

# **Liberty Wildlife Rehabilitation Foundation**



**Liberty Wildlife**

## **Education Program's Natural History**



**Northern Pygmy-Owl**



## Northern Pygmy-Owl (*Glaucidium gnoma*)

**Description:** One of North America's smallest and uncommon owls, the Northern Pygmy-Owl is described as intrepid and fierce hunter often taking on prey twice its size. It is a small, compact owl with a large, circular head that lacks ear tufts. It has a long tail and fairly short, rounded wings. Northern Pygmy-Owls are brown to grayish-brown with bold white eyebrows, brown streaks on white under parts, and white spotting on the head and forehead. Plumage coloration and pattern resembling false eyes or a false face on the back of the head are its distinctive feature. The eyes and bill are yellow. The brown and white facial disk is not well defined. Females are slightly larger than the male and on average browner and more rufous. In body length, they measure 6 to 7 inches with a wingspan of 12 to 16 inches. Males will about 2 ounces and the females 2.6 ounces. Its call is a rapid, high-pitched, short trill that often precedes the song. Its song is a series of high, hollow toots spaced 1-2 seconds apart. Males and females sometimes duet, singing simultaneously.

**Range:** Northern Pygmy-Owls found in western North America from southeastern Alaska and British Columbia south through the western United States, and throughout most of Mexico. They do not migrate.

**Habitat:** The Northern Pygmy-Owls are found in a wide variety of forest types, including cottonwood, aspen, and mixed-conifer forests, open oak groves, sycamores in canyons, pine-oak woodland, and coniferous forest of far north and high mountains. Generally they prefer partly-open habitats rather than solid unbroken forest.

In winters, Northern Pygmy-Owls move to lower elevations and may come into towns, where they may start hunting songbirds at bird feeders.

**Hunting/Prey:** As a result of its small size and high metabolic rate, the Northern Pygmy-Owl is constantly hunting. Using a perch-and-pounce technique, it will focus on prey and often switch its tail from side to side in a quick jerky motion and then move closer to prey in a zig-zag pattern from branch to branch until dropping straight down on its prey, or in a straight line from a perch. If unsuccessful in its first effort, it will end the chase. It hunts primarily by sight during the day and dusk, and not at night. Unlike nocturnal owls, it does not have the comb-like edges on its flight wings to break up sound. Consequently in flight they make a whistle-like noise that alerts prey. It also does not have a well-developed facial disk to funnel sounds to its ears. And, its ear location is symmetrical, versus asymmetrical ear location in others owl species that depend primarily on hearing for hunting. All characteristics that vision rather than hearing is most important for its hunting.

Northern Pygmy-Owls list of possible prey is quite large. Their preferred foods include birds, mice, and large insects with studies indicating that about 90% of their diet is

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*Glaucidium gnoma*



comprised of small mammals and birds. Among the small birds they hunt are hummingbirds, chickadees, warblers, and sparrows. However, they occasionally attack prey much larger than themselves, such as Northern Bobwhite and California Quail. Their other prey includes small mammals such as shrews, moles, and chipmunks. They also eat insects such as beetles, butterflies, crickets, and dragonflies, as well as reptiles such as lizards and skinks. Northern Pygmy-Owl also caches their prey in tree cavities, or by hanging the prey on thorns, as shrikes are famous for doing.

**Nesting/Breeding:** Northern Pygmy-Owls lay their eggs in cavities, lined with feathers, leaves or other debris. They never create their own cavity but rely on cavities hollowed by woodpeckers or rot. They are not known to use human-made nest boxes. Most Northern Pygmy-Owls do not breed until they are at least a year old even though sexual maturity may begin at 5 months. Northern Pygmy-Owls are monogamous, at least within the year's breeding season. Males attract females to their nest site by perching at the entrance and giving a tooting call. Typically the female will lay 2 to 7 eggs from late April through June and are laid at 2-day intervals. The Northern Pygmy-Owl is among the few owls that do not incubate the eggs until the clutch is complete, consequently the owlets hatch over an interval of only a day or two. The female incubates the eggs for 28 days. The young fledge 3 to 4 weeks later. Only the female incubates, while the male hunts and brings food back to the female and the nestlings.

**Lifespan:** There is little reliable data on the life span. The only known recapture of a banded Northern Pygmy-Owl occurred in 2016 in Oregon. It was a male, and at least 3 years, 11 months old when it was recaptured and rereleased.

**Threats:** The threats to this owl are poorly known. They do fly into windows, and occasionally are hit by cars. Shooting is probably insignificant. They sometimes become prey for larger owls, diurnal raptors, and predatory mammals such as weasels. As a forest species and obligate cavity nester, they are likely vulnerable to some forestry practices. Habitat alterations that affect prey species or woodpeckers—the primary nest excavators—and nest cavities, would likely harm Northern Pygmy-Owl. Although widespread, the Northern Pygmy-Owl numbers are difficult to estimate because the birds are uncommon and hard to count with standardized surveys. Best estimates indicate their populations have been fairly constant over the last half-century, with possibly a small decline between 1966 and 2014, according to the North American Breeding Bird Survey. Partners in Flight estimates the global breeding population at 80,000 individuals, with 53% in the U.S., 18% in Canada, and 27% in Mexico.

