

# Morley Nelson Snake River Birds of Prey



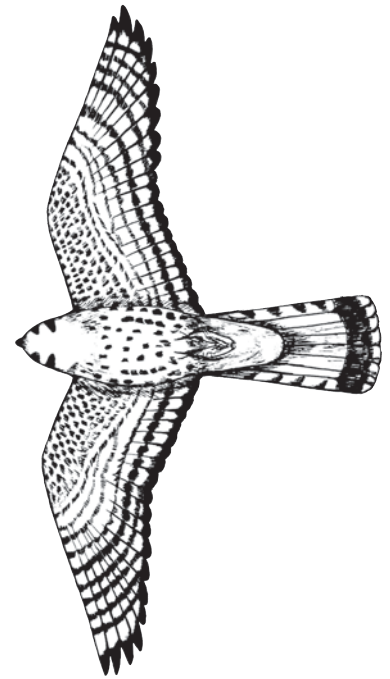
## National Conservation Area

### American Kestrel (*Falco sparverius*)

#### Description/Size

Wing span: 20-24 inches  
Length: 8-11 inches  
Weight: 3.4 to 5.3 ounces

The smallest falcon in North America. Like all falcons, kestrels have large heads, notched beaks, and “heavy shouldered” streamlined bodies. There is a difference in the plumage of each sex. In both sexes the back is reddish brown sparsely barred with black, the crown is blue-gray with variable amounts of rufous, the face and throat are white with a black malar (vertical stripe) below the dark eyes and another behind the cheek, the beak is blue-black and the legs and feet are yellow. Male kestrels have blue-gray wings, while females have reddish-brown wings with black barring. Males have rufous tails with one wide, black sub-terminal band and a white tip. Females have rufous tails and many black bars. The light-colored under parts of females typically are heavily streaked with brown; those of males are white to buffy orange with variable amounts of dark spotting or streaking. This adult plumage is attained at 1 year. Both sexes are slightly larger than robins but females are 10-15% larger than males.



#### Similar Species

Merlin – similar sized falcon but not as colorful; both sexes have narrow pale bands on a dark tail.

#### Habitat/Range

North America, the Bahamas and Antilles, Central America, and South America. Frequents open and partially open countryside including agriculture lands, transportation corridors such as freeways and highways, meadows, prairies, plains, and deserts.



#### Food/Diet

Primarily a sit and wait perch hunter-most prey is caught on the ground but some are taken in flight. Kestrels catch prey with their feet and then administer a killing bite to the back of the head. They capture a variety of prey but insects are the primary prey followed by small mammals, birds, small reptiles and some amphibians. Insects include grasshoppers, dragonflies, and crickets. Birds include meadowlarks, quail, wrens, and starlings. Reptiles include small lizards and snakes. Foods only rarely taken include centipedes, scorpions, spiders, snails, and earthworms. Occasionally takes bats. Kestrel will kill and cache food items – highest in fall and winter.

#### Voice

The American kestrel has three basic vocalizations. A shrill, clear screaming *kli kli kli kli kli kli*, *kli kli* is used when upset or excited. A whine is used during courtship feeding and copulation. A chitter is the most frequent vocalization in male/female interactions.

#### Behavior

American kestrels are aggressive vocal birds. Wing beats are weak and shallow; flight is light and buoyant. Occasionally soars in circles with its tail spread and its wings flat.

The American kestrel is often seen hovering or perched on wires in open areas, hunting insects and small mammals. When perched, it commonly bobs its tail up and down. It is the only North American falcon to hunt by hovering. Northern populations in North America are more migratory than those breeding farther south. This results in a leap-frog pattern of migration in which northern birds winter south of southern birds. Some northern populations move as far south as Central America, while many southern populations are sedentary. Most American kestrels breeding in North America overwinter in the US.

### **Reproduction/Nesting**

Clutch size: 4 to 6 eggs  
Eggs: white with flecks of brown shades; elliptical, 1.3 x 1 inches  
Incubation: 28-29 days  
Fledge: 28-31 days  
Disperse: 2-4 weeks

American kestrels form strong pair bonds and some pairs remain together across years. Requires a cavity, natural or manmade, for nesting, and will nest in bird boxes, holes in trees (made by other birds or natural), cliffs and the crevices of buildings. Generally requires a few prominent elevated perches for hunting nearby. Will vigorously defend its nest against other cavity nesters. Will lay a replacement clutch if first clutch is lost early in the breeding season. Can lay two broods in one season if first clutch is early.



## Life Span

Longest recorded – 14 years 8 months

## Conservation Status

Not on the US Fish and Wildlife's Endangered or Threatened Species List. However it is protected by the Migratory Bird Treaty Act. Idaho Fish & Game lists the American kestrel as a protected non game species for which it is illegal to collect, harm or otherwise remove from its natural habitat. American kestrels are considered to be abundant through most of its North American range. The southeastern race, *Falco sparverius paulus*, is in serious decline due to habitat loss and has been listed by the Florida Fish and Wildlife Conservation Commission as "threatened". In Georgia it is listed as a species of special concern. Major causes of death include collisions with traffic, wires and windows; illegal shooting, predation by larger raptors, pesticide poisoning, being trapped in chimneys, drowning in water tanks, electrocution on power lines, and being trapped in fresh tar on a resurfaced road.

## Viewing in the NCA

Seen in the NCA and Treasure Valley year round. Look for them perched on telephone wires and poles.

## Interesting Facts

Spanish name:  
*Cernicalo chitero*,  
*Cernicalo americano*

- The scientific name comes from the Latin word *falx* meaning "scythe", referring to the shape of the wing and shape of the talons and *sparverius* meaning "pertaining to a hedge sparrow".
- Formerly know as Sparrow Hawk
- Other names: Desert Sparrow Hawk, Eastern Sparrow Hawk, Little Kestrel.
- Outward pointed, cone shaped projections in the center of the round nostrils slow down the air flow to allow fast flight without damaging the bird's lungs.

## Sources

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Illustration: courtesy Alberta Sustainable Resource Development

Map: The Peregrine Fund

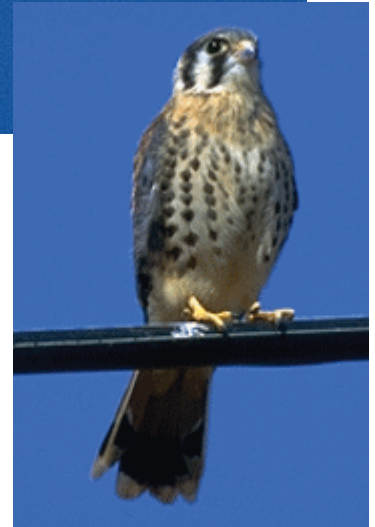
Photography: David Ellis



**American Kestrel**  
*(Falco sparverius)*



Male



Female



Photos: Know Your Birds of Prey, Axia CD ROM



# Morley Nelson Snake River Birds of Prey



## National Conservation Area

### Barn Owl (*Tyto alba*)

#### Description/Size

Wing span: 42-47 inches  
Length: 12.5-20 inches  
Weight: 11-22 ounces

North America's only member of the owl family, Tytonidae. Pale tawny and white plumage, and heart-shaped facial disk are distinctive. Large head lacks ear tufts. Heart-shaped facial disk is white with brown to orange brown border. Long beak is off white; cere pinkish white. Eyes relatively small for an owl. Iris is dark brown to black. Upperparts gold to buff; heavily marked with white, black and gray. Underparts are white with spotting. Females tend to have more and larger spotting on wings and breast than males. Some males are unmarked and some females are dark buff heavily spotted with black. Wings long and rounded. Tail short and square. Legs relatively long. Feathering on lower legs may be sparse. Toes light gray, talons dark gray. Feet extend past end of tail in flight. Juveniles similar to adults except more heavily spotted. Thirty-two subspecies of barn owls recognized across the world and measurements vary greatly throughout its range. Only one subspecies, *T.a. pratincola*, is recognized in North America; found from sw British Columbia south and east through most of the U.S. (except some of the northern-central states), Mexico, south to e. Nicaragua and Hispaniola; also Bermuda. This subspecies is also the largest; nearly twice the mass of the smallest subspecies (*T.a. punctatissima*; Galápagos Is.)

#### Similar Species

Ashy-faced Owl (*Tyto glaucops*) – only found on the island of Hispaniola; has much darker plumage and darker silvery-gray facial disc.

#### Habitat/Range



The barn owl is one of the most widespread of all owls and, indeed, is among the most widely distributed of all land birds – living in North, Central and South America; Europe, Africa, India, SE Asia, and Australia. This owl occupies a broad range of open habitats with some trees, urban to rural, favoring lower elevations in most of its range. Not found in most mountainous or heavily forested areas. Its northern range limit is determined by the severity of winter conditions and availability of prey. Breeding numbers seem limited by the availability of nest cavities in proximity to adequate densities of small mammals. The species is generally resident except that northernmost populations in North America are reported to be partly migratory.

#### Food/Diet

Diet is primarily small mammals: voles, shrews, moles, mice, lemmings, kangaroo rats, flying squirrels, and the young of larger mammals – rats, pocket gophers, muskrats, hares and rabbits. Birds are usually eaten only in small numbers; most are small species that roost in the open. Amphibians, reptiles, fish, insects, scorpions, and crayfish are rarely taken. Most prey is swallowed whole; those too large are eaten piecemeal. Excess prey cached in the nest site during incubation and early brooding.

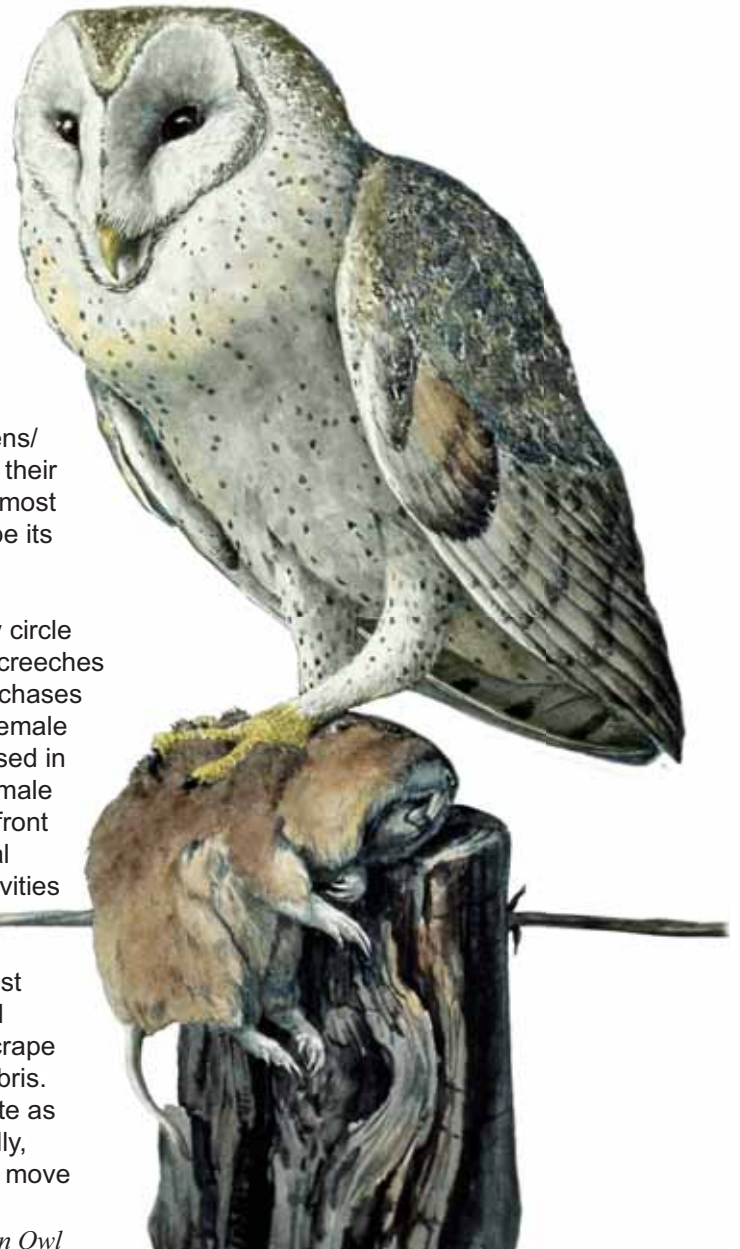
#### Voice

More vocal during breeding season. Calls can be categorized as screams, snores, hisses, or chirrups/twitters. Screams used to advertise, to warn and given in distress. Hisses used in defensive situations. Snores are non aggressive, self advertising calls given mostly by nestlings and females. Chirrups and twitters include feeding calls, discomfort calls, and greeting and conversational twitters. Common call year-round is simply a long hissing shriek *cssssshhH*. Courtship call of male is a shrill repetitive twittering. Adults returning to nest may give low, frog-like croak. Non vocal sounds: Bill-snap is a defensive sound made when threatened or closely approached by a human

or other large predator; usually associated with hissing and sometimes the distress call. Wing-clap, not frequently made, reported to occur in display flights by males; usually a single clap but occasionally a loud clap followed by a softer one.

## Behavior

Although highly nocturnal, can be observed hunting in daylight. Most hunting done in low quartering flights within 15 feet of ground in open habitats. Also hunts from low perches. Often follows a favorite course or returns to favorite hunting areas. Hunts mostly at night, beginning about one hour after sunset and ending about one hour before sunrise. Prey is captured with the feet and usually nipped through the back of the skull with the beak. Can discriminate sounds of appropriate prey by memorizing prey noises. Ability to locate prey by sound is the most accurate of any animal tested, allowing capture of prey hidden by vegetation or snow. In North America, barn owls produce one to two pellets per day. Minimum interval between eating and casting is 6.5 hours. Buoyant; deep, rather slow wingbeats. Hunting flights slow but capable of speeds of 50 mph. Not considered highly maneuverable but can make turns on small radius. Low wing loading permits heavy prey to be carried at slow speeds. Walks on ground with an awkward-looking side-to-side lurch. Runs rapidly, often with aid of wing flapping when pressed. Climbs very well; can scale vertical surfaces (inside of hollow trees, silo walls, etc.) using feet to grip and with the aid of wing flapping. Extent of migration in this species remains unresolved. Reports of migratory movement in some regions of northern U.S. Juveniles commonly disperse in all directions from the natal site; these movements of up to 1180 miles may be mistaken for migration. Individuals habitually use the same roost. Roosting owls sleep, sometimes soundly, standing with head hunched down, eyes closed, and facial disk relaxed. Barn owls often mobbed by other birds, particularly crows/ravens/magpies, when flushed from their roosts in daylight. The owl's most common reaction is to escape its tormentors.



## Reproduction/Nesting

Clutch size: 4-7 eggs  
Eggs: subelliptical, white, 1.3 x 1.7 inches  
Incubation: 29-34 days  
Fledge: 7-9 weeks  
Disperse: 7-8 weeks

During courtship, males may circle near nest site, giving short screeches and chattering calls. Sexual chases follow where male pursues female with both screeching. Also used in courtship are moth flights -- male hovers with feet dangling in front of perched female for several seconds. Nests in natural cavities in trees, cliffs, and caves or in man-made structures like nest boxes, barns, chimneys, and other structures. Nest is a scrape lined with pellets or other debris. Typically nest at the same site as long as they live. Occasionally, change nest sites but do not move

long distances to do so. Two broods common. Pair may lay a second clutch of eggs when the first young start to leave the area. Can breed year round where climate permits. Generally monogamous, it is sometimes polygamous. Pairs usually remain together as long as both live, but either sex will readily re-mate if its mate disappears. Solitary or in pairs when not breeding. Most individuals appear to breed at one year of age.

### Life Span

Longest recorded – 15 years 5 months.

### Conservation Status

Not on the US Fish and Wildlife's Endangered or Threatened Species List. However it is protected by the Migratory Bird Treaty Act. Idaho Fish & Game lists the barn owl as a protected non game species for which it is illegal to collect, harm or otherwise remove from its natural habitat. Several states have the barn owl on their threatened or endangered species list or list it as a species of special concern. It is declining in many areas of North America and Europe. Several factors have been implicated: pesticides pose a secondary poisoning threat; reduced availability of nest sites including demolition or alternation of old buildings; loss of foraging areas and/or prey populations due to urban sprawl and changing agricultural practices. Collisions with vehicles are a major cause of mortality. Illegal shooting and electrocution are minor causes.

### Viewing in the NCA

Seen in the NCA year round.

### Interesting Facts

Spanish name:  
*Lechuza de campanario*

- The scientific name comes from the Greek word *tyto* which refers to an owl, and *alba* the Latin word for white.
- Common name refers to the owl's use of man-made structures, like barns, as roosts and nest sites.
- Other names: monkey-faced owl, white owl, ghost owl, and golden owl.
- Sound of wings muffled by velvety pile on feather surface plus leading wing edges which have a fringe or fine comb which deadens the sound of the wing beats.
- Ear openings are at slightly different levels on the head and set at different angles. This gives the barn owl very sensitive and directional hearing; it can catch prey in complete darkness.
- Barn owls have been associated with omens, witchcraft and death.

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Illustration: courtesy Alberta Sustainable Resource Development  
Map: The Peregrine Fund



**Barn Owl**  
(*Tyto alba*)



Adult



Nestlings



Photos: Know Your Owls, Axia CD ROM



## Burrowing Owl (*Athene cunicularia*)

### Description/Size

Wing span: 20-24 inches

Length: 7.5-11 inches

Weight: 4.5-9 ounces

A small owl that lacks ear tufts; has relatively long, narrow wings, short tail and long legs. Adults – upperparts evenly barred, spotted pale brown and buffy. Spots are smaller and more numerous on the crown and larger on the back, upper wings and hind neck. Sandy colored on the head, back and upperparts of the wings. Tail short with buffy white bands. Distinct oval facial ruff, framed by bold white eyebrows extending above and along side of the beak. Has a prominent white chin stripe. Under parts are buffy white with broad brown barring/spots except the under tail coverts are white. Lower chest white; band of dark brown (mottled with white) between white throat and chest. Eyes usually bright lemon yellow. Beak is cream colored. Cere and eyelids grayish. Gape pinkish. Bristle-like feathers on legs and feet are white to beige. Skin dark gray, except undersides of feet sometimes yellowish in juveniles. Unlike most owls, the male is slightly heavier and has a longer wingspan than the female. Males tend to be lighter colored, more grayish brown and not as heavily barred below. Females are usually darker than males. Juveniles – Brown on head, back and wings. Under parts lack barring and are dull white except for upper chest that is dark brown. Crown marked with fine buffy-white streaks. Up to 18 subspecies currently recognized. Two subspecies in North America: *A.c. hypugaea* found from e Texas north to s. Manitoba and west across s. Canada and all of the western US south to El Salvador, and *A.c. floridana* restricted to Florida and the Bahamas.

### Similar Species

None.

### Habitat/Range



Open, well-drained grasslands, steppes, deserts, and prairies, often associated with burrowing mammals. Also agricultural lands, and golf courses, cemeteries, airports, vacant lots and other open areas within cities. Extends from southwestern Canada, western US and Florida, throughout Central America, and most of South America except the Amazon River basin. Also on Cuba, Hispaniola, n. Lesser Antilles, Bahamas, and several islands off the west coast of Mexico. Nests in dry level open terrain with low height vegetation for foraging and available perches such as fences, utility poles and raised rodent mounds. The abundance of available burrows seems to be a critical habitat requirement. Favored locations are those in relatively sandy sites, areas with low vegetation around burrows, holes at the bottom of vertical cuts with a slight downward slope from the entrance and slightly elevated locations to avoid flooding. Winter range is much the same as breeding range, except that most apparently vacate northern areas of the Great Plains and Great Basin.





## Food/Diet

Opportunistic hunters taking insects, small mammals and birds but will also eat reptiles and amphibians. Insects include grasshoppers, scorpions, large beetles, moths, and crickets. Mammals include mice, rats, voles, gophers, and bats. During breeding season, food is cached within nest burrows and tunnels. Also found scattered within 100 feet of the nest burrow.

## Voice

Thirteen vocalizations of adults and three of young have been identified. Adult vocalizations include a Primary Song, a two-note call *coo coooo*, given exclusively by the male. Other sounds associated with copulation, nest defense and food begging: rasp, chuck, chatter, and scream. Most vocalizations given near the nest burrow. Juveniles give an intense prolonged rasp when severely distressed; mimics a rattlesnake rattle and deters potential predators from entering nest burrows. Non vocal sounds: Bill snaps most often heard in defense of nest site, but given whenever severely threatened; accompanied by threat display and vocalizations.

## Behavior

Only small owl likely to be seen perched in the open in daylight; often on the ground or on fence posts. Bobbing "deep knee bend" motion of agitated birds is distinctive. Hunts while walking, hopping, or running across the ground; also hovers in mid air and swoops down; glides silently from a perch; or catches insects in the air. Hunting style varies with type and activity of prey pursued, time of day, and vegetation. Prey is caught with feet and carried by the beak. Is crepuscular - hunts mainly at dawn and at dusk but will hunt any time during a 24 hour period. Tends to hunt insects in day and small mammals at night. It has been suggested that these owls may be capable of fasting for several days. Flies with irregular, jerky wingbeats and frequently makes long glides, interspersed with rapid wingbeats. May flap wings asynchronously (not up and down together). Birds in the northern part of the range are migratory. Banding recoveries show that Canadian owls migrate further south than those banded in the US, suggesting a "leap-frog" migration. Compared with other birds, these owls show a significantly higher tolerance for carbon dioxide, apparently a response to nesting in burrows. Mammalian predators elicit aerial attacks during the nesting season. Avian predators elicit escape behavior, often into burrows.

## Reproduction/Nesting

Clutch size: 6-9 eggs  
Eggs: round-ovate, white, 1.3 x 1.0 inches  
Incubation: 28-30 days  
Fledge: 44 days  
Disperse: little information available.

Courtship displays include rising quickly to 100 feet, hovering for 5-10 seconds then dropping to 50 feet. Repeated many times. Circular flights of approximately 130 feet also occur; performed mainly by males. Usually monogamous but occasionally polygynous (one male and two females). Pair bond may or may not be retained from year to year. Nests and roosts in abandoned animal burrows or other crevices. If soil conditions allow they will dig their own burrows. Also use manmade burrows (containers placed underground with entrance tunnel). May nest alone or in a group with other nesting burrowing owls. Prefer nesting areas with high density of burrows available; this may provide extra escape burrows for young owls before independence. Adults return to same burrow or nearby area each year. Both adults renovate and maintain burrows. Often line the nest with a variety of dry materials including dung. Continue to maintain their burrow throughout most of the breeding season. In non-migratory populations, use and maintain burrows year-round; in winter, burrows provide protection from avian predators. Burrow dimensions vary; nest cavity is roughly circular, approximately 10 inches wide and 4-5 inches high. Tunnel slants approximately 15° downward from the entrance. Young owls begin to use satellite burrows at 7-8 weeks. No known record of second broods; renesting may occur if the first nest is destroyed early in the breeding season. Sexually mature at one year of age.

## Life Span

Longest recorded – 8 years 8 months.

