

Baird's Sparrow

Ammodramus bairdii

REGULATORY STATUS

USFWS: Listing Denied; Migratory Bird
USFS R2: No special status
USFS R4: No special status
Wyoming BLM: Sensitive
State of Wyoming: Protected Bird

CONSERVATION RANKS

USFWS: Bird of Conservation Concern
WGFD: NSS4 (Bc), Tier II
WYNDD: G4, S1
Wyoming Contribution: LOW
IUCN: Least Concern
PIF Continental Concern Score: 15

STATUS AND RANK COMMENTS

Baird's Sparrow (*Ammodramus bairdii*) does not have any additional regulatory status or conservation rank considerations in the United States beyond those listed above. As is summarized in Jones and Green (1998), Wiggins (2006), and Committee on the Status of Endangered Wildlife in Canada (2012)¹⁻³, the species was proposed for listing under the Federal Endangered Species Act in the United States and under COSEWIC in Canada. In 1991, the United States determined that lack of data made listing questionable. It was re-proposed for listing as Threatened in 1997, but the listing was denied in 1999. In Canada, COSEWIC designated Baird's Sparrow as Threatened in 1989 due to steep declines in the early 1980s, prepared a recovery plan in 1993, and delisted the species in 1996 due to improved population numbers, primarily in Saskatchewan. In May 2012, Baird's Sparrow was placed in a higher risk category in Canada after reassessment, and is now considered a special concern species, meaning that it may become threatened or endangered due to a combination of biological characteristics and identified threats to the species.

NATURAL HISTORY

Taxonomy:

There are no subspecies recognized for Baird's Sparrow⁴. The genus *Ammodramus* is a group of species that are both morphologically and genetically diverse, thus they may not form a natural group, and the sound relationships between species in this genus are inadequately resolved⁵⁻⁷. The most recent genetic evidence suggests that Baird's Sparrows and Henslow's Sparrows (*A. henslowii*) were once closely related among the grassland sparrows, but that the species diverged long ago⁶.

Description:

Identification of Baird's Sparrow is possible in the field by knowledgeable observers. Baird's Sparrow is a small (length 12 cm, mass 19 g), brownish sparrow with streaks⁴. Similar species that occur in Wyoming are Savannah Sparrow (*Passerculus sandwichensis*), Grasshopper Sparrow (*A. savannarum*), and LeConte's Sparrow (*A. leconteii*). Baird's Sparrow has a somewhat flat head; a heavy bill; yellow-ochre color on the head and supercilium; an ochre median crown stripe; a dark throat stripe and dark border along the upper and lower borders of the ear coverts; a buff colored neck collar with thin blackish streaks; upperparts with blackish and pale brownish markings; tan wings; a long, slightly notched tail with thin whitish edges on the rectrices; whitish underparts with blackish streaking on the breast and flanks; and no central breast spot⁴. The iris is brown; bill and gape are brownish with a pale-flesh color on the lower mandible; and legs and feet are a pale-flesh color⁸. Males and females are similar in appearance; however, females show a bit more streaking on the breast and less distinct coloring on the crown and face (W. Godfrey, pers. comm.). Juveniles resemble adults, with the exception of heavier streaking on the underparts and a scallier appearance on the upperparts⁴.

Distribution & Range:

The breeding range of Baird's Sparrow extends north from southeastern Montana and northwestern South Dakota into south-central Canada⁴. Baird's Sparrow has been documented in 11 of Wyoming's 28 latitude/longitude degree blocks, with circumstantial evidence of breeding noted in 3 of those 11 degree blocks⁹. Baird's Sparrow is a summer resident in Wyoming and winters in the extreme southwestern United States and northern Mexico⁴.

Habitat:

Baird's Sparrow is an area sensitive species¹⁰. Across its breeding range, the species prefers large expanses of ungrazed or moderately grazed native prairie habitats comprised of a mosaic of grass species and little shrub cover (exact species vary depending on the province or state of occurrence)¹¹⁻¹⁴. Specific habitat associations have not been described in Wyoming, but species locations have all occurred in areas of the state with mixed grass habitats, although these sites are more limited than those in the neighboring states of Montana and South Dakota where the species is more prevalent^{9, 15}. Studies from northwestern North Dakota show that Baird's Sparrow breeding territories are comprised of grasslands with litter up to 2 cm deep; < 10% woody cover; a relatively high forb content (29%); mid-height vegetation with a mean height of 23 cm; a patchy distribution of forbs, grasses, and bare soil; a greater litter depth within (1.19 cm) than outside (0.87 cm) territories; and < 75% shrub cover¹⁶.

