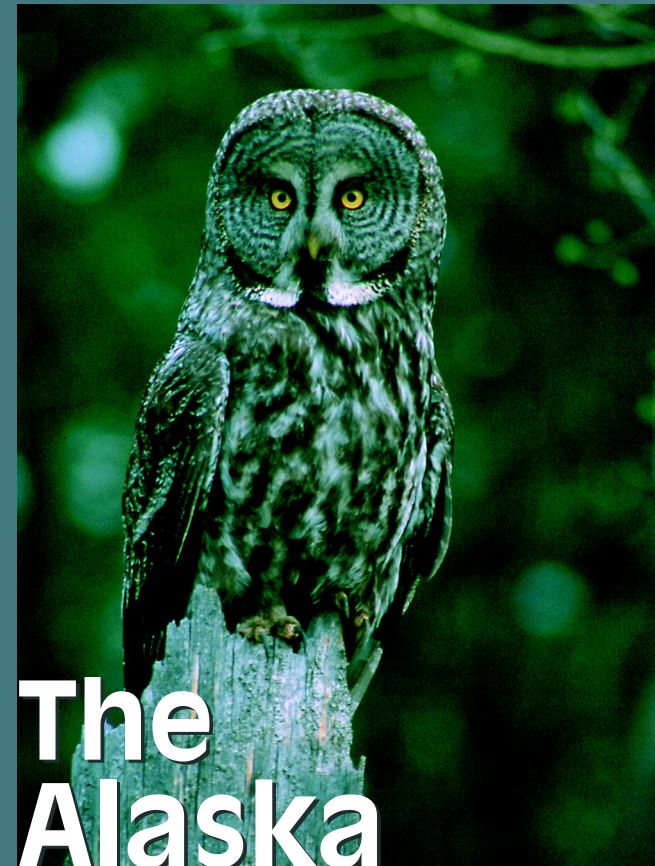


For more information about owls
and other wildlife in Alaska,
check out the ADF&G website
www.wildlife.alaska.gov



Division of Wildlife Conservation
2004



The Alaska Owlmanac

A guide to the identification, habits
and habitat of ten owl species
found in Alaska.

The Alaska Owlmanac

2004

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Special Thanks:

Karen L. Lew and Sue Quinlan for their work on earlier owl publications for ADF&G.

The many photographers who contributed owl photos for this publication.

Funding for this publication provided by the Wildlife Conservation and Reinvestment Program and the State Wildlife Grant.



Cover photo: Great Gray Owl
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Division of Wildlife Conservation



Range Map Key



 Common	 Rare
 Uncommon	 Casual or accidental

The range map above indicates that this owl:

1. Can exist in the entire shaded area where suitable habitat exists.
2. Is common in the Interior, Southcentral, and Southwest regions of the state.
3. Is uncommon on the North Slope.
4. Becomes rare near the start of the panhandle.
5. Is very rarely seen in Southeast and probably does not breed there.

Owls only live within their range where suitable habitat exists.

These ranges are year-round except for the Short-eared Owl which migrates south in winter.

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Glossary

Boreal forest: The forest of mixed conifers and hardwoods that grows in cold and dry northern areas around the world, including Interior Alaska.

Crepuscular: Active at dusk and dawn.

Diurnal: Active during the daytime.

Gizzard: A strong, muscular digestive structure in birds used primarily for grinding and digesting tough food.

Habitat: The place where an animal lives. Habitat must provide food, water, shelter (or cover), and space in a suitable arrangement that an owl needs to survive.

Mobbing: When a group of songbirds noisily harasses an owl or other bird of prey.

Nocturnal: Active only during the night.

Predator: An animal that hunts other animals.

Prey: An animal that is hunted by other animals.

Raptor: Nontechnical classification for a bird of prey. Includes falcons, eagles, hawks, and owls.