## Conservation Status

Not on the US Fish and Wildlife's Endangered or Threatened Species List. However it is protected by the Migratory Bird Treaty Act. Idaho Fish & Game lists the western burrowing owl as a protected non game species for which it is illegal to collect, harm or otherwise remove from its natural habitat. The BLM considers this a Sensitive Species



in Idaho – the viability of the species is at risk across all or a significant portion of its range. Listed as endangered, threatened, or a species of special concern in most states where they occur. In Canada it is Endangered. Intensive cultivation and urban development of grasslands and native prairies has long been recognized as a cause of declining burrowing owl populations: results in loss of burrows, loss of foraging habitat, creation of suboptimal nesting habitat, and increases in vulnerability to predation; may also reduce the chance that unpaired owls will be able to find mates. Human activities which cause the reduction of burrowing mammals also impact these owls through the loss of burrows for nests. Pesticides used in farming can result in direct mortality, or indirectly due to loss of prey base or due to contaminated prey. This owl is vulnerable to many different predators. Mammals, particularly badgers, are major predators. Domestic cats, dogs, opossums, weasels, and skunks feed on eggs and young. Hawks, falcons, larger owls and crows are also predators of adult and young burrowing owls. Collisions with vehicles are often a serious cause of mortality; the owls habitually sit and hunt on roads at night. Severe spring and summer weather known to kill both adults and young in burrows. It is not known if illegal shooting is a local or widespread problem.

### Viewing in the NCA

### Interesting Facts

Spanish name:  
*Lechuza llanera*,  
*Chicuate*

The western burrowing owl is seen in the NCA from March through August.

- The scientific name comes from the Greek word *athene* referring to Athena the Greek goddess of wisdom whose favorite bird was an owl and the Latin word *cunicularia* meaning mine or miner, referring to its nesting under ground.
- Common name refers to its nesting in burrows.
- Other names: ground owl, long-legged owl, prairie dog owl.
- Burrowing owls are crepuscular – hunting mainly at dawn and at dusk.
- The Zuni Indians called this owl the “priest of the prairie dogs” because it frequently nests and roosts in empty prairie dog burrows.
- Early European settlers were convinced that rattlesnakes often shared its nests.



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Illustration: courtesy Alberta Sustainable Resource Development / Map: The Peregrine Fund  
Photography: David Martorelli

**Burrowing Owl**  
*(Athene cunicularia)*



Adult



Immature



Photos: Know Your Owls, Axia CD ROM



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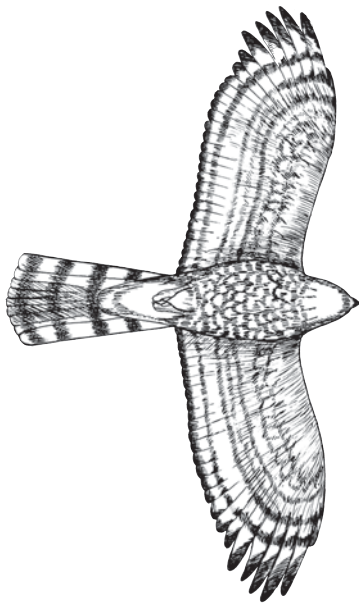


## National Conservation Area

### Cooper's Hawk (*Accipiter cooperii*)

#### Description/Size

Wing span: 27 - 35 inches  
Length: 15 -18 inches  
Weight: 12 - 19 ounces.



Medium sized accipiter with relatively large head; holds wings straight when soaring. Dark gray above with cinnamon chest and belly barred with fine lines of white. Dark crown contrasts with pale nape and blue gray dorsal area. Short rounded wings are strongly barred. Long round-tipped tail has four dark bands and white terminal band. Vent is white. Beak is blackish at tip, bluish at base. Cere, legs and feet yellow. Talons black. Eyes are yellow in juveniles shifting progressively to orange and finally red in adults. Females are about one third larger than males. Sexes similar in plumage, but males, on average, more brightly colored than females. Juveniles are brown above and vertically streaked with brown and white on chest and belly; their wings and tails are barred. Bill gray with pale yellow cere. No color morphs or subspecies.

#### Similar Species

Sharp-shinned hawk – smaller; small and narrow head, wings that jut forward at the wrist; square tipped tail with thin white terminal band. Northern goshawk juvenile – larger; less rounded tail; bars on the tail feathers are offset creating a zigzag effect; undertail coverts streaked.

#### Habitat/Range

Deciduous, mixed, and coniferous forests and deciduous stands of riparian habitat in North and Central America. Occurs in a wide variety of habitats including rural and well treed urban areas. Breeds throughout southern Canada, US, and northern Mexico. Tolerant of human disturbance and habitat fragmentation and breeds in suburban and urban settings. Urban sites have included isolated trees in residential neighborhoods. Forest edge habitat generally included within home range of breeding birds and may serve as primary hunting sites. Most birds winter within U.S. and most of Mexico. Hawks in the northern part of their range will migrate as far south as Central America; casually to Costa Rica and possibly Panama.

#### Food/Diet

Mainly small to medium sized birds and mammals such as jays, robins, woodpeckers, small owls, rabbits, squirrels, chipmunks and other rodents. Prey preference varies regionally. Also eats reptiles, amphibians, and fish. Insects include grasshoppers, butterflies, and crickets. Will readily take domestic fowl – chickens, quail, and pigeons. Will cache uneaten prey on horizontal branches during the breeding season.





## Voice

Usually silent except during breeding season. Mates likely communicate mainly by calling because of the poor visibility in their woodland habitats. Alarm call, *cak cak cak*, is most often heard. Males give a *kik* when returning to nest with food. Females give *kik* call when trying to locate the male. Females give *whaaa* call during food exchanges. Vocalizations may be an essential element of the pair bond.



## Behavior

Wingbeats are described as stiff and choppy. Several rapid wingbeats alternate with brief glides in usual flight. Short powerful wings and long tail allow for speed and maneuverability in dense cover. Usually flies close to ground or below tree canopy when hunting or approaching and departing nest. Cooper's hawks are sit-and-wait predators that perch in concealed place, then dash out quickly to capture prey. When hunting ground prey, flies low, alternating rapid wingbeats and glides, through open forest using brush and trees to conceal its approach. Also soars high, and then stoops on flying prey. When attacking prey, flies rapidly, then glides last 12-15 feet before impact. Grasps prey with talons, usually killing the

prey on impact or grasping and relaxing grip on prey repeatedly until the prey is dead. Will also drown prey in water, holding it under until it ceases to move. Occasionally runs or walks on ground to pursue or retrieve prey. Prey is carried to a perch where it is plucked and torn into pieces. Cooper's hawks are solitary migrants. Avoids the Great Plains region due to little forest cover. Cooper's hawks are said to be reluctant to cross water barriers. Birds from northern third or half of breeding range allegedly more migratory than those farther south. Birds from e. North America winter mostly in central and s. U.S.; those in the west winter in central and s. Mexico. Some populations are resident. Mobbed by smaller birds, especially when carrying prey.

## Reproduction/Nesting

Clutch size: 3-5 eggs  
Eggs: elliptical, bluish white, 1.9 x 1.5 inches,  
Incubation: 34-36 days  
Fledge: 27-34 days  
Disperse: 7 weeks

Courtship behavior not well described. Males try to attract females by soaring in broad circles over treetops with tail closed, undertail coverts flared, and wings held high above back. Pairs soar together on thermals. Slow speed display flights occur where both birds fly slowly with exaggerated wingbeats interspersed with glides. Nests usually built in extensive stand of forest or woodlots larger than 10 acres but occasionally in solitary trees. Nest site often within half mile of water. Nests are bulky platforms of sticks with a "cup" lined with bark flakes; placed in a main crotch or on a limb next to the trunk and are usually 26-49 feet above ground. Nests are usually partially concealed by foliage. Many are built on top of old squirrel nests, hawk nests or in mistletoe clumps. Males show strong attachment to traditional nesting territories. Individuals occasionally use the same nest in successive or intermittent years, but typically build a new nest in the same area. Monogamous. Some pairs known to remate and some individuals to have new mates in subsequent years. Apparently solitary outside breeding season. Pairs often reneest if initial clutch lost in early incubation or before. Adults react to potential predators near nest. Intensity of response to human intrusion varies, but rarely strike humans. Many breeding birds are inconspicuous, neither vocalizing nor behaving aggressively in the presence of humans, instead

leaving the immediate vicinity of the nest. Some females breed as yearlings, but males do not breed until two years old.

### **Life Span**

Longest recorded – 20 years 4 months.

### **Conservation Status**

Not on the US Fish and Wildlife's Endangered or Threatened Species List. However it is protected by the Migratory Bird Treaty Act. Idaho Fish & Game lists the Cooper's hawk as a protected non game species for which it is illegal to collect, harm or otherwise remove from its natural habitat. Western populations appear stable but eastern populations declined significantly in the mid-1900s, probably due to shooting, trapping, and pesticide contamination. Although Cooper's hawks are still designated as Species of Special Concern, Threatened or Endangered in numerous eastern states, recent evidence suggests that breeding populations have recovered in many areas. DDT and its derivative DDE caused problems in the past with eggshell thinning and breakage. A few recent cases of organophosphate poisoning reported but effects on populations unclear, as are consequences of pesticide use in Mexico for western birds wintering there. Contaminants other than DDE (dieldrin, PCBs, mercury and other heavy metals) also present in eggs, but with unknown effects. Timber harvests may alter suitability of nesting or foraging habitats as well as prey populations on local or regional scales. In Arizona, reproductive success lower in heavily grazed than in lightly grazed riparian habitats; correlation with avian prey populations suggested. Populations likely more dependant on food supplies than availability of suitable nesting sites. Illegal shooting a minor problem.

### **Viewing in the NCA**

The Cooper's hawk winters in the NCA from November through February. It migrates through the NCA from August to October and from February through May.

### **Interesting Facts**

Spanish name:  
*Ésmerejón de Cooper*

- The scientific name comes from the Latin word *accipere* meaning to take or to grasp and refers to a bird of prey, and the Latinized last name of William Cooper, a noted 19<sup>th</sup> century ornithologist. The name translates into Cooper's bird of prey.
- Other names: chicken hawk, big blue darter, quail hawk.
- Will stake out suburban yards where it can pick off songbirds attracted to feeders.

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Illustration: courtesy Alberta Sustainable Resource Development

Map: The Peregrine Fund

Photography: David Ellis



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



Adult



Immature





# Morley Nelson Snake River Birds of Prey



## National Conservation Area

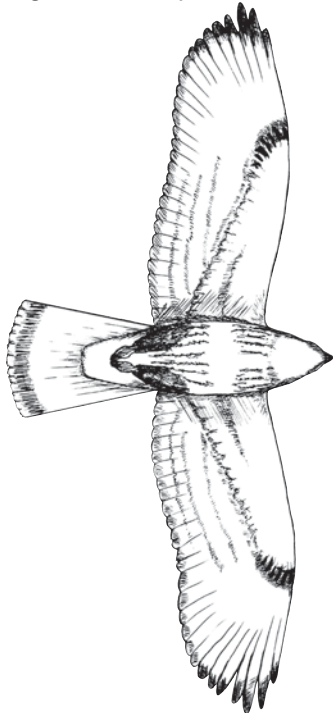
### Ferruginous Hawk (*Buteo regalis*)

#### Description/Size

Wing span: 48-60 inches

Length: 21-27 inches

Weight: 2.2-4.5 pounds



#### Habitat/Range



#### Food/Diet

On average, this is the largest buteo in North America. It has a broad head and distinctively tapered and narrow-tipped wings. Iris is chestnut brown. Bill is dark bluish to pearl gray. Cere, feet and toes are yellow. Sexes are similar in plumage, but females are noticeably larger and tend to show more pigmentation on legs and belly. There are two morphs or color phases with the dark morph being less frequent. The light morph adult has a white or gray tail and nearly white underparts, with sparse rufous or gray specks on the belly and the characteristic rufous "V" formed by the dark legs and tarsi held under the rump in flight. Underwings are faintly speckled. The head is whiter than that of most hawks, with back and shoulders rufous and a noticeable white area in widely extended primaries as seen from above. Light morphs exhibit varying amounts of largely ferruginous and some light neutral gray in a band across belly and on underside of wings. The adult dark morph is dark-headed with dark upperparts and an all dark belly and underparts. The under parts of the wing are two-toned with the dark coverts contrasting with the pale primaries and secondary feathers. Adult dark morphs have a distinctive plain light-colored tail and light area on upper and lower surfaces of primaries. Dark tarsi cannot be distinguished. Upper wing and back feathers rufous fringed. Adult dark morphs exhibit varying amounts of reddish brown pigments in ventral body feathers. No subspecies are recognized, but two separated subpopulations occur on either side of the Rocky Mts.

#### Similar Species

Red-tailed hawk – some races have similar wing and tail patterns.

Golden eagle – larger and differs in plumage; similar in behavior.

Arid to semi-arid regions, shrub steppe, grasslands and agricultural areas in southwestern Canada, western US and northern Mexico. Prefers open, flat and rolling terrain largely devoid of trees save for small groves, riparian corridors, and shelterbelts. Avoids high elevations, forest interiors, narrow canyons, cliff areas and habitats recently altered by agriculture.

Small to medium sized mammals such as jackrabbits, prairie dogs and ground squirrels. Will sometimes hunt birds, reptiles, and insects. Diet varies depending on distribution of prey species. In the NCA, the black-tailed jackrabbit is a major food species along with ground squirrels.

*Raptor Information Sheet - Ferruginous Hawk*



## Voice

Alarm call – “kree-a” and harsh “kaah kaah”. Vocal during the breeding season. Remarkably quiet in winter even when small groups gather around kills.

## Behavior

Flight and hunting behavior is suggestive of a golden eagle. Slow wing beats. Sluggish when taking flight. Soars and circles with uptilted wings. Glides with wings held flat or slightly uptilted. Hunts from a perch; walks, hops, and runs on ground after prey; cruises low over the ground; or kites (in strong winds stays in place aloft without flapping). Hunting may occur at any time of day; early morning and late afternoon may be common. Victims are seized by the feet and a series of blows may be given, including driving the rear talon into the body to puncture a vital organ. Before bringing prey to the nest, the adults will often eat the head. Food caching has been noted but not near the nest. May gather in small groups around abundant food source. When feeding communally on prey in winter, makes short, hopping displays with wings outstretched to flush other birds from prey. Generally aggressive during breeding season. Harasses, but more often is harassed by, other buteos. Northern populations are completely migratory. Almost nothing is known about migration of southern populations; they appear to migrate short distances or to be sedentary.

## Reproduction/Nesting

Clutch size: 2-4eggs  
Eggs: sub-elliptical, 2.5 x 2 inches, whitish irregularly spotted or blotched with reddish-brown.  
Incubation: 32-33 days  
Fledge: 38-50 days  
Disperse: 4 weeks

Builds large stick nests. Shows a strong preference for elevated nest sites, but will nest on the ground when these are absent. Uses trees, bushes, cliff ledges, rock/dirt outcrops, power poles, artificial platforms and other man-made structures. Tree nests are typically in isolated trees or isolated clumps of trees in exposed locations. One or more alternate nests are located within the nesting territory. Nesting attempts and fledgling success fluctuates closely with variations in prey abundance. Clutch size can range from 1-8 eggs, depending on prey populations, and if food is scarce, the pair may not nest at all. Sexually mature at 2 years. Apparently monogamous, but 3 adults are sometimes seen at nests; breeding status of such trios unknown. There is no evidence of mate switching. Some pair bonds may be maintained year-round. Birds probably choose mates near breeding sites.

## Life Span

Longest recorded – 23 years 8 months. Most die within first 5 years.

## Conservation Status

Not on the US Fish and Wildlife's Endangered or Threatened Species List. However it is protected by the Migratory Bird Treaty Act. Idaho Fish & Game lists the ferruginous hawk as a protected non game species for which it is illegal to collect, harm or otherwise remove from its natural habitat. BLM considers this an imperiled species in Idaho - it is experiencing declines in population or habitat and is in danger of regional or local extinctions in Idaho in the foreseeable future. Threats include habitat loss to agriculture development and urbanization, livestock grazing, reduction in prey populations either through habitat loss or poisoning/controlling small mammals, illegal shooting, and human disturbance. Where road-killed jackrabbits are abundant, sometimes killed by collisions with automobiles. Pesticides, electrocutions, and collisions with power lines do not pose a serious threat to the species. Effects of wildfire in nesting habitat, such as the NCA, has also contribute to population declines.

## Viewing in the NCA

The ferruginous hawk is seen in the NCA from April through July.

## Interesting Facts

Spanish name:  
*Aquililla patas asperas*

- The scientific name comes from the Latin word *buteo* meaning buzzard, an early name for hawks and vultures, and *regalis* meaning royal or regal and refers to the large size of the bird. Also, was first studied in Real del Monte, Mexico and *Real* is Spanish for royal.
- The common name comes from the Latin word *ferrugo*, meaning the color of rust, and refers to the color of the adults.
- Other names: prairie eagle, gopher hawk, and ferruginous rough-legged hawk.
- Is one of two booted hawks in North America. Like the rough-legged hawk, they have feathers that go down the legs to their toes.

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Illustration: courtesy Alberta Sustainable Resource Development  
Map: The Peregrine Fund  
Photography: Mark Hilliard, BLM





**Ferruginous Hawk**  
*(Buteo regalis)*



Adult - Light morph



Adult  
Dark morph



Nestlings



Immature

Photos: Geoff Urwin, light adult in flight  
Know Your Birds of Prey, Axia CD ROM

# Morley Nelson Snake River Birds of Prey



## National Conservation Area

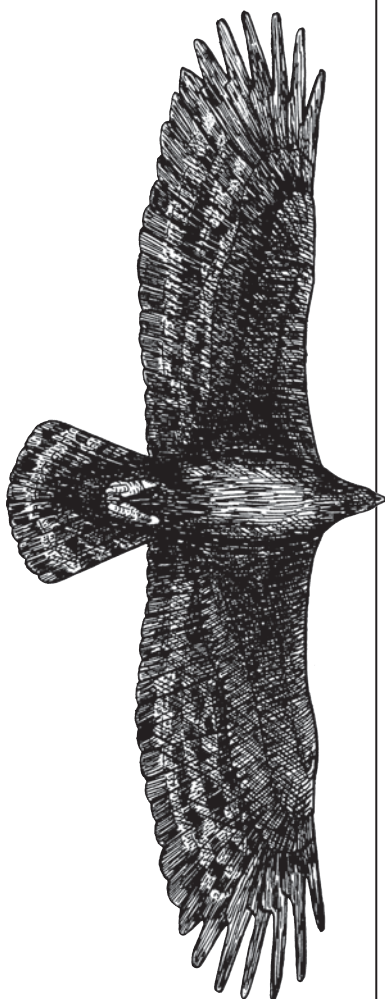
### Golden Eagle (*Aquila chrysaetos*)

#### Description/Size

Wing span: 72-85 inches

Length: 30-40 inches

Weight: 7-13 pounds



Dark brown with a golden or light brown nape and dark eyes and beak. Legs are feathered to toes. Adult plumage is attained by four to five years of age. Plumages of both sexes are similar. Immature birds usually lack the golden feathers, and have white patches near the base of the tail and sometimes on the wings. Females are larger than males but there is overlap in some measurements.

#### Similar Species

Bald Eagle - First year bald eagles resemble adult golden eagles, but lack the golden nape and have a larger dark beak and unfeathered legs.

#### Habitat/Range

Found throughout the Northern Hemisphere, including North America, Europe, Asia, and northern Africa. In North America the majority are found west of Texas. They are occasionally seen in the Adirondacks and southern Appalachians. Prefers the open terrain of deserts, mountains, plateaus and steppes cut by canyons, gullies or outcrops. They favor habitats where upwind drafts help them takeoff and soar.





### **Food/Diet**

An opportunistic predator that preys on small to medium sized mammals such as ground squirrels, jackrabbits, marmots and other rodents. Also eats birds, reptiles, fish and carrion. Most prey is captured on the ground, but birds are also caught in the air. Pairs sometimes hunt cooperatively. While golden eagles can kill large prey, they can typically only carry about 2-3 pounds.

### **Voice**

Vocalizations are limited to courtship, territory defense and communication with young. Are generalized as screams, or yelps.

### **Behavior**

Golden eagles soar with their wings in a slight "V" shape. They fly with slow, powerful wing beats and usually glide briefly after flapping 6 to 8 times. Northern populations of this species tend to migrate south for the winter.

### **Reproduction/Nesting**

Clutch size: 2 eggs  
Eggs: ovate, 2.9 x 2.3 inches, white, lightly blotched with cinnamon  
Incubation: 43 to 45 days  
Fledge: 9-11 weeks  
Disperse: 11 weeks

Nest in open or semi-open habitats; nests built on cliffs, in trees, or on man-made structures. Most nests are close to hunting areas with a good view of the surrounding area. Nests are constructed mainly of large dry sticks; size varies but initially 3 feet in diameter; height also increases over the years. Pairs commonly maintain alternate nests within their territory. Are believed to mate for life. Golden eagles are very sensitive to human disturbance during nesting. Breeding success is also very dependent on prey densities. Due to high mortality rates it takes a pair 10 years to produce enough young to replace themselves.

### **Life Span**

Longest recorded – 28 years 3 months. In captivity may live as long as 48 years.



## Conservation Status

The golden eagle is not on the US Fish and Wildlife's Endangered or Threatened Species List. However it is protected by the Migratory Bird Treaty Act and the Bald Eagle Act. Idaho Fish & Game lists the golden eagle as a protected non game species for which it is illegal to collect, harm or otherwise remove from its natural habitat. Golden eagles are considered to be fairly common in the western US, Canada and Alaska. They have few natural enemies and people, indirectly and directly, remain the greatest source of mortality: electrocution, collisions with vehicles, power lines, wind turbines, poisoning and illegal shooting. Human disturbance around nests can lead to nest abandonment. Habitat change due to urbanization, agricultural development, and wildfire decreases available habitat and reduces prey populations.

## Viewing in the NCA

Golden eagles can be seen in the NCA year-round. Approximately 30 pairs nest in the NCA along cliff faces in the Snake River Canyon or on large transmission towers. Golden eagles may also be seen perched on telephone poles surveying for prey.

## Interesting Facts

Spanish name:  
*Aquila real*

- The scientific name comes from the Latin word *aquila* meaning eagle; *chrysaetos* is Greek for golden eagle which is obtained from the combination of *khrysos* for golden and *aetos* for eagle.
- Other names: Black Eagle, War Eagle, Royal Eagle, bird of Jupiter, king of birds, and American war bird.
- The golden eagle occupies a prominent place in the legends and culture of many peoples.
- Golden eagles can dive at speeds well over 150 mph and possess the strongest grip of any raptor in the NCA. An eagle's talons can close with 1200 pounds per square inch of pressure; the human jaw can close with just 600.
- Golden eagles captured in the NCA during the winter have been fitted with radio transmitters and tracked to their nesting grounds in Southeastern and Central Alaska.

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Illustration: courtesy Alberta Sustainable Resource Development  
Map: The Peregrine Fund  
Photography: David Ellis



**Golden Eagle**  
*(Aquila chrysaetos)*

Adult



Immature



Photos: Know Your Birds of Prey, Axia CD ROM  
Rick Raymondi - adult in flight near nest

# Morley Nelson Snake River Birds of Prey



## National Conservation Area

### Great Horned Owl (*Bubo virginianus*)

#### Description/Size

Wing span: 36-60 inches

Length: 18-25 inches

Weight: 2-5 pounds

The most widespread, one of the most powerful and the only large/heavy owl with prominent ear tufts in North America. Both sexes generally similar in coloration patterns, though coloration varies between regions correlated to regional humidity: from darkest populations along humid northern Pacific coast (US and Canada) to very pale populations in Southwest and in dry western and subarctic prairies. This owl varies in overall color from whitish to orange-buff to brownish-gray to dark brown but markings remain fairly constant. Under parts have thin dark brown bars on a whitish base with the upper chest bars becoming somewhat blotchy. Throat has a bold white patch; white mustache and white to tan along the sides of the bill into the eyebrows. Backside has fine dark mottling with dark bars on the primaries and tail. Moderately well-defined facial disk is bordered at the sides with black. Ear-tufts may be flattened and head tucked in, giving it a short-necked appearance. Eyes large, iris is lemon yellow with a thin black border. Bill and gape slate black; hidden by bristly feathers. Large feet are feathered to the ends of the toes. Talons slate gray to black. Females are 10-20% larger than males. Juveniles are similar in coloration although their barring and dark markings are not as crisp and defined, throat patch is less extensive and white is not so pure, and ear tufts smaller or not apparent. At least 16 subspecies recognized; 10 of them in North America; 2 in Central America and 4 in South America. Subspecies tend to blend with their habitat in their coloration.

