

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

Animal Abstract

Element Code: ABPBJ18100

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Catharus ustulatus*

COMMON NAME: Swainson's Thrush; Alma's Thrush; Olive-backed Thrush; Russet-backed Thrush; Swamp Robin

SYNONYMS: *Turdus ustulatus*; *Hylocichla ustulata*

FAMILY: Turdidae.

AUTHOR, PLACE OF PUBLICATION: *Turdus ustulatus* Nuttall, Man. Orn. U.S. and Canada, vol. 1, ed. 2, 1840, pp. vi, 400. (Forests of Oregon = Fort Vancouver, Washington.)

TYPE LOCALITY: Fort Vancouver, Washington (Columbia River, Vancouver, WA.)

TYPE SPECIMEN: USNM A02040 (date unknown): Complete skin of adult collected by J.K. Townsend in Fort Vancouver (Columbia River), Clark County, Washington, U.S.A.

TAXONOMIC UNIQUENESS: Previously placed in the family group, *Muscicapidae*, but the elevation of the subfamilies to family rank and the new taxonomic order was adopted by the 1997 American Ornithologists Union (AOU) "Check-list Committee" (AOU, 1997). Six subspecies currently recognized that segregate into 2 groups, russet-backed (*ustulatus* group) and olive-backed (*swainsoni* group), differing in plumage, breeding habitat, winter range, and in some vocalizations (M.A. Ramos in Phillips 1991; American Ornithologists' Union 1998). The confused historical taxonomy of this species and currently recognized differences may yet prompt further reclassification (Mack and Yong 2000).

DESCRIPTION: Medium-sized thrush with olive-brownish upper-parts, distinct buffy eye-ring, white underparts and brownish black spotting on the throat and breast. Overall length 16.1-19.3 cm (6.3-7.6 in); mass 23-45 g. Upperparts, including tail, vary geographically from olive to reddish olive, grayish olive, or ashy brown. Although wings and tail may be somewhat browner than body, upperparts appear fairly uniform in color. Underparts white, with sides of face, throat, and breast washed pale buff to cream, and with bold triangular brownish black spots on sides of throat and rounded black spots on breast. Sides and flanks brownish gray to olive. Immature birds distinguished from adults by presence of buffy tips on some median and greater wing-coverts. No seasonal change in plumage, and sexes alike in appearance, but wing length greater in adult male than in adult female, and greater in adult than in immature. (Evans Mack and Yong 2000).

AIDS TO IDENTIFICATION: Swainson's best distinguished from all other North American *Catharus* thrushes by presence of buffy eye-ring and lores (eye-ring less distinct and dull whitish or largely absent in other *Catharus* thrushes). Additionally, Gray-cheeked Thrush (*C. minimus*), the species most similar in size, coloration, and plumage pattern to Swainson's, has grayish face and upper-parts and more grayish (less buffy) wash on throat and breast. (Evans Mack and Yong 2000). The distinctive song and call also distinguish Swainson's Thrush from congeners. Flute-like song spirals upward, differing from the descending or variably pitched songs of related *Catharus* thrushes.

ILLUSTRATIONS: Color illustration (Peterson 1990: p. 277)
Color illustration (Robbins et al. 1987: p. 249)
Color illustration (National Geographic 1999: p. 349)
Color photo (Farrand 1988: p. 421)

TOTAL RANGE: Found breeding in suitable habitat across the North American continent from Alaska in the extreme northwest through Canada to the shores of the North Atlantic Ocean in the northeast. Also breeds in the eastern and central United States. The breeding range in the west extends south through Washington and Oregon to coastal California. Found at medium elevations in other western states including west-central Colorado and Montana, northern highlands and western New Mexico, northeastern Nevada, western South Dakota, north and central Utah, and locally throughout Wyoming. Also recorded breeding in San Francisco Mountains, in Arizona, and very locally elsewhere in mountains of Arizona south to the Mogollon Rim. (Evans Mack and Yong 2000). Well documented changes in breeding distribution within the last century in California; described as a range contraction (Hejl 1994). Historic range covered most of the state except high elevations in Sierra Nevada and desert regions.

Winters mostly in Mexico and northern South America, including Venezuela, Colombia, Ecuador, and Peru (Ridgely and Tudor 1989, Robbins et al. 1995); less abundant in Central America. Fairly common migrant and winter visitor in Honduras (Monroe 1968); relatively rare winter resident in Costa Rica, and central and eastern Panama (Evans Mack and Yong 2000).

Outside of the Americas: one specimen collected in Kharkov Oblast of former USSR (Flint et al 1989); casual or accidental on Meighen Island (Franklin District), in the Revillagigedo Islands (Socorro Islands sight report), and in Iceland, the British Isles, and continental Europe (AOU 1998, Evans Mack and Yong 2000).