Classification of Alaska Owls

Kingdom: Animalia (animals)
Phylum: Chordata (vertebrates)
Class: Aves (birds)
Order: Strigiformes (nocturnal birds of prey)
Family: Strigidae (typical owls)

Genera:	Species:
- <i>Strix</i>	<i>Strix nebulosa</i> <i>Strix varia</i>
- <i>Bubo</i>	<i>Bubo scandiacus</i> <i>Bubo virginianus</i>
- <i>Asio</i>	<i>Asio flammeus</i>
- <i>Surnia</i>	<i>Surnia ulula</i>
- <i>Aegolius</i>	<i>Aegolius funereus</i> <i>Aegolius acadicus</i>
- <i>Megascops</i>	<i>Megascops kennicottii</i>
- <i>Glaucidium</i>	<i>Glaucidium gnoma</i>

Introduction

Owls could be considered the “Terminators” of the bird world, as they are finely-tuned hunting machines. Large eyes enable them to see in the dark. Their acute hearing can pinpoint the precise location of small mammals — even under a blanket of snow. They glide on silent wings to grasp unsuspecting prey with their piercing, curved talons. Owls are aerial predators and they need all of these adaptations in order to survive.

These mostly nocturnal (active at night) creatures are the subject of numerous myths and legends which credit them with attributes as noble as wisdom, and as gruesome as a foreshadower of death. Whatever image they hold for you, there is no doubt that owls are incredible birds.

There are ten species of owls in Alaska, inhabiting landscapes as diverse as the windblown, treeless tundra of the Arctic, the deep, still, boreal forest of the Interior, and the moss-draped rainforest of Southeast. To hear their haunting calls emanating from the darkened woods is a thrill, and to catch a glimpse of their silent flight is a privilege.

The more you know about the behavior and habitat of these elusive birds, the better you will become at seeing and hearing them. We hope our Owlmanac helps open your eyes and ears to Alaska’s Owls.

Owl Viewing

Please be respectful when viewing owls and admire them from a distance. Like other birds of prey, they are protected by federal law. It is illegal to kill owls, possess live or dead owls or owl parts, and it is against the law to disturb their nest sites.

Alaska hunting regulations do allow state residents to harvest Snowy Owls in certain areas of the state provided that the birds are used for food or clothing, and no bird or part of a bird may be sold or offered for sale. For more specific information see state and federal regulations.

Northern Pygmy-Owl

Glaucidium gnoma

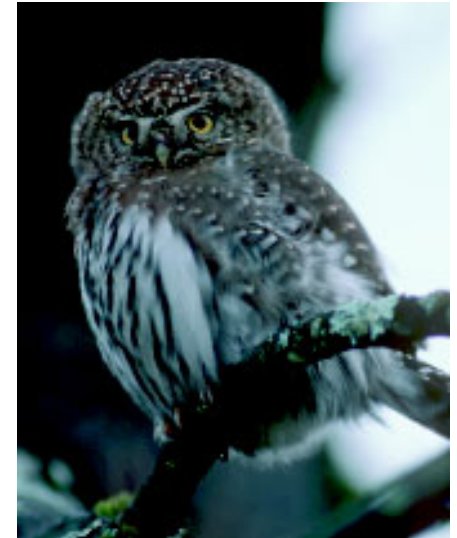
Characteristics: The Northern Pygmy-Owl is similar in color to the Boreal Owl, but has a smaller head, an obviously longer barred tail, and a pair of black patches which can give the appearance of eyes on the back of its head. The Northern Pygmy-Owl, as its name suggests, is a small owl measuring only about 7" long.

Hunting Techniques and Prey:

Unlike other owls, the Pygmy-Owl has a somewhat noisy flight. Chiefly active during the day, it flies with quick, unmuffled wingbeats. This species sits on a perch and waits for prey to come by, then pounces down driving its talons into its victim's neck. Pygmy-Owls are aggressive predators and can kill animals much larger than themselves, although their primary food source is small mammals such as voles and shrews, small songbirds, insects and amphibians.

Habitat: In Alaska it is found only in Southeast. It prefers coniferous forest and forest edges, and often nests in tree cavities. Songbirds will harass, or "mob," any owl they detect during the day, but the Northern Pygmy-Owl may be more susceptible to harassment because it is active during the day. A noisy mob of songbirds may be a clue to the presence of this tiny owl.

Voice: This owl's call is a single short whistle, repeated at approximately 1-2 second intervals.