#### Similar Species

##### Long-eared owl –

smaller; slimmer; longer ear tufts, cross barred under parts, and different call.

##### Great gray owl –

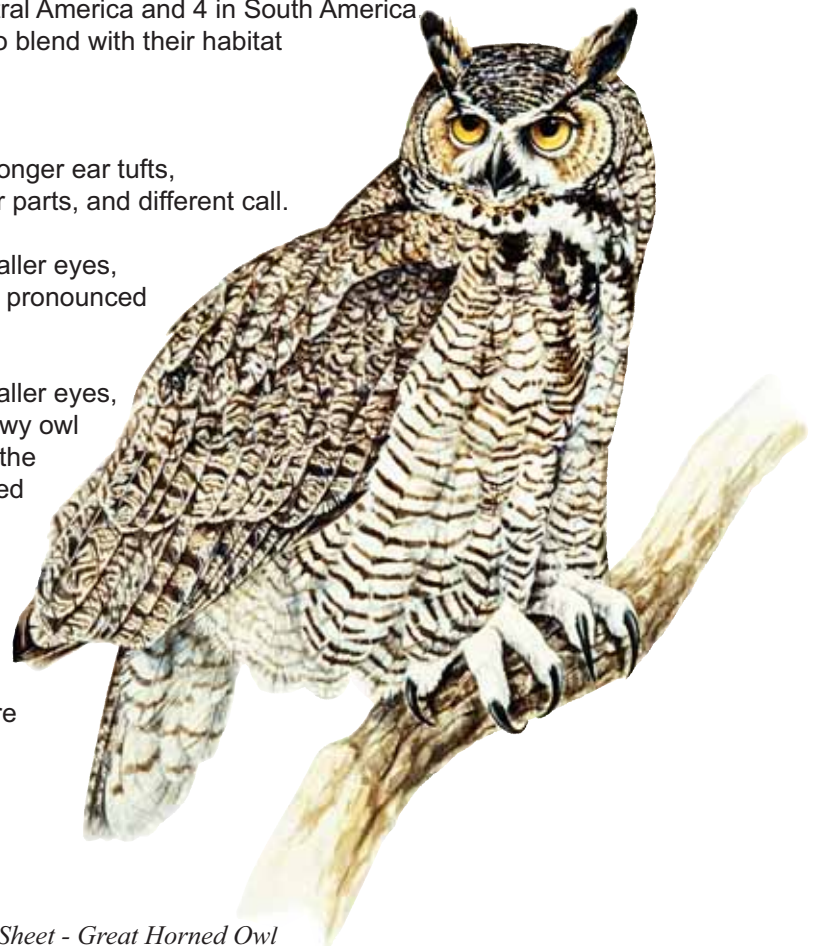
lacks ear tufts, smaller eyes, more rounded and pronounced facial disk.

##### Snowy owl -

lacks ear tufts, smaller eyes, heavily barred snowy owl can be as dark as the lightest great horned owl.

##### Barred owl –

smaller, lacks ear tufts, more heavily barred below, higher pitched more rhythmic hoot.





## Habitat/Range



Found over most of North and Central America and parts of South America. Probably has the most diverse habitat and climatic tolerance of any North American owl. Inhabits every type of terrain from sea level to 11,000 feet. Equally at home in desert, grassland, suburban, agricultural and forest habitats, north to the tree line. If there is a preferred habitat it would include mature deciduous woods with scattered conifers for maximum roosting concealment, that border water with adjacent open habitats for hunting.

## Food/Diet

A generalist and opportunistic feeder, this owl has the widest prey base of any North American owl. Over much of its range, diet consists of 90% small to medium sized mammals and 10% birds. Also takes a small number of amphibians, reptiles, fish, scorpions, and insects. Feeds on carrion if other food is scarce. Rabbits and hares are its preferred prey. Birds taken fall into three basic categories, waterfowl incubating on nests or roosting on open water at night, birds that roost in the open, or that forage at night (including smaller owls), and nestlings taken at night. Pronounced regional variation in diet. Diet composition may also vary seasonally, or with prey cycles. Pellets are large: 3-4 inches long and 1.5 inches thick; regurgitated 6-10 hours after eating. Skulls as wide as 1.2 inches are regurgitated whole.

## Voice

Has a large repertoire of sounds ranging from deep booming hoots to shrill shrieks. Most calling occurs from dusk to about midnight and then again just before dawn. Typical territorial advertisement call consists of 3-6 notes of deep-toned hooting; "who-hoo-ho-oo or who-ho-o-o, whoo-hoo-o-o, whoo". Paired birds often synchronize their territorial advertisement calls, known as duetting. Female calls about 3 seconds; male responds during or within a few seconds after female's call with call also lasting about 3 seconds. Repeated for 10-60 minutes every 15 to 20 seconds. Female voice higher pitched than male. Juveniles call with a screech reminiscent of a Barn owl. Other sounds include shrieks, screams, barks, hisses, catlike *meee-owwwwww*, soft cooing notes and tremulous wavering cries. Non vocal sounds: Snaps bill vigorously when angry, disturbed, or stressed, or as warning or aggressive sound. May be accompanied by hissing, low screams, raspings, gurgles, and wing-flapping.

## Behavior

Flight is powerful and straight, with short periods of wing-flapping alternating with glides. When gliding, holds long broad wings almost horizontally. Walks on ground with a pronounced side-to-side gait. Rapid walking usually accompanied by wing-flapping. Flightless young, once half-grown, can climb trees using feet. Primarily hunts at dusk and during the night from a perch, also flies low over the ground, walks on the ground or wades into water. Prey usually killed instantly when grasped by its large talons which require a force of 185 pounds/inch<sup>2</sup> to open. May take prey two to three times heavier than itself. Small prey can be swallowed whole while larger prey ripped apart. May return to kill site to finish consuming larger prey. Can store large quantities of prey in nest when food is abundant, particularly during early nestling stage. Highly territorial. Mated pairs occupy territories year-round and long-term; however these owls are solitary, only staying with their mate during the nesting season. Territories are established and maintained through hooting. An appreciable number of adults fail to establish territories and live quietly as nonhooting "floaters" most often at periphery or boundaries of defended territories. No annual migration; most individuals are permanent residents. Irruptions from northern regions; particularly in response to population crashes of snowshoe hare have been documents. Great horned owls elicit intense mobbing by crows, ravens, passerines, and other birds. Respond by flying into nearest secluded spot to escape tormenters.



## Reproduction/Nesting

Clutch size: 1-4 eggs  
Eggs: Elliptical, 2.2 x 1.9 inches, white.  
Incubation: 28-35 days  
Fledge: 10-11 weeks  
Disperse: Families remain loosely associated during summer before young disperse in autumn.

## Life Span

## Conservation Status

## Viewing in the NCA

## Interesting Facts

Spanish name:  
*Búsho cornudo*

## Sources

Breeding season from December to July depending on latitude. Courtship includes posturing such as bowing, and tail-bobbing; “duetting” (see voice above); and periods of mutual bill-rubbing or preening of feathers. Courting pairs also indulge in high-pitched giggling, screaming, and bill-snapping. Does not build a nest but uses nests of other birds such as hawk, crow and heron; may also use squirrel nests, hollows in trees and snags, crotches or holes in cacti, cliffs, rocky caves, abandoned buildings, or artificial platforms. Will lay eggs on the ground. Most nests are used for only 1 season as often a tree nest deteriorates to almost nothing during a season’s use. Members of a pair often remain on same territory year-round. Apparently monogamous. Pairs may mate for life, but if a mate dies, it is quickly replaced. Generally single-brooded; may lay again if nest or first clutch is destroyed early in breeding cycle. Young owls move out of nest onto nearby branches at 6-7 weeks of age. Fully fledge at 10-11 weeks. Fledged owls remain with parents throughout most of summer, who continue to bring them occasional food items. May be seen begging for food into October, 4–5 mo after leaving nest. Sexually mature at two years.

Longest recorded – 28 years 0 months.

Not on the US Fish and Wildlife’s Endangered or Threatened Species List. However it is protected by the Migratory Bird Treaty Act. Idaho Fish & Game lists the great horned owl as a protected non game species for which it is illegal to collect, harm or otherwise remove from its natural habitat. Few population estimates available but appears to be widespread, but thinly distributed. In open grasslands, species may be limited by availability of nest trees. High mortality first two years of life. Nestlings die as result of predation, starvation and sometimes siblicide in low prey years. Natural causes also include parasitism and disease. Human caused mortality comes from illegal shooting, trapping, collisions with moving or stationary objects, pesticides, and electrocutions. Secondary poisoning by pesticides accumulated in prey may cause direct death or behavioral changes that may lead to mortality. Only natural enemies for adults are other great horned owls, golden eagles, and occasionally northern goshawks during disputes over nest sites. Adapts remarkably well to habitat change as long as nest sites are available. Remarkably tolerant to nest visits, even early in incubation.

The great horned owl is seen in the NCA year round.

- The scientific name comes from the Latin word *bubo* which refers to an owl, and the Latinized name for the state of Virginia where the first specimen was taken for scientific collection.
- Common name refers to the large size of this bird and the feather tufts on its head.
- Other names: Big Hoot Owl, Cat Owl, Horned Owl, King Owl, Winged Tiger.
- One of few species that occasionally preys on skunks.
- Sleeps in a standing position, head hunched into shoulders, eyes closed, ear-tufts back against head. Sleep is light and alert; frequently interrupted to scan surroundings before resuming sleep.

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Illustration: courtesy Alberta Sustainable Resource Development

Map: The Peregrine Fund

Photography: Thomas C. Dunston

*Raptor Information Sheet - Great Horned Owl*





**Great Horned Owl**  
(*Bubo virginianus*)

Adult



Immature



Photos: Know Your Owls, Axia CD ROM

David Martorelli - adult face, adult in tree, adult/owlet in nest, owlet in tree



# Morley Nelson Snake River Birds of Prey



## National Conservation Area

### Long-eared Owl

(*Asio otus*)

#### Description/Size

Wing span: 36-42 inches

Length: 13-16 inches

Weight: 8-15 ounces

Medium sized owl with large round head. Long ear tufts mostly dark brown edged with light rust and white; not visible in flight. Large round facial disk is light rust to buff, circled with black that often has distinctive white inner and outer borders. Forehead speckled white, brown, and rust. Dark vertical stripe through eye. White eyebrows and lores; white chin patch. Plumage is heavily mottled and barred over most of the body. Upper parts are dark brown mixed with white, black, orange, buff and gray. Under parts are whitish-gray and buff with dark brown streaking and barring. Wings are long and rounded; buff patch on upperwing and dark patch on underwing; both near wrist. Tail feathers barred with dark brown. Bill and cere black. Iris bright yellow to golden yellow; eyelids and bristles around the eye black. Legs and toes densely feathered. Talons black; soles grayish. Sexes are alike though the male tends to be paler, especially facial disk, legs, and underwings. Juveniles are similar to adults but less heavily marked. Ear tufts are shorter and less defined and facial disk darker.



Body feathers are tipped with grayish white. Six subspecies recognized; two in North America: *A. o. wilsonianus* (e. North America); and *A. o. tuftsi* (w. North America).

#### Similar Species

Short-eared owl - paler, with streaking on under parts concentrated on upper breast and no barring ventrally; ear tufts much less prominent.

Great horned owl - similarly marked but much larger; ear tufts widely spaced and pointed outward.

#### Habitat/Range



Inhabits open and sparsely forested habitats across North America, Eurasia and extreme northern Africa from sea level to 9000 feet elevation. Although it prefers to nest and roost in dense vegetation, it hunts almost exclusively in open habitats. Therefore it inhabits wooded or dense bushy areas that are adjacent or within open grasslands, shrub lands, marshes, riparian areas, farmlands, or shrub-steppe deserts.



## Food/Diet

Diet consists of small mammals and some birds. Mice and voles are the most common prey items. Other mammal prey includes kangaroo rats, squirrels, bats, chipmunks, gophers, shrews, moles, and cottontail rabbits. Bird prey are the smaller species that occur on or near the ground: meadowlarks, blackbirds, juncos, bluebirds, and doves. Larger birds such as grouse and screech owls are occasionally taken. Sometimes takes insects, frogs and snakes. Food-caching away from nest not reported but may occur. Prey captured by male often stockpiled at nest during incubation and early brood-rearing.

## Voice

Complex vocal repertoire in breeding season, but mostly silent at other times of year. Calls normally begin shortly after sunset. Male gives a series of low soft *wooop* hoots evenly spaced about every 3 seconds. Female call is a higher and softer *sheoof* repeated every 2-8 seconds. Mates often "duet". Alarm calls variable and given by both sexes. Most common is barking *ooack ooack ooack*. Adults also give drawn-out, squealing *yaow* and gruff, catlike *wawo*. Nestling calls include short, soft *szi* and louder, high-pitched *pzeei*. When food-begging gives a high squeaky *wee-ee* like a rusty hinge. Non vocal sounds include wing claps (see reproduction) and bill snaps.

## Behavior

Buoyant fliers which glide noiselessly even when wings flapping. Extremely agile, using quick twists and turns when flying through dense vegetation. Hunting flight consists of long glides on level wings interrupted by deep wingbeats. Often pulls up and hovers while looking for prey. Activity normally begins at dusk and ends just before dawn. May begin hunting before sunset, especially during brood-rearing. It is an active search hunter, coursing back and forth over the ground in forest openings and along forest edges in search of prey. Has exceptional hearing and can locate prey audibly in complete darkness. Prey is caught on the ground or from bushy vegetation. Kills small mammals by biting back of skull. Roosts in dense foliage near tree trunks in the daylight hours. Stretches body to make itself appear like a tree branch. During non-breeding season roosts communally in groups of 2 to 20 birds, but up to 100 have been reported. Very territorial during breeding season. Threat displays include crouching on perch with head lowered, wings drooped, and feathers ruffled; accompanied by various alarm calls. Sometimes sways from side to side and commonly spreads wings over back. Will occasionally attack viciously, aiming for face and throat with their talons.

Nest defense display: female spreads her wings out widely facing the intruder, flares her flight feathers and lowers her head. This display makes her appear 2-3 times larger. Also perform a distraction display near nests: owl pretends to capture prey or feign injury and flop away from nest on ground making various noises. Migration in this species is poorly understood. Movement in response to fluctuating prey numbers well documented in Europe but not in North America. Spring and fall movements in appropriate directions in various U.S. locations suggest regular migration.

## Reproduction/Nesting

Clutch size: 5-7 eggs  
Eggs: elliptical, 1.6 x 1.3 inches, white  
Incubation: 26-28 days  
Fledge: 35 days  
Disperse: 70-80 days

Timing of pair formation unknown. Presumably begins during winter before communal roosts disband. In some cases males occupy breeding sites before females arrive. Male performs courtship flights over suitable



nesting habitat, but female probably selects nest site. Male courtship display involves erratic gliding and flapping through the trees with occasional single wing claps. Wing claps are produced by slapping the wings together below the body, making a sound like cracking whip given singly at irregular intervals. Can be heard for more than 330 feet. Monogamy is the rule, but polygyny reported twice in Europe. Little is known about the duration of the pair bond. A study in Montana has found no evidence that pairs re-mate in subsequent years. Doesn't build its own nest. Uses abandoned stick nests of other birds. Less often it nests in a natural cavity in a tree or cliff, or on the ground. Nests are almost always located in wooded sites screened by vegetation. May lay second clutch if first lost during incubation. Young "branch out" at about 21 days to branches within 300 feet of the nest. Begin adult-style hunting forays at 8–9 weeks, when flight feathers fully grown. They are fed by male parent until 10–11 weeks old. Breed at 1 year of age.

### Life Span

Longest recorded – 12 years 1 month.

### Conservation Status

Not on the US Fish and Wildlife's Endangered or Threatened Species List. However it is protected by the Migratory Bird Treaty Act. Idaho Fish & Game lists the long-eared owl as a protected non game species for which it is illegal to collect, harm or otherwise remove from its natural habitat. Several states list this species as endangered, threatened, or a Species of Special Concern. No estimate of numbers in North America. Relatively common in western U.S., but numbers fluctuate from year to year. Little is know about long-term trends. Long-eared owl populations appear to be stable in most of North America, but in some places this species has declined because of loss of riparian woodlands and open habitats to development, conversion of hunting areas to agricultural fields, and reforestation of open areas. Loss of riparian woodlands would be especially damaging in the arid West, where much of the nesting habitat occurs in narrow bands along watercourses. Loss of isolated tree groves would also be highly detrimental. Human caused mortality comes primarily from illegal shooting, and collisions with vehicles. Little information is available on the effects of pesticides and other contaminants on this species. Natural enemies include the great horned and barred owls, and golden eagles. Raccoons are major predators on eggs and nestlings.

### Viewing in the NCA

The long-eared owl is seen in the NCA from November through June.

### Interesting Facts

Spanish name:  
*Buho chico*

- The scientific name comes from the Latin word *asio*, meaning a "horned" owl, and *otus* meaning a kind of owl with long "ear" feathers.
- Common name refers to the long feather tufts on its head.
- Other names: cat owl, lesser horned owl, Wilson's owl, brush owl.
- Vision in low light apparently as good as or better than that of other North American owls.

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Illustration: courtesy Alberta Sustainable Resource Development  
Map: The Peregrine Fund  
Photography: Jeffery S. Marks



**Long-eared Owl**  
(*Asio otus*)



Adult



Immature



Photos: Know Your Owls, Axia CD ROM



# Morley Nelson Snake River Birds of Prey



## National Conservation Area

### Merlin (*Falco columbarius*)

#### Description/Size

Wing span: 21-26 inches

Length: 9.5-12 inches

Weight: 5 - 8.5 ounces

Like all falcons, merlins have large heads, notched beaks, and “heavy shouldered” streamlined bodies. Three of the ten subspecies found worldwide occur in North America – the black merlin (*F.c. suckleyi*) of the Pacific NW, the prairie merlin (*F.c. richardsonii*) of the northern prairies, and the taiga merlin (*F.c. columbarius*) of the northern forests. Prairie merlins are lighter and black merlins are darker than taiga merlins. Depending on the subspecies, the male has pale blue-gray to blackish gray upperparts, underparts lightly to very heavily streaked, and dark underwings heavily spotted with white to tawny. Female is similar but with brown replacing the blue-gray/black. Both sexes have a conspicuously banded tail, with 2-4 lighter bands and a white terminal band. The male’s tail is black with gray bands while the female’s is dark brown with buffy bands. Most individuals lack the distinct mustache mark that is typical of most other North American falcons. Iris is dark brown, the beak dark blue-gray, and cere and legs bright yellow. Females are 10% larger and 30% heavier than males. Juveniles resemble adult females.

#### Similar Species

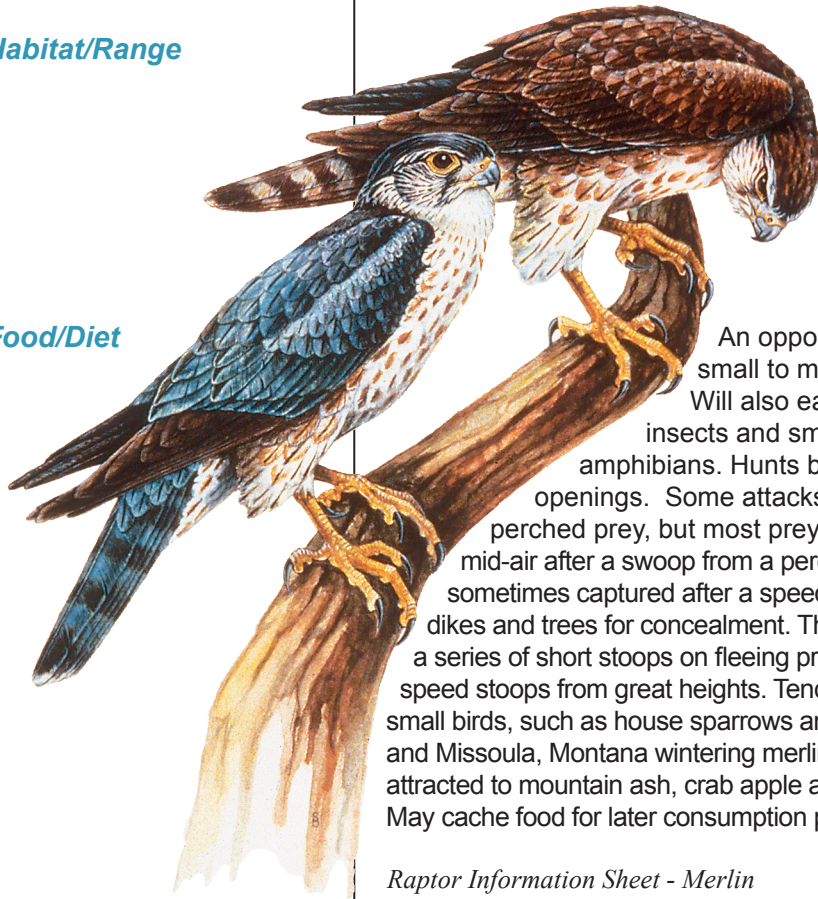
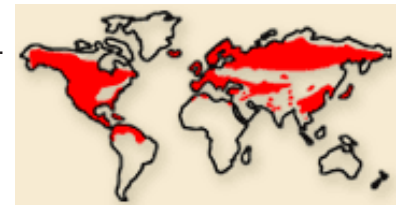
American kestrel –has rusty plumage. Peregrine falcon – much larger; immature birds resemble the black merlin. Prairie falcon – similar to the pale prairie merlin but larger. The dark tail with 2–5 highly contrasting narrow light bands also helps distinguish the merlin from the peregrine and prairie falcon, both of which show more bands.

#### Habitat/Range

Breeds throughout the northern forests, prairies, and shrub-steppes of North America, Europe and Asia from sea-level to tree line. Prefers open to semi-open areas, probably to facilitate hunting. In the U.S. it is rare in the Midwest and eastern seaboard states. Winter range is poorly documented but appears to be similar to breeding habitat.

#### Food/Diet

An opportunistic hunter of small to medium sized birds. Will also eat small rodents, insects and small reptiles and amphibians. Hunts bats at cave openings. Some attacks directed at perched prey, but most prey captured in mid-air after a swoop from a perch or while flying low over the ground. Prey is sometimes captured after a speedy pursuit. Will course over the landscape using hills, dikes and trees for concealment. The failure of an initial attack will frequently result in a series of short stoops on fleeing prey (“tail-chasing”). Does not typically execute high speed stoops from great heights. Tends to specialization on one or two locally abundant small birds, such as house sparrows and horned larks. In northern cities like Calgary, Alberta and Missoula, Montana wintering merlins may specialize on robins or waxwings that are attracted to mountain ash, crab apple and firethorns people have planted as ornamentals. May cache food for later consumption particularly in winter and during the breeding season.





## Voice

Four types of calls. A series of loud *ki-ki-ki-ki-kee* is used in territorial or aggressive situations by either sex. A *tic (chip)* is given by both sexes during courtship displays or when mates not in sight. The female “whines” when food-begging from the male. Both sexes “chutter” (*chrrr*) when ready to mate. Female voice is lower.