RANGE WITHIN ARIZONA: Extremely local breeder along dense alder-scrub willow thickets in the north eastern part of the state near Greer and Alpine. Also found inhabiting the corkbark fir forests of the White Mountains and San Francisco Peaks. Has been found occurring among the cool fir and alder lined drainages in the Chuska Mountains. It is a fairly common spring migrant throughout the state, particularly in the south and west, arriving from its winter range of southern Mexico and Argentina (Terres 1996). At the Coronado National

Memorial, Swainson's Thrush have been seen during the spring, though their abundance is rare (NPS,1985).

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: Generally a nocturnal migrant, Swainson's Thrush begin their migration north from Central and South America in April, and pass through Arizona between April and June. Stopover migrants move locally during the day. Females migrate later than males in spring, but there is insufficient data to discern sexual differences in fall migration schedules (Annan 1962, Winker et al. 1992 in Evans Mack and Yong 2000). Commonly calls during nocturnal migration, and number of calls/hour or calls/night used to identify peak flights (Peterjohn 1989, Veit and Petersen 1993 in Evans Mack and Yong 2000). During nocturnal migration, Swainson's gives soft bell-like *peep*, a call often compared to sound of spring peeper (*Hyla crucifer*). Most distinctive call is a single, sharp *whit*, compared to Hermit Thrush's low *chuck*, the Wood Thrush's rapidly repeated *bup bup* or *pit-pit-pit*, the Veery's whistled *phew*, and the Gray-cheeked Thrush's slurred *phew-ah*. Best known for Advertising Song (delivered by male only), which carries the musical, flute-like quality of close relatives, but which uniquely spirals upward in pitch. Phonetically described as *whip-poor-will-a-will-e-zee-zee-zee* (A.D. DuBois in Bent 1949). (Evans Mack and Yong 2000).

Territory size, based on modified spot-mapping augmented with banded individuals and/or tracking of individuals, reported at 2.1 ha in spruce forests of New Hampshire ($n=12$; Sabo 1980); 1 ha (average), extending 7 m into canopy in wet black spruce (*Picea mariana*) in Ontario ($n=12$; Martin 1960); and ≤ 1 ha where species occurs in high densities in mixed-conifer forest in Idaho (Hovis et al. 1997). (Evans Mack and Yong 2000). There are few accounts of direct predation of adults. Frequent predation by Sharp-shinned Hawks (*Accipiter striatus*) during over-lapping migration (Bent 1949). Presumed predators on nesting grounds include accipiters and falcons. (Evans Mack and Yong 2000). Swainson's Thrush has at least a 10 year life span reported from the wild. Band returns analyzed through 1982 identified a female banded as AHY in June 1968 in California and recaptured in the same vicinity in July 1977 (Klimkiewicz et al. 1983). Returns of color-banded individuals in Idaho over 6 years, document at least a 5 year life span (Hovis et al. 1997). (Evans Mack and Yong 2000).

REPRODUCTION: Breeding begins in late April with nest construction being completed in around 4 days by the female. Nest most frequently found in the under-story, particularly in thickets of deciduous shrubs or conifer saplings; less frequently, but consistently found >3 m high on top of a horizontal branch away from the bole of a larger diameter tree. A cup nest is usually constructed of twigs, sedges, mosses, ferns, and leaves, lined with lichens and dead leaves (Terres 1996). Nests are located 2-20' above ground, most often on a horizontal branch close to the trunk of a small coniferous (at times deciduous) tree or bush. At times, willows are used for nest locations.

The female lays 1-5 (average 4) pale blue eggs with evenly spread pale-brown marks, to concentration toward larger end. She incubates the clutch alone for 10-14 days from last egg

laid (Evans Mack and Yong 2000). Hatchlings are altricial, partially covered with natal down, and with eyes closed. Both male and female share the feeding responsibilities from hatching (Stanwood 1913), although proportion of effort is not quantified. Limited data suggests that Brown-headed Cowbirds have low success with this species, based on relatively low rates of parasitism and high rates of failure of parasitized (and all) nests (Evans Mack et al 2000). Young typically fledge from nest at 12-14 days. Fledglings remain close to nest tree for 1-2 days and then begin to wander subsequently. Duration of dependence on and association with parents unknown.

FOOD HABITS: Main foods taken include berries and insects. Breeding and spring migrating populations tend to be insectivorous; fall migrating and wintering populations more frugivorous. Generally considered a near ground forager, although less so than other thrushes. Forages on or near forest floor, where it gleans from the ground and litter, and leaf-gleans on conifer and broad leaved foliage in low under-story (>2m high; Sabo 1980). They glean food from the forest floor, foliage, and branch surfaces, eating insects, spiders, fruits, berries, beetles, and worms (DeGraaf and others 1991, Terres 1996).

