SHARP-SHINNED HAWK
Accipiter striatus velox

Author: Paul Grindrod, HawkWatch International, P.O. Box 660, Salt Lake City, UT 84110

Management Status: Federal: None
California: Species of Special Concern (CDFG, 1998)

General Distribution:

The Sharp-shinned Hawk breeds throughout the boreal forests of Canada and Alaska, and in both deciduous and evergreen forest habitats throughout much of the remaining United States including north Florida to Texas, and the southwestern border states. It is found primarily at higher altitudes in montane evergreen forests in the drier regions of the western United States. The range also extends south through the higher elevations of Mexico to the state of Oaxaca, and east into the Lesser Antilles (AOU, 1983).

Sharp-shinned Hawks winter infrequently in all areas of the breeding range (some individuals may remain year-round on the breeding territory). Most individuals vacate the northern half of the species' range during winter and they occur commonly in migration across the United States. In winter, they are present coast to coast throughout the southern United States and northern Mexico, and range as far south as Nicaragua, Costa Rica, and Panama (HawkWatch International, unpublished data; Evans and Rosenfield, 1985; AOU, 1983). They are casual or accidental in Bermuda and the Bahamas (Bent, 1961).

Distribution in the West Mojave Planning Area:

There are no breeding records for the Sharp-shinned Hawk in the WMPA; it occurs primarily as a winter visitor or migrant. It is a common winter visitor in all districts of southern California, and as a scarce summer resident in mountainous regions (Garrett and Dunn, 1981; Rosenberg et al., 1991).

Sight records exist dating back to 1893 in Death Valley (A.K. Fisher, in Grinnell and Miller, 1944), and the Colorado River valley in 1914 (Grinnell and Miller, 1944), both near, but not in the WMPA.
Within the WMPA, Sharp-shinned Hawks occur regularly during winter, as indicated by Christmas Bird Count data from China Lake, Joshua Tree National Park, Lancaster, Mojave River Valley, and Morongo Valley. They are tallied during migration at Apple Valley by the Mojave Desert Raptor Watch (McDermott 1994; Anonymous 1995). HawkWatch International had a winter (February) band recovery from Joshua Tree National Park of a female banded as a juvenile the previous autumn in the Goshute Mountains in eastern Nevada; it was found dead in 1985.

Natural History:

The smallest of the North American *Accipiters*, the Sharp-shinned Hawk shares a common general morphology with its larger congeners: short, rounded wings and a long, rudder-like tail for maneuverability in wooded habitats; long legs; and lithe, grasping toes. They occur in two distinct plumages; hatch-year or immature, and adult (definitive for the duration of the bird's life). The immature bird is brown on the back, and the head may be noticeably lighter in a clear dorsal view. Individual dorsal feathers are edged in rufous. The ventral surface is creamy white and heavily streaked with rusty-reddish to dark brown longitudinal markings evenly distributed breast to belly. Flanks are usually barred to heavily barred, with unmarked undertail coverts. Adults are slate-gray on the back and head, lacking a contrasting dark cap as seen on the Cooper's

Hawk (*Accipiter cooperii)*. The breast and belly are heavily barred in rufous on white, as are the flanks, with only the undertail coverts clear and starkly white (Wheeler and Clark, 1995). In overall proportions, the Sharp-shinned Hawk has relatively wider wings and a shorter tail than the larger Cooper's Hawk, resulting in a more stout, stumpy silhouette. The folded tail is often notched to square-tipped in the Sharp-shinned Hawk and more rounded in the Cooper's Hawk, although molt patterns can obscure these tendencies. When fully flared, the Sharp-shinned Hawk's tail may appear quite rounded. Sharp-shinned Hawks show the highest degree of sexual size-dimorphism of any North American bird, with the female nearly one-third larger, and up to twice as heavy as the male (Hill, 1944; Reynolds, 1972; Snyder and Wiley, 1976; Mueller et al., 1979; Meyer, 1987; Palmer ,1988; Hoffman et al., 1990). In addition to age and sex related dimorphism, there is significant regional variation in size (Wattel, 1973; Smith et al., 1990).

The diet is composed primarily of avian prey, from small songbirds up to bobwhite-sized quail, as well as the young of domestic fowl and Sharp-tailed Grouse (Fisher, 1893; Ferguson, 1922; Storer, 1966; Snyder and Wiley, 1976; Jones, 1979; Clarke, 1984; Joy et al., 1994). Occasionally they take small terrestrial mammals, bats, insects, lizards, frogs, and snakes (Jones, 1979; Palmer, 1988). As a hunter, the Sharp-shinned Hawk relies on speed and stealth, making short, quick forays after prey from a concealed perch. In urban areas, it is a common winter visitor at bird feeders, frequently quite visible as the abundance of prey seems to override its usual wariness of humans. In Cornell University's FeederWatch data it is the most common predator seen at feeders in winter, and Christmas Bird Count numbers of Sharp-shinned Hawks in the northeast have increased in recent years (Laurie Goodrich, Hawk Mountain Sanctuary, personal communication). Sharp-shinned Hawks are bold to the point of recklessness, sometimes crashing into dense foliage after prey, and they occasionally run prey down on foot.