## Behavior

Direct and deliberate flyer. Soars on flat wings with tail fanned. Glides on flat wings or with wrists lowered and wingtips up curved. Does not hover. Short rapid powerful wing beats. Very vocal especially around the nest; often attacks and harasses other birds, even other birds of prey. Hunts from both perches and on the wing. Prefers tracking prey from behind and overcoming it with a great burst of speed. Likes to ambush prey. Can catch two birds at once. Hunting activity peaks in early morning and late afternoon. Distinct patterns of migration are shown by different subspecies. The black merlin is generally nonmigratory but some move into s. California and New Mexico. The taiga merlin is highly migratory and winters as far south as n. Peru. The prairie merlin migrates into s. United States and s. Central America. Some winter in its breeding range (s.-central Canada and n. Prairie states), especially in prairie cities. Regularly undertakes long water crossings during migration, flying low over the waves. Also is known to migrate on days of light rain (most raptors don't). Uses flapping flight while migrating; also soars but is not required to complete migration.

## Reproduction/Nesting

Clutch size: 4 to 5 eggs  
Eggs: Variable rusty brown with brownish or chestnut spots and blotches, short elliptical, 1.6” x 1.3”  
Incubation: 28-31 days  
Fledge: 29 days  
Disperse: 4 weeks

Does not build a nest but uses an old crow, jay, or hawk nest. Rarely uses tree cavities, cliff crevices, the ground or buildings. If nesting on ground or cliff, a scrape is made by female much as in larger falcons. Merlins breed at one year of age. Breeding pairs winter separately and each spring a new pair bond is formed or an old bond is re-established. Replacement clutches are laid if first clutch is destroyed early in the nesting season.

Longest recorded – 11 years 11 months. Average lifespan about 8 years.

## Life Span

## Conservation Status

Not on the US Fish and Wildlife's Endangered or Threatened Species List. However it is protected by the Migratory Bird Treaty Act. Idaho Fish & Game lists the merlin as a protected non game species for which it is illegal to collect, harm or otherwise remove from its natural habitat. Merlins are widespread but uncommon throughout their range. The merlin experienced serious declines due to the widespread use of DDT in the 1950s, 60s and 70s, but numbers have increased following the ban on DDT in 1972. Continued presence of environmental contaminants such as PCBs and mercury is a cause of concern, but at present does not appear to be a major factor impacting population size. The species has experienced declines in some areas due to habitat loss and human disturbance. Native habitat loss may be being offset as the species has begun to occupy areas in suburban and urban environments. These areas provided safe nest sites and abundant songbird prey. The effects of habitat loss and change on Central and South American wintering grounds are still unknown. Collisions with vehicles and windows, shooting, poisoning, and predation by cats are other sources of mortality.

The merlin is seen in the NCA from November through February.

## Viewing in the NCA

## Interesting Facts

Spanish name:  
*Esmerejón*

- The scientific name comes from the Latin word *falx* meaning “scythe”, referring to the shape of the wing and shape of the talons and *columbarius* meaning pertaining to a pigeon. This refers to the merlin's supposed resemblance to a pigeon in flight.
- Other names: pigeon hawk, little blue corporal, bullet hawk
- “Merlin” derives from *esmerillon*, the Old French name for this species.
- In Medieval Europe the merlin became popular as a “lady's hawk”.
- Although not nearly as popular as the larger species, their speed and tremendous heart have earned merlins a small loyal following among falconers.

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Illustrations - courtesy of Alberta Sustainable Resource Development  
Map - The Peregrine Fund  
Photography: BLM Photo File





**Merlin**  
*(Falco columbarius)*



Female



Male



In flight



# Morley Nelson Snake River Birds of Prey



## National Conservation Area

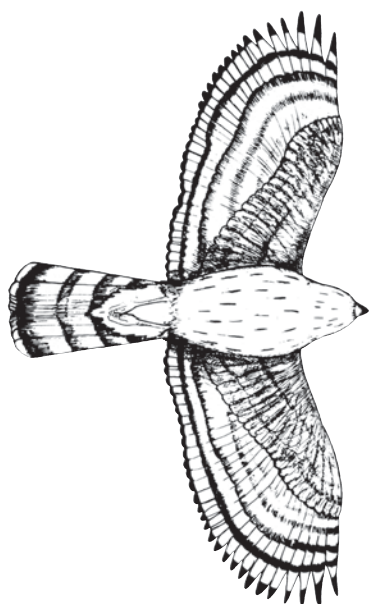
### Northern Goshawk (*Accipiter gentilis*)

#### Description/Size

Wing span: 38-45 inches

Length: 20-25 inches

Weight: 1.5-3 pounds



A large forest hawk with long broad wings and a long broad tail that is held closed unless soaring which provides for speed and maneuverability in dense forests. Dark gray above with a light gray chest and belly heavily streaked with black and darker grays. Crown of head and patch behind eye is dark gray. Distinctive white eyebrow. Wings are lightly barred. Underwings are two-toned: coverts white with dark gray barring contrast with dark flight feathers lightly barred. The long straight tail is dark gray above crossed by 3–5 broad, blackish bands and paler gray below weakly barred by 4 bands; rounded tail tip may have thin white terminal band (reduced or absent with wear). Feet, cere, toes, legs, and mouth-lining yellow. Eye red. Bill black at tip; gray at base. Talons black. Female similar to male but with coarser barring below; up to 25 percent larger. Immatures are brown above with heavy vertical streaking with brown and white on chest and belly; wings and tails are more strongly barred than adults. Bill is gray. Cere, gape, feet and legs are greenish to yellow. Iris initially greenish gray turning to orange to red by third year. No morphs. Ten subspecies recognized including two in North America. *A.g. atricapillus* occurs throughout the continent except the Queen Charlotte Islands and Vancouver Island off British Columbia where *A.g. laingi* occurs.

#### Similar Species

Cooper's hawk and Sharp-shinned hawk – smaller accipiters. Gyr Falcon – more severely tapered wings and stoops on prey from above.

#### Habitat/Range

Favors forest edges and open woodlands in boreal and temperate forests of the northern hemisphere.

In North America, it breeds from Alaska to Newfoundland and south. Nests in most forest types found throughout its range; sea level to alpine.

Forest stands containing nests are often small, approximately 25-245 acres; territories may contain 1–5 alternative nest sites. Free water is often present near nests but is not a habitat requirement. Forest openings may increase nest access, serve as travel corridors, support open-country prey, or reduce flight barriers to fledglings. Hunts in diverse habitats ranging from open-sage steppes to dense forests, including riparian areas. Winter habitat - prefers mature forests and edge habitats where prey is abundant.



#### Food/Diet

Opportunistic powerful hunter capable of killing a variety of prey depending on region, season, vulnerability and availability. Main foods include ground and tree squirrels, snowshoe hares, rabbits, grouse, ptarmigan, woodpeckers, jays and songbirds. Other prey includes domestic cats and fowl, and game birds. Occasionally eats reptiles and insects. In northern regions competes for prey with gyrfalcons. Can kill prey up to 2 times their own mass though most prey weigh 0.5 to 1 pound.



## Voice

Usually silent except during the breeding season. Mates likely communicate mainly by calling because of the poor visibility in their forest habitats. May also vocalize when chasing prey. When alarmed, either sex utters *ki-ki-ki-ki* in a rapid series of about 10–20 calls. Both sexes utter a short plaintive wail call (*kree-ah*). Calls are irregular but frequent, and are single rather than in sequence. Functions of wail calls (3 variants-recognition wail, food-transfer call, dismissal wail) appear to differ according to context. Male also gives a *kek* single-note call as he enters the nest stand with prey.



## Behavior

Flight pattern typical of the genus; several rapid flaps followed by a glide, although wing beats are slower, deeper, and more direct than those of the other North American accipiters. Soars occasionally during migration and during courtship. Highly agile when chasing prey. Since female is much larger than male, she handles most of maintaining breeding territory, care of the young and nest defense. Smaller male does much of the hunting and bringing food to the female at the nest. Goshawks are well adapted for hunting in forests but also hunt open habitats. They are short duration sit-and-wait predators, perching briefly while searching for prey before changing perches. Their short, powerful wings allow rapid acceleration and their long tails quick maneuverability in trees. Grasps prey with its powerful talons; usually kills prey on impact or repeatedly grasping prey until it finds vital organs. Occasionally hunt by flying rapidly along forest edges, across openings, and through dense vegetation to surprise prey; also attack prey in flight. May stalk prey on foot, using vegetation and topography for concealment or may capture prey through dogged persistence. If undetected by prey, the hawk's attack may consist of a smooth, silent, accelerating glide that ends in a capture strike without a wing beat. If spotted by prey, the hawk rapidly pumps its wings to close in on the intended quarry. Readily crashes through shrubs and vegetation or will enter water when chasing prey; reckless nature when hunting is legendary among falconers. Prey is carried to a traditional plucking perch, where it is plucked and torn apart. Plucking posts are often within 160 feet of the nest during breeding season. Goshawks cache food when nestlings are small and need frequent feedings. This species is a partial migrant that winters throughout its breeding range including occasionally the Great Plains and southeastern states; some individuals undergo short movements to lower elevations during winter, apparently in search of food. Irruptive movements of northern birds to the south occur at approximately 10-year intervals that coincide with population lows of snowshoe hare and grouse. Prey availability may primarily dictate the proportion of populations that migrate and the selection of wintering areas.

## Life Span

Longest recorded – 16 years 5 months.

## Viewing in the NCA

Some northern goshawks winter in the NCA from November through February. They migrate through the NCA from August through October and then again from February through May.

## Reproduction/Nesting

Clutch size: 2-4 eggs  
Eggs: oval, rough shell, pale bluish-white without markings; 2.3 x 1.8 inches  
Incubation: 35-38 days  
Fledge: 5-6 weeks  
Disperse: 5-6 weeks

During nest repair/construction, both pair members engage in Sky-Dance Display. From brief soaring flights, male dives at the female with closed wings well above the forest canopy or he initiates a direct aerial chase below tree canopy. Both birds then fly slowly about 3 feet apart, with deep, slow wingbeats, wings held in a "V". Initial flight undulations may be shallow or can consist of spectacular dives. Breeding pairs require extensive tracts of habitat compared to other hawks; from 1.2 to 5 square miles. Apparently monogamous. Males show strong attachment to traditional nesting territories. Pair members winter separately but may breed together for many years. Goshawks nest in coniferous, deciduous, or mixed-pine forests, depending on availability. They seem to prefer mature to old growth forests with high canopy closure. Nest trees are usually one of the largest trees in the nest area; most territories contain several alternative nest trees. Nest switching from year to year may reduce exposure to disease and parasites. Nest constructed of thin sticks; "bowl" lined with tree bark and greenery, placed in crotch or on limb of a large tree. Usually in lower one third of nest tree or just below the forest canopy. Replacement clutch is laid if first clutch lost. Aggressively defends its nest site and will strike large mammals, even humans, who venture too close. Some females breed at two to three years of age but males do not breed until four years old.

## Conservation Status

Not on the US Fish and Wildlife's Endangered or Threatened Species List. However it is protected by the Migratory Bird Treaty Act. Idaho Fish & Game lists the northern goshawk as a protected non game species for which it is illegal to collect, harm or otherwise remove from its natural habitat. The BLM considers this an imperiled species in Idaho - it is experiencing significant declines in population or habitat and is in danger of regional or local extinctions in Idaho in the foreseeable future if factors contributing to its decline continue. Critical habitats and populations of sensitive species occurring on lands administered by the BLM will be managed and/or conserved to minimize the need for listing these species as threatened or endangered by either Federal or State governments in the future. Populations appear to be stable in eastern North America. Forestry practices and urbanization are contributing to declines in populations and reproduction in parts of the western U.S. Vulnerable to accidental nest disturbance as well as deliberate human interference at nest sites. Starvation and illegal shooting are leading causes of mortality. Few natural predators.

## Interesting Facts

Spanish name:  
*Gavilán azor*

- The scientific name comes from the Latin word *accipere* meaning to take or to grasp and refers to a bird of prey, and *gentilis* meaning nobility.
- Common name derived from "goose hawk" and northern refers to its northern range.
- Other names: chicken hawk,
- Has been trained for falconry for at least 2,000 years; species was favored among Oriental, Middle Eastern, and North European falconers and especially prized by Japanese falconers.
- In medieval Europe, only members of nobility could fly this hawk.
- Revered as symbol of strength. A goshawk adorned the helmet of Attila the Hun.

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Illustration: courtesy Alberta Sustainable Resource Development / Map: The Peregrine Fund  
Photography: BLM Photo File



**Northern Goshawk**  
*(Accipiter gentilis)*



Adult



Immature



Photos: Know Your Birds of Prey, Axia CD ROM

*Raptor Information Sheet - Northern Goshawk*

# Morley Nelson Snake River Birds of Prey



## National Conservation Area

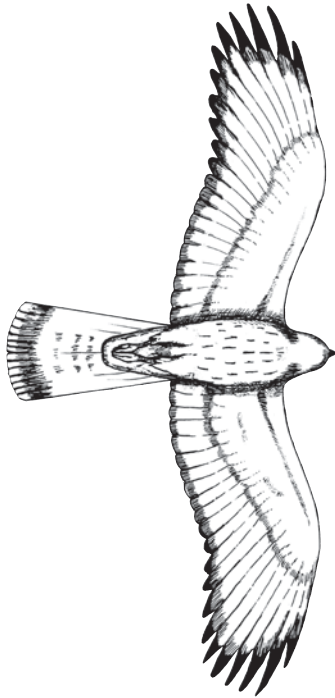
### Northern Harrier (*Circus cyaneus*)

#### Description/Size

Wing span: 41-50 inches

Length: 17-21 inches

Weight: 0.8-1.1 pounds



The northern harrier is one of the most widespread and easily recognized diurnal raptors in North America. There are two subspecies with one occurring in North America – *C. c. hudsonius*. This is a medium-sized, slender bird with long wings, long tail and white upper tail coverts (white rump patch). The face has a facial ruff similar in structure and function to the facial disk found in most owls. Though the northern harrier has no color morphs, it is a strongly sexually dimorphic hawk. The male is light to medium gray above, and whitish below, with black wing tips, while the female is dark to blackish brown above and buffy with brown streaks below. Females are about 50% heavier and 12% larger than males. Juveniles are similar to adult female but darker brown above and russet below. Juvenal plumage is retained for 9–14 months. Bill is dark, becoming bluish basally. Cere is yellow, sometimes with a greenish tinge. Iris changes from brown at hatching to yellow by the second or third year. Legs and feet are pale to vivid orange-yellow.

#### Similar Species

Rough-legged Hawk (light morph) – black rectangle on the bend of each underwing, fairly heavy dark belly band, and either a broad subterminal band or series of narrower dark bands on tail. Turkey Vulture – larger, broad wing, two tones on underwing, no white rump, darker underparts.

#### Habitat/Range

The northern harrier is most commonly associated with open wetlands, including marshy meadows; wet, lightly grazed pastures; old fields; freshwater and brackish marshes; also dry uplands, including upland prairies, grasslands, drained marshlands, croplands, cold desert shrub-steppe, and riparian woodland. Tends to avoid areas of continuous forest. Densest populations typically associated with large tracts of undisturbed habitats dominated by thick vegetation growth. In North America, breeds from Alaska and Canada south to n. Baja Peninsula, Mexico and east along a rough line from Nevada, to Pennsylvania. Rare breeder or summer resident south of this line. Winters primarily from s. Canada south through the U.S., Central America, and Caribbean islands. Usual southern limit is Panama, rarely Andes Mtns. of Colombia and Venezuela. It also occurs throughout Europe and Asia (*C. c. cyaneus*); breeds in Eurasia from Portugal to Lapland, east to China, Russia, and Siberia. Winters south to n. Africa and tropical Asia.



#### Food/Diet

Opportunistic hunter. Diet varies according to annual, seasonal and local abundance of prey. Across much of its range it depends heavily upon voles, its primary prey. In fact vole populations can have a strong effect upon mating systems and reproduction success. This raptor also preys upon fledgling grassland and marsh songbirds and small waterfowl. Will exploit other temporarily abundant and vulnerable prey such as young ground squirrels and cottontail rabbits. Reptiles, amphibians and invertebrates make up a minor part of the diet. Occasionally will feed on carrion; especially during a hard winter. This raptor forages on the wing, capturing prey while coursing low over the



ground. Most pursuits are short, temporally and spatially, and close to ground. Sometimes uses the cover of vegetation and terrain to surprise prey. Frequently follows distinct routes, e.g., ditches. Is known to subdue large prey by drowning. Unlike other hawks, it frequently relies heavily on auditory cues, as well as visual ones, to capture prey. Owl-like facial ruff and facial structures facilitate prey detection by sound, even in absence of visual cues. Breeding males and females are known to cache and retrieve supplemental food.

### Voice

Most vocal during breeding season and mostly quiet the rest of the year. In courtship display, both sexes utter *kek*, *quik*, or *ek* notes in rapid series. Distress (or Threat) Call is a more urgent, high-pitched *kek* or *ke*, again uttered in rapid succession. This call occurs when female is disturbed at the nest by ground predators, raptors, humans, or approaching ungulates, and often attracts her mate, which joins in calling. Females issue Food Call, a piercing, descending scream, *eeyah eeyah*, apparently in an effort to induce food transfers, hunting by the male, or to "solicit" copulation. Prey-carrying males emit a barely audible, chuckling *purrduk* when passing low over their nest, which solicits the female from the nest. Upon arriving with food at the nest, female utters a soft, high-frequency Feeding Chuckle Call, which appears to summon and orient nestlings for feeding bout. Young nestlings have several Begging Calls, including a weak, but monotonous peep and a rather variable, but shaky, *preeeii*. Nestlings produce a series of chit notes, referred to as a "pain" or "discomfort chitter", which become more emphatic with increasing age.

### Behavior

Harriers hunt by slowly flying low over open ground with a series of heavy flaps and distinctive buoyant, tilting glides, with wings held in a shallow "V"; sometimes hovers briefly. Occasionally soars. Males tend to fly lower and faster than females. Perches both on the ground and on low perches like posts, stumps and rocks. Hunts all day long; with peak in early morning and the hour before dusk. A harrier's grasp is relatively weak so prey is killed with the beak while the bird feeds. Robs prey from other raptors; robbed themselves as well. Northern and central populations migrate, often long distances; southern populations are generally nonmigratory. Travel singly or in small groups throughout day and sometimes at night. Will cross water readily except for

huge expanses like the Great Lakes and Gulf of Mexico. Occasionally soars on migration, but usually engages in active flapping flight. Hunts on migration. Unlike most raptors, migrating northern harriers will fly in light rain and snow. In breeding season, not strongly territorial, except near the nest. In winter, individuals roost communally on the ground. Primary courtship display is called sky-dancing which is performed primarily by males. This aerial display is a series of steep dives and pull-ups, or "U", with the bird turning sideways at the apex of each "U" in a barrel roll. Tumbling may also occur. The "U" can cover a distance of up to 0.6 miles at an average height of 65 feet.



## Reproduction/Nesting

Clutch size: 4-6 eggs  
Eggs: Short subelliptical, white with some brown spotting, 1.8 x 1.4 inches  
Incubation: 29-31 days  
Fledge: 30-35 days  
Disperse: 3-7 weeks

## Life Span

## Conservation Status

## Viewing in the NCA

## Interesting Facts

Spanish name:  
*Aguilucho pálido*  
*Gavilán rastrero*,  
*Gavilán sabanero*

## Sources

Harriers can be monogamous or polygynous, with male having up to five mates who each build a nest and raise young. Polygyny occurs in dense populations where voles are abundant. Larger clutches (up to 10 eggs) are also laid when voles are abundant. Only one brood per season. Replacement clutches are rarely laid. Northern harriers nest on the ground in treeless habitats, usually in tall, dense clumps of vegetation, either alone or in loose colonies. Nests built of sticks and grass. Generally located in wet areas apparently because of reduced predation. Harriers mature in 2-3 years but may be able to breed their first year.

Longest recorded – 15 years 4 months.

Not on the US Fish and Wildlife's Endangered or Threatened Species List. However it is protected by the Migratory Bird Treaty Act. Idaho Fish & Game lists the northern harrier as a protected non game species for which it is illegal to collect, harm or otherwise remove from its natural habitat. Although population trends vary regionally, overall the species appears to be declining globally. At least eight states have listed it as endangered, four as threatened, and three as a species of special concern. Main factor is loss of habitat through extensive draining of wetlands, conversion of native grasslands for monotypic farming, and the reforestation of farmlands. Mortality factors: predation by great horned owls, red-tailed hawks; predation of nest by several mammals and crows, trampling of nests by livestock, destruction of nests by haying and other mechanized agricultural practices, illegal shooting, and collisions with vehicles.

The northern harrier is seen in the NCA year-round.

- The scientific name comes from the Greek word *kirkos* meaning circle and *kyaneous* meaning dark blue and refers to this bird's habit of flying in circles and the colors of the male's upperparts.
- Harrier is from the Old English word *hergian* and means to harass, ravage or plunder.
- Other names: Marsh hawk, Blue Hawk, Frog Hawk, White-rumped Harrier.
- Only North American hawk with an owl-like facial disk which enables harriers to hunt by sound as well as sight; at least 4 times more acute than other hawks and is able to locate prey by sound alone.
- In various European cultures, harriers have been considered omens of good luck, specifically for marriage and financial affairs.

AXIA CD ROM - Know Your Birds of Prey

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Illustrations - courtesy of Alberta Sustainable Resource Development

Map - The Peregrine Fund



**Northern Harrier**  
*(Circus cyaneus)*



Female



Male



# Morley Nelson Snake River Birds of Prey



## National Conservation Area

### Northern Saw-whet Owl (*Aegolius acadicus*)

#### Description/Size

Wing span: 18-22 inches  
Length: 7 – 8.5 inches  
Weight: 2.5 – 4 ounces  
(females slightly larger than males)

#### Similar Species

#### Habitat/Range



#### Food/Diet

One of the smallest northern owls, northern saw-whet owls have large, round heads without ear tufts. Their facial disk is round, and white above, below and between yellow/golden eyes; laterally light buff with feathers edged with dark brown produce a streaked effect. Tuft of black bristle-like feathers between eyes and at base of bill. Saw-whet upper-parts are brown streaked with white on crown and nape, with white spots on the back, wings, and tail. Underparts white, broadly striped with brown. Short legs are heavily feathered to the talons; white to buff. Wings rounded and tail short. Bill, cere, eye-ring and talons black; soles of feet yellow. Juveniles lack the white markings except on wings and tail and have unmarked brown breast and buff belly. Facial disk blackish brown with conspicuous Y-shaped white marking between and above eyes which initially are dull olive in nestlings turning bright yellow by fledging. Two subspecies are recognized: *A. a. acadicus* (USA, south and west Canada, south Alaska) and *A. a. brooksi* (Queen Charlotte Islands, British Columbia).

Boreal Owl - much larger, with a white facial disk edged in black; crown spotted, not streaked, with white. Juvenile are dark brown with inconspicuous pale streaking on the belly. Northern Pygmy-Owl - smaller with a relatively smaller head, longer tail and inconspicuous facial disk. Unspotted Saw-whet Owl – found in Central America; may represent another subspecies of the northern saw-whet owl.

Northern saw-whet owls prefer to live in coniferous forests, but can also be found in deciduous woodlands, especially riparian zones. They range from coastal Alaska, through southern Canada, the Great Lakes states, New England, western United States, and the central highlands of Mexico. It is common in open ponderosa pine forests and often breeds in riparian woodland in shrub-steppe environments, foraging there in sagebrush and antelope bitterbrush brush habitats. In Idaho, it avoids dense Douglas fir and prefers riparian and savanna habitats. It is restricted to higher elevations of mountain areas in the southern U.S. and Mexico. Large numbers move south in autumn, at least in eastern North America. Southern limits of this migration are uncertain and likely vary year to year. Some birds in western mountains and Appalachians move into lowland areas in winter. The subspecies *A. a. brooksi* is non migratory; restricted to the Queen Charlotte Islands, British Columbia.

