

Baird's Sparrow (*Ammodramus bairdii*)

Winter Only

NMPIF level: Biodiversity Conservation Concern, Level 1 (BC1)

NMPIF assessment score: 18

NM stewardship responsibility: Low

National PIF status: Watch List

New Mexico BCRs: 34, 35 (both in winter only)

Primary wintering habitat(s): Chihuahuan Desert Grasslands

Summary of Concern

Baird's Sparrow is a grassland specialist of the northern Great Plains, wintering in northern Mexico and small portions of the southwest U.S. Populations have been declining due to loss or alteration of native grassland habitat in breeding and wintering areas.

Associated Wintering Species

Aplomado Falcon (BC1), Sprague's Pipit (BC1), Savannah Sparrow, Grasshopper Sparrow (BC2), Chestnut-collared Longspur, Eastern Meadowlark

Distribution

Baird's Sparrow breeds in a fairly small geographic area of south-central Canada, Montana, and North and South Dakota. It winters on grasslands of the northern Mexican plateau, primarily in Chihuahua and Durango but including portions of bordering states. The winter range extends into small portions of southeast Arizona, southern New Mexico, and southwest Texas.

In New Mexico, Baird's Sparrow has been found on Otero Mesa and in the Animas Valley, and may occur in other areas of suitable winter habitat, particularly in the southeast portion of state (Howell and Webb 1995, Green et al. 2002).

Ecology and Habitat Requirements

Details of winter habitat requirements of Baird’s Sparrow are not well understood. Generally, the species winters in areas of dense and expansive grasslands, with only a minor shrub component. In Arizona, Baird’s Sparrows winter in diverse desert grasslands dominated by perennial bunchgrasses, including many species of grama (*Bouteloua*), Three-awn (*Aristida*) and lovegrass (*Eragrostris*), both native and exotic. In these areas, scattered mesquite is the only significant woody vegetation (Gordon 2000a). In various studies, Baird’s Sparrows established territories in grasslands dominated by native grasses, shrub cover <20%, litter depth 0.1–4 cm, and average grass height 10–30 cm (Green et al. 2002).

Areas with fairly extensive litter and ground cover, but lacking a solid mat of vegetation, are preferred. In Arizona, higher abundances were recorded in summer-grazed pasture than in a nearby area ungrazed for 30 years (Gordon 2000b). However, this species elsewhere shows a preference for minimally grazed areas, and may be absent from areas receiving more than a moderate amount of grazing (Green et al. 2002). In southern New Mexico, Baird’s Sparrows prefer areas with denser grass cover than surrounding areas. Baird’s Sparrows typically arrive in the Southwest from September to mid-October, and remain through early April.

Conservation Status

Species Assessment

DISTRIBUTION	5
THREATS	4
GLOBAL POPULATION SIZE	3
LOCAL POPULATION TREND	5
IMPORTANCE OF NEW MEXICO TO BREEDING (WINTERING)	1
COMBINED SCORE	18

Baird’s Sparrow is a Biodiversity Conservation Concern, Level 1 wintering species for New Mexico, with a total assessment score of 18. Baird’s Sparrow is a national PIF Watch List Species. At the continental level, it receives maximum PIF vulnerability scores of 5 for its restricted winter range and negative population trend, and a score of 4 for threats in both breeding and non-breeding areas. Baird's Sparrow is listed as threatened in the state of New Mexico. Baird’s Sparrow is also a U.S. Fish and Wildlife Service (2002) national Bird of Conservation Concern.

Population Size

PIF estimates a species population of 1.2 million. Size of the wintering population in New Mexico is unknown, but considered small and somewhat variable.

Population Trend

No data are available for winter populations in New Mexico. BBS data for 1966-2004 show significant long-term declines survey-wide (annual trend = -3.9, $p = 0.00$, $n = 138$).

Threats

Baird's Sparrow populations have been reduced by conversion of native prairie breeding habitat to cropland and exotic vegetation, invasion of native grasslands by exotic plant species, and proliferation of shrubs due to fire suppression. It is not known to what degree these same factors in wintering areas contribute to population declines (Green et al. 2002). In New Mexico, wintering Baird's Sparrows are considered vulnerable to ongoing fragmentation and degradation of Chihuahuan desert grassland habitat.

Management Issues and Recommendations

Management for Baird's Sparrow in New Mexico should focus on maintaining or increasing areas of suitable desert grassland habitat.

NMPIF Recommendations

- Maintain or create 6+ ac patches of dense grama and bunch grasses within larger 40-ac blocks of mixed grass and shrubs. Maintain 100 or more such 40-ac blocks per 10,000 ac of Chihuahuan Desert Grassland habitat (modified from Arizona PIF).
- Where appropriate and possible, seek to manage grazing to maintain high grass density with minimal shrub cover.
- Investigate effects of fire on habitat, and of prescribed burning as a management tool for maintaining or establishing appropriate habitat.
- Investigate the importance of seed resources and precipitation to wintering Baird's Sparrow.

Species Conservation Objectives

NMPIF Objectives

- Monitor statewide to assess winter population trends, and search for additional wintering locations.
- Maintain or expand existing wintering populations.

Sources of Information

Gordon, C. E. 2000a. Movement patterns of wintering grassland sparrows in Arizona. *Auk* 117:748–759.

Gordon, C. E. 2000b. Fire and cattle grazing on wintering sparrows in Arizona grasslands. *J. Range Manage.* 53:384–389.

Green, M. T., P. E. Lowther, S. L. Jones, S. K. Davis, and B. C. Dale. 2002. Baird's Sparrow (*Ammodramus bairdii*). In *The Birds of North America*, No. 638 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.

Howell, S. N. G., and S. Webb. 1995. *A Guide to the Birds of Mexico and Northern Central America*. Oxford University Press.

U.S. Fish and Wildlife Service. 2002. *Birds of conservation concern 2002*. Division of Migratory Bird Management, Arlington, VA. 99 p.