The Sharp-shinned Hawk may reach sexual maturity and begin to breed in juvenile plumage in the second calendar year, but more commonly at >2 years of age (Bent, 1961; Clarke, 1984; Fischer 1984; Henny et al., 1985). They return to the breeding ground the latest of the accipiters (concurrently with the arrival of migrant passerines), and most frequently build a new nest each year within the previous year's territory (Hennessy, 1978; Reynolds and Wight, 1978; Clarke, 1984; Palmer, 1988). Laying generally occurs from early May through mid-July; the clutch size is most commonly 4 or 5 eggs in a range from 3-8 (Bent, 1961; Harrison, 1978). Eggs are laid on alternate days (Meng, 1951); therefore, incubation does not begin until the clutch is nearly complete. Incubation is from 21-35 days (Bent, 1961; Nice, 1954; Reynolds and Wight, 1978; Meyer, 1987; Palmer, 1988) with hatching synchronous to within one or two days (Palmer, 1988). "Branching" behavior begins between 21-27 days, with fledging several days later (Reynolds and Wight, 1978). Rearing of nestlings tends to coincide with the fledging of many of the Neotropical migrant songbirds, when the abundance of prey corresponds to the greatest demand for food (Palmer, 1988).

Habitat Requirements:

Sharp-shinned Hawks nest in large forests composed of conifer, deciduous, or mixed woodlands with a closed canopy dense enough that the nest is completely hidden. Nest trees are generally located near openings and brushy areas where prey is abundant and cover is sufficient for the perch and dash foraging style. A major breeding study in Oregon noted a preference for proximity to water, and characterized typical nest sites as even-aged (40-60 years), dense, single-layer canopy stands of conifer (Reynolds et al., 1982). Nest heights range from 10-60 feet (Harrison, 1978; Palmer, 1988). The male defended a nest territory approximately 245 feet (75 meters) in diameter in a study in New York, and there was apparently no overlap between the nest territory and the foraging territory (Meng, in Palmer 1988). Similar results were recorded in Utah; Sharp-shinned Hawks flew up to 0.75 miles (1200 meters) from the nest territory to hunt

(Platt, 1973). The average total area required in a study in Wyoming was 0.25-0.50 square mile (64.8-129.5 hectares) per pair (Craighead and Craighead, 1956).

During migration, Sharp-shinned Hawks use most habitat types with vegetative cover, avoiding bare areas and extensive openings (Palmer, 1988). They frequently follow ridgelines to exploit updrafts and, particularly in the inland west, avoid open valley floors by staying in montane forests at higher elevations where both prey and roosts are more available (HWI unpublished data). In the WMPA it is not uncommon to find Sharp-shinned Hawks at lower elevations in desert scrub, desert washes, Joshua tree woodland, and other vegetation.

Sharp-shinned Hawks also take advantage of a wide array of habitats during winter. They populate lower elevations using brush, shrubs, and trees that provide cover, and where there are concentrations of small birds (Palmer, 1988). Water and shelter are probably the limiting factors for prey species in the WMPA, and therefore may determine the distribution of hawks. Accordingly, riparian areas are probably the most important habitat on wintering grounds, providing foraging opportunities and roost sites for avian predators and prey species.

Population Status:

There is no evidence of a decline in migratory populations of Sharp-shinned Hawks in the western U.S. (HawkWatch International unpublished data; Golden Gate Raptor Observatory data in McDermott 1996; Battalio, 1996). Sharp-shinned Hawks continue to be seen in southern California and the WMPA in small but consistent numbers in winter, particularly during the Christmas Bird Counts. These sightings may be slightly biased by the site selection criteria of the CBC, which emphasizes areas of high bird species diversity and density.

Threats Analysis:

Habitat destruction (logging in forested areas and development in southern California), pesticide contamination, and shooting are probably the primary threats to Sharp-shinned Hawks, range-wide. Logging is a far greater threat to a breeding population than to a wintering population; the reduction of nest trees and, thereby, appropriate territories would have a greater impact on the species. This is not at issue in the WMPA. Loss of habitat to development for human needs is a known threat to many bird species in southern California. Sharp-shinned Hawks will adapt to an altered environment temporarily, for example by taking passerines at backyard feeders in the winter. However, this greatly increases the risk of collisions with windows, predation by domestic pets, and persecution by homeowners, and is not a viable substitute for “natural” habitat.

Pesticides and other agricultural chemicals may pose a significant hazard to Sharp-shinned Hawks in parts of the WMPA. Several studies have examined bioaccumulation of toxic material in the accipiters (Snyder et al., 1973; Elliott and Martin, 1994; Wood et al., 1996), and sprays used for insect and weed control, golf course and lawn fertilizers, and other agricultural applications often persist in the food chain with potentially negative effects.

Shooting might be a problem in the WMPA, although sight records are scattered and scarce enough that opportunities to shoot birds may be relatively infrequent. Remsen (1978) listed taking individuals for falconry as a potential threat to the species; however, the falconry community currently shows little interest in Sharp-shinned Hawks because of their small size, delicate nature, and general inappropriateness for the sport.

Biological Standards:

Management for the species to breed should include promoting, maintaining, and protecting a mosaic of closed-canopy forest within the designated height range. Protected forest patches must be large enough to conceal several nests because the birds rebuild each year (Reynolds and Wight, 1978), have an open or brushy understory, and encompass a large enough foraging range outside the defended nest territory to support sufficient prey. Sharp-sinned Hawks are ubiquitous in winter wherever suitable prey occur. Management to provide suitable habitat for wintering forest songbirds will, almost by default, constitute management for wintering Sharp-shinned Hawks.

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