This owl relies mostly on small rodents (mice, voles, shrews, lemmings, and juveniles of pocket gophers, chipmunks, squirrels) but will eat small birds while they migrate at night and some insects such as beetles and grasshoppers. Saw-whets hunt almost entirely at night, starting within a half-hour after sunset and ending about a half-hour before sunrise. Hunts from perches on low branches, shrubs, or fence posts, usually in forest openings and other habitat edges. These owls detect prey with excellent hearing and by low-light vision. Larger prey items usually consumed as two meals. Food not eaten immediately is often stored on branches. Prey frozen in this situation is thawed before eating by placing it in an incubation position. Males often bring an excess of food to the nest, especially during egg laying; as many as 24 surplus prey items can be found around the incubating female at this time.



## Voice

This owl has about nine different vocalizations. The main vocalization sounds like a mill saw being sharpened - a short series of loud, sharp, squeaking calls (e.g., *ksew-ksew-ksew*) given by both sexes; hence the common name for this species.

## Behavior

Flies low to the ground with rapid wingbeats and great maneuverability, often in a woodpecker-like bounding flight, swooping up to perches. Many saw-whets move south in winter, with significant concentrations in spring and fall around the Great Lakes. Migrate throughout the night, most in the four hours before sunrise. On average females migrate earlier in the season than males. Saw-whets roost during the day in thick vegetation; next to the trunk of a small tree, in a dense shrubby thicket, or, more typically, near the end of one of the lower branches of a large tree, especially where overhung by another branch. Regularly mobbed by small songbirds such as chickadees and nuthatches.

## Reproduction/Nesting

Clutch size: 4 to 7 eggs  
Eggs: Oval to ovate, smooth with little or no gloss, 1.2 x 1 inches.  
Incubation: 27-29 days  
Fledge: 4-5 weeks  
Disperse: 6 to 8 weeks

Northern saw-whets are cavity nesters, using natural tree cavities, existing woodpecker nest cavities and also man-made nest boxes. Eggs are laid directly on wood chips or other debris in the cavity and they do not reuse the nest due to prey remains. Clutches abandoned due to disturbance during or shortly after egg laying are almost always replaced; the female usually moves to another cavity nearby and lays another clutch. Saw-whet owls are normally monogamous, but there is no known instance of pair bond lasting more than one season. Polygamy can occur when prey is abundant. Females are likely sequentially polyandrous at times, leaving their first male to raise the first brood while mating with a second male to raise a second brood. Nesting duties are strictly divided; males provide most of the food for the female and young while females incubate the eggs and brood the young. Most birds probably begin breeding when one year old, but there are no data from wild populations.



## Life Span

Longest recorded – 8 years 3 months.

## Conservation Status

Not on the U.S. Endangered or Threatened Species List. However it is protected by the Migratory Bird Treaty Act. Idaho Fish & Game lists the northern saw-whet owl as a protected non game species for which it is illegal to collect, harm or otherwise remove from its natural habitat. Destruction of habitat, particularly nesting snags, represents the greatest threat to this species. Although northern saw-whet owls breed in almost every type of forest in their range, they seem to favor mature and old growth stands for breeding. Logging has undoubtedly reduced the amount of suitable breeding habitat, particularly through loss of nesting snags. Young, regenerating forests are often too thick and lack the edge habitat and open understory favored for foraging. This owl will readily nest in man-made nest boxes, which could mitigate the loss of nesting snags in areas which have been selectively logged or even clear-cut in small blocks. Retention of woodlots in rural and residential areas would be beneficial to migrating and wintering birds. No data is currently available on the affects of pesticides and other contaminants on this species. Shooting and trapping don't appear to be major problems.

## Viewing in the NCA

The northern saw-whet owl is seen in the NCA from February through May.

## Interesting Facts

Spanish name:

*Lechucita cabazona,*  
*Tecolotito cabazon*

## Sources

- The scientific name comes from the Greek word *aigolos*, meaning a nocturnal bird of prey, and *academicus*, Latinized name for Acadia, a French colony of southeastern Canada (now Nova Scotia) where the first owl was taken for scientific collection.
- Other names: Acadian owl, sparrow owl, Queen Charlotte owl, Kirkland's Owl, Saw-filer; Whetsaw.
- The asymmetrical ear openings are easily seen on the skull of these birds. The right ear is higher on the head than the left, and each ear opening is a different shape.

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and [www.fws.gov/migratorybirds/regulationspolicies/mbta/mbtintro.html](http://www.fws.gov/migratorybirds/regulationspolicies/mbta/mbtintro.html)

Illustrations - courtesy of Alberta Sustainable Resource Development

Map - The Peregrine Fund

Photography: adult - Larry Ridenhour, BLM

young - Barb Forderhase, BLM

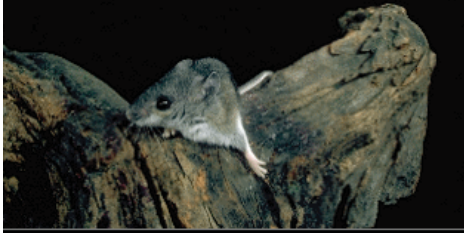




**Northern Saw-whet Owl**  
*(Aegolius acadicus)*



Adult



Immature



Photos: Know Your Owls, Axia CD ROM

# Morley Nelson Snake River Birds of Prey



## National Conservation Area

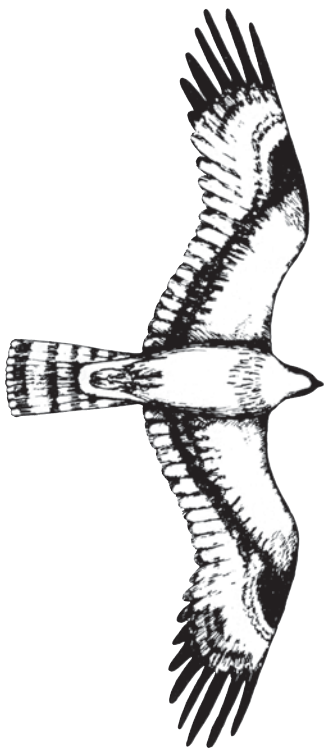
### Osprey (*Pandion haliaetus*)

#### Description/Size

Wing span: 59-71 inches

Length: 21-25 inches

Weight: 2.5-4.5 pounds



Large raptor with dark chocolate brown back and wings, mostly white breast (some speckling) and belly, white crown and forehead, and dark brown stripe through eye extending down to the shoulder. Underwings have white coverts, and dark wrist patch and secondaries. In flight, long narrow wings are bent at the wrists giving them a swept back look similar to a gull. Bill is dull blackish with a bluish gray cere. Iris yellow. Legs and feet pale bluish gray; talons black, long and strongly curved. Sexes often difficult to distinguish in the field. Adult female larger than male. Females tend to have fuller, darker breast-bands and darker heads than males. Immature similar to adult, but iris is orange-red through first year. Juveniles obtain adult plumage after about 18 months. No color morphs. Four subspecies recognized. *P. h. carolinensis* breeds in North America.

#### Similar Species

Most often confused with large gulls – unbanded tails, and lack black wrist patches on underside of wings. Bald Eagle – larger, no eye line, white tail.

#### Habitat/Range

One of the most widely distributed birds of prey in the world. Inhabits every continent except Antarctica and is usually found near open water with a plentiful supply of fish – lakes, rivers, marshes, seashores, etc. In North America, osprey breed from nw Alaska east to Newfoundland. In the West it ranges into California and Wyoming with scattered areas to the south. Also breeds along Atlantic and Gulf Coasts from Massachusetts south to Florida and west to central Louisiana. Elsewhere in the lower 48 states it is found only locally. Resident populations in Mexico along both coasts of Baja California, south along the west coast to Mazatlán, and east coast of Yucatán Peninsula and south into Belize. Also resident in Bahamas and Cuba. Most osprey in North America are migratory, wintering in Mexico, Central America, Caribbean and northern South America. Scattered numbers winter along Pacific Coast.



#### Food/Diet

Feeds almost exclusively on live fish; a wide variety of species are taken. Because ospreys can dive only a meter or less deep, they are restricted to surface-schooling fish, or to those in shallow water. Fish captured generally weigh 5-10 ounces and measure about 10–14 inches in length. Incidental prey include amphibians, reptiles, crustaceans, small mammals and birds. Ospreys rarely scavenge dead or dying fish, and even less frequently feed on terrestrial carrion. Ospreys do not cache food. Individual will discard uneaten portion of a fish in warm weather, but carry remnants of a fish around for a considerable time in cooler weather; partially eaten fish often left at nest.

#### Voice

Quite vocal. Five types of calls given: Alarm, Guard, Solicitation (food begging), Excited, and Screaming. All calls generally associated with breeding, except Guard and Alarm. All calls short shrill whistles; commonly single loud shrill slightly slurred whistle *teeeeea*.

*Raptor Information Sheet - Osprey*



## Behavior

Usually flies with steady, rowing flight. Wing-beat stiff, seems centered at elbows. Soars high on thermals, particularly at midday near breeding colonies, but also in migration. Long wings preclude flight in all but open areas. Rarely walks; somewhat awkward on ground. Osprey use slow flights 30-120 feet over water when hunting. Offshore, they may climb to 650 feet to locate schools of fish and then drop down. Also hunts from perches when available. When a fish is spotted, osprey hovers prior to diving, then plummets feet-first into water at up to 45 mph. As it enters the water the wings are folded and swept back behind the tail. The feet are extended out in front of the body. An osprey can become completely submerged and still be able to fly away. The osprey will unfold its wings and make a powerful downthrust freeing it from the water. Once



in the air, fish is maneuvered in feet to be aimed forward to reduce aerodynamic drag. Fish usually taken to an elevated and prominent perch, often near nest, where eaten. Fledged young are rarely near parents except when receiving food, so they do not learn to hunt by watching their parents. Foraging less efficient and successful in water with thick vegetation. Different angles of attack observed for different types of fish—long, shallow dives for fast-swimming fish near surface, steeper dives for slower fish found deeper in water. Hunts most often in mid-morning and late afternoon. All but southernmost populations are migratory. Migrates alone. In migration, readily crosses large water bodies such as Caribbean Sea and Gulf of Mexico, and desert barriers.

## Reproduction/Nesting

Clutch size: 2-4 eggs  
Eggs: Elongate to oval-elongate, white to creamy white with blotches of reddish browns; 2.4 x 1.8 inches  
Incubation: 35-40 days  
Fledge: 7-8 weeks  
Disperse: 8-10 weeks

Pairs appear to form at nest site. Generally monogamous; rarely polygynous. Male performs "sky dance" that may begin and end at nest site. In this dramatic display flight, male dangles legs (often clasping a fish or nesting material) and proceeds in slow, undulating flight over nest site, usually high overhead (up to 1000 feet or more) giving Screaming Calls repeatedly. Undulations are shallow (33-67 feet) with bird rising steeply at end of each and hovering. Display and calling may continue for 10+ minutes; male sometimes losing altitude all the while, descending slowly in undulating staircase fashion to nest site. Nest made of sticks and other materials on a wide variety of natural and artificial sites: trees, cliffs, power poles, buoys, and artificial nesting platforms. Will nest low or on the ground on islands free of mammalian predators. Ospreys will search out and use good nest sites up to 6-12 miles from water. Common features: proximity to shallow water (1.5-6.5 feet deep), which generally provide most accessible fish; openness, allowing easy access to nest; safety from ground predators (elevated site, island or over-water location); sufficiently wide and stable base to accommodate the large nest. Will reuse the nest year after year. Habituates quickly and easily to nearby human activity. Young usually dependent on parents until the fall migration. Juveniles stay on wintering ground until their second spring, and many stay on until their third spring. Those that return to breeding range in their third year may build nests but not actually reproduce. Most breed in their 4<sup>th</sup> year; mean age at first breeding 3.6 years.



## Life Span

Longest recorded – 25 years 2 months.

## Conservation Status



Not on the US Fish and Wildlife's Endangered or Threatened Species List. However it is protected by the Migratory Bird Treaty Act. Idaho Fish & Game lists the osprey as a protected non game species for which it is illegal to collect, harm or otherwise remove from its natural habitat. Osprey listed as endangered/threatened/species of special concern in a number states. Osprey, like other birds of prey, are susceptible to biological magnification of certain pesticides such as DDT and its derivatives (DDE). Due to localized sources of contamination in Central and South America ospreys are still contaminated with DDE. Heavy metals such as mercury are also biomagnified in food chains. Some mercury is transferred to eggs, but there is no consensus on how this affects egg viability. Osprey are vulnerable to shooting, especially at fish farms during migration; collisions with vehicles and power lines; electrocution. Generally tolerant of land development. Probably more vulnerable to changes in water quality. Some regional population declines probably associated with loss of nest sites, related in turn to increased lumbering and agricultural activities. Habituates easily to human activity nearby. Felling of rain forests probably has affected wintering ospreys: increasing sedimentation rates, potentially increasing turbidity and making fishing in rivers more difficult; also elevated mercury levels through increase erosion. Gold miners in tropical South America discharge mercury into rivers, where it is already found in alarming levels in fish and humans.

## Viewing in the NCA

The osprey migrates through the NCA in March and September. Starting in 2002 a pair has been nesting and rearing young within the NCA and in 2005, another pair was seen nest building in the NCA however it is unknown if this pair laid eggs and reared young.

## Interesting Facts

Spanish name:  
*Gavilán pescador*

- The scientific name comes from the Greek *Pandion*, the mythical king of Athens who along with his two daughters were turned into birds and *halos* referring to the sea and *aetos* meaning eagle.
- Osprey comes from the Latin, *ossifragus* meaning bone breaker.
- Other names: sea hawk, fish hawk, fish eagle.
- Outer toe can face forward or backward.
- Toes have spiny pads for catching and holding fish.
- Water resistant feathers-tightly overlap, are compacted, and oily.
- Small intestine-relatively long and narrow to digest scales and bones.
- Tarsi-short and thick to resist impact at high speeds on water surface and fish itself.
- Can completely close its nostrils while underwater.

## Sources

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Illustrations - courtesy of Alberta Sustainable Resource Development  
Map - The Peregrine Fund  
Photography: BLM and Wayne E. Melquist (head)



**Osprey**  
(*Pandion haliaetus*)



Photos: Know Your Birds of Prey, Axia CD ROM

# Morley Nelson Snake River Birds of Prey

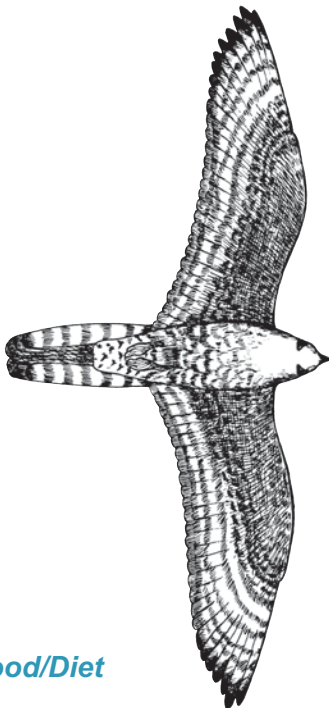


## National Conservation Area

### Peregrine Falcon (*Falco peregrinus*)

#### Description/Size

Wing span: 34-44 inches  
Length: 15-20 inches  
Weight: 1.1-2.7 pounds



#### Food/Diet

#### Voice

Like all falcons, peregrine falcons have large heads, notched beaks, and “heavy shouldered” streamlined bodies. Medium to large falcon with prominent black crown. Plumages very similar between sexes. The face has prominent dark mustache patches set beside a variably white cheek. Cere and eye-ring are yellow. Eye is very dark. Beak is bluish gray with a dark tip and yellowish base. Chin and throat are white. Legs and feet are yellowish with black talons. Male has a dark back and upper tail, and light heavily barred and spotted underparts. Female is generally dark grey-brown above, paler brown below and much more heavily barred than the male with large drop shaped spots on the breast. Females are up to 15-20% larger and 40-60% heavier than males. Juveniles are generally dark brown, heavily streaked birds with some variations between subspecies. In North America there are three subspecies – *F.p. anatum*, the American peregrine; *F.p. pealei*, Peale’s peregrine, and *F.p. tundrius*, the arctic peregrine—with variations in plumage and range.

#### Similar Species

Prairie falcon – more brownish, coloration not as contrasting, less prominent mustache mark. Gyrfalcon – more evenly colored and lacking the boldness in the mustache mark. Juvenile peregrines and gyrfalcons easily confused at a distance – underwing of peregrine is uniform; gyrfalcon has two toned underwing.

#### Habitat/Range

Worldwide distribution; this falcon is found on every continent except Antarctica, and lives in a wide variety of habitats from tropics and deserts, to the tundra, and from sea level to 12,000 feet. Habitat is open country with suitable cliffs for nesting and perching. Also found in urban areas. Worldwide there are 19 subspecies recognized.

Peregrines chiefly hunt birds but will occasionally take mammals, reptiles, insects or amphibians. Diet differs among regions, habitats, and seasons. Birds that are taken range in size from warblers to small geese.

Peregrines search for prey while perched or in flight.

They use a variety of hunting techniques, but typically

prey is captured in mid air after fast pursuit or a stoop to catch the prey. The stoop is a high speed drive from a great height which may reach speeds between 100-240 mph. When overtaking a bird in mid-air, the peregrine may strike its prey with a tremendous killing blow with clenched feet or snatch it up in its talons. With larger prey, they will then ride them to the ground. Peregrines sometimes walk along the ground in search of nestlings, rodents, insects and reptiles. Peregrines usually kill their prey by biting and breaking the animal’s neck. Prey is typically taken to a plucking perch. Excess food is often stored in a cache, particularly during the breeding season.



Usually quiet away from nest site, except for aggressive encounters. Most Peregrine vocalizations can be categorized as a *cack*, chitter, *eechip*, or wail. A harsh *kak kak kak kak kak* is given in alarm and in conjunction with nest defense.



## Behavior

Active flight with shallow but stiff powerful smooth wing beats. Soars on flat wings with widely spread tail. Wing tips appear broad and rounded when soaring, and narrow and pointed when gliding. Some northern peregrine falcons are migratory and will head towards less cold areas in autumn. Peregrines are not adverse to crossing large bodies of water during migration. Peregrines regularly cross the Gulf of Mexico and the Caribbean Sea. Some peregrines are long-distance migrants that make one-way journeys of up to 8,000 miles. Northern tundra breeders in Greenland and Canada travel as far south as central Argentina and Chile. Some populations show a leap-frog migration pattern where northern populations winter to the south of populations from more southerly locations. Flap or soar on migration.

## Reproduction/Nesting

Clutch size: 3-4 eggs  
Eggs: sub-elliptical, creamy to browns with blotches of warm browns, 2.1 x 1.6 inches  
Incubation: 33-35 days  
Fledge: 5-6 weeks  
Disperse: 6-8 weeks

Peregrine falcons frequently nest near water on ledges of rocky cliffs or buildings. They do not build nests, but scrape a small depression to hold eggs within a nest site. Occasionally will use abandoned stick nests of other species. A nest site must provide protection from weather and potential predators and it must be in or near an adequate prey base. May nest in tree cavities, on the ground and on manmade structures. First breeding is generally at two years. Peregrines perform awe-inspiring aerial displays during courtship. Actively defend nest against other raptors.

## Life Span

Longest recorded – 19 years 6 months

## Conservation Status

Not on the US Fish and Wildlife's Endangered or Threatened Species List. However it is protected by the Migratory Bird Treaty Act. Idaho Fish & Game lists the peregrine falcon as a protected non game species for which it is illegal to collect, harm or otherwise remove from its natural habitat. The BLM considers this an imperiled species in Idaho - it is experiencing declines in population or habitat and is in danger

of regional or local extinctions in Idaho in the foreseeable future. In 1970, two subspecies of the peregrine falcon were listed as Endangered in the US under the Endangered Species Conservation Act, the precursor to the Endangered Species Act. This was due to pesticides like DDT which cause the female to lay thin-shelled eggs which were easily broken, killing the embryo inside. DDT was banned in 1972, and in 1973 the peregrine received protection under the Endangered Species Act and the Migratory Bird Treaty Act. Captive breeding programs were initiated, and The Peregrine Fund released more than 4000 captive-reared birds in 28 states over a 25 year period. In 1994, the arctic subspecies was delisted as recovered, and in 1999 the American subspecies was also delisted. Environmental contaminants still remain as a potential source of mortality. Habitat loss and collisions with buildings, vehicles, aircraft and wires are other sources of mortality.



## Viewing in the NCA

## Interesting Facts

Spanish name:  
*Halcón pollero*,  
*Halcón peregrino*

## Sources

The peregrine falcon is a rare visitor to the NCA, typically migrating through in fall and spring. Historically, there was a peregrine nest near the confluence of the Snake and Bruneau Rivers but that has not been occupied for over 60 years.

- The scientific name comes from the Latin word *falx* meaning “scythe”, referring to the shape of the wing and shape of the talons and *peregrinus* meaning “to wander.”
- Other names: Duck hawk, Big-footed falcon, Wandering falcon.
- Outward pointed, cone shaped projections in the center of the round nostrils slow down the air flow to allow fast flight without damaging the bird’s lungs.
- Peregrine falcons have adapted to living in cities which offer building ledges for nesting, large populations of pigeons and starlings for food and few natural predators.

AXIA CD ROM - Know Your Birds of Prey

Bird Banding Lab - [www.pwrc.usgs.gov/bbl/homepage/long3120.cfm](http://www.pwrc.usgs.gov/bbl/homepage/long3120.cfm)

Carolina Raptor Center - [www.carolinaraptorcenter.org/p\\_falcon.php](http://www.carolinaraptorcenter.org/p_falcon.php)

Hawk Mt. Sanctuary - [www.hawkmountain.org/media/peregrine.pdf](http://www.hawkmountain.org/media/peregrine.pdf)

Idaho Fish&Game - <http://fishandgame.idaho.gov/wildlife/nongame/birds/birdspecies.cfm>

National Audubon Society - The Sibley Guide to Birds

The Peregrine Fund - [www.peregrinefund.org/Explore\\_Raptors/falcons/peregrin.html](http://www.peregrinefund.org/Explore_Raptors/falcons/peregrin.html)

Birds of North America Online - <http://bna.birds.cornell.edu/bna/species/660>

US BLM – <http://www.blm.gov/id/st/en/prog/wildlife.html> - sensitive species list

US FWS - [http://ecos.fws.gov/tess\\_public/pub/listedAnimals.jsp](http://ecos.fws.gov/tess_public/pub/listedAnimals.jsp)

and [www.fws.gov/migratorybirds/regulationspolicies/mbta/mbtintro.html](http://www.fws.gov/migratorybirds/regulationspolicies/mbta/mbtintro.html)

Illustrations - courtesy of Alberta Sustainable Resource Development

Map - The Peregrine Fund



**Peregrine Falcon**  
*(Falco peregrinus)*



Adult



Immature



Photos: Know Your Birds of Prey, Axia CD ROM

# Morley Nelson Snake River Birds of Prey



## National Conservation Area

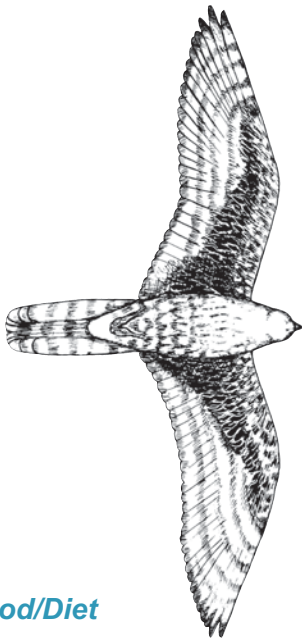
### Prairie Falcon (*Falco mexicanus*)

#### Description/Size

Wing span: 37-43 inches

Length: 15-18 inches

Weight: 1-2 pounds



#### Food/Diet

#### Voice

Like all falcons, the medium sized prairie falcon has a large head, notched beak, and “heavy shouldered” streamlined body. The back and upper wing are medium brown with pale bars and fringes on most feathers and the tail shows light barring underneath. The pale underbody is spotted on the belly and barred on the flanks. A large blackish patch on the white underwings distinguishes this from all other falcons. Sexes are similar in plumage; however the females have noticeably darker underwing patches. Narrow black malar stripes (mustache) extend from below the eyes downward along the chin. Eyes are dark brown. Eyelid, cere, legs and feet are bright yellow in adults, and more intense in males. Bluish beak with dark tip. Talons blackish slate. When perched, the wing tips do not reach the tail tip. Juveniles- bluish eye-ring, beak, cere, legs, and feet; plumage is more buffy, ventral plumage has a rosy tinge, underparts are streaked and feathers lack the pale bars seen in adults.

