

BARRED OWL - STRIX VARIA

Taxonomy: Kingdom: Animalia Phylum: Chordata Class: Aves Order: Strigiformes Family: Strigidae Genus: Strix Species: S. varia

Habitat:

Biomes: Barred Owls live year-round in mixed forests of large trees, often near water. They tend to occur in large, unfragmented blocks of mature forest, possibly because old woodlands support a higher diversity of prey and are more likely to have large cavities suitable for nesting. Their preferred habitats range from swamps to streamsides to uplands, and may contain hemlock, maple, oak, hickory, beech, aspen, white spruce, quaking aspen, balsam poplar, Douglas-fir, lodgepole pine, or western larch.

Distribution:

In US: The barred owl is distributed throughout most of the eastern United States, as well as much of southern Canada. Their range extends to British Columbia, and from there they have moved into the northwest United States. In the states of Washington, Oregon and California, barred owls have engulfed the range of the native northern spotted owl with which they now compete.

In Other Countries: NONE

Holistic Description: The Barred Owl's hooting call, "Who cooks for you? Who cooks for you-all?" is a classic sound of old forests and treed swamps. But this attractive owl, with soulful brown eyes and brown-and-white-striped plumage, can also pass completely unnoticed as it flies noiselessly through the dense canopy or snoozes on a tree limb. Originally a bird of the east, during the twentieth century it spread through the Pacific Northwest and southward into California.

Species Richness: 4 SUBSPECIES

Population Dynamic: CHECK THREATS

Evolution and Systematics:

Evolution: Remains identified from Pleistocene in Florida, Tennessee, and Ontario. In e. U.S., records exist ranging from 300 to 1,000 yr before present.

Systematics: Little information, but southern individuals generally smaller than northern ones, and darker, with toes essentially unfeathered.

Number of Species: 4 SUBSPECIES

Number of Genera: 4 SUBSPECIES

Physical Characteristics:

Size and Length: Length: 16.9-19.7 in (43-50 cm) Weight: 16.6-37.0 oz (470-1050 g)

Wingspan: 39.0-43.3 in (99-110 cm)

Coloration: Barred Owls are mottled brown and white overall, with dark brown, almost black, eyes. The underparts are mostly marked with vertical brown bars on a white background, while the upper breast is crossed with horizontal brown bars. The wings and tail are barred brown and white.

General Body Features: Barred Owls are large, stocky owls with rounded heads, no ear tufts, and medium length, rounded tails.

Special Features of the Body: Owls are adapted to be nocturnal predators, with silent flight resulting from soft feathers and serrated wing edges. Their hearing is acute making it easy to pinpoint the site of prey. Their face is conformed to have sound focus on it, as to identify prey in pitch blackness. Barred Owls take advantage of excellent camouflage to help them avoid crows, jays and other birds that might harass them during the day when they are trying to rest.

Special Features of the Head and Sensory Organs: Their night vision is excellent (black and white rather than color) but they cannot move their eyes in the sockets. To help them see to their sides and behind them owls can turn their heads 270 degrees, much further than a human. They are able to turn their heads this far due to their flexible neck made up of 14 vertebrae, twice the number of vertebrae in a human neck.

Dentition: BEAK/LAMELLAE/GIZZARD

Special Features of the Limbs and Digits: CHECK SNOWY OWL OR GREAT HORNED OWL ADAPTATIONS.

Any Special Internal Anatomy: NONE

Sexual Dimorphisms: Female up to one-third heavier than male. Female slightly larger than male in linear measurements. Mass of female 1.3-1.4 times greater than that of male. Greater mass suggested to serve as an incubation energy reservoir. Females may undergo significant loss of body mass during incubation.

Differences Between Juvenile Stage and Adult: Immature differs only slightly, with markings less distinct (especially around head); may retain downy tips to feathers after fledging in first year.

Behavior:

Diurnal, Nocturnal, or Crepuscular: Nocturnal

Activity: Barred Owls roost on branches and in tree cavities during the day and hunt by night. Territorial all year round, they chase away intruders while hooting loudly. They are even more aggressive during nesting season (particularly the females), sometimes striking intruders with their feet. Pairs probably mate for life, raising one brood each year. Their nests are preyed upon by other large owls and hawks, as well as by weasels and raccoons. When humans interfere with a nest, the parent may flee, perform a noisy distraction display with quivering wings, or even attack. Other birds recognize Barred Owls as predators; small songbirds, crows, and woodpeckers may band together to mob them. Their most dangerous predator is the Great Horned Owl, which eats eggs, young birds, and occasionally adults.