#### **Other Northern Pygmy-Owl Facts:**

- Despite the Northern Pygmy-Owl's broad geographic distribution in western North America, it is one of the least studied owls on the continent.
- The Northern Pygmy-Owl perches conspicuously on poles, trees, and power lines, and inconspicuously when in timbered habitat. In flight, it has distinctive alternating flapping and gliding undulations, similar to those of woodpeckers and shrikes.
- When they find extra food, Northern Pygmy-Owls often cache their prey in tree cavities, or by hanging the prey on thorns, as shrikes are famous for doing.



- Most owls have asymmetrically placed ears as well as flattened facial discs around the eyes. Both of these features are adaptations that give them better hearing. The Northern Pygmy-Owls lack these features, and this may be an outcome of their diurnal habits and greater reliance on vision.
- Northern Pygmy-Owls, more than other owls, are rather nonsocial, tending to remain solitary or in highly dispersed pairs throughout the year.
- Small birds such as hummingbirds, wrens, warblers, jays, and blackbirds often mob Northern Pygmy-Owls—in fact, you may be able to find these owls by following a noisy commotion of songbirds focused on one spot.
- Northern Pygmy-Owls raise a pair of tufts on the sides of their head when threatened by a predator, such as a hawk or a cat. They also have a pair of spots on the back of the neck that look a little like eyes. Scientists think these markings may help fool attackers or “mobbers” into thinking the owl is watching them.
- Northern Pygmy-Owls, although not much larger than House Sparrows, sometimes take prey up to three times their own size, such as Northern Bobwhite, Northern Flicker, and even chickens. In one study, a 52 gram Northern Pygmy-Owl killed a 119 gram California Quail. In another study, a 76 gram Owl was observed flying about 4 feet off the ground, carrying a 55 gram vole which was approximately 72% of the Owl’s mass.
- Its song and call can be heard at:  
[https://www.allaboutbirds.org/guide/Northern\\_Pygmy-Owl/sounds](https://www.allaboutbirds.org/guide/Northern_Pygmy-Owl/sounds)

#### **Other General Owl Facts:**

- There are 19 species of Owls found in North America (Sibley). They are:
  - Barn Owl
  - Long-eared Owl
  - Short-eared Owl
  - Great Horned Owl
  - Snowy Owl
  - Great Grey Owl
  - Spotted Owl
  - Barred Owl
  - Elf Owl
  - Boreal Owl
  - Northern Saw-whet Owl
  - Burrowing Owl
  - Flammulated Owl
  - Whiskered Screech Owl
  - Western Screech Owl
  - Eastern Screech Owl
  - Northern Pygmy Owl
  - Ferruginous Pygmy Owl
  - Northern Hawk Owl
- Arizona has 13 Species of these Owls. They are arranged by relative size:
  - Great Horned Owl
  - Barn Owl
  - Spotted Owl



- Long-eared Owl
- Short-eared Owl
- Northern Saw-whet Owl
- Burrowing Owl
- Flammulated Owl
- Western Screech Owl
- Whiskered Screech Owl
- Northern Pygmy Owl
- Ferruginous Pygmy Owl
- Elf Owl

- Most owls are nocturnal, some are crepuscular, hunting in the early morning and evening hours, and some are diurnal, hunting during the daytime.
- Owls don't build nests, but rely on tree cavities, natural crevasses in canyons and hillsides, etc., or the nests of other birds, and in some cases human built owl boxes.
- Owls have very large wings compared to the size of their bodies. They have several hunting styles, perch and pounce, searching for prey while flying, or Quartering flight, and hovering.
- Owl ears are hidden underneath the head feathers. The face of an owl is their outside ear or facial disk. They use these feathers to capture and funnel sound to the owl's ears.
- Some owls have an asymmetrical skull, with one ear higher than the other. This allows the owl to pinpoint exactly the direction of sound.
- The Barn Owl has been scientifically proven to hunt successfully by sound alone.
- The Great Gray Owl can hear mice a foot underneath the snow.
- Many owls can fly almost silently. The leading edge of the wings has a comb like fringe, and the wing feathers are soft and velvety. This allows the owl to fly without making much noise.
- The tufts of feathers on the head of some owls help the owl to camouflage.
- Owls have large eyes in comparison to the size of their body, which face forward for good depth perception. Some owls have eyes that are larger than ours. Owl eyes are supported by bony plates called Sclerotic Rings. For this reason, owls have to turn their heads to see to the side. Owls have 14 neck vertebrae, which allow them to turn their head 270 degrees in each direction.
- Owls, like other raptors, have three eyelids. An upper and lower eyelid, and the Nictitating Membrane stretching from the inside to the outside corner of each eye.
- Owls cannot digest the bones, fur or exoskeletons of the food they eat. They regurgitate this indigestible material in an owl pellet. Owls usually produce a pellet 10-20 hours after feeding.
- Some owls will cache the food they catch, to be eaten at a later time.







## Newton

In October 2014, Newton was transferred from a rehabilitation center in Montana at our request to become a remarkable addition to the education team. He had been brought to the Montana facility as an adult with a traumatic injury to his right wing, which required a partial amputation of that wing. His inability to fly classified him as non-releasable. Since his injury occurred when he was an adult, we do not know his exact age.

Compiled by Max Bessler

Photos courtesy of Barb Del'Ve

Sources: Cornell Lab of Ornithology "Birds of North America On-Line," Cornell Lab of Ornithology "All About Birds," National Audubon Society Field Guide On-Line, Owl Research Institute, The Peregrine Fund, Hawk Watch International, Youth Science Institute, North American Owls, Biology and Natural History by Paul Johnsgard, U.S Department of Interior/U.S Geological Survey 2016 Study "Longevity Records of North American Birds."