#### Similar Species

Peregrine falcon – similar in size and shape however it is blue-gray and has a thicker mustache, uniformly dark underwing and longer less rounded wing-tips. Merlin – a smaller falcon with a faint mustache, uniform underwing, and distinct tail bands. Swainson’s hawk – can appear similar when perched, but wing-tips reach tail-tip.

#### Habitat/Range

Western US, southwestern Canada, Baja California and northern Mexico. Inhabits arid environments of western North America where cliffs or bluffs provide nest sites within open grasslands and shrub-steppe deserts.

An efficient and specialized predator of medium-sized desert mammals, lizards and birds. Ground squirrels are the mainstay of the prairie falcon diet and provide the fat-rich calories needed to raise young during the nesting season. When ground squirrels move underground to escape summer heat and dryness, most prairie falcons leave their nesting areas in search of other prey – ground squirrels at higher elevations and birds, reptiles and insects. Horned larks and western meadowlarks are important prey items in winter. Prairie falcons actively search for prey during flight and catch prey on or close to the ground after a long low angled swoop from above or a ground hugging flight that takes prey by surprise. Takes birds and insects in the air. Are known to cache prey within their nesting territory which may allow prairie falcons to maximize food intake and dampen fluctuations in prey availability during the breeding season.



Common vocalization is the alarm/territorial call, described as a shrill *kik-kik-kik*. Call is generally harsher and deeper in the female. During courtship, both sexes emit a characteristic *eechup* call. Females emit a distinctive whine/wail when soliciting food or copulations from the male. Both give a *chitter* call during aggressive interactions



## Behavior

Pairs do not stay together during the nonbreeding season; pair bonds are established or renewed after arrival on the breeding grounds. Widely separated nesting, post-nesting, and wintering areas. More a “wanderer” than a true “migrant”. Seasonal movements reflect responses to changing food availability throughout the year. Birds leave Idaho desert nesting areas soon after fledging and move to higher elevations or more northern latitudes where prey (ground squirrels) do not aestivate to escape summer heat/dryness. Flapping flight - short, rapid strokes with wings mostly below horizontal. Soars on flat wings with tail slightly fanned, and glides on flat wings or with wrists below body and wing-tips curved upward. Seems to prefer gliding over soaring; hovers occasionally.

## Reproduction/Nesting

Clutch size: 3-6 eggs  
Eggs: elliptical, creamy white to pink or russet; usually speckled, with brown or reddish brown, 2 x 1.6 inches  
Incubation: 34 days  
Fledge: 5-6 weeks  
Disperse: 3 weeks

Nests primarily on cliff ledges, crevices or cavities. Does not build a nest structure; instead scrapes loose debris to form a small depression to hold eggs within a nest site. Most cliff nest sites have some overhang which provides protection from storms and hot sun. Prairie falcons also use abandoned nests of eagles, hawks or ravens. On occasion, nests in trees, on power line structures, on buildings and inside caves. Nesting chronology in the NCA closely parallels that of ground squirrel populations. Prairie falcons arrive at nesting areas just as ground squirrels emerge from 6 months of aestivation in January or February, and they lay eggs when juvenile ground squirrels start to emerge from burrows. Prairie falcon young hatch when ground squirrel numbers are at peak, and they disperse by the time that ground squirrels aestivate in late June - early July to escape heat, dryness, and food shortages. Sexually mature by their second year.



## Life Span

Longest recorded – 17 years 3 months.

## Conservation Status

Not on the US Fish and Wildlife's Endangered or Threatened Species List. However it is protected by the Migratory Bird Treaty Act. Idaho Fish & Game lists the prairie falcon as a protected non game species for which it is illegal to collect, harm or otherwise remove from its natural habitat. The BLM considers this an imperiled species in Idaho - it is experiencing declines in population or habitat and is in danger of regional or local extinctions in Idaho in the foreseeable future. The population is characterized as stable, but local declines have been recorded in some areas including portions of Texas, Alberta, and

southwest Idaho. Habitat loss due to urbanization is a continual concern and large-scale agricultural development affects the prairie falcon adversely, particularly in areas where populations forage on ground squirrels. Poisoning, use of farm machinery, and loss of cover prevent ground squirrels from maintaining populations in agricultural areas. Land use changes associated with agricultural development already may have contributed to population declines in parts of California, Idaho, and Alberta. Illegal shooting is a common cause of mortality, particularly for first-year birds. Collisions with fences, wires and vehicles are common; electrocution is relatively uncommon. Human disturbance is a frequent cause of nest failure. Computer simulations predicted that as little as 15% agricultural conversion on the Snake River Plain would reduce prairie falcon productivity to a point at which the population in the NCA could not replace itself. Extensive wildfires have altered shrub-steppe habitats near important prairie falcon nesting areas in the NCA since 1980. Piute ground squirrel populations fluctuate more in burned habitats dominated by exotic annuals than in unburned native habitats, and consequently fires may have increased year-to-year variation in prairie falcon reproductive success in the NCA. A combination of wildfires, grazing, and military

training activity has been associated with lower prairie falcon reproduction and abundance in portions of the NCA. Warmer winters have allowed Piute ground squirrels to breed almost a month earlier than they did in the 1970s and 80s. It is not clear if the prairie falcons have adapted their breeding to the change in the emergence of ground squirrel young.

### Viewing in the NCA

Seen in the NCA from February to late July. Nests on cliffs in the Snake River Canyon, and hunts the sagebrush-steppe country north of the canyon.

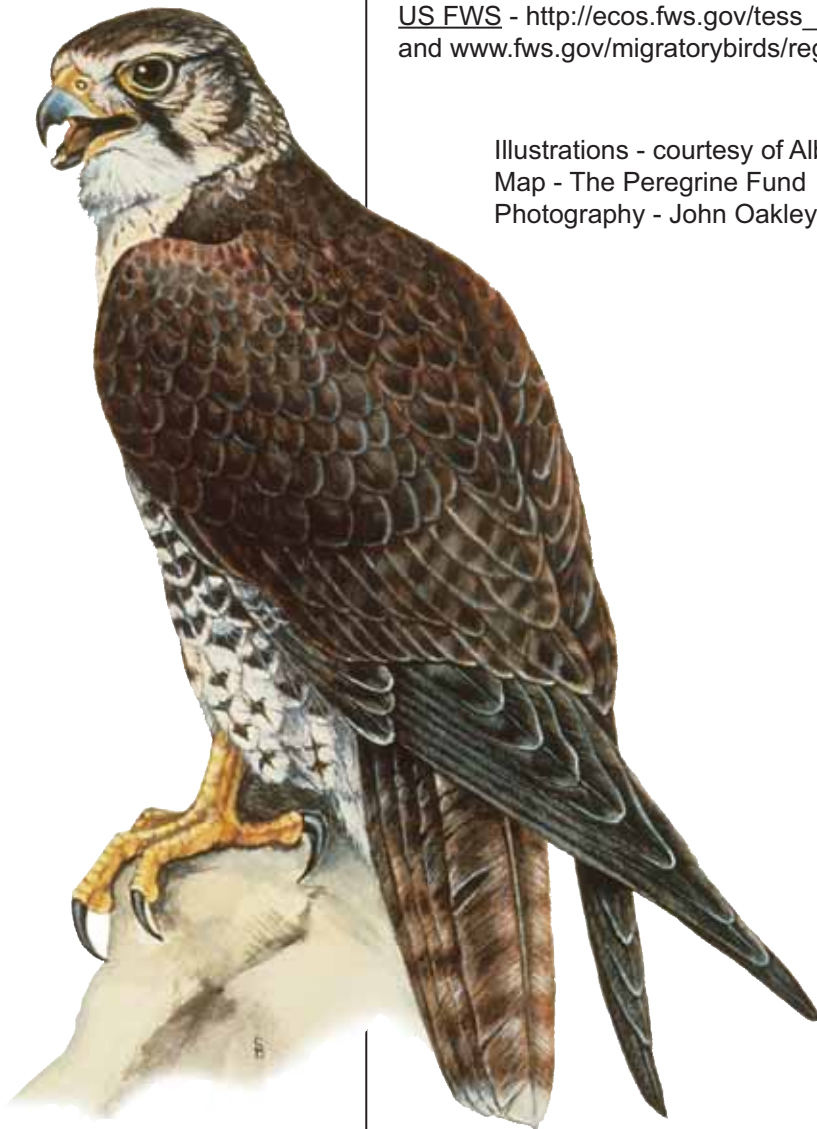
### Interesting Facts

Spanish name:  
*Halcón mexicano*

- The scientific name comes from the Latin word *falx* meaning "scythe", referring to the shape of the wing and shape of the talons and *mexicanus* refers to Mexico where the bird was first collected.
- Other names: Bullet Hawk
- Outward pointed, cone shaped projections in the center of the round nostrils slow down the air flow to allow fast flight without damaging the bird's lungs.

### Sources

[AXIA CD ROM](#) - Know Your Birds of Prey  
[Bird Banding Lab](#) - [www.pwrc.usgs.gov/bbl/homepage/long3120.cfm](http://www.pwrc.usgs.gov/bbl/homepage/long3120.cfm)  
[Idaho Fish&Game](#) - <http://fishandgame.idaho.gov/wildlife/nongame/birds/birdspecies.cfm>  
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[Birds of North America Online](#) - <http://bna.birds.cornell.edu/bna/species/346>  
[US BLM](#) - <http://www.blm.gov/id/st/en/prog/wildlife.html> - sensitive species list  
[US FWS](#) - [http://ecos.fws.gov/tess\\_public/pub/listedAnimals.jsp](http://ecos.fws.gov/tess_public/pub/listedAnimals.jsp)  
and [www.fws.gov/migratorybirds/regulationspolicies/mbta/mbtintro.html](http://www.fws.gov/migratorybirds/regulationspolicies/mbta/mbtintro.html)



Illustrations - courtesy of Alberta Sustainable Resource Development  
Map - The Peregrine Fund  
Photography - John Oakley



**Prairie Falcon**  
*(Falco mexicanus)*



Photos: Know Your Birds of Prey, Axia CD ROM  
Larry Ridenhour, BLM - head  
David Martorelli - adult in flight

# Morley Nelson Snake River Birds of Prey



## National Conservation Area

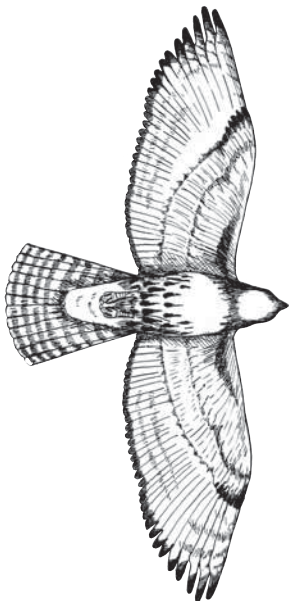
### Red-tailed Hawk (*Buteo jamaicensis*)

#### Description/Size

Wing span: 42-56 inches

Length: 17-25 inches

Weight: 1.5-3.3 pounds



The red-tailed hawk (red-tail) is the most common and widespread buteo of North America. Up to 16 subspecies are recognized; similar in shape and habits; usually distinguished by ventral coloration, tail markings, and/or size, but there is no clear geographic trend in any of these characters. Not every subspecies has the distinctive red tail. Sexes similar in appearance though females are consistently larger. Red-tails have a chunky body, and broad round tipped wings. Their upperparts range from brown to black and underparts are white to black. Adults typically have a reddish tail with a narrow, dark band at the tip. The tail is sometimes streaked or spotted and often spread or fanned in flight. The beak is dark becoming lighter basally. The iris of adult is yellow in younger birds, grading to brown in older hawks. Legs and feet are yellow with dark talons. Juveniles have narrower wings and longer tails that are brownish with seven to nine dark brown bands of equal width. The Western population is the most variable population of red-tails, with a complete range from light to dark plumage. Dark and intermediate morphs account for 10-20% of Western population.

#### Similar Species

Depending upon age, race and color morph, the Red-tailed hawk could be mistaken for similar variants of Swainson's, Ferruginous, Rough-legged, Broad-winged, Red-shouldered and perhaps Short-tailed hawks.

#### Habitat/Range

Found throughout North America except the high arctic, and scattered through Central America and the West Indies. Inhabits open areas with scattered, elevated perch sites in a wide range of altitudes and habitats, including deserts, grasslands, broken coniferous and deciduous woodlands, tropical rainforests, agricultural fields and urban areas. Generally absent from large expanses of treeless terrain or dense forests.

#### Food/Diet

Concentrates on species that are abundant and easily caught, therefore diets differ among regions and time of year. Typically hunts small to medium sized mammals, primarily mice, ground squirrels, and jackrabbits. Birds and reptiles are also eaten and occasionally insects. Red-tails also feed on carrion when available.



#### Voice

Often described as a scream, resembles a long "kee-eeee-arr." Usually produced by soaring or perched birds, during territorial disputes, and occasionally in response to human intrusions. During courtship flight, a sharp, shrill *chwirk* is produced by one or both mates. Mates also utter a low, nasal *gannk* when near one another.

#### Behavior

Active flight is slow, ponderous and direct with deep wing beats. May soar or glide with wings in a slight "V" or broad "U". Will also kite (in strong winds stays in place aloft without flapping). Red-tails are primarily a sit-and-wait predator and generally require elevated perch sites for hunting. Will swoop down from a perch to seize prey; snatching birds while flying or pursuing prey from low level flight. Infrequently hunts while soaring, kiting, or powered flight. They also steal food from other raptors – pirating. Walks on ground using slow, awkward steps; most often exhibited while feeding on carrion.

*Raptor Information Sheet - Red-tailed Hawk*



Hops on ground in energetic, erratic fashion while chasing insect prey or confronting snakes. Food generally taken back to a feeding perch. Larger items are partially eaten on the ground, with the remains often brought to a perch for continued feeding. Red-tails generally migrate alone, or in small, loosely organized flocks. Most northern populations migrate south during winter. Individuals at mid-latitudes may stay on their breeding grounds but some may leave for a few weeks. Southern populations are mostly sedentary. Red-tails soar on migration and avoid long water crossings that require sustained powered flight; concentrate along shorelines, peninsulas, and similar topographic features. Timing and rate of migration influenced by weather and food supply. Often harass and are harassed by other buteos. Highly territorial during breeding season but aggression is reduced and sporadic outside breeding season

### Reproduction/Nesting

Clutch size: 1-4 eggs  
Eggs: white to buffy with sparse to heavy blotches of reddish-brown, 2.3 x 1.8 inches.  
Incubation: 28-35 days  
Fledge: 6-7 weeks  
Disperse: up to 10 weeks

Nests are made of sticks and twigs. Nest sites vary depending on habitat but in general they are open from above and provide a good view of the surrounding landscape. Use tops of tall trees, cliff ledges, cactus, and man-made structures. A nest may be used for one or more years by the same pair, vacated for one or more years, and used again. Refurbishment of previously built nests includes adding new materials inside and out. Sometimes two or more nests are built or refurbished without being used in a particular year. Red-tails are extremely sensitive to disturbance during nest building and may even abandon the nest. Sexually mature at two years. Generally monogamous, the pair bond is usually maintained until death of a partner, at least in non-migratory pairs, but acquisition of a new mate can occur rapidly. Reproductive success varies with prey abundance, perch density and distribution, and proximity of nest to other red-tails.

### Life Span

Longest recorded – 29 years 9 months.

### Conservation Status

Not on the US Fish and Wildlife's Endangered or Threatened Species List. However it is protected by the Migratory Bird Treaty Act. Idaho Fish & Game lists the red-tailed hawk as a protected non game species for which it is illegal to collect, harm or otherwise remove from its natural habitat. Populations are increasing in much of North America, apparently in response to deforestation in the east and fire suppression in the west which have encouraged the establishment of a patchwork of woodlands and large open areas which are favored by red-tails. It has replaced some species of buteos that do not respond well to these management practices. Red-shouldered, Ferruginous, and Swainson's hawks are some species of concern in this regard. Availability of nest sites and food supply are the two factors most likely to limit red-tail populations. Threats to the species include automobile collisions, nest disturbance, and illegal shooting.

### Viewing in the NCA

The red-tailed hawk is seen in the NCA year-round.



## Interesting Facts

Spanish names:  
*Aguililla colirroja*,  
*Gavilán colirrojo*,  
*Aguililla parda*

## Sources

- The scientific name comes from the Latin word *buteo* meaning buzzard, an early name for hawks and vultures, and *jamaicensis*, the Latinized name for Jamaica, West Indies, where the first specimen was collected.
- Common name comes from the reddish tail that most adults have.
- Other names: Buzzard hawk, hen hawk, red hawk, and mouse hawk.

AXIA CD ROM - Know Your Birds of Prey

Bird Banding Lab - [www.pwrc.usgs.gov/bbl/homepage/long3120.cfm](http://www.pwrc.usgs.gov/bbl/homepage/long3120.cfm)

Carolina Raptor Center - [www.carolinaraptorcenter.org/rt\\_hawk.php](http://www.carolinaraptorcenter.org/rt_hawk.php)

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and [www.fws.gov/migratorybirds/regulationspolicies/mbta/mbtintro.html](http://www.fws.gov/migratorybirds/regulationspolicies/mbta/mbtintro.html)



Illustrations - courtesy of  
Alberta Sustainable Resource  
Development  
Map - The Peregrine Fund  
Photography: David Martorelli



**Red-tailed Hawk**  
*(Buteo jamaicensis)*



Adult



Immature



# Morley Nelson Snake River Birds of Prey



## National Conservation Area

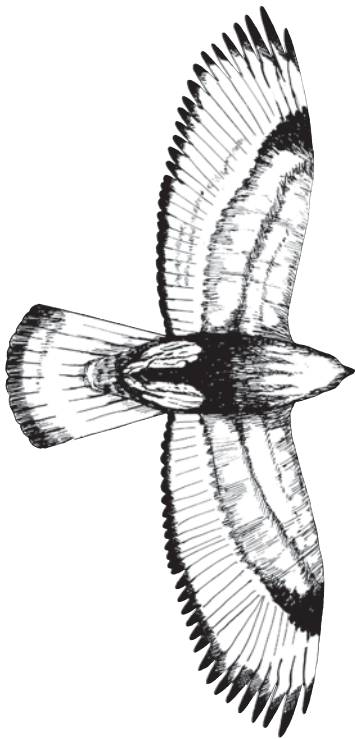
### Rough-legged Hawk (*Buteo lagopus*)

#### Description/Size

Wing span: 48-56 inches

Length: 18-23 inches

Weight: 1.5-3 pounds



Rough-legged hawks (rough-legs) have long, broad wings, a chunky body, and typically soar with their long tails fanned. They have small feet and a small beak—adaptations to arctic life. Legs are feathered to toes. These hawks exhibit a high degree of plumage variation, from extremely dark to more patterned birds often termed “light” morphs. In addition, the male, female, and juvenile birds have slightly different plumage patterns. In adults, the bill is dark, cere is orange-yellow, the eyes are dark brown, and feet and toes are bright yellow. When perched, the wing tips exceed the tail tips. Adults have black patches on the underside of the wrists and a black band on the trailing edge of their underwings. The female is slightly larger and heavier than the male and tail and belly patterns are different between the sexes. Dark morphs are dark brown (female) to black (male) except the undersides of their flight feathers are silvery. Dark males have dark tail feathers with 3-4 thin white bands near the base visible from above. Dark females have tail feathers that are dark above and silvery below with a dark terminal band. Light morphs have brown (female) to gray-brown (male) backs and wings with heavily (female) to light (male) brown markings on their whitish underparts. On males, these markings are heavier on the breast than on the belly, and there is a well-defined light U-shaped area between the breast and belly. Tails of light males have multiple dark incomplete bands and a wide, dark subterminal band. The lower half of a light female’s whitish tail is usually dusky, with one wide, black subterminal band. Juveniles of both morphs have dusky bands on the underside of the tail, a dusky band on the trailing edge of their underwings and are similar to the adult female of their morph. Their bill is blackish brown, cere is tinged green, eyes are pale brown, gray, or yellow, and feet and toes yellow tinged green. When perched, wing-tips reach tail tip.

#### Similar Species

Red-tailed hawk - larger-billed, relatively shorter wings, reddish tail; pale morphs show dark bar on leading edge of under wing, some dark morphs more heavily barred on under wing and tail. Ferruginous hawk – larger; bigger wider bill with gape line well under eye; whitish comma at wrist on underside; wings more tapered and held in more of a “V” while soaring; different tail patterns. Superficially resembles northern harrier and turkey vulture, but harrier is slimmer; longer tail; distinct white patch on upper tail-coverts and vulture is larger, lacks dark trailing border to under wing, longer wings, more uptilted flight profile and naked head.

#### Habitat/Range

A bird of open treeless areas - tundra, large river deltas, open fields, grasslands, shrub-steppes, marshlands, bogs, dunes and other essentially treeless areas. There is a wide separation between the summer and winter ranges. In North America, rough-legged hawks breed in the open tundra or semi-open taiga in arctic and subarctic Alaska and Canada and migrate across the boreal forest to winter in open country of southern Canada and the U.S. The greatest number winter west of the Mississippi River. Three subspecies are recognized but only one, *Buteo lagopus sancti-johannis*, occurs in North America. Alaska is considered a zone of hybridization between North American and Eurasian birds. This hawk is likely limited in distribution and numbers in many areas by the availability of suitable nesting sites.





## Food/Diet

Voles and lemmings are the primary prey during breeding season but rough-legs also eat ground squirrels, hares, weasels, and birds. Birds are primarily ptarmigan, Lapland longspurs, and American tree sparrows but also include a few waterfowl, shorebirds, and songbirds. The winter diet is similar to that of summer but reflects differences in prey availability. Voles, mice, and shrews make up the majority of prey items taken but small numbers of other medium-sized mammals are also taken. Few birds are eaten in winter. Carrion can be important when snow limits the availability of small mammal prey. Food-caching not reported.

## Voice

Alarm call is a descending, cat-like, "kee-eeer" scream similar to that of the red-tailed hawk. During courtship, pairs give whistling sound tapering off into a hiss. After copulation, male utters whistling noises slurred downward and female gives clucklike "nar-nar". Usually silent when away from breeding areas except for the alarm call.