Locomotion: Young able to climb trees using their beaks and talons. The bark is grasped by the beak and the feet "walk" up the trunk while wings are flapped. Described as light, buoyant, and noiseless; can glide gracefully and skillfully among branches of trees. Forests with open understory and low stem density of canopy trees allow for easy flight; uses specific flyways.

Communication and Perception: Although the Barred Owl is not technically a songbird, its distinctive "Who cooks for you?" call functions as a song.

Home Range: Strongly territorial to other Barred Owls and to call imitation and playback, even out-side the breeding season. Generally defends entire home range, boundaries of which remain relatively stable from year to year and even from generation to generation. Home range may increase in size during winter, however, presumably in response to lower prey availability. Home-range size estimated from several radio-tracking studies: 13 birds in Minnesota had an average home range of 273 ha. Breeding pairs are widely separated from each other due to their large territories. Within pairs, male and female often sit close to each other, as will fledged young.

Degree of Sociality: Solitary, except during breeding season.

Level of Aggression: During disputes at territorial boundaries, individuals fight. Hooting and chase flight observed at territorial boundary of radio-marked individuals in Saskatchewan. Nesting individuals observed flying at and striking with feet a mounted Barred Owl within their territory. Nesting females more aggressive to intruder than males.

Migration: Resident (nonmigratory). Most Barred Owls remain in a single area their whole lives. On rare occasions they may wander farther in search of food during winters when prey is scarce.

Predators:

Predators: Weasels, Raccoons, Great Horned Owl, Northern Goshawk, Raccoons.

Anti-Predator Defenses: Avoids Great Horned Owls by moving to other portions of home range. Reaction to humans varies. Some adults leave the nest upon approach, while others remain sitting; some attack people climbing to the nest or approaching young on the ground. Described a distraction display given by a female near her young in response to humans approaching. She spread and quivered both wings while uttering a series of chitters and squeals resembling those made by begging young. The display lasted 5–10 s.

Diet and Nutrition:

Adult Diet: Barred Owls eat many kinds of small animals, including squirrels, chipmunks, mice, voles, rabbits, birds (up to the size of grouse), amphibians, reptiles, and invertebrates. They hunt by sitting and waiting on an elevated perch, while scanning all around for prey with their sharp eyes and ears. They may perch over water and drop down to catch fish, or even wade in shallow water in pursuit of fish and crayfish. Though they do most of their hunting right after sunset and during the night, sometimes they feed during the day. Barred Owls may temporarily store their prey in a nest, in the crook of a branch, or at the top of a snag. They swallow small prey whole and large prey in pieces, eating the head first and then the body.

Juvenile Diet: ^^^^^

Special Adaptations for Getting Prey: Considered a semi-nocturnal to nocturnal hunter, although diurnal hunting observed. Hunts in a sit-and-wait fashion from an elevated perch scanning area for prey. Acute vision and hearing apparently used to locate prey. Known to perch over water and drop to capture fish. Prey is either swallowed whole or the head is consumed first, then body. Pellets with skull of a Ruffed Grouse found on or near remainder of grouse carcass, indicating that the owl first consumed the head and later returned to feed, first regurgitating a pellet.

Reproduction:

Mode of Reproduction: Presumed monogamous, but no genetic studies of young. No information on primary sex ratio.

Mating System: Monogamous

Mating Season: March to August

Courtship: Females remain near nest, entering a prenesting lethargy; give food begging call to mate, which delivers prey. Male is very vocal, giving the standard 8-note call. Bent reported that a courting pair nodded and bowed with half-spread wings, and wobbled and twisted their heads from side to side while calling.

Territoriality: Strongly territorial to other Barred Owls and to call imitation and playback, even out-side the breeding season (Mcgarigal and Fraser 1985, Nicholls and Fuller 1987, Mosher et al. 1990). Generally defends entire home range, boundaries of which remain relatively stable from year to year and even from generation to generation.

Mating: NONE

Nesting: Barred Owls usually nest in a natural cavity, 20–40 feet high in a large tree. They may also use stick platform nests built by other animals (including hawks, crows, ravens, and squirrels), as well as human-made nest boxes. Barred Owls may prospect a nest site as early as a year before using it. No one knows whether the male or the female chooses the site. Barred Owls do little or nothing to change an existing tree cavity or abandoned platform nest. They may add lichen, fresh green conifer sprigs, or feathers to a stick platform nest, and they may flatten or remove the top of an old squirrel nest. Cavities measure 10–13 inches wide and 14–21 inches deep (sometimes much deeper, with one cavity recorded as nearly 8 feet deep).

