

ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Animal Abstract

Element Code: ABPBX9901D

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CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Passerculus sandwichensis rostratus*

COMMON NAME: Large-billed Savannah Sparrow

SYNONYMS: *Emberiza rostrata*

FAMILY: Emberizidae

AUTHOR, PLACE OF PUBLICATION: *P.s. rostratus*, Cassin, Proc. Acad. Nat. Sci. Philadelphia, Sept.-Oct. (Dec. 31) 1852, p. 184.

TYPE LOCALITY: Sea shore at San Diego, California.

TYPE SPECIMEN:

TAXONOMIC UNIQUENESS: *Passerculus sandwichensis* is 1 of 2 species in the genus and the only species of *sandwichensis* that occurs in Arizona. *Passerculus sandwichensis rostratus* is 1 of 17 subspecies in the species *sandwichensis*, and 1 of 3 subspecies that occurs in Arizona. According to Zink et al. (1991 in NatureServe 2001), "Morphological evidence and the level and pattern of mtDNA variation support species status for *rostratus* (of southwestern California and the north and east coasts of the Gulf of California)."

DESCRIPTION: Sexually monomorphic in plumage; nape, back, and rump brownish or grayish, and streaked to varying degrees; crown without a median stripe unlike other subspecies. Eyebrow stripe usually yellow, especially anteriorly, sometimes beige (more visible in summer); malar stripe thin and dark. Remiges and rectrices brown with no white; outer web of lateral rectrices may be paler than others; no distinct wing bars. Generally has a little yellow concealed in the bend of the wing. Throat, breast, and belly whitish to pale beige; breast generally streaked with brown, often with a small central spot; throat and belly with or without streaks. Legs pinkish; iris brown. Total length: males 11.5-15.5 cm, females 11.0-14.9 cm. (Wheelwright and Rising 1993). The tertials are long, to protect the wing from abrasion against the grass; the tail is slender, short, and somewhat notched because the rectrices are pointed in this genus (Phillips, Marshall, and Monson 1964).

AIDS TO IDENTIFICATION: Differs from other subspecies in paler coloration, lack of streaks on the back and crown, and more swollen bill (NGS 1983, Ridgway 1901, in NatureServe 2001). Among grassland sparrows, *P. sandwichensis* is most similar to Baird's Sparrow (*Ammodramus bairdii*), but that species has entire head washed with ochre and it lacks a noticeable postocular line. Head and breast pattern of Savannah most closely matched

by Song Sparrow (*Melospiza melodia*), but latter species is larger with proportionately longer tail. (Wheelwright and Rising 1993). In addition, their song is different from the other sparrows by having short high introductory notes, followed by about 3 rich, buzzy *dzeeee*'s; call is a soft metallic *zink* (National Geographic 1999).

ILLUSTRATIONS:

Color photo of species (Wheelwright and Rising, 1993).
Color drawing of species (National Geographic 1999: 413).
Color drawing (Peterson 1990: 327).
Color photo of species (Farrand 1988: 454).

TOTAL RANGE: Breeding - northeastern Baja California (Colorado River delta, San Felipe) and northwestern Sonora (mouth of Colorado River; south to Isla Patos, integrates with subspecies *atratus*). Nonbreeding - from central coastal and southern California south along both shores of Baja California to the Cape district, to islands of the Gulf of California, the Sonoran coast, and northern Sinaloa. Seen in the U.S. chiefly at the Salton Sea. Accidental in Arizona.

RANGE WITHIN ARIZONA: Late summer straggler to lakes near Yuma.

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: Diurnal bird with a shrill *sip* call. Singing performed by male alone except in unusual cases; *buzt-buzt-buzt* call given by subordinate bird in an agnostic encounter or by a non-receptive female to a courting mate; and rapid empathic *chip-chip*, series of *chips*, or rising trill given by female only when flying to or leaving nest. Female spends night on the nest while incubating or brooding, otherwise adults sleep on the ground. (Wheelwright and Rising, 1993). *P.s. rostratus* rarely migrates, but occasionally wanders up along the coast of southern California, and the Salton Sea.