## Behavior

The rough-legged hawk is a diurnal (daytime), and sometimes crepuscular (dusk and dawn), hunter that pursues prey from elevated perches or the air depending on availability of perches, weather, and possibly other factors. When hunting from the air, soars or uses flapping/gliding flight but periodically kites into the wind. Normally catches live prey on the ground, attacking from above in vertical or diagonal pounces. It does not pursue prey by walking, running, or hopping on ground. These hawks also rob prey from other birds. After capture, prey is carried to a nearby perch for ingestion. These hawks are complete migrants with the entire population moving from breeding grounds in the arctic/subarctic to open country in southern Canada and U.S. Usually migrate alone or in loosely aggregated flocks. When migrating, use powered flight and flapping and gliding intermittently, or soar on updrafts and thermals. During migration they are seen primarily in valleys, away from densely forested areas. Undertakes long water crossings (up to 62 miles) by either soaring in circles high out over water or using flapping and sailing flight. In level flight, the rough-legged hawk tends to utilize steady wingbeats with less of the "pump and glide" type of flight that other buteos use. They soar and glide with their wings held in a dihedral or "V". This species seems less dependent upon the use of thermals than other buteos. When soaring, wings and tail spread to full extent. The rough-legged hawk is quite trusting and docile around humans, allowing close approach which can put them at some risk. Around the nest however, it is a fierce defender. Communal roosting at night, on some wintering ranges, has been documented in association with high rodent populations.



Raptor Information Sheet - Rough-legged Hawk

## Reproduction/Nesting

Clutch size: 2-7 eggs  
Eggs: elliptical, 2.2 x 1.8 inches, pale greenish or blue fading to white with highly variable blotching and streaking of reddish brown or violet; blotches often concentrated around the large end.  
Incubation: 28-31 days  
Fledge: 5-6 weeks  
Disperse: 30 days

## Life Span

## Conservation Status

## Viewing in the NCA

## Interesting Facts

Spanish name:  
*Ratonero calzado*,  
*Gavilán oscurado*

## Sources

Bulky stick nests are built high on cliff ledges or recesses, rocky or dirt outcrops, or on eroded riverbanks with a good view of the surrounding area. Rarely nest on level ground. Where cliffs are not available, trees and occasionally man-made structures will be used. Nests are refurbished each year and can become quite large; alternate nests may be built nearby. Favored sites are likely traditional and used for many years by the same pair unless they are displaced by another raptor. Whenever possible, the highest of all potential nest sites will be chosen. Rough-legged hawks become sexually mature at 2 years and are monogamous. The pair bond is maintained at least through the breeding season. Replacement clutches are sometimes laid, particularly if the first clutch is lost before hatching. As with most arctic birds of prey, the rough-legged hawk's productivity is closely tied to their prey. In years with high prey populations, more eggs are produced and more chicks survive to fledge. In low prey years, these birds may not breed.

Longest recorded – 17 years 9 months.

Not on the US Fish and Wildlife's Endangered or Threatened Species List. However it is protected by the Migratory Bird Treaty Act. Idaho Fish & Game lists the rough-legged hawk as a protected non game species for which it is illegal to collect, harm or otherwise remove from its natural habitat. In general, it appears that the rough-legged hawk population in North America is under no immediate threat and is fairly common across its range in the Arctic and in tundra regions globally. However, as arctic petroleum reserves and other resources are developed, maintenance of appropriate habitat is critical to long term survival of this and other arctic species. Sources of mortality include: collisions with cars, and illegal shooting and trapping. Disturbance of nest sites and roosting areas can cause them to be abandoned. Development of agricultural lands may be displacing these hawks in some areas.

The rough-legged hawk is seen in the NCA from November through April.

- The scientific name comes from the Latin word *buteo* meaning buzzard, an early name for hawks and vultures, and *lagopus* comes from the Greek word *lagos* for hare and the Latin word *pes* meaning a foot.
- The common and scientific names refer to the completely feathered legs.
- Other names: Roughleg, Rough-legged Buzzard, Chicken Hawk, and Mouse Hawk.

[AXIA CD ROM](#) - Know Your Birds of Prey

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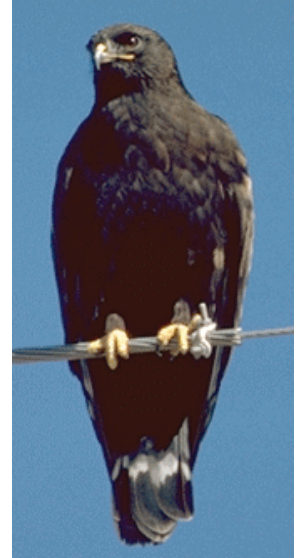
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Illustrations - courtesy of Alberta Sustainable Resource Development  
Map - The Peregrine Fund



**Rough-legged Hawk**  
*(Buteo lagopus)*



Photos: Know Your Birds of Prey, Axia CD ROM

# Morley Nelson Snake River Birds of Prey



## National Conservation Area

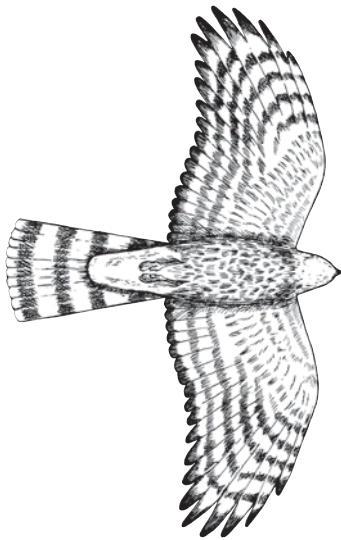
### Sharp-shinned Hawk (*Accipiter striatus*)

#### Description/Size

Wing span: 20-27 inches

Length: 9-13 inches

Weight: 3-8 ounces



Our smallest accipiter; relatively small headed and small billed. Dark gray above with cinnamon chest and belly barred with white. Crown is slightly darker, throat pale, eyes orange to red. Beak blackish at tip, paler at base; cere is yellow. Short rounded wings are strongly barred below; vent is white. Tail is long, narrow, and square tipped when folded, but often appears slightly rounded when spread. Tail crossed by 3 to 5 visible dark gray bands and narrowly tipped white. Legs and feet are yellow; talons black. Sexes similar in plumage, but males are brighter than females. Females up to 50 percent larger than males. Juveniles are brown above and streaked with brown and white on chest and belly; wings and tails are strongly barred with dark brown. Head heavily streaked grayish brown and white or grayish brown and tawny on crown, nape, and sides of neck, with a pale eyebrow stripe. Eyes pale yellow. No color morphs. Ten subspecies; three in North America. *A.s. velox* is the most widely distributed subspecies. *A.s. perobscurus* is found on the Queen Charlotte Islands off British Columbia. *A.s. suttoni* breeds in southern Arizona.

#### Similar Species

Cooper's hawk – larger; bulkier head; holds wings straighter; rounded tail with wide white terminal band; streaks on underside appear thinner; flaps wings more slowly.

Merlin and American kestrel – similar size but with sharply pointed wings.

#### Habitat/Range

Forests throughout North America and on some Caribbean islands – coniferous or deciduous forests and open woodlands from sea level to near alpine. *A.s. velox* - Breeds from Alaska and Canada south to southern U.S.; some western populations only partially migratory or resident, others wintering over much of the breeding range south through Middle America to central Panama, casually to the West Indies and Bermuda. Subspecies breeding south of the U.S. (Mexico, Central America, West Indies, South America) are probably resident or, at least, less migratory. Breeds mainly in large stands of deciduous, coniferous, and mixed pine-hardwood forests and pine plantations. During non breeding season, may be seen in subalpine areas, hedgerows in agricultural areas and backyards near bird feeders.



#### Food/Diet

Feeds mostly on small birds – sparrows, warblers, finches, swallows, thrushes, blackbirds, quail, flycatchers and vireos. Also feeds on small mammals such as squirrels, mice, small rabbits and bats. Occasionally eats large insects such as grasshoppers, dragonflies, crickets and caterpillars.

#### Voice

Silent most of the year; less so during the breeding season in dense forest when vocalizations may be the primary means of communication between paired birds. Males give a sharp clearly spaced *kip kip* when arriving in nesting territory sometimes replied to by female with several *keps* or *keeeep*. Alarm call is a long series of sharp *kik kik kik kik*. Begging calls of nestlings and solicitation call of female a high-pitched *ee*. Sometimes utters “weak cackles” during copulation.



## Behavior

Typical accipiter flight pattern of an alternating series of 3 to 6 shallow wing-beats, followed by short glides. Wingbeats quick and flicking. Commonly soars, especially in morning. Soars and glides on level wings with slight bend at wrist. When hunting, swift and maneuverable; uses long tail as a rudder to change direction as it tracks prey and avoids vegetation. It is a "sit and wait" predator that perches in a concealed place then dashes out quickly to capture prey. Also flies low, alternating rapid wingbeats and glides, through open forest looking for prey, using brush, trees and manmade structures for concealment. Pursues small birds through dense foliage and will even run after prey on the ground, taking long jumps aided by wing flapping. Grasps prey with needle sharp talons, usually killing the prey on impact. Prey is carried to perch where it is plucked and torn into pieces. Some plucking sites habitually used, especially near nests and on breeding-season foraging ranges. During winter, prey more often plucked on ground. Food-caching is not reported. Highly territorial when breeding. Adults and fledglings respond to intruders at nests by vocalizing, chasing, and attacking. Reaction to human intruders varies among individuals. May quietly leave nest, perch and call, fly about area while calling, or dive to within 3 feet of intruder. Birds in northern extent of the range migrate south as far as Panama; birds at higher elevation move to lower elevation during winter. Usually migrates alone. Soars on migration, but also engages in active flap-sailing flight. Frequently hunts on migration. Although the species makes short water crossings (less than 18 miles), reverse and diverted migration in the face of a water barrier is not uncommon. Lightest wing-loading of all North American diurnal raptors thus is greatly affected by wind; line of flight is often erratic. Compensate for wind drift while on migration by adjusting headings during periods of flapping flight.

## Reproduction/Nesting

Clutch size: 3-6 eggs

Eggs: elliptical, pale bluish, large splotches of rich brown, 1.5" x 1.2"

Incubation: 30-34 days

Fledge: 24-27 days

Disperse: 2-4 weeks

This hawk is perhaps the most secretive of North America's forest-breeding raptors, and researchers still have much to learn about basic aspects of its breeding biology. Courtship behavior is not well described. Males establish territories then try to attract females by

soaring in broad circles over treetops with tail closed and undertail coverts flared and giving a repeated nasal call.



Both male and female then mix soaring and rapid flight accompanied by intermittent calling. At irregular intervals, each performs a repeated series of shallow and deep dives, followed by recovery of height. Frequently, either male or female will plunge nearly vertically from a stationary position with closed wings, sometimes recovering just above the canopy. This lasted 3 to 20 minutes and is repeated several times, all ending with a steep dive into the forest. Nests are built in stands of young, dense conifers next to clearings, brushy areas, or open woodlands. May prefer nesting near water. Nests are bulky platforms of small sticks, placed on a horizontal limb next to the trunk in a dense well-developed portion of the crown well below the top of the canopy; usually 16 to 26 feet above the ground. Prey-plucking areas usually are upslope from the base of the nest tree. One brood is raised per year. May be capable of breeding their first year, but most breed in their second year. No information available on the duration of pair bond.

### Life Span

Longest recorded – 12 years 2 months.

### Conservation Status

Not on the US Fish and Wildlife's Endangered or Threatened Species List. However it is protected by the Migratory Bird Treaty Act. Idaho Fish & Game lists the sharp-shinned hawk as a protected non game species for which it is illegal to collect, harm or otherwise remove from its natural habitat. Western populations appear stable but eastern populations were in decline during the 1970s primarily due to DDT; a rebound in numbers followed the U.S. ban of DDT. Populations in the east have shown definite upswings in recent years, though several eastern states list this hawk as a species of special concern. Although concentrations vary widely among individuals, organochlorine levels in some hawks remain sufficiently high to affect reproductive success. The species may be vulnerable to pesticide use in Latin America, as many of its prey are neotropical migrants that overwinter there. Causes of mortality include: collisions with vehicles, collisions with windows near bird feeders, and predation by other accipiters. Greatest vulnerability to illegal shooting is during migration. Due to the difficulty in estimating abundance of this hawk at any level (continental, regional, local), it is difficult to determine the effects of forest management practices and habitat degradation due to agricultural and urban development in North America or the Neotropics on population levels.

### Viewing in the NCA

Some sharp-shinned hawks winter in the NCA from November through February. They migrate through the NCA from August through October and from February through May.

### Interesting Facts

Spanish name:  
*Gavilán pajarero*

- The scientific name comes from the Latin word *accipere* meaning to take or to grasp and refers to a bird of prey, and *striatus* meaning striped referring to the streaked underparts of immatures.
- Common name refers to the lower leg bone which is laterally compressed, hence the name "sharp-shin."
- Other names: chicken hawk, bird hawk, little blue darter.
- The most common hawk seen around songbird feeders.
- Interior of mouth is a light cobalt blue.

### Sources

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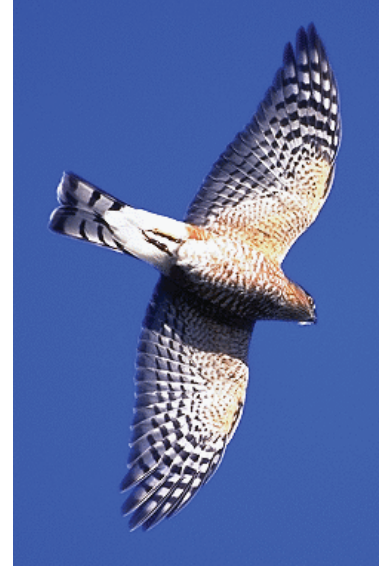
Illustrations - courtesy of Alberta Sustainable Resource Development  
Map - The Peregrine Fund



**Sharp-shinned Hawk**  
*(Accipiter striatus)*



Adult



Immature



Photos: Know Your Birds of Prey, Axia CD ROM



# Morley Nelson Snake River Birds of Prey



## National Conservation Area

### Short-eared Owl (*Asio flammeus*)

#### Description/Size

Wing span: 36-44 inches

Length: 13-17 inches

Weight: 7-17 ounces

A medium sized owl often seen at dusk flying low over the ground coursing open areas or sitting on a fence post. Head large and round with short/small ear tufts arising from center of forehead that are generally not seen. Buffy white facial disk with ring of brown. Dark brown to black around the eyes. Iris bright lemon yellow. Eyelids black. White and black bristles over mandible. Chin white. Upper parts are spotted; backside is deep brown with white mottling. Under parts white to buffy with dense brown vertical streaking on throat, chest and upper breast, thinning out on lower breast, belly and flanks, leaving pale lower belly. Thighs and legs white/buff, no streaks. Legs feathered to toes. Feet yellow. Long wings and medium tail are strongly barred. Underwing generally buff/white with distinct dark wrist patch. Bill, cere and talons are black. Female similar but darker than male. Juveniles – brown above with buff tips on the back feathers. Facial disk is brown black with white mustache and beard. Under parts are buffy. Eight subspecies are recognized; only one in North America – *A.f. flammeus*. Two in S. America. Five are island endemics (Hawaii, Galapagos Islands, Micronesia, Falkland Islands, Greater Antilles)



#### Similar Species

Long-eared owl – nocturnal, long ear tufts, darker overall, more heavily streaked and barred ventrally, facial disk rusty, faint wrist markings.

#### Habitat/Range

Found on every continent except Australia and Antarctica. Also found on islands such as Iceland, the Hawaiian chain and the Galapagos. Almost always associated with open country which supports cyclic small mammals: marshes, tundra, open prairies, coastal grasslands, shrub-steppes, and agricultural areas up to 12,000 feet. Non-breeding habitat - Similar to breeding habitat and often turns into breeding areas if food is plentiful.



#### Food/Diet

Diet varies little throughout range, with little difference in food eaten seasonally or by sex or age of individuals. Opportunistic hunter taking whatever small mammals and birds are most available. Mammals include: voles, mice, shrews, moles and rabbits; avian prey includes meadowlarks, blackbirds, horned larks, shorebirds, and small gulls. Birds are eaten more in coastal areas than at inland sites. Also takes a few insects such as grasshoppers, beetles, roaches and caterpillars. Consumes small mammals by swallowing whole or by clipping off head. Clips wings off most birds but does not pluck, then swallows whole or tears apart. Food storage or caching seen during all seasons and adults feeding young known to stock-pile up to five prey items.

*Raptor Information Sheet - Short-eared Owl*



## Voice

Silent except in nesting season. Male territorial song is a pulsing *voo-hoo-hoo* lasting about 3 seconds; given mainly during flight displays. Female responds with a barking *kee-ow*. Alarm is high nasal bark and wheezy note *cheef cheef* and *cheewaaay*. Also squawks, hisses and squeals. Non-vocal sounds include bill-snapping which appears defensive and wing clapping given during courtship flights and nest defense. Wing clap sounds like cracking whip, given in rapid rattling series.

## Behavior

Primarily crepuscular (most active at dusk and dawn) although they are sometimes active in the daytime. Hunts primarily on the wing, coursing low over the ground in search of prey. Will hover and drop vertically, pouncing on prey. Will occasionally hunt from a perch or while standing on the ground. Foraging flight is buoyant with slow, deliberate wing beats and glides on stretched wings over open landscapes. Flight is agile and maneuverable. Direct and fast wing-pumping flight when defending territories. Sleeps and roosts primarily on the ground; occasionally roosts in trees. Winter roosts can consist of as many as 100 to 200 birds. Communal roosting may help with protection from predators and enhance feeding efficiency. This behavior may also help to establish pairs at the onset of the breeding season. Highly migratory at least in the northern limits of its range. Can cross water; distribution on oceanic islands illustrates this owl's ability to migrate over vast expanses of ocean. Will feign death to avoid detection if camouflage fails. Both males and females bark, scream, whine, and give broken wing distraction displays when defending nests and young from potential threats. Short-eared owls and northern harriers often harass each other when hunting the same field, and harriers often steal food from this owl.

## Reproduction/Nesting

Clutch size: 5-6 eggs  
Eggs: Short elliptical, cream/white, 1.5 x 1.2 inches  
Incubation: 24-29 days  
Fledge: 24-27 days  
Disperse: 13-16 days

Courtship flight consists of song accompanied by aerial display including wing clapping. Male performs aerial display by rising quickly with rhythmic and exaggerated wing beats, hovering and giving courtship song, followed by a shallow stoop with 5 to 10 wing claps, and rising again, often 650 to 1300 feet above the ground. Flight can be ended with a spectacular descent where the male holds his wings aloft and shimmies rapidly to the ground. Nest is a scraped out depression on the ground lined with grass and feathers. Nests usually located on dry sites such as a slight ridge or mound, with enough vegetation cover to conceal the incubating female. Nests difficult to locate; females reluctant to flush until humans/predator are just a few feet from nest. In North America, clutch sizes range from 1 to 11 with an average of 5 or 6. Larger clutches are laid during years of food abundance. Clutch sizes also increase significantly with latitude. May lay replacement clutches. Southern populations may raise two broods in one year. Young leave nest at 14-18 days and wander on foot until fledged. This reduces the amount of time they are vulnerable to predation. Independent 1 to 2 weeks after fledging. Are able to breed in their first year. Monogamous, but polygamy suspected. Duration of pair bond not known, but presumed to be one breeding season. Reproduction and population dynamics of this species are closely linked to the density of its primary prey, small mammals such as voles.



## Life Span

Longest recorded – 5 years 4 months.

## Conservation Status

Not on the US Fish and Wildlife's Endangered or Threatened Species List. However it is protected by the Migratory Bird Treaty Act. Idaho Fish & Game lists the short-eared owl as a protected non game species for which it is illegal to collect, harm or otherwise remove from its natural habitat. The BLM considers this a Watch List species in Idaho – current population or habitat information suggests that this species may warrant sensitive species status in the future. This species has declined in many areas of North America and is listed as Endangered in nine states and as a Species of Concern in another nine. Habitat loss – conversion of open habitats to agriculture, grazing, recreation, housing and resort development – is a key factor in the decline. As a ground-nester, it may also be vulnerable to increases in levels of predation, and disturbance at nests by domestic and feral cats and dogs is known. Other mammalian predators include red fox and skunks. Known avian predators include gulls, jaegers, bald eagle, northern harrier, goshawk, peregrine falcon, gyrfalcon, red-tailed hawk, great horned owl, snowy owl, and common raven. Human caused mortality includes collisions with vehicles and aircraft. Illegal shooting does occur, but probably has little impact. Effects of trapping not known. Pesticides and other contaminants don't appear to be a problem for this species.

## Viewing in the NCA

The short-eared owl is seen in the NCA year-round. However abundance depends of the availability of nesting habitat and prey.

## Interesting Facts

Spanish name:

*Lechuza de la penas*

- The scientific name comes from the Latin word *asio*, meaning a “horned” owl, and *flammeus* meaning fiery or flaming and refers to the appearance of the bird's plumage.
- Other names: bog owl, flat faced owl, grass owl, marsh owl, prairie owl.
- Ear openings vertically asymmetrical; left ear opening higher than right. Size and shape equal or nearly so. Asymmetrical ear openings allow owl to localize sound (prey) in both horizontal and vertical planes simultaneously and with same accuracy.

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Illustrations - courtesy of Alberta Sustainable Resource Development

Map - The Peregrine Fund

Photography: Larry O. Oftedahl



**Short-eared Owl**  
(*Asio flammeus*)



Adult



Young



Photos: Know Your Owls, Axia CD ROM

# Morley Nelson Snake River Birds of Prey



## National Conservation Area

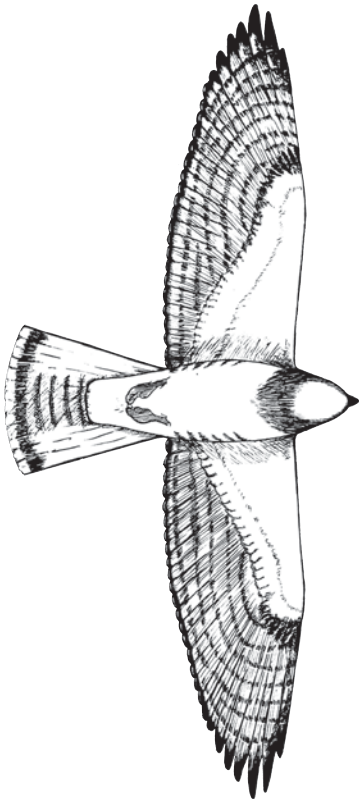
### Swainson's Hawk (*Buteo swainsoni*)

#### Description/Size

Wing span: 48-54 inches

Length: 17-22 inches

Weight: 1.5-2.5 pounds



Our most slender buteo; relatively long tail, long tapered pointed wings which reach or barely exceed the tip of the tail when perched; note diagnostic pale underwing linings contrasting with dark flight feathers. The only North American buteo with a true full continuum of plumage colors making morph categories convenient but somewhat arbitrary. The morphs are based primarily on coloration of underparts (light, dark, and rufous) with the light morph considered most common. Three age classes can generally be distinguished in the field: juveniles, subadults, and adults. Subadults have similar plumage to juveniles but can be distinguished during late summer/fall by a mixture of fresh and worn flight feathers, and frequently show a much paler, often whitish, head. Sexes generally similar in appearance, but females larger than males and more often dark. Juveniles have similar underwing pattern as adult of same morph. Bill is slate to black, becoming dull blue or pale olive buff at corner of mouth. Cere and mouth-lining pale greenish yellow to yellow. Eyes are dark brown in adults, gray or blue gray in juveniles. Legs and feet vary from yellow to creamy to pale grayish green. No subspecies are recognized.