Phenology:

Baird's Sparrow is a complete short- to medium-distance migrant, breeding in the northern Great Plains of the United States and wintering in the desert grasslands of the extreme southwestern United States and into northern and central Mexico^{17, 18}. In Wyoming, there are only nine reports of Baird's Sparrow during spring migration, from 25 April to 30 May¹⁵. During the summer breeding season, Baird's Sparrow appears to occur regularly in Wyoming, but sightings are either very rare or are rarely reported, and confirmed evidence of breeding is needed. Approximately 20 Baird's Sparrow sightings have been reported during the summer¹⁵, but only 3 of these were vetted by the WBRC and accepted as circumstantial evidence of breeding in Albany (8 June), Converse (3 June), and Laramie (16 June) Counties^{9, 19}. Elsewhere in its range, Baird's Sparrow initiates egg laying from late May to early June, but this can vary both geographically and by year⁴. In neighboring South Dakota, clutches were initiated from 13 June

to 24 July²⁰. Clutches are typically comprised of 4 (sometimes 5) eggs, but can range from 3–6⁴.²¹ Second broods have been confirmed in southwestern Manitoba²² and north-central Montana (S. Jones, pers. comm.).

Diet:

During the breeding season, Baird’s Sparrow consumes invertebrates and insects, including beetles (*Coleoptera*), grasshoppers (*Orthoptera*), and caterpillar larvae (*Lepidoptera*), as well as a variety of grass seeds, weed seeds, and waste grains²³. Young are fed entirely insects²¹. Baird’s Sparrow forages on the ground and is mostly hidden from view, gleaning items from between clumps of grass, over litter, and from the stems of grasses and forbs⁴.

CONSERVATION CONCERNS

Abundance:

Continental: WIDESPREAD

Wyoming: RARE

Using North American Breeding Bird Survey (BBS) data, the Partners in Flight Science Committee estimated the global population of Baird’s Sparrow to be 2 million birds²⁴.

Approximately 0.40% of the global population, or an estimated 8,000 birds, breed in Wyoming²⁵. However, these estimates should be viewed with caution due to the low number of detections of the species in Wyoming. The statewide rank of RARE is based on the limited area of the state known to be occupied in any given season, and the relatively small coverage of suitable habitat within that area. Within suitable habitat in the occupied area, Baird’s Sparrow also appears to be uncommon, occurring in relatively low densities and requiring intensive survey efforts to detect the species⁹. Baird’s Sparrow has not been detected in Wyoming during Integrated Monitoring in Bird Conservation Regions (IMBCR) survey efforts; thus, density and population size estimates are not available²⁶.

Population Trends:

Historic: UNKNOWN

Recent: UNKNOWN

Population trends are not available for Baird’s Sparrow in Wyoming due to a limited distribution in the state and low detection rates during monitoring surveys. Currently, there are no robust BBS trend data for Baird’s Sparrow in Wyoming due to an extremely limited observation sample size ($N = 7$ routes; 1968–2013)²⁷. Survey-wide, Baird’s Sparrow declined significantly by 2.93% between 1966–2013 but no trend was observed between 2003–2013²⁷.

Intrinsic Vulnerability:

HIGH VULNERABILITY

Baird’s Sparrow is a grasslands specialist endemic to the northern Great Plains^{4, 28}. Loss of breeding habitat through degradation and fragmentation has impacted this species^{1, 2, 4, 28}. Small grassland fragments can decrease nesting productivity and lead to nest parasitism. Suitable habitat is limited to native grasslands with some use of hay fields, seeded pastures, stubble fields, and retired croplands^{1, 28}. Baird’s Sparrow is shown to be positively associated with native grasses and negatively associate with Smooth Brome (*Bromus inermis*)¹. Improper habitat management and lack of disturbance has led to decreased habitat availability for Baird’s Sparrow.

Extrinsic Stressors:

MODERATELY STRESSED

Baird's Sparrow is highly impacted by degradation of native prairie^{1, 2, 4, 28}. Total area of mixed-grass prairie has declined an estimated 30–99% in the US, with less than 0.01% of prairie habitat protected throughout the United States²⁹. A majority of habitat loss has come from grassland conversion to agriculture². Grassland fragment size is important to Baird's Sparrow populations, and even small conversions may be significant²⁸. Overgrazing and poor range management has additionally been attributed to Baird's Sparrow declines¹. Nest parasitism may impact Baird's Sparrow populations. Although brood parasitism rates are reported as low, reproductive success is significantly reduced when nests are parasitized². Climate change and changes in drought frequency could impact Baird's Sparrow. Invasion of exotic grasses has been shown to additionally create unsuitable habitat².

