

**ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM**

Animal Abstract

Element Code: ABNK19070

Data Sensitivity: YES

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Buteo swainsoni*

COMMON NAME: Swainson's Hawk

SYNONYMS:

FAMILY: Accipitridae

AUTHOR, PLACE OF PUBLICATION: C. L. Bonaparte, Geogr. and Comp. List, 1838, p. 3.
Based his description on a plate drawn by John James Audubon in The Birds of America (1827), for a bird collected at Fort Vancouver, Washington, date unknown.

TYPE LOCALITY: Columbia River = Fort Vancouver, Washington, Date unknown.

TYPE SPECIMEN: J. Richardson (sn), 1827, Fort Carlton near Saskatoon, Saskatchewan, Canada. Specimen originally incorrectly identified as *Buteo vulgaris*. Dr. Richardson was an English naturalist with the Franklin Arctic expeditions of the 1820s.

TAXONOMIC UNIQUENESS: No subspecies recognized. One of 25 species in the genus *Buteo*, 1 of 13 in North America.

DESCRIPTION: Medium-sized slender hawk (Crow-sized), with long, pointed wings and a long tail. Measurements include: length 17-22 inches (43-56 cm); wingspan 47-54 inches (120-137 cm); weight 1.3-2.7 lb (595-1240 g). Females slightly larger than males. Plumage extremely variable, but most individuals are recognizable. Adult-sides of the head and entire upper parts dark blackish brown; feathers obscurely edged with paler brown to cinnamon. Tail gray, basally whitish, with a narrow white tip, and several indistinct blackish bars, the last one broader. Primaries blacker than back; becoming paler basally. Throat white; breast brownish chestnut with weak black shaft streaks. Belly and legs dull white; indistinctly mottled and barred with brown to rufous. Under-wings pale with conspicuous dark marks at ends of coverts. Dark phase more or less sooty all over. Wing and tail as in normal phase, except that wing linings are much more marked with blackish. Rufous phase lighter brown below than the dark phase; and somewhat barred and blotched below with rusty brown. Intermediates occur between all the phases. Eye dark brown; cere pale greenish yellow; bill blackish; legs wax yellow (Brown et al 1968).

The immature plumage, which is worn for two years, is similar to that of adults in its two-toned underwing and finely barred tail, but young birds have a spotted and streaked breast that at times shows a hint of a darker pattern, and the head shows a definite buffy streak above the

eye and on the cheek, with a dark eye line and malar stripes. This typical pattern occurs on perhaps half the Swainson's Hawk encountered in Arizona, and if color pattern alone is used for identification, the other half will be mis-identified. (Glinski 1998).

AIDS TO IDENTIFICATION: Distinguished from other buteos by long narrow wings and lankier appearance. The pale phase adult is distinctive, but in all other plumages it may be confused with various other hawks both on its winter and summer range. At all ages most likely to be confused with Broad-winged (*Buteo platypterus*), White-tailed (*B. albicaudatus*) and Short-tailed (*B. brachyurus*) hawks (England et al 1997). In all plumages the basal half of the tail, seen from above, is usually whitish (Brown et al 1968). Close examination of the flight feathers reveals that the three outer primaries are notched, a trait Swainson's shares with the White-tailed Hawk and Broad-winged Hawk; in all other buteos the four outermost primaries are notched (Glinski 1998). Red-tailed Hawk (*B. jamaicensis*) immature may appear similar to immature Swainson's but is told by wing shape and dark patagial mark. Prairie Falcon (*Falco mexicanus*) perched is similar to pale immature Swainson's, but has dark eyes, white area between eye and dark ear patch, and wingtips that do not reach tail tip (Clark and Wheeler 1987).

ILLUSTRATIONS:

Color drawing (Robbins et al 1983:75)

Color drawing (Peterson 1990:175)

Color drawing (National Geographic 1999:117)

Color photos (Farrand, Jr. 1988:8, 216)

B&W photos and Color drawing (Clark and Wheeler, 1987:138-139, pls. 12-13)

TOTAL RANGE: Found only in the New World; it breeds in North America, in the Great Plains and arid regions, north sparingly to interior Alaska, and south to northern Mexico, and winters in South America. The normal winter range is the Pampas of Argentina, and it has been assumed that any found elsewhere at that season are casuals, probably unable to make the long migration (Brown et al 1968).

RANGE WITHIN ARIZONA: Common summer resident of the grassy plains of southeastern Arizona, but also found sparingly to central and south-central Arizona, including the Hualapai Valley. Swainson's Hawks nest less commonly on the Colorado Plateau of northern Arizona than in the Basin and Range biogeographic province to the south. The general shift in occurrence of grasslands in the state has no doubt altered the breeding range. Historically there were likely pockets of suitable Semidesert Grassland from Nogales north to Tucson and following the upper elevation limits of the Sonoran Desert to Phoenix, northwest toward Wickenburg, and then west past Aguila that sustained at least intermittent use by nesting Swainson's hawks. Agricultural areas that reliably afford views of migrating Swainson's include the Sulphur Springs Valley, Cochise County, and the valleys of the Gila and Santa Cruz Rivers, from central Arizona south to Mexico.