#### Similar Species

Superficially similar to the other buteos, however the Swainson's hawk generally has diagnostic pale underwing linings contrasting with dark primaries and secondaries. The other species usually show an underwing pattern reverse to this. Short-tailed hawk lacks dark breast-band, and its primaries have whitish bases. White-tailed hawk lacks dark breast-band and has whitish tail with bold black subterminal band and white uppertail-coverts. Adult broad-winged hawk has broad black and white bands on tail; at all ages broad-winged hawks have an entirely pale underwing or dark wing-linings contrasting with light-colored primaries and secondaries (the reverse of Swainson's), and dark undertail-coverts.

#### Habitat/Range

Summers in the western half of North America. "Winters" during the southern hemisphere's summer on the open pampas (grasslands) of South America in Argentina, Paraguay, Uruguay, and southern Brazil. Small populations winter in southeastern Florida and along the Texas coast, probably having failed to find the way south around the Gulf of Mexico. Inhabits open and semi-open country: deserts, grasslands, prairies, sparse shrublands and farmlands. Primarily nests in trees but will also use shrubs such as big sagebrush and those along riparian areas. Rarely will nest on the ground. Generally found in scattered trees, around shelterbelts, farmyards, riparian tree lines. Favors wild prairies, hayfields, and pastures over agricultural fields. Breeding distribution is tied closely to the distribution of various small mammals. In many parts of its range today, has adapted well to foraging in agricultural areas (e.g., wheat and alfalfa), but cannot forage in most perennial crops or in annual crops that grow much higher than native grasses, making prey more difficult to find. In the La Pampa region of Argentina, it is typically found where alfalfa is grazed by cattle and where sunflowers and corn are abundant. At night, it perches in eucalyptus groves planted as shelterbelts around farms.





southern U.S. by late March/early April, and Canada by late April/mid May. Generally migrate in flocks that can be as large as 5,000 to 10,000 individuals, always during daylight, typically soaring in thermals, and rarely over water.

## Reproduction/Nesting

Clutch size: 2-3 eggs  
Eggs: elliptical, 2.24 x 1.7 inches, white some lightly blotched with reddish brown around larger end.  
Incubation: 34-35 days  
Fledge: 38-46 days  
Disperse: 22-38 days

Most birds apparently do not breed until they are at least 3 years old. Monogamous – for at least the breeding season. Strong sense of nest fidelity. Individuals often use same nest or nest tree in successive breeding seasons or move only short distances within same territory. Nest is made of sticks and usually placed low in solitary tree, shrub, or small grove or line of trees along streams. Occasionally a pair will nest on the ground or on a bank or ledge. Nests are either new, refurbished old, or an old raven, crow or magpie nest. Nest appears more flimsy or ragged than that of other buteos. High nestling mortality often occurs when young are 15 to 30 days old and may be due to fratricide. Does not lay replacement clutches. Swainson's hawks, red-tailed hawks and ferruginous hawks compete for territory and defend territories against each other. These three species nest in the same general area and exploit much the same prey base. Although diets overlap greatly, habitats may not. Swainson's hawk reproductive success may be reduced as a result of nesting near these two other buteos.

## Life Span

Longest recorded – 24 years 1 months

## Conservation Status

Not on the US Fish and Wildlife's Endangered or Threatened Species List. However it is protected by the Migratory Bird Treaty Act. Idaho Fish & Game lists the Swainson's hawk as a protected non game species for which it is illegal to collect, harm or otherwise remove from its natural habitat. The BLM considers this a Watch List species in Idaho – current population or habitat information suggests that this species may warrant sensitive species status in the future. In many parts of its range, this hawk has adjusted to agricultural landscapes. Nonetheless, its numbers have declined significantly in parts of the western United States, often due to habitat loss or incompatible agricultural practices which reduce populations of major seasonal foods such as ground squirrels and grasshoppers. Illegal shooting, lack of suitable nest trees, and changing land uses also are impacting this species. In South America, poisoning by insecticides used to control grasshopper outbreaks in alfalfa and sunflower fields caused the death of thousands of these hawks in the late 1990s. While the pesticide responsible for these deaths was banned, other pesticides have replaced it. The effects of these pesticides are unknown at this time (2010). Other threats include conversion of native habitat to woody perennial crops and urban development, and shooting.

## Viewing in the NCA

The Swainson's hawk is seen in the NCA from April through July.

## Interesting Facts

Spanish name:  
*Aguilucho langostero*,  
*Gavilán longostero*,  
*Aguililla de Swainson*

- The scientific name comes from the Latin word *buteo* meaning buzzard, an early name for hawks and vultures, and *swainsoni* - named after William Swainson, an English naturalist.
- Its habit of gorging on outbreaks of crickets and grasshoppers has earned it the popular name "Grasshopper Hawk."
- Other names: Black Hawk, and Brown Hawk.
- Pellet analysis has shown that a single hawk can consume an average of 100 grasshoppers each day.

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Artwork - courtesy of Alberta Sustainable Resource Development  
Map - The Peregrine Fund



**Swainson's Hawk**  
*(Buteo swainsoni)*



Adult



Immature



# Morley Nelson Snake River Birds of Prey



## National Conservation Area

### Turkey Vulture (*Cathartes aura*)

#### Description/Size

Wing span: 67 - 72 inches

Length: 26 - 28 inches

Weight: 3.5 - 5 pounds



#### Similar Species

#### Habitat/Range



#### Food/Diet

The turkey vulture is a relatively large raptor. Sexes are similar in appearance, females slightly larger than males. No color morphs. Up to six subspecies recognized. Plumage is dark brown overall; feathers on neck and upper back are iridescent. From below, the silvery flight feathers contrast noticeably with the darker body and forewing plumage – a distinctive two-toned underwing. It has relatively long and broad wings and a long, rounded tail. In flight, holds its wings in a strong “V” position. Its head and part of neck are bare, with blackish bristles, generally reddish-colored. Head appears very small and “neckless” relative to body. Skin of nape and crown loose allowing neck to extend and feathered “collar” to retract during feeding, collar-preening, and heat stress. Bill ivory-colored, relatively short, and hooked, with large nostrils. Feet and legs are pink; legs generally stained white from excreta. Much variation in iris color; from buff to dark brown with speckling. Juvenile has gray head with black beak-tip; by first spring, head is pinkish red, legs pink, plumage is slightly darker than adult’s; dark bill becomes more ivory-colored with age. Full adult appearance by second fall or winter.

Can be confused with other large dark raptors that soar. It is smaller than eagles but larger than all buteo hawks. Separated from these by the strong “V”-shaped position of the wings and the lack of sustained and strong wingbeats

Frequents open and forested habitats from lowland to mountainous areas in temperate and tropical zones. Preferred habitat includes open land with abundant carrion close to undisturbed forested areas for roosting and nesting. Breeding areas must contain large trees with cavities, cliffs, rock outcrops, or boulder strewn slides. Roosting habitat includes large trees or rock outcrops isolated or protected from human disturbance. Breeds from southern Canada to southern South America. Within western U.S. and Canada, breeding range is discontinuous. Breeding very local or absent in portions of Great Plains. Also sparse or absent in portions of the Pacific Northwest. Winters primarily from the southeastern U.S. into Mexico and south through breeding range.

Feeds opportunistically on wide range of wild and domestic carrion. Mammals are most common food item; also birds, reptiles, amphibians, fish, and invertebrates. Has very weak feet and beak so cannot kill prey efficiently but will occasionally feed on incapacitated or very young animals. Takes some plant material incidentally while feeding. When carrion is in short supply, it may eat rotting fruit and vegetables left in agricultural fields. Drinks water, but not always essential. Young in nest are fed regurgitated food. Uses both sight and its excellent sense of smell to locate carcasses. Can locate carcasses even in areas of dense vegetation. Does not easily locate freshly killed animals, but readily finds them when 1 day old, and prefers day-old carcasses to older ones. Cannot open thick skin, so must wait until large carcass is putrid or is opened by mammals or larger vultures. Generally feeds on ground; may wade into shallow water to fish or to feed on carcasses. Eats food almost entirely where found, or drags it off a few meters. Tends to gorge when feeding then perches in nearby trees. Forages solitarily, but individuals attracted to other feeding vultures often congregated at carcasses. Often locates carrion first because of olfactory sense, then followed and sometimes displaced by larger or more aggressive species such as the black vulture; in response, the turkey vulture specializes on small carcasses that can be eaten quickly.

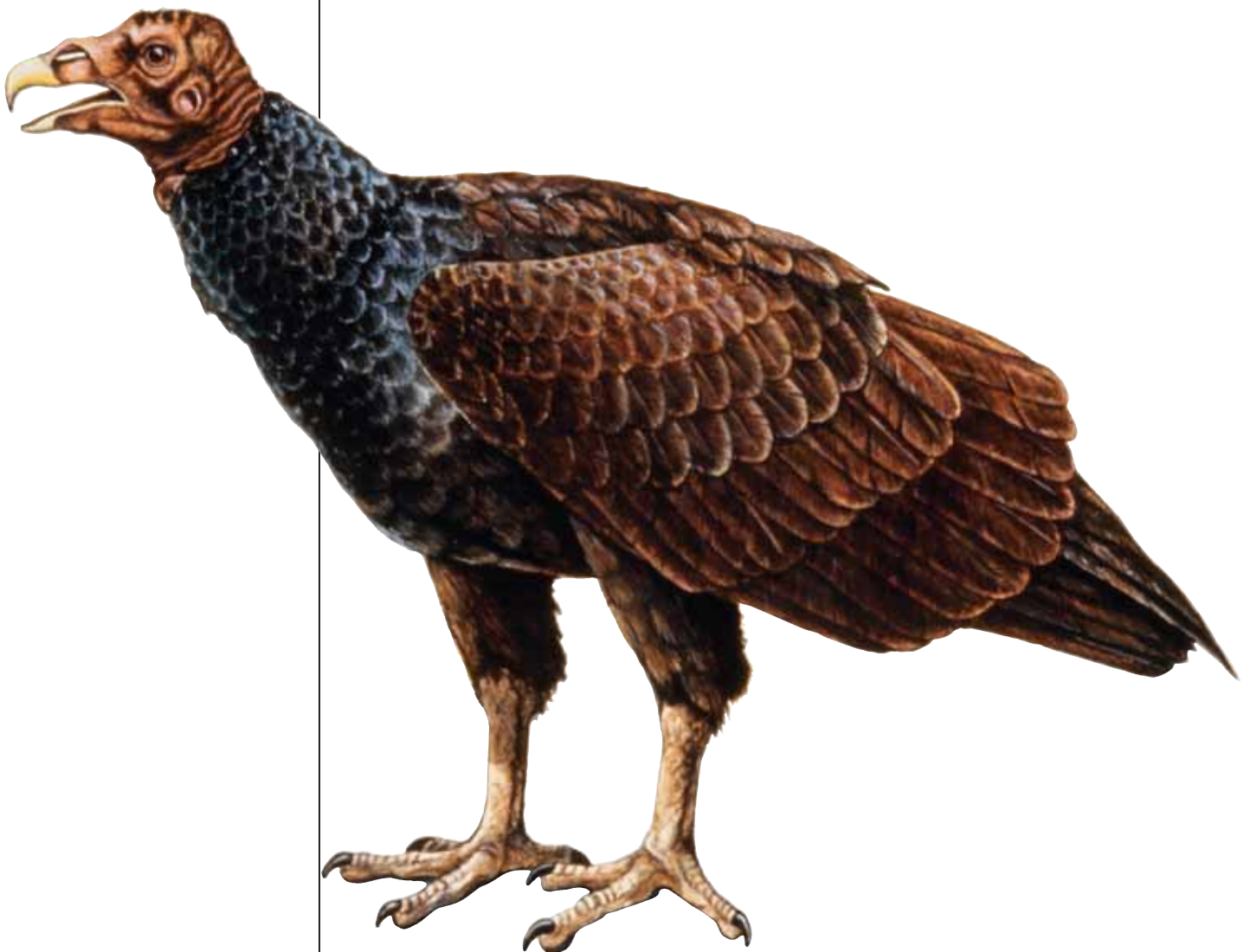


## Voice

Lacks a syrinx so has a limited vocal ability. Mainly hisses, snarls or whines.

## Behavior

The turkey vulture is usually seen soaring above forest or open areas in long straight glides at speeds up to 35 mph. It is a graceful flier and rarely flaps its wings, except during takeoffs and landings. Its body and wings teeters gently in response to slight changes in winds. Spends much of the day in the air searching for food or riding thermal currents. Walks on ground. Also hops and runs, especially when competing at carcass. Will wade into water up to belly-feathers to feed or bathe. Leaves night roost after dawn and returns before dark. Communal roosts, from a few birds to several thousand, facilitate group foraging and social interactions. Conserves energy at night by reducing its body temperature. In the morning it warms up by spreading wings and raising its feathers. During hot weather it excretes on its legs (urohydrolysis) for evaporative cooling, and also pants to cool down. During migration it can form into large flocks, known as "kettles", of hundreds or thousands of birds, which circle together in thermal updrafts. Northern and some western populations are migratory whereas southern and tropical populations are mostly resident. Migrates almost entirely by gliding flight. Usually low-level migrant, but may ride thermals to several hundreds of feet, then glide to next thermal, or rise as high as 21,000' above storm systems. Does not migrate on rainy or overcast days because of lack of thermals. May make short water crossings. Tolerant of human activity and adaptable in its diet and choice of nest sites. When threatened will regurgitate foul smelling food or feign dead. Young in the nest are aggressive towards intruders.



*Raptor Information Sheet - Turkey Vulture*

## Reproduction/Nesting

Clutch size: 2 eggs  
Eggs: Subelliptical to elliptical, dull to creamy white with scattered irregular brown spots, 2.8 x 1.9 inches  
Incubation: 34-41 days  
Fledge: 9 -11 weeks  
Disperse: 1-3 weeks

## Life Span

## Conservation Status

## Viewing in the NCA

## Interesting Facts

Spanish name:  
*Zopilote aura*,  
*Aura cabecirroja*

## Sources

Courtship displays include aerial circle flights and “dancing” on the ground. Believed to be monogamous and to mate for life or until one member of pair dies, but no firm evidence. Pairs not known to associate during migration or on nonbreeding grounds. Nests in a wide range of cave-like sites such as caves, deep recesses in cliffs, among boulders on scree slopes, cavities in large trees, lofts of abandoned or seldom-use buildings and in dense tangles of vines or shrubs. Most important requirement of nest site appears to be isolation from human disturbance. Eggs laid on whatever litter is present: bare soil, wood, leaf litter, punk, straw, etc., without apparent construction, but depression may form in substrate from weight and movements of incubating birds. Occasionally adult makes scrape, rearranges substrate, or adds to it. When disturbed during incubation, adult may fly off, stand besides eggs or remain on eggs in “death feint”; never aggressive. Replacement clutches are laid if the first clutch is lost. Age at first breeding unknown.

Longest recorded –16 years 10 months.

Not on the US Fish and Wildlife’s Endangered or Threatened Species List. However it is protected by the Migratory Bird Treaty Act. Idaho Fish & Game lists the turkey vulture as a protected non game species for which it is illegal to collect, harm or otherwise remove from its natural habitat. Population appears to be stable overall; however it is a species of concern in some regions. Apparently has few predators. Habitat loss, specifically nest sites, through timber harvesting is of some concern. Turkey vultures are susceptible to organophosphorus and other chemical poisoning when indirectly ingested through eating contaminated livestock. Western races may still accumulate DDT on Latin American non-breeding grounds. In addition to being prone to accumulate pesticides and other contaminants, the turkey vulture has a propensity to feed in agricultural and roadside habitats, making it vulnerable to accidental trapping, collisions with motor vehicles, electrocution, shooting, and the ingestion of lead from animals that have been shot. Its former persecution as a potential vector of livestock disease or as a predator of young animals has largely ceased, since these contentions have proved false. Collisions with aircraft pose a serious threat, especially to military. This species occurs at the same altitudes as military operations, and has a disinclination to take evasive action.

The turkey vulture is seen in the NCA from March through August.

- The scientific name comes from the Greek word *kathartes* which refers to a cleanser or purifier, probably referring to its scavenging activities, and from the Latin word *aura* meaning gold which may refer to the color of its head in museum specimens, but more likely derived from a Latin American version of “vulture” - *auroua*.
- Common name refers to resemblance to the wild turkey.
- Other names: buzzard, turkey buzzard
- Recent research suggests that New World vultures are more closely related to storks than to hawks and eagles.
- Olfactory organs unusually well developed for a bird; relative size of brain’s olfactory bulb is ninth largest of 108 avian species.

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Illustrations - courtesy of Alberta Sustainable Resource Development  
Map - The Peregrine Fund



**Turkey Vulture**  
*(Cathartes aura)*



Photos: Know Your Birds of Prey, Axia CD ROM  
BLM photo file

# Morley Nelson Snake River Birds of Prey



## National Conservation Area

### Western Screech Owl (*Megascops kennicottii*)

#### Description/Size

Wing span: 18-24 inches

Length: 7.5-11 inches

Weight: 4-11 ounces

The western screech owl exhibits considerable geographic variation both in size and coloration. Size increases from south to north and from lowland to interior populations at higher elevations. Overall, a small owl with feathered "ear tufts" which may not be visible. Color varies but most commonly gray to brownish. Desert populations tend to be pale gray and those in the Northwest are brown or gray-brown. Some individuals in the Pacific Northwest rain forests are reddish brown. Sexes are alike in appearance although females average larger than males. Plumage is variegated dark and light. Upper parts are gray or brownish with dark streaks and fine white horizontal bars. Under parts are whitish with heavy dark vertical streaks that have numerous fine cross bars. Facial disk grayish or brownish-white with darker mottling and thick black lateral border. Black lores and above the eyes. Iris bright lemon yellow. Bill dark gray to black in southern populations, lighter gray in northern populations. Feet and toes feathered in northern populations, bristled in southern desert populations. Juveniles similar to adults but indistinct stripes and bars are more patterned with white. Nine subspecies recognized based largely on external measurements. *M. k. macfarlanei* is the subspecies found in Idaho. It is the largest of the subspecies; grayish brown.



#### Similar Species

Western screech owl long considered the same species as the eastern screech owl. Recognition as separate species based chiefly on differences in vocalizations and behavior. Very similar in plumage; distinguishing characteristics are in fine detail of streaks and bars on contour feathers. Best identified by voice. Bouncing Ball song of Western is replaced in Eastern by a descending whinny, and Western's Double Trill is replaced in Eastern by a long, single trill. Whiskered Screech Owl – smaller; with small feet. Orange iris, yellow-olive bill, buffy/rusty neckring on otherwise grayish plumage. Found at higher elevations. Flammulated Owl – much smaller, dark brown eyes and unfeathered toes.



## Habitat/Range



Found in a wide variety of woodland, forest and desert habitats at low elevations from southeast Alaska to western Texas and northwestern Mexico. Clearly associated with riparian habitats and deciduous trees over much of the range; highest densities are in riparian deciduous woodlands. Requires open forests with adequate roosting sites, an abundance prey, and cavities for nesting. Also occurs in semi-open country with scattered bushes and trees.

## Food/Diet

Eats a wide variety of small animals—primarily small rodents, but also birds, amphibians, reptiles, fish, insects, slugs, snails, and worms. Diet depends on time of year, area and what is readily available. Small prey swallowed whole, while larger prey is carried in bill to a perch and then torn apart.

## Voice

Up to 7 different vocalizations. Primary song an accelerating series of short whistled hoots (bouncing ball song) *pwep pwep pwep pwep pwepwepwepepepepepe* slightly lower at end. Used for territorial and courtship advertising. Secondary call is a double trill -two series of trills, the first much shorter than the second. Used more as a contact call between mated pair. Other calls including barking, whining, chirping and chuckling. Non-vocal sounds include bill-snapping which appears defensive.

## Behavior

Nocturnal – generally begins to forage 30 minutes after sundown and returns to daytime roost within 30 minutes of sunrise. Will hunt during the day if nestling food requirements demand it. Sit and wait predators, dropping from perches onto prey. Prefers to capture small animals on ground, but also gathers insects/spiders from foliage, captures fish in shallow water and captures flying insects on the wing. Will sometimes walk along the ground looking for prey and will chase prey for short distances. Stores prey items in cavities in winter. Hunts mainly in open woodlands, along edges of open fields or wetlands, or makes short forays into open fields. Flies

fairly rapidly. Rarely glides or hovers, but may fly bat-like with erratic movements when maneuvering through wooded areas. Non-migratory. Adults tend to remain near their breeding areas year-round, while juveniles disperse in autumn. Territories vigorously defended year-round. Nesting pairs routinely drive off crows and jays, but mobbing flocks of songbirds are usually treated with indifference. Roosts next to tree trunk where individual's plumage matches bark of roost tree. When threatened, will stretch its body and tighten its feathers in order to look like a branch stub to avoid detection, but will take flight when it knows it has been detected.

## Reproduction/Nesting

Clutch size: 2-7 eggs

Eggs: Oval to broadly elliptical oval, 1.5 x 1.3 inches, white

Incubation: 26 days

Fledge: 35 days

Disperse: 2 months

Courtship begins Jan and Feb throughout range – sexes call to each other in duets, preen each other's heads and nibble at the other's beaks. Thought to be monogamous, though few studies have been done. Pairs mate for life but replace a dead mate fairly quickly. Nests in natural tree cavities, old woodpecker holes in trees or saguaro cacti, man-made nest boxes



or holes in cliffs. No nest material is added; eggs laid on whatever material is in cavity. Once selected, a nest site is often used for several successive years. May lay replacement clutch if first clutch is lost early in the season. Young leave cavity to nearby branches at 28 days before they can fly well; they are capable climbers. Fully fledged about 7 days later. Juveniles remain in close association with their parents for the first 5 weeks following fledging. They then begin to wander more and more outside the ranges of their parents and roost farther away. In Idaho, young begin to disperse from their natal territories about 2 months after fledging, i.e., between late Jun and early Aug. These dispersal movements last only 1–2 weeks for most individuals. Most probably begin breeding when 1 year old.

### Life Span

Longest recorded – 13 years 4 months.

### Conservation Status

Not on the US Fish and Wildlife's Endangered or Threatened Species List. However it is protected by the Migratory Bird Treaty Act. Idaho Fish & Game lists the western screech owl as a protected non game species for which it is illegal to collect, harm or otherwise remove from its natural habitat. Populations are generally thought to be stable throughout much of the range, but habitat loss due to new high-density housing developments and clear-cut forestry techniques are having a negative impact. Two subspecies are listed in British Columbia, Canada; one endangered, the other a subspecies of concern. Removal of riparian forests in drier regions is a special concern. There is anecdotal evidence that coastal populations in the Pacific Northwest have been negatively impacted by the recent invasion of barred owls into that area. Traditional territories are being vacated by screech-owls as barred owls begin to breed in the immediate area. Barred owls prey on western screech owls. Cannibalism by other screech owls also occurs. This species also seems vulnerable to collisions with vehicles. Shooting and trapping are likely unimportant mortality factors as these owls are fairly inconspicuous making them less vulnerable to casual persecution. Pairs nesting in suburban habitats generally tolerant of humans close to their nests. May be sensitive to local disturbance at nest sites frequented by birding tour groups.

### Viewing in the NCA

The western screech owl is seen in the NCA year-round.

### Interesting Facts

Spanish name:  
*Tecolote occidental*

- The scientific name comes from the Greek word *mega* meaning great and *scops* from the Greek word *scopus* meaning see referring to their excellent vision, and the Latinized name for the American naturalist Robert Kennicott.
- Other names: little grey owl, mottled owl, little cat owl, scritch owl, little horned owl, ghost owl, dusk owl.

### Sources

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Illustrations - courtesy of Loius Agassiz Fuertes / U.S. Fish and Wildlife Service  
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Photography - Carl D. Marti



**Western Screech Owl**  
*(Megascops kennicottii)*



Adult



Immature



Photos: Know Your Owls, Axia CD ROM  
BLM photo file