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Western Screech-Owl

Megascops kennicottii

Characteristics: The Western Screech-Owl is generally a mottled brownish color which helps it blend in with tree bark. It has a dark bill, yellow eyes, and prominent ear tufts. Its facial disc is bordered with black. When startled, screech owls stretch tall and hold their wings close to their backs, simulating dead tree branches. Only 8.5" long, this is one of the smaller owls in Alaska.

Hunting Techniques and Prey:

Strictly nocturnal, the Western Screech-Owl hunts mostly while flying. It prefers to hunt field edges, wetland edges, and open forests. These owls have a varied diet consisting of small rodents, shrews, larger insects, and even fish and amphibians.

Habitat: The Western Screech-Owl nests in tree cavities and hunts along larger river corridors and in the conifer forests in Southeast Alaska.

Voice: The Western Screech-Owl has two common calls. The first is a series of short whistles accelerating in tempo, and a short trill followed immediately by a longer trill. The second call can have an eerie quality when heard in the woods after dark.



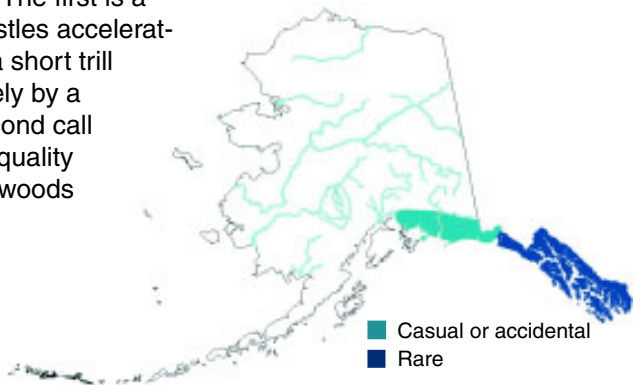
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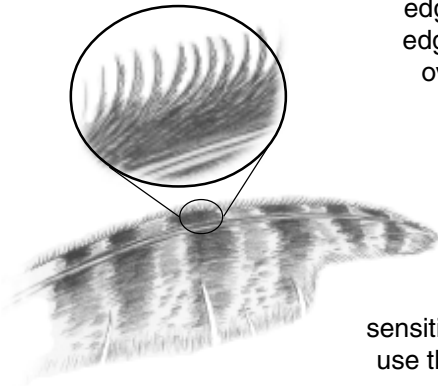
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Some Special Owl Features

Silent Feathers



The wing feathers of an owl have a stiff leading edge and are softly fringed on the trailing edge. These traits affect the way air flows over the wing, and prevent the whistling sounds made by other birds in flight.

Owl wing feathers can also slide soundlessly over one another due to their velvet-like surfaces.

An owl's flight is silent not only to human ears, but even to the ultra-sensitive hearing of small animals. Owls can use their own keen hearing to zero in on an unsuspecting "meal" that never hears them coming.

Taloned Feet

An owl can grip with either three toes in front and one behind, or with two toes forward and two behind. This versatility combined with their long, sharp talons gives owls a powerful, sure grasp. Owls catch their prey with their talons but use a twist of their sharp, hooked bill to deliver the fatal blow.

Owls can rotate a toe from front to rear creating a "death grip" to squeeze and hold prey.



Northern Saw-whet Owl

Aegolius acadicus

Characteristics: This bird is only about 7.5" long and looks like a small version of the Boreal Owl. But, unlike the Boreal, Northern Saw-whets have dark bills and streaked fore-heads.

Hunting Techniques and Prey: The Saw-whet is a nocturnal owl, most active just before dawn and at dusk. These owls typically wait for prey from a low perch. They eat mostly voles and shrews, but their diet also includes small birds and insects.

Habitat: Throughout the breeding season this bird roosts during the daylight in or near its nest (in tree cavities). It will also roost in dense stands of conifers in winter. The Northern Saw-whet is usually found in forested or wooded areas. This rare owl has been recorded nesting only in Southeast and Southcentral Alaska, and is not seen frequently anywhere in the state.

Voice: The Saw-whet's call is similar to that of the Boreal Owl, but it is composed of separate notes, rather than notes that run together. They produce one or two notes per second and the series can last for minutes. This owl also gives a raspy call like the sound of a saw being sharpened, hence the name "saw-whet".