HABITAT: Swainson's Thrush typically prefer coniferous forests, but will use high elevation willow and/or alder thickets along lowlands/shaded streams and aspen forests. Canopy closure, understory cover, tree density, and a conifer component are important habitat attributes (Evans Mack and Yong 2000). Nesting has been documented in alder-scrub willow thickets near Greer, Arizona. Preference is given to damp forests or forests adjacent to water. Such habitats provide proper nesting habitat and summer nutritional needs. Alternative habitats include willow/alder thickets, aspen forests, and other deciduous trees along stream sides. In New Mexico, mostly in spruce-fir and fir forest and adjacent riparian woodland (Hubbard 1978 in Evans Mack and Yong 2000).

ELEVATION: The records currently on file in the Arizona Game & Fish Department's Heritage Data Management System (HDMS) indicate that this species has been detected at altitudes between 7,375 and 9,230 ft (2249-2815 m) in Arizona. Across its range, they occur from sea level to 2,600 m or higher; the elevation at which species is most common varies geographically and with habitat (Evans Mack and Yong 2000).

PLANT COMMUNITY: Breeds in coniferous and deciduous montane, forests, but migrates through other vegetation. Dense second growth preferred (Harrison 1979). Swainson's Thrush inhabits spruce-fir forests, fir forests and riparian woodlands in summer. During migration, they can be found in lowland woodlands to higher elevations. The ponderosa pine forest is found in the southwest. The lodgepole pine forest occurs to 11,000 feet in the Rocky Mountains. Pinyon-juniper forests are distributed throughout the semiarid Western U.S., usually on dry, shallow, rocky soils of mesas, benches, and canyon walls. Found in Desert Riparian Deciduous Woodlands, Marshes; River, Riparian Woodlands, Subalpine Marshes: "Desert Riparian Deciduous Woodland, Marsh" occurs where desert streams provide sufficient moisture for a narrow band of trees and shrubs along the margins. "River Riparian Woodland, Subalpine Marsh" occurs at elevations where stream conditions provide sufficient

permanent moisture for emergent plants, or for a narrow band of deciduous trees and shrubs (USDA 1991).

POPULATION TRENDS: Based on BBS data (Sauer et al. 1997), Swainson's Thrush populations declined in North America at a small annual rate (0.8% /yr) during 1980-1996. In some regions, trends for the last 17 years have reversed from increases in earlier decades. During 1966-1979, populations increased significantly at 3% /yr in North America carried primarily by Canadian provinces (Evans Mack et al.2000).

Although Swainson's Thrush is still considered one of the most common birds of northern spruce-fir forests, populations are declining even where abundant, particularly in Alaska and the Northeast. In California, the breeding range has contracted during the last century, and "the disappearance of the Swainson's Thrush from Yosemite Valley is one of the unsolved mysteries of Sierra ornithology" (Marshall 1988:367, citing Beedy and Granholm 1985). The trend is clear, but the reasons are not. Loss of breeding habitat may be a contributing factor. On the Pacific Coast, loss of riparian habitat to development and grazing have likely contributed to declines. The impact of habitat changes on wintering grounds is unclear (Mack and Yong 2000).

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None
STATE STATUS: 2 (AZGFD, AWCS 2022)
 [1B (AGFD SWAP 2012)]
OTHER STATUS: None

MANAGEMENT FACTORS:

Threats: timber harvest in Chuska Mountains; livestock and elk overgrazing of riparian regeneration in drainages in White Mountains. Other threats to this species include thinning fires that remove understory and floor structure and catastrophic fire in mixed-conifer forests. Modification of habitat from thinning projects may be detrimental to Swainson's Thrush if treatment results in an evenly spaced forest without dense clumps of trees. Grazing that reduces the herbaceous layer and seedheads, thereby reducing insect populations can eliminate a critical food source for Swainson's Thrush. Expansion of recreational development, such as ski areas, may also pose a threat to this species.

Management needs: reduce riparian grazing to maintain scrub willow and alder regeneration.

Swainson's Thrush management issues are listed in italics. Below each issue are the Arizona Partners in Flight Conservation Recommendations (Latta et al. 1999).

Habitat Loss and/or Modification:

1. Incorporate irregular thinning, leaving random clumps of dense saplings or of vegetation in lower to middle forest layer.

2. Use appropriate prescribed fire management and where feasible, fuel reduction practices to reduce risk of catastrophic fires.

Grazing:

1. Incorporate grazing utilization standards where necessary to maintain herbaceous layer and seed heads that support insects for Swainson's Thrush diet.

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS: 1) Determine most critical nesting and foraging habitat components in Spruce-Fir forests. 2) Determine whether Spruce-Fir is the most critical habitat or most highly used habitat for Swainson's Thrush in Arizona. 3) Estimate populations. 4) Conduct surveys to determine presence/absence in areas of the state with known Swainson's Thrush habitat (Latta et al 1999).