Adults, juveniles, and nestlings may be preyed on by clapper rails (*Rallus longirostris*), short-eared owl (*Asio flammeus*), barn owl (*Tyto alba*), northern harrier (*Circus cyaneus*), sharp-shinned hawk (*Accipiter striatus*), American Kestrel (*Flaco sparverius*), and merlin (*Falco columbarius*). Nest predators include: herring gull (*Larus argentatus*), American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), and common grackle (*Quiscalus quiscula*). They are also preyed upon by whipsnakes (*Masticophis* spp.) and a variety of small mammals including the domestic cat (*Felis domesticus*), raccoon (*Procyon lotor*), or striped skunk (*Mephites mephites*). The Brown-headed Cowbird (*Molothrus ater*) is a known parasite, however, the impact on the subspecies is unknown. (NatureServe 2001).

REPRODUCTION: Polygyny sometimes occurs in southern populations of *P. sandwichensis*, where the breeding season is longer. Surviving juveniles and adults of this species tend to return to the same natal or breeding sites (Wheelwright and Rising 1993). Birds nest on the

ground in a natural depression or scrape; nest site chosen by female (which may fall near the edge or outside of territory established by male). The female constructs the nest in 1-3 days. Most nests concealed by a canopy of dead grasses and herbs or tucked under a tussock with a tunnel. Nest cup consists of coarse and finely woven grasses. The exterior diameter is 7.5 cm (3 in), interior diameter 5.2 cm (2 in) and nest depth is 2.74 cm (1 in).

Breeding season occurs approximately from 1 May to 1 August, but it has also been reported that eggs have been laid from March to July. Based on other subspecies: clutch size probably 3-6 (usually 4-5); incubation 12 days, by both sexes; nestlings altricial and downy; young leave nest about 14 days after hatching; infrequently nests in loose colonies (NatureServe 2001). Wheelwright and Rising (1993) report incubation by female only. Ovate or short-ovate eggs are pale greenish, bluish, tan, or off-white (Baird 1968), marked with speckles or streaks of various sizes and shades of brown, generally concentrated around thick end, although may cover entire egg. (Wheelwright and Rising 1993).

FOOD HABITS: Granivore, Invertivore. The species has a broad foraging niche. In the winter the main foods eaten are small seeds, fruits and insects when available. In the breeding season they eat adult insects, larval insects, insect eggs, small spiders, millipedes, isopods, amphipods, decapods, mites, small mollusks, seeds and fruits. They hunt for insects and other arthropods while walking on the ground, peering around the base of grasses and herbaceous plants. Adults feed arthropods to young (NatureServe 2001).

HABITAT: Herbaceous wetland; tidal salt marshes and coastal estuaries. Prefers habitat with short to intermediate vegetation height, intermediate vegetation density, and a well developed litter layer (NatureServe 2001). Non-breeding *P.s. rostratus* formerly occupied a variety of habitats including beaches and wharves.

ELEVATION:

PLANT COMMUNITY: Herbaceous wetland including species of *Salicornia*, *Allenrolfea*, *Suaeda*, *Atriplex*, and *Distichlis*.

POPULATION TRENDS: According to NatureServe (2001), "Population fluctuation appears common for the species. No long-term population increase or decline known for the subspecies. Disappearing in some habitats. In southern California, for example, formerly occupied beaches, wharves, and urban areas (Unitt 1984, cited in Wheelwright and Rising 1993)."

Wheelwright and Rising (1993), reports the migratory population "that probably breeds at the mouth of the Colorado River, is greatly reduced or extinct, possibly because of agricultural uses of the water from that system."

