



Common Nighthawk and Eastern Whip-poor-will

The common nighthawk and the eastern whip-poor-will belong to Family Caprimulgidae, a group of nocturnal and crepuscular birds also known as the nightjars. About 90 species around the world are included in the nightjar and nighthawk family. Nightjars have large heads and eyes and exceedingly wide mouths, used as scoops for catching insects in midair. Their broad wings and large tails contribute to a buoyant, maneuverable flight. Their legs are short, and their feet are small and weak. Most spend the day resting on the ground or roosting in trees, perched lengthwise on limbs, signs, or gates. “Nightjar” seemingly refers to the birds’ nocturnal habits and the jarring or grating aspect of their vocalizing. Members of this family characteristically have cryptic plumage that allows them to elude detection when roosting or nesting. Some are quite vocal in the nesting season, but otherwise difficult to detect. The nightjars are also known as “goatsuckers,” from an erroneous belief that the birds use their expansive maws to steal milk from goats and other livestock.

Common Nighthawk (*Chordeiles minor*)

The name “nighthawk” is a misnomer, since the bird is not related to the hawks and it flies mainly at dawn and dusk rather than at night. It is a crepuscular bird rather than a true night bird. A nighthawk is about 9 inches long, with a wingspread of almost 2 feet. Individuals weigh from 2.5 to 3.5 ounces. The flight pattern is bouncy, erratic, full of twists and turns. During warm summer evenings many people see flocks of nighthawks flying high above towns and farmland, but few have gotten a close look at the birds. The plumage is a mix of dark gray and brown. The long wings have a crook about halfway out and then taper to a point. Nighthawks have a white band on the tail; white chin and throat; and a broad white wingbar that is clearly visible from below, marking the flight feathers on each wing.



common nighthawk

Unlike whip-poor-wills, which sit in wait and then sally forth to catch individual insects, nighthawks remain on the wing for extended periods, flapping, gliding, stalling, and swerving as they chase and catch prey. Their bat-like flight has earned them the nickname “bullbat.” More than 50 insect species have been reported as prey, including flying ants, June bugs, mosquitoes, moths, mayflies, caddisflies, wasps, and grasshoppers. Nighthawks drink on the wing, skimming the surface of lakes and streams. They do not fly during heavy rain, strong winds, or cold weather. Nighthawks can be drawn to well-lit areas and will dive on insects attracted to bright lights.

The call is a loud, nasal *peent*, which, according to one source, resembles the word “beard” whispered loudly. As part of its breeding display the male also makes a booming sound, which is produced by air rushing through its primary wing feathers after a sudden downward flexing of the wings while diving. Nighthawks will “boom” not only during the nesting season, but also in migration. Nighthawks display over some remote canyons, grassland projects, and reclaimed strip mines,

suggesting local nesting populations far away from urban areas where they are normally found in Pennsylvania.

The common nighthawk has a large breeding range: from the Yukon Territory to Labrador and south to Florida, Texas, and Central America. The birds nest in open fields, gravel beaches, rock ledges, talus slopes, recently burned and recently logged forests, reclaimed strip mines, grasslands, and flat graveled roofs of buildings. A change in roof construction materials from gravel to rubberized surfaces has negatively impacted the common nighthawk in the eastern United States and may have contributed to their decline in recent years. Nighthawk nests may be especially vulnerable to aerial nest predators like crows and hawks. The female nighthawk does not build a nest; she lays her two eggs directly on the ground, often a surface of sand, bare rock, gravel, slag, or wood chips. Eggs are laid in late May through June. The laying period peaks around the first of June. Nighthawk eggs are creamy or pale gray, dotted with brown and gray. The female does most of the incubating. The eggs hatch after about 18 days. Females brood the nestlings as well. Nestlings are semi-precocial: their eyes are open, and they are able to move from side to side after hatching. Females may feign injury to draw predators away from the nest. Both parents feed the chicks by regurgitating insects. By around 18 days, young nighthawks make their first flights. They can fly capably by 30 days, and by 50 days they are fully developed. Nighthawks raise only one brood per year. They are among the earliest breeding birds to leave Pennsylvania, commencing their southward migration in August.

Common Nighthawks often form large flocks when migrating south, a spectacular sight. The nighthawk has one of the longest migrations of all North American birds. Nighthawks travel 2,500 to 6,800 miles to winter in South America, many as far as Argentina.

The average lifespan of a common nighthawk is estimated at four to five years. Banded birds as old as 9 to 10 years have been recovered. Since the 1960s, the number of breeding and migrating nighthawks has fallen significantly and has declined dramatically between the first and second *Atlas of Breeding Birds in Pennsylvania* reports, dropping 71 percent in number of blocks reporting nighthawks and 84 percent in confirmed records. This decline may stem from indiscriminate use of pesticides, increased predation, or changes in habitat either in the northern breeding range or in the southern wintering areas. In Pennsylvania most nesting takes place on building roofs in urban areas, with nighthawks seemingly abandoning traditional rural natural nesting sites.

