk" comes from this falcon's resemblance to a pigeon in both flight and posture.

Voice is a high-pitched rasping chatter *Ki-ki-ki-kek-kek-kek* call, frequently heard around the nesting area. Merlins prey mainly on small to medium-sized birds, regularly hunting the most abundant species in their foraging area, but also take small mammals and insects, especially grasshoppers and dragonflies. In falcon style, merlins usually hunt on the wing but sometimes ambush prey from a shrub- or tree-perch. They favor a mix of open country for hunting (such as found in cemeteries, parks and regenerating clearings) and heavy cover for nesting, particularly conifer woods and plantings. They usually nest high in a conifer tree, often near water, and prefer using an old stick nest of a crow or hawk. Eggs: four to six whitish, almost covered by fine brown marks. Incubation takes 28 to 32 days and is by the female. Merlins breed in northern latitudes and began nesting in Pennsylvania only recently. Since the 1980s, the merlin has gradually expanded its breeding range south into parts of New England and the Midwest. In 2006, during the second breeding bird atlas period, atlas volunteers discovered the first-known Pennsylvania merlin nest in McKean County. A total of six breeding sites across northern Pennsylvania were confirmed during the second atlas period (2004-09). Northern Pennsylvania is now the southern limit of the merlin's current breeding distribution in eastern North America, but this species is spreading south at a steady pace. In Pennsylvania merlins have nested in areas close to human activity with confirmed nests found in residential areas. Most merlins seen in the state are in migration as they travel south from the boreal forest over the state's forests and ridges when they often fly low and undetected.

Peregrine Falcon (*Falco peregrinus*)

Length, 15 to 22 inches; wingspread, 38 to 46 inches; weight, 1.5 to 2 pounds. A magnificent and charismatic bird of prey, the peregrine falcon has received a great deal of management protection in Pennsylvania and other states. The name "peregrine" hints of its wandering habits. They range hundreds of miles from where they hatched. Peregrines, formerly known as duck hawks, are slate blue, barred darkly above, with a black cap and "mustache" mark below the eye. Young birds are browner and heavily streaked below. Peregrines have long pointed wings and fly with quick rowing wingbeats similar to those of a pigeon. In attacking prey—ducks, pigeons, blue jays, flickers and other birds, a peregrine folds its wings close to its body and dives at speeds sometimes more than 200 mph; it strikes with its large knobbed feet, usually breaking the victim's back and killing it outright. In North America, the peregrine falcon has been known to prey on at least 429 different species of birds and several species of bats and other mammals. When the prey falls to the ground, the falcon nips it in the neck, picks it up, and carries it to a convenient perch to be eaten. The peregrine falcon was near extinction, extirpated over most of eastern North America, and listed as federally endangered by the U.S. Fish and Wildlife Service in 1972. Following a ban on DDT use, extensive conservation efforts aided the peregrine's recovery enough to be removed from the federal list in August 1999. In Pennsylvania, the peregrine remains listed as endangered and

peregrine falcon



is protected under the Game and Wildlife Code. All migratory birds are protected under the federal Migratory Bird Treaty Act of 1918. Peregrines typically breed in open landscapes with suitable rock cliffs for nest sites. In Pennsylvania they historically nested on rock ledges and crevices along the Delaware and Susquehanna Rivers and tributaries. They now nest on city buildings and bridges in Pennsylvania cities including Philadelphia, Pittsburgh, Wilkes-Barre, Williamsport, and Harrisburg. They have also nested on power plant smokestacks and on natural cliffs along the Delaware River as well as the main and west branch of the Susquehanna River. Peregrines are widespread and are one of the most cosmopolitan bird species, occurring on all continents except Antarctica. In North America, their breeding range includes Arctic areas of Alaska and northern Canada, western areas of Canada and parts of western and eastern United States and portions of Mexico. The clutch includes two to four creamy white eggs with rich brown markings. There is a 29- to 32-day incubation period. Voice is a repeated *we-hew* or a rapid rasping *cack cack cack*. Peregrines have one of the longest migrations of all North American birds. A peregrine falcon nesting in the Arctic tundra may travel to wintering grounds in South America, a round-trip covering over 15,000 miles. Pennsylvania peregrine falcon pairs usually remain in the area year-round; some spend the winter within their nesting territory. Evidence from banding indicates that peregrines are crossing many state boundaries to find new mates and nesting sites. The eastern peregrine falcon population is slowly expanding and well-mixed.