LAND MANAGEMENT/OWNERSHIP: US Forest Service - Apache-Sitgreaves National Forest; BIA - Navajo Nation; Private. Although there are no current records in the HDMS, this species occurs on the Coconino National Forest.

SOURCES OF FURTHER INFORMATION

REFERENCES:

- American Ornithologists' Union (AOU). 1957. Check-list of North American birds. 5th ed. AOU, Port City Press, Inc., Baltimore, Maryland. p. 438.
- American Ornithologists' Union (AOU). 1997. Check-list of North American birds. 7th ed. AOU, Washington, D.C.
- American Ornithologists' Union (AOU). 1998. Check-list of North American birds. 7th ed. AOU, Washington, D.C.
- Arizona Game and Fish Department. 2012. Arizona's State Wildlife Action Plan 2012-2022. Phoenix, Arizona. 233 pages.
- Arizona Game and Fish Department. 2022. Arizona Wildlife Conservation Strategy: 2022-2032. Arizona Game and Fish Department, Phoenix, Arizona. 378 pages.
- Biota Information System of New Mexico (BISON). 2000. Bison species account 042115: Swainson's Thrush, *Catharus ustulatus*. New Mexico Game & Fish, <https://www.bison-m.org/booklet.aspx?SpeciesID=042115>
- Evans Mack, D., and W. Yong. 2000. Swainson's Thrush (*Catharus ustulatus*). in: A. Poole and F. Gill, editors. The birds of North America, No. 540. The Academy of Natural Sciences, Philadelphia, and The American Ornithologists' Union, Washington, D.C.
- Farrand, J. 1988. Western birds. McGraw-Hill Book Company, New York, New York. p. 421.
- Flint, V.E., R.L. Boehme, Y.V. Kostin, and A.A. Kuznetsov. 1989. Birds of the USSR. Princeton Univ. Press, Princeton, New Jersey.
- Harrison, H. H. 1979. A field guide to western birds' nests. Houghton Mifflin Harcourt. 384 pages.
- Hejl, S.J. 1994. Human induced changes in bird populations in coniferous forests in western North America during the past 100 years. Studies in Avian Biology. 15:232-246.

- Latta, M.J., C.J. Beardmore, and T.E. Corman. 1999. Arizona Partners in Flight bird conservation plan version 1.0. Nongame and Endangered Wildlife Program Technical Report 142. Arizona Game and Fish Department, Phoenix Arizona.
- National Geographic. 1999. Field guide to the birds of North America. Third edition. National Geographic Society, Washington D.C. p. 348.
- National Park Service. 1985. A checklist of the birds of Coronado National Memorial, Arizona. Published by the SW Parks and Monuments Association. Tucson, Arizona.
- Peterson, R.T. 1990. Peterson field guides: western birds. Third edition. Houghton Mifflin Company, Boston, Massachusetts. p. 276.
- Phillips, A. R. 1991. The known birds of North and Middle America. Pt II. A. R. Phillips, Denver, Colorado.
- Robbins, C.S., B. Bruun, and H.S. Zim. 1983. Birds of North America: a guide to field identification. Western Publishing, New York, New York.
- Sabo, S.R. 1980. Niche and habitat relations in sub-alpine bird communities of the White Mountains of New Hampshire. Ecological Monographs 50:241-259.
- Sauer, J.R., J.E. Hines, G. Gough, I. Thomas and B.G. Peterjohn. 1997. The North American breeding bird survey results and analysis. Version 96.4. Patuxent Wildlife Research Center, Laurel, Maryland.
- Stanwood, C.J. 1913. The olive-backed thrush (*Hylocichla ustulata swainsoni*) at his summer home. Wilson Bull. 25:118-137.
- USDA. 1991. Forest and rangeland birds of the United States, natural history and habitat use. Forest Service Agricultural Handbook 688.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

- Diane Evans Mack, USDA Forest Service's Pacific Northwest Research Station, Olympia, WA. E-mail: devans02@fs.fed.us.
- Dr. Wang Yong, Department of Natural Resources Science, University of Rhode Island, Kingston, RI. E-mail: ywang@uri.edu.

ADDITIONAL INFORMATION:

Revised: 2001-06-20 (JDC)
2001-09-04 (SMS)
2022-12-21 (MBL)

To the user of this abstract: you may use the entire abstract or any part of it. We do request, however, that if you make use of this abstract in plans, reports, publications, etc. that you credit the Arizona Game and Fish Department. Please use the following citation:

Arizona Game and Fish Department. 20XX (= **year of last revision as indicated at end of abstract**). X...X (= **taxon of animal or plant**). Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. X pp.