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: Gives a descending shrill, plaintive whistle, *kreeeeeer*, trailing off at end. In flight, shows profile like that of Turkey Vulture; the wings are held in a dihedral, or V, position, which promotes aerodynamic stability in open landscapes where wind can interfere with flight close to the ground. Highly migratory, often seen in large flocks in spring and fall flights. During the breeding season, a soaring, open country hunter. Sometimes hunts high in the air, but more frequently courses low over prairie. Rarely observed flying low at high speed as Ferruginous Hawk does. Often hunts from perches such as tree limbs, poles or posts, rocks, and elevated ground.

REPRODUCTION: Most pairs arrive on their territories by mid-April (sometimes earlier), perform nest building and courtship through mid-May, incubate through mid-June, and tend nestlings through late July. Many if not most hawks, return to the same nesting area each year, and both members of the pair reconstruct the previous year's nest (Glinski 1998). Breeds in open country, usually nesting in scattered trees. Nest usually high in a tree, but when necessary in a low tree, on a giant cactus, on a ledge of rock outcrop or embankment, and occasionally on the ground. Nests are constructed 6-30 feet up, and are typically re-used (Baicich et al 1997). Typical raptor nest: bulky, unsightly mass of sticks, constructed of various freshly broken sticks, twigs, and debris. Nests lined with inner bark, fresh leaves, flower clusters, down and feathers. Clutch size is two or three eggs. Eggs (2.2 inches or 57 mm) are bluish-greenish-white/white, sparsely marked with brown; about 20% of eggs unmarked (Ehrlich et al 1988). Incubation period is 34-35 days and is completed almost entirely by the female. Male will forage for pair and occasionally cover eggs while female is away from nest. Young fledge at 38-46 days after hatching, but stay near to nest for first few days.

FOOD HABITS: Preys on rabbits, lizards, snakes, frogs, toads, birds (mostly fledglings), and occasionally on large insects such as grasshoppers (Ehrlich et al 1988). Major rodent prey during breeding season includes ground squirrels, pocket gophers (*Thomomys* sp.), voles (*Microtus* sp.), and deer mice (*Peromyscus* sp.) (England et al 1997).

HABITAT: Per Glinski (1998), "Grasslands, Semidesert Grasslands, and Savanna Grassland, either apart or intermixed with open desertscrub habitats of the Sonoran, Mohave, Chihuahuan, and Great Basin Deserts, are home to nesting Swainson's Hawks in Arizona. Many nests in Cochise County are in agricultural and sparsely settled residential settings that border native grassland habitats. It appears that agricultural areas located away from the fringe of a native grassland and surrounded only by desertscrub are not suitable nesting sites." Historically and in existing native habitat, Swainson's forage in open stands of grass dominated vegetation, sparse shrub-lands, and small open woodlands. In many parts of their range today, they have adapted well to foraging in agricultural areas (e.g., wheat and alfalfa), but cannot forage in most perennial crops or in annual crops that grow much higher than native grasses, making prey more difficult to find (England et al 1997).

ELEVATION: In Arizona, Swainson's Hawks have been recorded breeding at elevations of 1,890ft and 5,650ft (576.45-1723.25 m).

PLANT COMMUNITY: Although Swainson's Hawk will nest in almost any tree of suitable size, in Arizona vegetation used for nesting include: catclaw acacia (*Acacia greggii*), cholla cactus (*Opuntia* sp.), mesquite (*Prosopis glandulosa*), desert willow (*Chilopsis linearis*), Joshua tree (*Yucca brevifolia*), creosotebush (*Larrea tridentata*), paloverde (*Cercidium* sp.), ironwood (*Olneya tesota*), and saguaro (*Carnegiea gigantea*) (Glinski 1998).

POPULATION TRENDS: There are no comprehensive estimate of population size on breeding grounds or in wintering areas in South America. Absent from much of its historical breeding range in central and southern California, where overall population may have declined by >90% during 1900s (Bloom 1980). Swainson's Hawk considered abundant and stable in Idaho, Washington, Montana and Colorado (Harlow and Bloom 1989). There appear to be plenty of nesting pairs in Arizona that produce young annually (Glinski 1998).

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS:	None (USDI FWS, 1996) [C2 USDI, FWS 1985]
STATE STATUS:	None
OTHER STATUS:	None, USDA FS Region 3, 2013 Not BLM Sensitive (USDI, BLM AZ 2010) [Bureau of Land Management Sensitive PS, breeding pops (USDI, BLM AZ 2008)] [Forest Service Sensitive USDA, FS Region 3 2007]

MANAGEMENT FACTORS: Proposed conservation measures, including habitat conservation plans, usually focus on retention of some portion of existing foraging and nesting habitats while allowing other areas to be lost to urban development. As economic conversion of agricultural areas to commercial and residential real estate continues, impacts on Swainson's Hawks populations should be monitored to determine population trends. Alternative, less toxic pesticides and grasshopper baits should be tested in Argentina (England et al 1997). Swainson's Hawks are susceptible to even minor disturbance during the nesting stage, which may lead to desertion of nest.

PROTECTIVE MEASURES TAKEN: Few if any conservation measures have been taken. No effective measures to mitigate the loss or degradation of foraging habitat has been demonstrated. With regard to pesticides, an effort is under way to have monocrotophos removed from the market in the La Pampa area where Swainson's Hawks are numerous, but it is still readily available in other parts of Argentina where the hawks are present (England et al 1997).

SUGGESTED PROJECTS:

LAND MANAGEMENT/OWNERSHIP: BLM, BIA, DOD, State Land Department, Private.

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ADDITIONAL INFORMATION:

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