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: SC (USDI, FWS 1996)
[C2 USDI, FWS 1985, 1989, 1991, 1994]

STATE STATUS: 2 (species level) (AZGFD, AWCS 2022)
[1B (AGFD SWAP 2012)]

OTHER STATUS: None (USDI, BLM AZ 2005)
[Bureau of Land Management Sensitive
(USDI, BLM AZ 2000)]
PR, Determined Subject to Special
Protection in Mexico (NORMA Oficial
Mexicana NOM-059-SEMARNAT-
2010).
Determined Subject to Special Protection
(Secretaria de Medio Ambiente 2000)

MANAGEMENT FACTORS: Habitat destruction is a main factor in this species survival. Their coastal habitats need to be protected in order for this species to thrive. For the species, managers should avoid disturbing (e.g., burning, mowing, moderate or heavy grazing) suitable habitat during the breeding season, approximately 1 May to 1 August. Treatments in nesting habitat should be delayed until after 1 August to prevent destruction of fledglings or renesting females (Swanson 1996) (NatureServe 2001).

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS: For the species: “Promote management or enhancement activities that increase the amount of contiguous grassland habitat (Herkert 1991). Acquire large grassland tracts and minimize edge effects through reduction of woody vegetation along edges and within grasslands (Wray et al. 1982; Johnson and Temple 1986, 1990; Burger et al. 1994).” (NatureServe 2001).

LAND MANAGEMENT/OWNERSHIP:**SOURCES OF FURTHER INFORMATION****REFERENCES:**

- American Ornithologists’ Union (AOU). 1957. Check-list of North American Birds. Fifth Edition. AOU, Port City Press, Inc., Baltimore, Maryland. p. 590.
- Arizona Game and Fish Department. 2012. Arizona’s State Wildlife Action Plan 2012-2022. Arizona Game and Fish Department, 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.

- National Geographic. 1999. Field guide to the Birds of North America. Third Edition. National Geographic Society, Washington, D.C. pp. 412-413.
- NatureServe: An online encyclopedia of life [web application]. 2001. Version 1.5. Arlington, Virginia, USA: Association for Biodiversity Information. Available: <https://explorer.natureserve.org/> (Accessed: November 7, 2001).
- Peterson, R.T. 1990. A field guide to western birds. Third edition. Houghton Mifflin Company, Boston, Massachusetts. pp. 326-327.
- Phillips, A., J. Marshall, and G. Monson. 1964. The birds of Arizona. The University of Arizona Press, Tucson, Arizona. p. 192.
- Secretaría de Medio Ambiente y Recursos Naturales. 2010. NORMA Oficial Mexicana NOM-059-SEMARNAT-2010, Protección ambiental-Especies nativas de México de flora y fauna silvestres-Categorías de riesgo y especificaciones para su inclusión, exclusión o cambio-Lista de especies en riesgo.
- USDI, Bureau of Land Management. 2000. Arizona BLM Sensitive Species List. Instruction Memorandum No. AZ-2000-018.
- USDI, Bureau of Land Management. 2005. Arizona BLM Sensitive Species List.
- USDI, Fish and Wildlife Service. 1985. Endangered and threatened wildlife and plants; review of vertebrate wildlife; notice of review. Federal Register 50(181):37958.
- USDI, Fish and Wildlife Service. 1989. Endangered and threatened wildlife and plants; animal notice of review. Federal Register 54(4):560.
- USDI, Fish and Wildlife Service. 1991. Endangered and threatened wildlife and plants; animal candidate review for listing as endangered or threatened species; proposed rule. Federal Register 56(225):58812.
- USDI, Fish and Wildlife Service. 1994. Endangered and threatened wildlife and plants; animal candidate review for listing as endangered or threatened species; proposed rule. Federal Register 59(219):58992.
- USDI, Fish and Wildlife Service. 1996. Endangered and threatened wildlife and plants; review of plant and animal taxa that are candidates for listing as endangered or threatened species; notice of review; proposed rule. Federal Register 61(40):7596-7613.
- Wheelwright, N.T. and J.D. Rising. 1993. Savannah Sparrow (*Passerculus sandwichensis*). *in*: A. Poole and F. Gill (editors). The Birds of North America, No. 45. The Academy of Natural Sciences, Philadelphia, and The American Ornithologists' Union, Washington, D.C.

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ADDITIONAL INFORMATION:

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