

Sharp-shinned Hawk

Accipiter striatus

Spanish name: Gavilán Pajarero

French name: Épervier Brun

Other names: Sharpshin, Sharpy/Sharpie, Little Blue Darter

Size: Length from head to toe 24-27 cm (male), 29-34 cm (female); wingspan 53-56 cm (male), 58-65 cm (female); mass 87-114 grams (male), 150-218 grams (female)



Type migrant: partial

Introduction

The Sharp-shinned Hawk is the smallest of three North American accipiters, or “bird hawks.” The slender, blue jay-sized raptor inhabits forested areas throughout much of North, Central, and South America. The sharpshin derives its name from the presence of a sharp, laterally compressed keel on the leading edge of its long legs. Because they are secretive and tend to favor areas of dense vegetation during the breeding season, sharpshins are most easily observed during migration. During migration, sharpshins are one of the most common migrants at most coastal and inland watchsites. Another opportunity to view this generally secretive species is when it visits backyard bird feeders in search of prey.

The sharpshin’s habit of feeding on songbirds has sometimes triggered disfavor for this species among the general public. In many states, the species lacked legal protection from persecution until well into the 20th Century.

Like other members of the genus *Accipiter*, Sharp-shinned Hawks have short rounded wings, and long narrow tails. Sharpshins also have large eyes and long middle toes both of which aid in the capture of their highly mobile prey. Reverse sexual size dimorphism is greater in the Sharp-shinned Hawk -- males average only 57% of the mass of females—than in any other North American raptor.

Identification

Sharp-shinned Hawks exhibit different adult and juvenile plumage. Adults have blue-gray upperparts and white underparts with rufous barring. They also have whitish throats, an alternately dark- and light-gray banded tail, and orange or red eyes. The eyes of sharpshins darken from yellow (in first-year birds) to orange, and then to red in older adults. In comparison to adults, juvenile Sharp-shinned Hawks have brown upperparts, and cream-colored underparts that often are heavily streaked with reddish brown on the breast and belly. Sharp-shinned Hawks are smaller versions of the crow-sized Cooper’s Hawk, and distinguishing between these two species often tests an observer’s identification skills.

Telling male Cooper’s Hawks from female Sharp-shinned Hawks is especially challenging: female Sharp-shinned Hawks are closer in size to male Cooper’s Hawks than they are to male sharpshins. Several characteristics aid in identifying these two similar species. The Cooper’s Hawk has a rounded tail, whereas the Sharp-shinned Hawk has a squared-off tail. Sharp-shinned Hawks generally fly with their wrists thrust forward and their heads barely projecting beyond their wrists. This makes them look like they are “smaller headed” than Cooper’s Hawks. As a result some people say that the silhouette of the Sharp-shinned Hawk looks like a “flying mallet” whereas the silhouette of a Cooper’s Hawk looks like a “flying cross.” Sharpshins are

less robust than Cooper's Hawks and are more buoyant in flight. Both species show the typical accipiter flight pattern, a series of 3 to 6 quick wing beats separated by brief periods of gliding. However, the wing-beats of the Sharp-shinned Hawk are crisper and more rapid than those of the Cooper's Hawk.

Breeding Habits

Studying and censusing nesting Sharp-shinned Hawks is challenging. During the breeding season sharpshins are rarely seen above of the forest canopy. They seldom perch in conspicuous locations and do not usually soar over the forest. The Sharp-shinned Hawk prefers to nest within small groves of dense evergreens that have clearings nearby. Nests are 50-65 cm across, and are built with thin twigs and lined with bark chips and greenery. They are often placed on a horizontal branch against the main trunk of the tree. Pairs typically return to the same nesting area year after year, but rarely use the same nest. Incubation of the four or five egg clutches takes 30-32 days, with the female doing all of the incubating. During incubation and for the first 10-14 days after hatching (when the female remains on the nest brooding the chicks), the male is responsible for bringing food to the nest. The female often shares in providing food to the nestlings after they no longer need to be brooded.

The young leave the nest when they are 24-27 days old, with the smaller males developing more quickly and leaving earlier than the larger females. After they fledge, young sharpshins remain near the nest and close to each other for about a month. During this time the youngsters are fed by their parents less frequently and they begin to hunt on their own. Fortunately, the independence of young sharpshins coincides with the end of songbird fledging, and recently fledged young have many novice songbirds to prey upon.

Feeding Habits

Sharp-shinned Hawks hunt in two ways: motionlessly from inconspicuous perches, and at high speeds in rapid flapping flight. Sharpshins hunt by surprising their prey, and they often use both natural and manmade structures to conceal their approach. Although capable of moving at high speeds for short distances, sharpshins generally give up if they fail to catch their prey quickly. Birds, primarily songbirds, make up 90% of the sharpshin's diet. Large insects, frogs, lizards, and small mammals make up the remaining 10%. Areas around houses and other buildings serve as suitable hunting habitat, and sharpshins often take advantage of the birds and small mammals at birdfeeders. Sharp-shinned Hawks pluck their prey before dismembering and consuming it. "Plucking posts" include tree trunks, stumps, fence posts, and the upraised roots of fallen trees. Prey items are plucked on the ground more often in winter. Many times plucking posts are close to the nest.