KEY ACTIVITIES IN WYOMING

The Wyoming Game and Fish Department (WGFD) classifies the Baird's Sparrow as a Species of Greatest Conservation Need (SGCN). The species is not adequately monitored by current national or regional avian monitoring efforts in Wyoming, including the IMBCR program initiated in 2009 (0 detections since initiation)²⁶ or the BBS program conducted on 108 established routes since 1968²⁷. No systematic survey of Baird's Sparrow has been conducted in Wyoming, and there are no new or on-going research or monitoring projects designed specifically for this species in the state. Observations of this species are reported to the WGFD and vetted through the Wyoming Bird Records Committee (WBRC). Baird's Sparrow is a species for which the WBRC requests documentation on all sightings in the state.

ECOLOGICAL INFORMATION NEEDS

Information is needed on Baird's Sparrow distribution, specific habitat associations, and population status in Wyoming.

MANAGEMENT IN WYOMING

This section authored solely by WGFD; Andrea C. Orabona. Baird's Sparrow is classified as a SGCN in Wyoming due to insufficient information on breeding, distribution, and population status and trends. Two separate but compatible survey programs are in place to monitor populations of many avian species that breed in Wyoming; the BBS²⁷ and the multi-partner IMBCR²⁶. While these monitoring programs provide robust estimates of occupancy, density, or population trend for many species in Wyoming, Baird's Sparrow may require a targeted, species-specific survey method to obtain these data. Best management practices to benefit Baird's Sparrow include managing for large expanses of ungrazed or moderately grazed native prairie habitats comprised of a mosaic of grass species and little shrub cover¹¹⁻¹⁴. While high intensity livestock grazing can be detrimental to Baird's Sparrow, low to moderate rotational grazing, light fall burning, delayed spring mowing, and minimal insecticide use can be used as habitat management tools³⁰.

CONTRIBUTORS

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SPECIES PHOTOGRAPH

Figure 1: Photo not available.

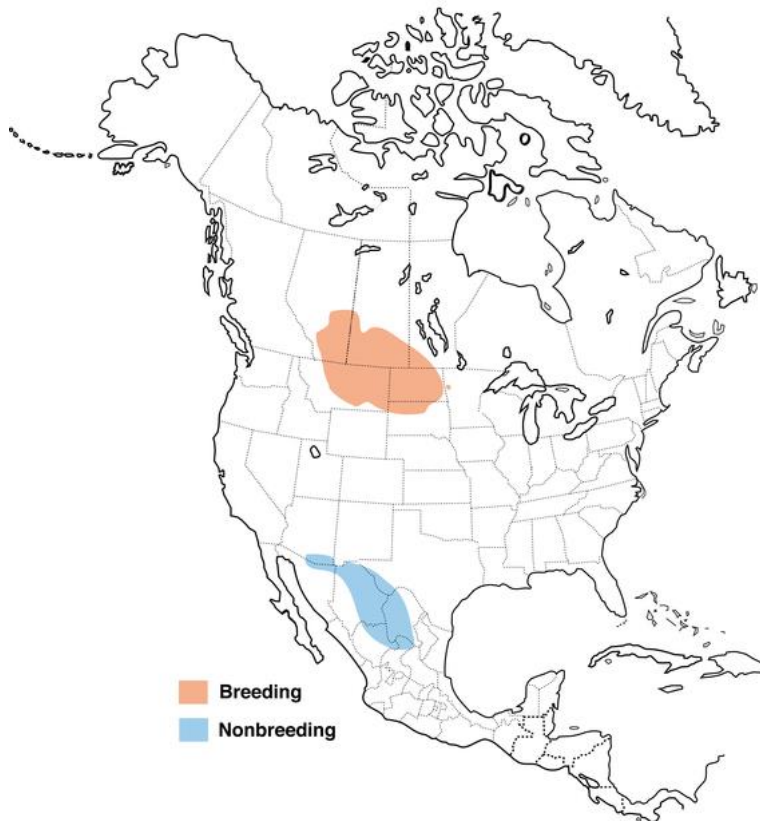


Figure 2: North American range of *Ammodramus bairdii*. (Map courtesy of Birds of North America, <http://bna.birds.cornell.edu/bna>, maintained by the Cornell Lab of Ornithology)

