

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

Animal Abstract

Element Code: ABPBXA0010

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Centronyx bairdii*

COMMON NAME: Baird's Sparrow

SYNONYMS: *Emberiza bairdii*, *Ammodramus bairdii*

FAMILY: Emberizinae

AUTHOR, PLACE OF PUBLICATION: Audubon, 1844, Birds of America, 7:359, Pl. 500.
Centronyx bairdii, Klicka and Spellman, 2007, The Auk, 124:2, 537-551.

TYPE LOCALITY: Fort Union, Prairie of the upper Missouri near confluence of Yellowstone River with the Missouri, Williams County, North Dakota.

TYPE SPECIMEN: USNM A01885, complete skin, E. Harris and J. G. Bell, 26 July 1843.

TAXONOMIC UNIQUENESS: One of two species in the genus *Centronyx* in North America, and the only one in Arizona. *Centronyx* was formerly considered congeneric with *Ammodramus*, but genetic data (Klicka and Spellman 2007, DaCosta et al. 2009, Klicka et al. 2014) indicate that *Ammodramus* as previously constituted was polyphyletic and that these species are not true *Ammodramus*

DESCRIPTION: A small bird, 5.25-5.5 inches (13.34-13.97 cm) long; wing length 2.75-3.0 in (7.0-7.6 cm); tail 2.1-2.3 in (5.3-5.8 cm); average weight (in Alberta) 17.8 g for females and 18.9 g for males. Adults are dark brown above with buff or whitish streaks and edgings, variably flecked with rust. The central crown is strip buff (ochre) with dark borders (orange tinge to head); nape buff with dark streaks. The face is also buff with two dark mustache streaks, and dark ear spots that may join the upper mustache streak to form a dark face triangle. Underparts are white, usually with buff wash on breast and necklace of dark streaks. Rump is lighter; wing feathers grayish-brown, coverts are darker centrally, all are edged with pale rufous. The middle pair of tail feathers are much narrower and more pointed than the others (forked appearance); while the outer feathers are narrowly edged with white and dull white terminally; other tail feathers are narrowly tipped with dull white or buffy. The large, conical bill is light flesh color, darker at tip; legs are flesh color; feet are darker; the irises are brown. Immature is duller with less obvious crown stripe (finely streaked); white fringes give a scaly appearance to upperparts; underparts more extensively streaked.

AIDS TO IDENTIFICATION: Savannah sparrow (*Passerculus sandwichensis*) not as chunky; has smaller, browner head and smaller bill; often has breast spot; more distinct median crown stripe (whitish, not ochre).

ILLUSTRATIONS:

Color photo (Farrand, Jr., 1988: 455).

Color drawing (National Geographic Society, 1999: 409).

Color drawing (Peterson, 1990: 327).

Color photos (<http://www.azwildbird.com> 2001)

TOTAL RANGE: Breeds from Canada south to Montana, northwestern and central South Dakota, southeastern North Dakota, and central western Minnesota. Winters from southeastern Arizona, southern New Mexico and Texas, south to northern Sonora, Durango, and Coahuila, Mexico.

RANGE WITHIN ARIZONA: Cochise, Pima, and Santa Cruz counties, in southeastern Arizona. More specifically, the Sonoita Plains and Altar and San Rafael valleys, and base of Chiricahua, Huachuca, Santa Rita and Patagonia mountains. Historically, they were more widely distributed. They typically arrive to their winter range between September to mid-October, and remain through early April.

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: An inconspicuous bird that is usually flushed before it is seen, only to fly a short distance and drop down to disappear again. It can be a very difficult bird to find on the winter grounds due to its skulking habits as well as its tendency to run on the ground like a mouse. Migrants arrive on wintering grounds as early as August. They begin their northward migration in late February, arriving in nesting areas from April to May. Song consists of two or three high, thin notes, followed by a single warbled note and a low trill (Nat. Geographic Soc. 1999). Per Farrand (1988), "Song a soft, high-pitched, sweet trill preceded by two to four soft *pip* notes." Major predators are small mammals and birds.