Egg-Laying: Clutch Size: 1-5 eggs Number of Broods: 1 brood Egg Length: 1.7-2.2 in (4.3-5.6 cm) Egg Width: 1.5-1.8 in (3.8-4.5 cm) Incubation Period: 28-33 days Nestling Period: 28-35 days Egg Description: Pure white, with a rough surface.

Hatching and Incubation/Gestation: Helpless and covered with white down, with closed eyes.

Development: Altricial young, covered with white natal down; eyes closed; mass approximately 46.0 g.

Parental Care: Solely by female; begins immediately after hatching and continues for about 2 wk; after that, female attendance decreases. Young are fed from hatching until late summer/early fall. Prey delivery by male to female during incubation is sparse. Food is delivered to nest by male during the first 2 wk of brooding; delivers prey in bill-to-bill exchange with female; female tears up prey to feed young.

Lifespan: Up to 24 years old.

Conservation:

Official Federal Status: Least Concern

Special Statuses in Individual States: NONE

Threats: Barred Owls are fairly numerous and their populations increased 1.5% per year between 1966 and 2014, according to the North American Breeding Bird Survey. Partners in Flight estimates their global breeding population at 3 million, with 91% spending some time in the U.S., 7% in Canada, and 3% in Mexico. They rate 7 out of 20 on the Continental Concern Score and are not on the 2016 State of the Birds Watch List. Until the twentieth century, Barred Owls were residents of old, undisturbed forests in eastern North America. They were probably restricted from moving into northwestern boreal forests because of frequent forest fires. But fire suppression—along with tree planting in the Great Plains—allowed them to spread northward and westward during the past century. **They eventually expanded south along the West Coast as far as northern California, where they began competing with Spotted Owls.** Barred Owls have displaced these slightly smaller and less aggressive owls and started hybridizing with them, further threatening the already compromised Spotted Owl population. Barred Owls are forest birds. They tend to occur in older forests and they need large, dead trees for nest sites; these requirements make them sensitive to expansion of logging. For this reason, the Barred Owl is often used as an indicator species for managing old forests.

Conservation Efforts: ^^^^^^^

Extra Facts:

1. The Great Horned Owl is the most serious predatory threat to the Barred Owl. Although the two species often live in the same areas, a Barred Owl will move to another part of its territory when a Great Horned Owl is nearby.
2. Pleistocene fossils of Barred Owls, at least 11,000 years old, have been dug up in Florida, Tennessee, and Ontario.
3. Barred Owls don't migrate, and they don't even move around very much. Of 158 birds that were banded and then found later, none had moved farther than 6 miles away.
4. Despite their generally sedentary nature, Barred Owls have recently expanded their range into the Pacific Northwest. There, they are displacing and hybridizing with Spotted Owls—their slightly smaller, less aggressive cousins—which are already threatened from habitat loss.
5. Young Barred Owls can climb trees by grasping the bark with their bill and talons, flapping their wings, and walking their way up the trunk.
6. The oldest recorded Barred Owl was at least 24 years, 1 month old. It was banded in Minnesota in 1986, and found dead, entangled in fishing gear, in the same state in 2010.

Notable Species:

1. *S. v. varia* - Most widespread, ranging across northern part of species range south to Oklahoma and n.-central Georgia.
2. *S. v. georgica* - Resident in se. United States west to e. and n.-central Texas.
3. *S. v. helveola* - Resident s.-central Texas, recorded north to Lee Co.
4. *S. v. sartorii* - Scarce (infrequently reported) resident of Mexico along montane Pacific slope (Durango south to Guerrero) and interior montane areas along Atlantic slope from Puebla, Veracruz, and Oaxaca.

On 5 April 2007, White House officials announced a U.S. Fish and Wildlife Service proposal to shoot barred owls to reduce the threat they pose to the spotted owl. It called for delineating 18 sites within the range of the spotted owl where 12–32 barred owls would be taken per site for 5 to 10 years. Approximately 2150 to 2850 barred owls would be killed for a 3- to 5-year study, and 4650 Barred Owls would be killed for a 10-year study. If the precedent-setting removal study is implemented, it would, during its first year, result in the death of 36 times more raptors than in all other conservation-based projects combined in the United States and its territories, and 84 times more raptors than in the largest ongoing effort worldwide, at a cost of \$1 million annually; simplifying the cost to dollars per barred owl killed approximates \$700 per barred owl for the first year and \$2800 per barred owl for each subsequent year. Many environmentalists fear increased blame on barred owls for declining spotted owl numbers will result in less attention being paid to territorial protection and resumption of logging in protected spotted owl habitat.