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Boreal Owl

Aegolius funereus

Characteristics: About 10" long, the Boreal Owl has a chocolate brown back with large white spots and white underparts streaked with brown. Its off-white facial disk with a distinct black border, short tail, yellow bill, and white forehead spotting are distinctive field markings.

Hunting Techniques and Prey:

These small, nocturnal owls have good eyesight, but rely more on keen hearing. Their asymmetrical ear openings (the greatest asymmetry of any owl) allow them to pinpoint the location of their small prey. Boreal Owls eat mostly voles but also consume songbirds, shrews and occasionally even bats.

Habitat: Prefer closed canopy forests of broad-leaved trees or mixed forests with both broad-leaved and spruce trees. They nest in tree cavities usually excavated by woodpeckers and also readily use large nest boxes. They nest from mid-April to early June.

Voice: The Boreal Owl's song is a soft trill of constant pitch that lasts for one to two seconds and is repeated frequently. It sounds similar to the winnowing of a snipe. Twelve high-pitched notes are given per second. Boreal Owls usually call from mid-February through April though calls may be heard from January through June.

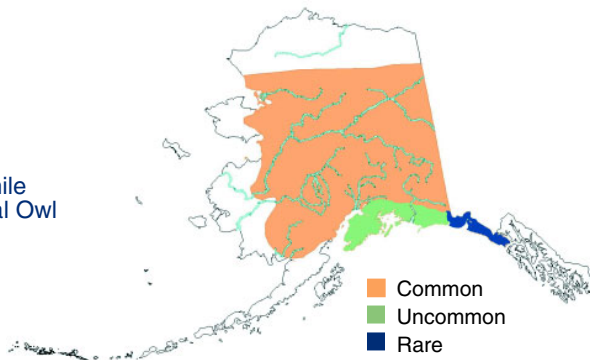


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Juvenile
Boreal Owl



Common
Uncommon
Rare

Sensitive Ears

The feathered facial disks that surround an owl's eyes also cover hidden ear openings. The dish shape acts like a parabolic reflector, amplifying sounds. By turning and tipping its head, an owl can focus these reflectors to precisely locate prey.



Boreal Owl skull showing offset ear openings and large eye sockets.

Owls hear higher frequency sounds than humans by detecting a 10-150 millionths of a second difference in the time it takes the sound to reach each of their ear openings. Owls that hunt primarily by sound have asymmetrical ear openings that allow them to pinpoint faint sounds.

Extraordinary Eyes

Owl eyes are extremely large for their body size. If we had eyes proportional to those of the Great Horned Owl, they would be the size of grapefruit and weigh 2-3 pounds each! Owl eyes face forward and are immovable, providing great binocular vision. Owls compensate for immovable eyes by the ability to rotate their heads about 270 degrees. Contrary to popular belief, owls have excellent vision both in daylight and at night. They can see in near darkness with large pupils that let them discern objects at one-tenth to one-hundredth the amount of light that we need.

Owl Pellets (Castings)

Owls and other raptors can't chew their food so they either swallow it whole or tear it into pieces before swallowing. Undigested material is collected in the gizzard while the softer digestible material passes through. After several hours an owl will regurgitate, or cast, the undigested material in the form of a pellet. In addition to bones and hair, it is possible to find entire skulls of small mammals and birds in these pellets. Pellets are usually found under limbs of trees used by owls as a roost while digesting their meals.



Great Gray Owl

Strix nebulosa

Characteristics: At 24-33" long, the Great Gray Owl appears to be the largest owl in Alaska, although both the Great Horned and Snowy Owls are heavier and stronger. The Great Gray has a very large head (making its yellow eyes appear small), a heavily ringed facial disk with concentric gray circles, an overall dusky gray appearance with streaked underparts, and a relatively long tail. It lacks the ear tufts of the Great Horned Owl.