REPRODUCTION: Breeds in northern ranges of shortgrass prairies, laying eggs on the ground in a depression or scrape in a dry area, in tangled grass, sometimes under low shrub. Breeding territories about 0.4-0.8 ha.

Eggs (white and ringed with reddish-brown spots or blotches) are laid generally in June and July; clutch size usually 3-5. Incubation is by the female and last about 11-12 days. Young tended by female at first, male helps later. Young leave the nest at 8-10 days old, hiding in grass; first fly at 13 days, and wander at 19 days.

As indicated, the three types of nests are all located on the ground. The first type consists of a tuft of grass held up by a shrub. The tuft is hollowed out with a bottom layer of grass, and the

sides of up to five inches tall are woven with grass. A second type of nest is located underneath an overhanging tuft of grass, with a small opening located on the side. The most common type of nest is built in a depression in the ground with no overhead concealment. All nests are made of woven dead grass and lined with finer grass, hair and moss. The average dimensions of nests are 2.5 in (6.3 cm) in diameter and 1.5 in (3.8 cm) deep. (The Nature Conservancy, 2000).

FOOD HABITS: Omnivorous - eats grass and forb seeds, and insects.

HABITAT: Shortgrass prairies with scattered low bushes and matted vegetation. Peterson (1990) states habitat as native long grass prairies. In migration and winter, they are found in desert and open grasslands, and overgrown fields. In Arizona, they can be found in dense stands of grass, usually in extensive expanses of grasslands with few mesquite bushes. The birds seem to prefer areas of taller, denser grass. They can also be found on south-facing slopes of mixed-oak grassland where the oaks are on the north slope (The Nature Conservancy 2000).

ELEVATION: 4,140 - 4,900 feet (1263 - 1495 m) in Arizona.

PLANT COMMUNITY: Breeding range - in mixed-grass prairies, they are associated with: blue grama (*Bouteloua gracilis*), western wheatgrass (*Agropyron smithii*), little bluestem (*Andropogon scoparius*), prairie junegrass (*Koeleria cristata*), needle and thread (*Stipa comata*), and needleleaf sedge (*Carex eleocharis*). In wet meadows and tallgrass prairie, some of the associated plants include: northern reedgrass (*Calamagrotis inexpansa*), prairie cordgrass (*Spartina pectinata*), switchgrass (*Panicum virgatum*), big bluestem (*Andropogon gerardii*), baltic rush (*Juncus balticus*), and woolly sedge (*Carex lanuginosa*). Winter range in Arizona – grasslands dominated by *Bouteloua* and *Eragrostis* spp and some mesquite (*Prosopis velutina*).

POPULATION TRENDS: Seems to be declining throughout its range, and in the southwest it is much less frequently reported than in the past. Agriculture and grazing has decreased its habitat, mainly native prairies. Parasitism by cowbirds during breeding season has contributed to the decline of the species, as well. Although occasional sightings in New Mexico continued to be recorded, the species has not been reliably reported from the state since 1977 (BISON 2000).

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS:	SC (USDI, FWS 1996) [C2 (USDI FWS 1991)]
STATE STATUS:	2 (AZGFD, AWCS 2022) [1C (AGFD SWAP 2012)] [WSC (AGFD, WSCA 1996 in prep)] [Threatened (AGFD, TNW 1988)]
OTHER STATUS:	Not BLM Sensitive (USDI, BLM AZ 2010)

[Bureau of Land Management Sensitive
(USDI, BLM AZ 2008)]
Forest Service Sensitive (USDA, FS Region
3 2007, 2013)

MANAGEMENT FACTORS: Baird's sparrow habitat is threatened by grazing, urban development, and agriculture. Habitat losses and alterations need to be reversed in order to improve its status. In particular, range improvement practices are needed that would leave more cover for the sparrows, as well as to allow for greater production of grass seeds (BISON 2000). Losses of northern breeding habitats have probably had the greatest impact. Long-term conservation of the Baird's Sparrow across its range, will have to be linked to a broad effort to conserve prairie ecosystems (Goossen et al 1993).

Threats to Arizona's wintering habitats include overgrazing and urbanization, as well as desertification and scrub invasion resulting from a variety of climatic factors and fire suppression. Wintering habitats in Arizona and elsewhere in the Southwest must be protected from degradation by development, soil erosion and overgrazing. (Glinski and Johnson 1990).