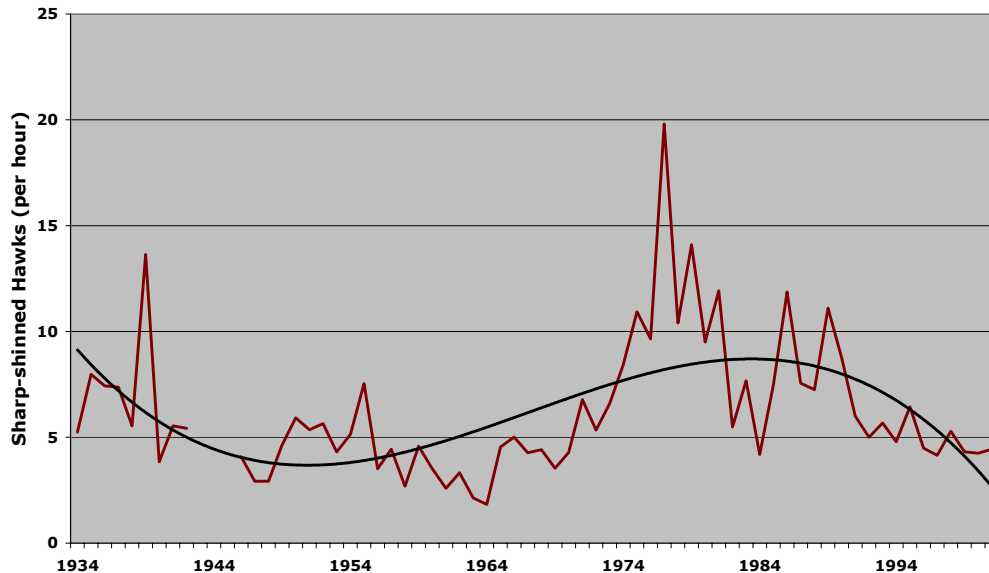
Conservation Status

The current "world" population of this species is estimated to be over 1 million birds.

Sharp-shinned Hawks are difficult to census because of their secretive nature. Determining their abundance is problematic and therefore it is difficult to assess the effects of habitat changes on sharpshin populations. Because sharpshins prefer to breed in areas of contiguous forest, loss of forest habitat and forest aging are likely to impact sharpshin populations. Sharp-shinned Hawks are more conspicuous and easier to study on migration, therefore migration counts can serve as an important means of determining the population trends of this species. The number of migrating sharpshins declined between 1940 and 1970. Declines during this period were attributed to the misuse of DDT, and sharpshin numbers rebounded quickly in

the post-DDT era. Threats that continue to face sharpshins include collisions with windows and automobiles, and loss of young forest habitat.

Annual Fluctuations in Sharp-shinned Hawk Passage at Hawk Mountain Sanctuary (1934-2001)



Migration

The Sharp-shinned Hawk is one of 26 North American raptors that are partial migrants. Some populations are migratory whereas others are not, and as a result there is overlap between non-breeding and breeding ranges. Sharpshins living in the boreal forests of Canada, at the northern extent of this species range, are more migratory than individuals that breed farther south. Generally, Sharp-shinned Hawks that vacate their nesting territories spend five to seven months away from their breeding grounds each year. Most North American sharpshins overwinter in North America, however some travel as far south as the West Indies or Central America. Some individuals act as long-distance migrants, and migrate over 1,500 km between their breeding grounds and wintering grounds.

When migrating, Sharpshins use a mixture of powered flap-gliding flight, and soaring. To reduce the energy costs associated with migration, Sharp-shinned Hawks capitalize on favorable atmospheric conditions such as mountain updrafts and thermals while migrating. Like other raptors, sharpshins begin migrating across a broad front, but as they move south individuals tend to become concentrated along leading lines. Features that act as leading lines for Sharp-shinned Hawks include coastlines and mountain ridges. Sharpshins avoid large water-crossings and when faced with a water barrier, individuals often reverse their paths until they find a way around the barrier. Even so, some Sharpshins do make water crossings of 18 km at Cape May Point, New Jersey and Delaware, and of 18-29 km at Whitefish Point, Ontario and Michigan. Migrating Sharp-shinned Hawks benefit from favorable landscape features such as ridges where deflected winds produce updrafts that provide these birds an opportunity to soar and reduce their energy expenditure. At Hawk Mountain, Sharp-shinned Hawk flights are strongest on the two to three days immediately following cold fronts. These times are characterized by lighter updraft-producing northwesterly winds and weak thermals; these conditions are favorable for sharpshins since their typical flight strategy includes mixture of powered and soaring flight.