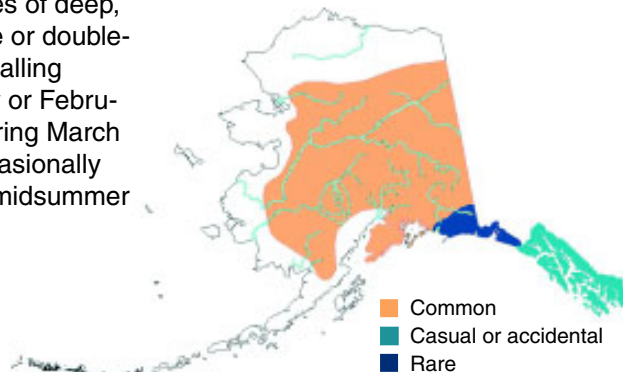
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Hunting Techniques and Prey: Sensitive hearing allows Great Gray Owls to detect voles moving under the snow. They often plunge-dive into the snow in pursuit of prey, and can capture voles tunneling a foot beneath the surface.

Yellow-cheeked voles, meadow voles and red-backed voles are the Great Gray's main prey and it usually hunts them at dusk or at night.

Habitat: Boreal forest and wooded bogs are where Great Gray Owls are found. They hunt along forest edges and in small openings in the forest such as old river sloughs, old burns and open stands of tamarack. They usually nest in a large, broken birch, spruce or poplar tree trunk.

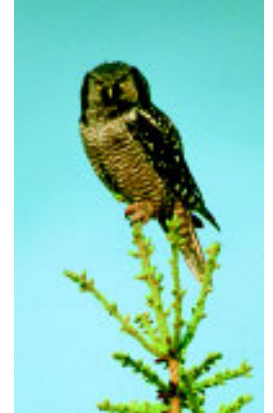
Voice: Great Gray Owls give a monotonous series of deep, low-pitched single or double-syllabled hoots. Calling begins in January or February, but peaks during March through May. Occasionally they hoot during midsummer and autumn.



Northern Hawk-Owl

Surnia ulula

Characteristics: The Northern Hawk-Owl has a long, slender tail and a hawk-like profile. Its facial disk is bordered with black, and its underparts are barred in brown. Medium in size, the Northern Hawk-Owl is about 16" long. It is most often seen perched atop a tree at the edge of a clearing. The Northern Hawk-Owl's flight is low and swift.



© Ted Swern

Hunting Techniques and Prey: Unlike most other owls, the Northern Hawk-Owl hunts throughout the day, although they are most active in the early morning and late evening. They perch atop trees and watch for prey which includes a variety of small mammals and birds. Their most common prey include meadow voles, red-backed voles, lemmings, shrews, young snowshoe hares, and a variety of small birds.

Habitat: Northern Hawk-Owls nest in open to moderately dense coniferous forests, and hunt along the forest edges, in muskegs, burned areas, and open subalpine forests. They nest on the tops of tree stubs, and occasionally in tree cavities.

Voice: Courtship calls are given in late evening and early morning from mid-February through April or May. The song is a prolonged series of short, rolling, sharp whistles. Each call lasts at least 10 seconds and is repeated frequently. It has also been described as a hawk-like rapid, sharp, *ki-ki-ki-ki* cry.



Short-eared Owl

Asio flammeus

Characteristics: The Short-eared Owl is buffy-brown with a light facial disk and bright, lemon-yellow eyes. Its breast is boldly streaked and its belly is paler and more lightly streaked. In flight, buffy patches can be seen on the upper sides of the wings and black wrist marks on the underside. This medium-sized owl is about 15" long and has long, pointed wings compared to most other owls. Its flight pattern is most distinctive: a wavering, but powerful, mothlike flight. It often perches on the ground where it nests, leaning somewhat forward in the manner of a hawk.



© Bob Armstrong

Hunting Techniques and Prey: Short-eared Owls hunt mainly during late evening and early morning, but may be active any time of day. Like Northern Harriers, these owls search for prey by flying low and slowly over the tundra, muskegs, marshes, and meadows searching for voles and lemmings, other small mammals, and occasionally shorebirds and songbirds.

Habitat: Short-eared Owls live exclusively in open country including marshes, muskegs, tundra, and prairies. They are the only Alaskan owl species that migrates south every year.

Voice: These owls are mostly silent, but courting males give a low *hoo, hoo, hoo* call made up of 6 to 20 notes and lasting up to 3 seconds. Males also make a wing clapping sound during aerial courtship flights.