Eastern Whip-poor-will (*Antrostomus vociferus*)

The eastern whip-poor-will lives in moist woods across the eastern and southern United States. It is about the size of a common nighthawk, but its wingspan is not as great and its wings are broader and more rounded. On each side of the bill, a vertical row of hair-like bristles flares toward the front: the bristles funnel insect prey into the generous mouth. The

plumage is a mix of camouflaging browns. Both sexes have a white neck band, and the male has white outer tail feathers. Their cryptic plumage hides them well when they sit during the day on the leafy forest floor. Only recently has the eastern whip-poor-will been differentiated from the Mexican whip-poor-will (*Antrostomus arizonae*), which it greatly resembles.

Whip-poor-wills perch on branches or sit on the ground or along roadsides. They can be detected by the gleam of the birds' red or bright orange eyes in the glare of automobile headlights or a flashlight. This "eyeshine" is caused by a reflective layer at the back of the retina called the tapetum. The tapetum amplifies small amounts of light by passing them back through the retina a second time. Whip-poor-wills fly up to catch moths, mosquitoes, gnats, beetles (especially June bugs), and crane flies. Their sit-and-wait foraging strategy uses less energy than the common nighthawk's in-flight foraging and may be what allows whip-poor-wills to arrive earlier on northern breeding grounds and to survive periods of cold weather and low prey availability. Its soft feathering lets a whip-poor-will fly almost as quietly as an owl and helps the bird intercept moths, many of which can detect sounds of potential predators. Whip-poor-wills take sphinx moths, noctuid moths, and the big silk moths: cecropia, tuna, and polyphemus.

The whip-poor-will is named for the male's repetitive nocturnal calling. The *whip* is sharp, the *poor* falls away, and the *will*, the highest note in the sequence, is a bullwhip snapping in the night. The call carries about half a mile. Listeners close to the calling bird may hear a soft verbal knock sound before each repetition. In Pennsylvania whip-poor-wills start calling in late April or early May, when males arrive from the south. The calling continues through June and dwindles in July but can be heard on moonlit nights even late in the summer. Whip-poor-wills call mainly at dawn and dusk, and they go on and on. Many rural dwellers recall with affection the days when they were more commonly heard near homes.

The calling attracts females. Whip-poor-will courtship involves head bobbing, bowing, and sidling about on the ground. The female lays two eggs on the ground in dry open woods, often near the edge of a clearing. Most egg laying occurs between mid-May and mid-June but sometimes as late as July. The eggs are off-white and speckled with tan, brown, or lilac. The eggs blend in with the dead leaves, as does the adult who incubates them.

The reproduction of whip-poor-wills may correlate with the lunar cycle: males sing longer on moonlit nights, and hatching may occur when the moon is waxing. The increased moonlight makes foraging easier for the adults who must now feed nestlings as well as themselves. The eggs hatch after about three weeks of incubation. Parent birds feed their young by regurgitating insects. The fledglings first fly about 20 days after hatching. There is evidence that some whip-poor-wills have a second brood which follows the first by a lunar cycle.

Whip-poor-wills are difficult to detect after nesting season when calling ceases. Therefore, the start of migration is not

well known. Records suggest fall migration occurs during September and October. Some whip-poor-wills migrate to Central America but most winter in the southeastern states, in areas where the related chuck-will's-widow (*Antrostomus carolinensis*) breeds in summer. The chuck-will's-widow withdraws to Central American and South America in winter.

Whip-poor-wills require large forest tracts and are found in barrens, open woodlands, and second growth forest with scattered clearings or old fields. Whip-poor-wills are often clustered so if you hear one you may hear several at a location on any night they are vocalizing. They often can be found in gaps in the forest canopy, sometimes locally abundant where there has been some disturbance, including timbering or other vegetation management. They frequently sit right on rural dirt or grassy roads with little traffic. Sometimes they will sit on top of a gate's crossing bar a few feet off of the ground. Night bird surveys have uncovered some local populations in abandoned strip mines with regenerating vegetation. Other clusters of whip-poor-wills have been found in remote parts of game lands and state forests.

The eastern whip-poor-will has been declining for the last several decades. Although populations have been declining

since the 1930s, Breeding Bird Surveys show a steep decline of 42 percent between the first Atlas and the second Atlas periods (1980s vs. 2010s). In Pennsylvania, the population remains strongest in the Ridge and Valley province and in the central portion of the state including Centre and Clinton counties. The whip-poor-will does not adapt well to urbanization. The growth of suburbs and cities has eliminated this species from much of southeastern Pennsylvania. Whip-poor-wills also cease breeding in areas where woods become too mature. They have declined over much of the East during the last four decades. They are also vulnerable to nest predators such as opossums, skunks, foxes, coyotes, and feral cats.

The decline in Pennsylvania's nighthawk and whip-poor-will populations is part of a pattern of decline of aerial insectivores in North America including many swallows and swifts. Bird conservationists are growing increasingly concerned about the fate of nighthawks, whip-poor-wills, and other aerial insectivores. Perhaps these two charismatic nightjars will inspire more conservation efforts on behalf of the entire group.



eastern whip-poor-will