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS: Need to identify, describe, and protect passage and winter habitat, and to develop a monitoring program for migrant and wintering populations. Two priority actions in Canada that could be applied here, are 1) baseline data on population sizes, trends, and distribution must be gathered to clarify the species' present status, and 2) habitat availability and security need to be documented to assess Baird's Sparrow survival in the long-term (Goossen et al 1993).

LAND MANAGEMENT/OWNERSHIP: BLM, USFS, USFWS, State Land Department, and Private.

SOURCES OF FURTHER INFORMATION

REFERENCES:

- Arizona Game and Fish Department. 1988. Threatened native wildlife in Arizona. Arizona Game and Fish Department Publication. Phoenix, Arizona. p. 17.
- Arizona Game and Fish Department. 1996 in prep. Wildlife of special concern in Arizona. Arizona Game and Fish Department Publication. Phoenix, Arizona. p. 17.
- 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.
- DaCosta, J. M., G. M. Spellman, P. Escalante, and J. Klicka. 2009. A molecular systematic revision of two historically problematic songbird clades: Aimophila and Pipilo. Journal of Avian Biology, 40(2):206-216.

- Ehrlich, P. R., D. S. Dobkin, and D. Wheye. 1988. The birders handbook: A field guide to the natural history of North American birds, including all species that regularly breed north of Mexico. Simon & Schuster Inc., New York, New York. p. 568.
- Farrand, Jr., J. 1988. An Audubon handbook: western birds. McGraw-Hill Book Company, New York, New York. p. 455.
- Glinski, R. L., and T. B. Johnson. 1990. Nongame field notes: Baird's Sparrow. Wildlife Views, Arizona Game and Fish Department. p. 13.
- Goossen, J. P., S. Brechtel, K. D. De Smet, D. Hjertaas, and C. Werschler. 1993. Canadian Baird's Sparrow recovery plan. Recovery of Nationally Endangered Wildlife Report No. 3. Ottawa: Canadian Wildlife Federation. 28 pages.
- Klicka, J., and G. M. Spellman. 2007. A molecular evaluation of the North American "grassland" sparrow clade. *The Auk* 124(2):537-551.
- Klicka, J., F. K. Barker, K. J. Burns, S. M. Lanyon, I. J. Lovette, J. A. Chaves, and R. W. Bryson Jr. 2014. A comprehensive multilocus assessment of sparrow (Aves: Passerellidae) relationships. *Molecular Phylogenetics and Evolution* 77:177-182.
- National Geographic. 1999. Field guide to the birds of North America. Third Edition. National Geographic Society, Washington, D.C. pp. 408-409.
- Peterson, R. T. and V. M. Peterson. 1990. The Peterson field guide series: A field guide to western birds. Houghton Mifflin Company, Boston, Massachusetts. pp. 326-327.
- Terres, J. K. 1980. The Audubon Society encyclopedia of North American Birds. Alfred A. Knopf, New York, New York. pp. 338-339.
- USDA, Forest Service Region 3. 2007. Regional Forester's List of Sensitive Animals.
- USDA, Forest Service Region 3. 2013. Regional Forester's List of Sensitive Animals.
- USDI, Bureau of Land Management Region 2. 2008. Arizona BLM Sensitive Species List.
- USDI, Bureau of Land Management Region 2. 2010. Arizona BLM Sensitive Species List.
- 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):58810.
- 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; proposed rule. Federal Register 61(40):7596-7613.

MAJOR KNOWLEDGEABLE INDIVIDUALS:**ADDITIONAL INFORMATION:**

Pertaining to entire range: "Although estimated occurrence and population numbers still appear substantial, the restricted range, spotty distribution, recent rapid and long-term population and range declines, few protected occurrences, and apparent habitat selectivity are cause for concern." (NatureServe 2001).

Restoration Potential: Due to extensive habitat loss, will probably never recover to historic levels. Where suitable habitat remains, the outlook is good if the areas are not plowed, overgrazed, or drained, and are properly managed with regard to burning, mowing, and grazing. (The Nature Conservancy 2000).

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