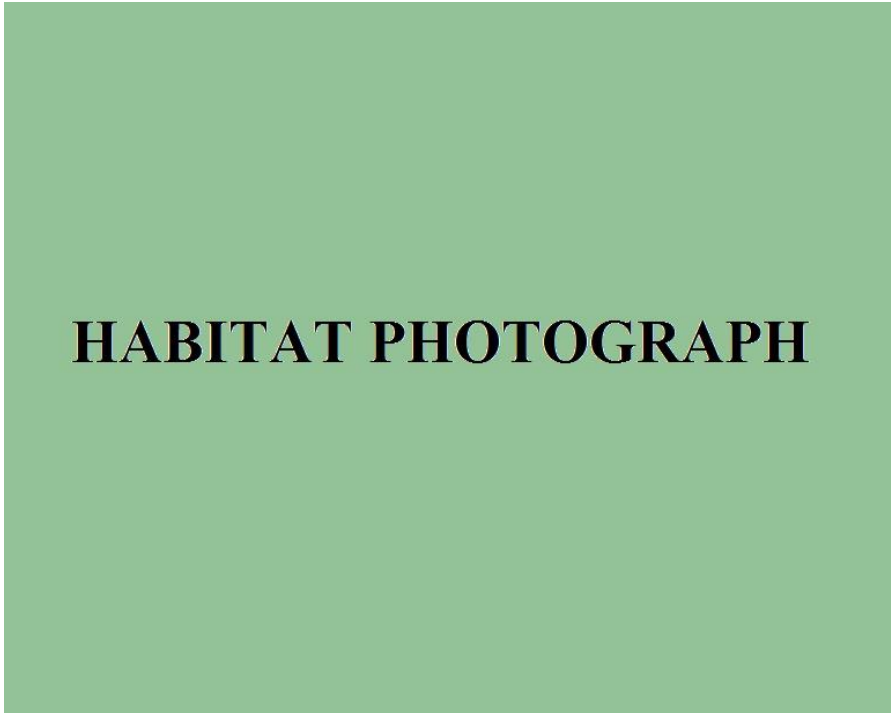
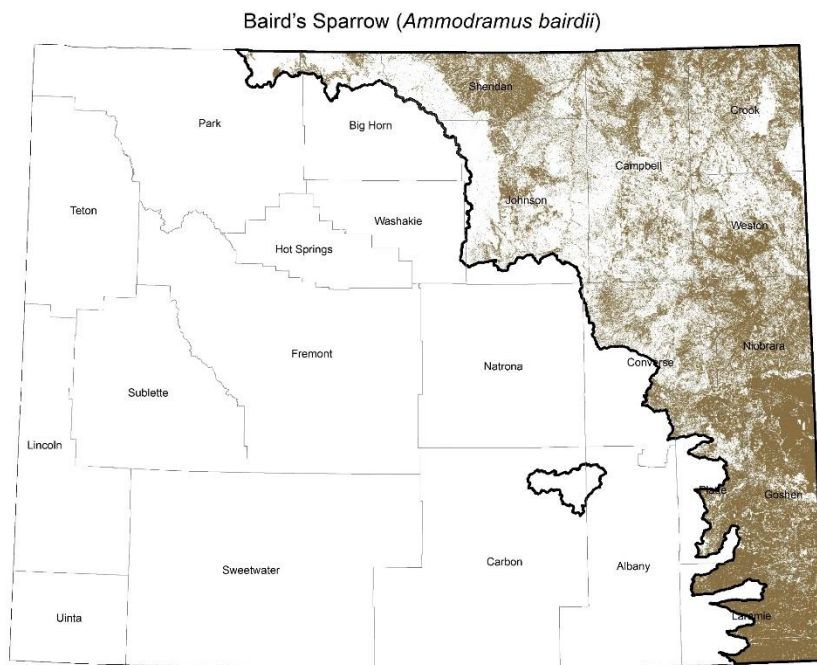


Figure 3: Photo not available.



SOURCE: Digital maps of ranges for Wyoming Species of Greatest Conservation Need: Sept. 2016.
Wyoming Game and Fish Department and Wyoming Natural Diversity Database, University of Wyoming, Laramie, Wyoming.
Note that brown indicates the predicted distribution of the species;
heavy black lines indicate outermost boundaries of possible occurrence.

Figure 4: Range and predicted distribution of *Ammodramus bairdii* in Wyoming.