The Sharp-shinned Hawk is the most commonly sighted accipiter at most North American watchsites. Sharpshins generally migrate alone, but they also sometimes

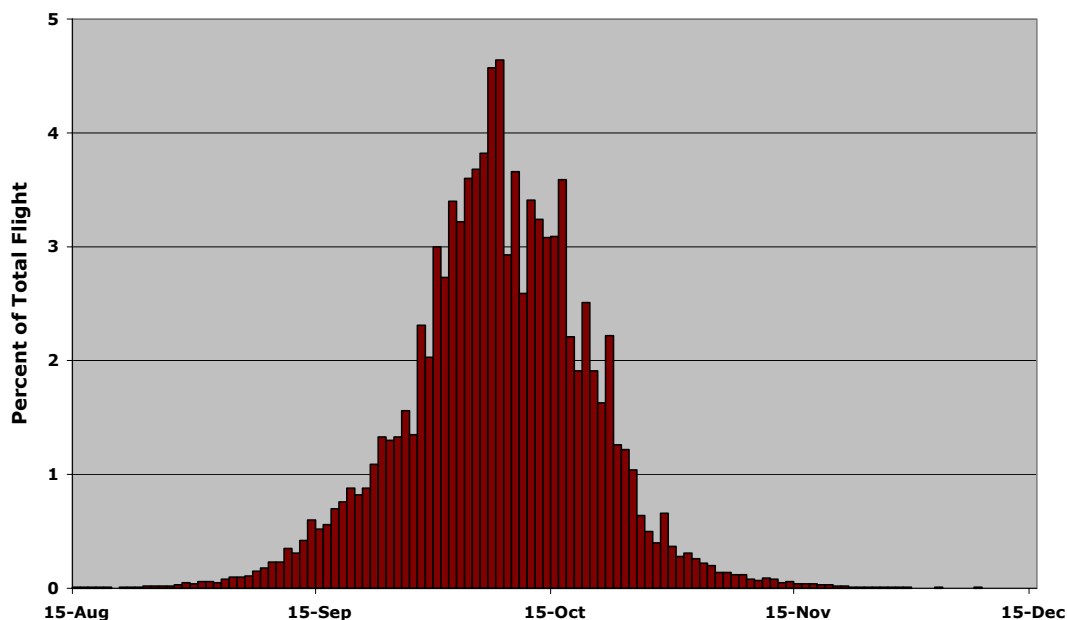
travel in small groups that may include Red-tailed Hawks, Broad-winged Hawks, and American Kestrels, as well as other sharpshins. Juvenile sharpshins predominate flights in coastal areas, whereas similar numbers of adults and juveniles migrate along inland routes. It is not certain why this difference occurs. One hypothesis suggests that juveniles are more likely to be blown off course than adults, and that the coastal flights represent these misguided individuals. Another hypothesis suggests that the coastal flight line, which provides more songbird prey for migrants, is preferred by the novice juveniles.

In autumn, juveniles migrate earlier than adults. Juveniles are also thought to migrate farther south than adults, an age-related difference that often exists in partial migrants. Sex differences in migration also occur. Males migrate before females in both age classes; and females are thought to migrate shorter distances than males. One hypothesis proposed to explain differential migration suggests that larger, dominant individuals migrate shorter distances because they will dominate resources and force subordinate individuals to fly farther distances. Because migration is energetically expensive, traveling farther than necessary is of no benefit. This social-dominance hypothesis may explain why juveniles and males migrate longer distances.

Because Sharp-shinned hawks are difficult to observe and census during the breeding season, migration counts have served as an important means for determining population trends. In the 1940s until the early 1970s counts of sharpshins declined as a result of the effects of DDT on reproduction. Numbers of migrating Sharp-shinned Hawks rebounded quickly in the 1970s and early 1980s. In the 1980s and the early 1990s, however, counts of migrating sharpshins again declined (see the *Annual Fluctuations Chart* above). Declines were first observed at coastal watchsites, and later at inland sites east of the Great Lakes. Plausible explanations for the declines included the possibility of pesticide contamination, loss of forest habitat, and acid precipitation. Counts of sharpshins at Hawk Mountain Sanctuary and at Cape May Point Bird Observatory declined at the same time that Christmas bird-count data from north of those two sites reported higher numbers of Sharp-shinned Hawks. These results suggest that the decreased numbers of sharpshins at watchsites were related to a changing migration behavior rather than to declining populations of breeders. Sharpshins were potentially short-stopping north of the watchsites because of milder winters and increased numbers of bird feeder birds that were overwintering in the northeastern United States.

At Hawk Mountain, 98% of the Sharp-shinned Hawk flight passes between 9 September and 5 November with the peak passage occurring in early October. At North Lookout during early October, the chance of seeing at least one sharpshin each day is 98%.

**Seasonal Timing of Sharp-shinned Hawk Migration
at Hawk Mountain Sanctuary (1934-2001)**



**Top Ten Sharp-shinned Hawk Flight Days at
Hawk Mountain Sanctuary (1934-2002)**

Number of Birds	Date
2,475	8 Oct 1979
1,747	13 Oct 1979
1,688	1 Oct 1986
1,658	7 Oct 1939
1,429	16 Oct 1975
1,427	22 Oct 1989
1,330	6 Oct 1985
1,300	15 Oct 1983
1,258	5 Oct 1986
1,256	3 Oct 1977

SUGGESTED READINGS

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