Great Horned Owl

Bubo virginianus

Characteristics: The Great Horned Owl is about 18-25" long. It has prominent ear tufts creating the "horned" appearance. Its large size and white throat, or "bib," distinguish the Great Horned Owl. It is Alaska's only large owl with ear tufts. The back of this raptor is various shades of brown and gray, mottled with white and buff. The underparts are white, tinted with buff and barred with dark brown or black. The facial disk is reddish, and the eyes are deep yellow. In flight, these owls are recognized by their large heads, very short necks and white throats.

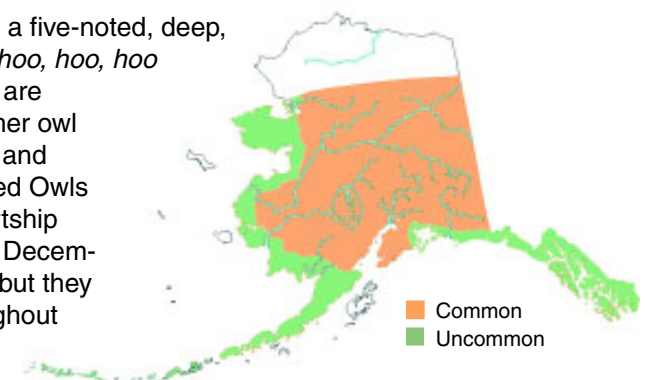


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Hunting Techniques and Prey: Great Horned Owls rely mainly on their acute vision to detect prey and tend to hunt in the twilight hours near dusk and dawn. Snowshoe hares are their primary prey, but they will eat whatever they can get their talons on including small mammals, birds and even fish. Great Horned Owl populations fluctuate with changes in prey populations.

Habitat: These birds live primarily in forested habitats. They invariably nest in old hawk, eagle, raven, or squirrel nests, but may occasionally nest in a large natural cavity of a hollow tree or cliff edge. They hunt in fields, meadows, old burns and along forest edges.

Voice: Usually give a five-noted, deep, resonant *hoo, hoo-hoo, hoo, hoo* song but variations are common. Unlike other owl species, both male and female Great Horned Owls sing. Intensive courtship calling occurs from December through March but they regularly call throughout the year.



Snowy Owl

Bubo scandiacas

Characteristics: Alaska's heaviest owl, the Snowy Owl, is 23" long and the only species in which the sexes can be easily distinguished. Females and young owls are heavily barred, while the adult male is almost completely white. This owl has a round head (without ear tufts) and yellow eyes. It has long wings.

Hunting Techniques and Prey:

Snowy Owls rely on both sight and hearing to locate prey, and hunt both day and night. Lemmings and voles are their primary foods, although a variety of larger prey, such as ducks, are occasionally taken. In years when prey is scarce, many Snowy Owls migrate south out of their normal range (this is called an eruption). They have been known to show up in the winter in the Lower 48 states.

Habitat: Snowy Owls nest and hunt on the open tundra. They lay their eggs in a bare scrape on the ground, usually on an elevated mound. Young and eggs are particularly susceptible to predation, primarily by arctic fox.

Voice: This owl is silent except on its breeding grounds where the male gives a low, hollow booming.



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Periodic migrations south of normal range are common during food shortages.



© Jack Whitman



Barred Owl

Strix varia

Characteristics: This medium-sized owl is approximately 16-25" long, grayish in color, with white horizontal streaking on its chest and vertical streaking on its belly. The Barred Owl has a round head with no ear tufts, off-white facial disk with dark trim, dark brown eyes, and a light colored beak.



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Hunting Techniques and Prey: Typically a perch hunter, the Barred Owl will sit and wait for prey to come by. It is an opportunistic feeder that eats a wide variety of animals including small rodents such as voles, young hares, bats, mink, weasels, squirrels, various birds, and even large insects.

Habitat: Prefers deep moist forests, wooded swamps, and woodlands near waterways. The Barred Owl nests in cavities but will also use abandoned hawk or crow nests. In Alaska it is only found in the forests of Southeast.

Voice: Calls year-round, although courtship occurs in the winter months. Males give a lively series of nine hoots with a pause after the fourth one and the last hoot dropping abruptly at the end: *hoo hoo hoo hoo, hoo hoo hoo hoo aaaww*.

Their call is often likened to the words, "who cooks for you, who cooks for you all." They also participate in wildly raucous courtship duets where the hoots sound more like bawls and screams.

