

# Black-chinned Sparrow

*Spizella atrogularis*



Photo by Martin Meyers

## Habitat Use Profile

| Habitats Used in Nevada                            |  |
|--|--|
| Pinyon-Juniper<br>Montane Shrubland<br>Joshua Tree |  |
| Key Habitat Parameters •                           |  |
| Plant Composition                                  | Pinyon pine, juniper, ponderosa pine, manzanita, yucca, sagebrush, and variety of other xeric shrubs; <sup>8</sup> high shrub diversity probably preferred <sup>EO</sup> |
| Plant Density                                      | Open tree canopy (closed-canopy stands avoided), dense shrub canopy at 1-2 m [3 – 7 ft] height <sup>8</sup>  |
| Mosaic   | Mature, open woodland interspersed with open patches containing dense shrubs <sup>2, 8</sup>   |
| Aspect   | South-facing slopes probably preferred <sup>8</sup>  |
| Response to Vegetation Removal                     | Negative <sup>EO</sup>   |
| Area Requirements ○                                |  |
| Minimum Patch Size                                 | Unknown; estimated at 20 ha [50 ac] <sup>EO</sup>  |
| Recommended Patch Size                             | > 100 ha [250 ac] <sup>EO</sup>  |
| Territory Size                                     | 1.6 - 4 ha [4 - 10 ac] <sup>8</sup>  |

## Conservation Profile

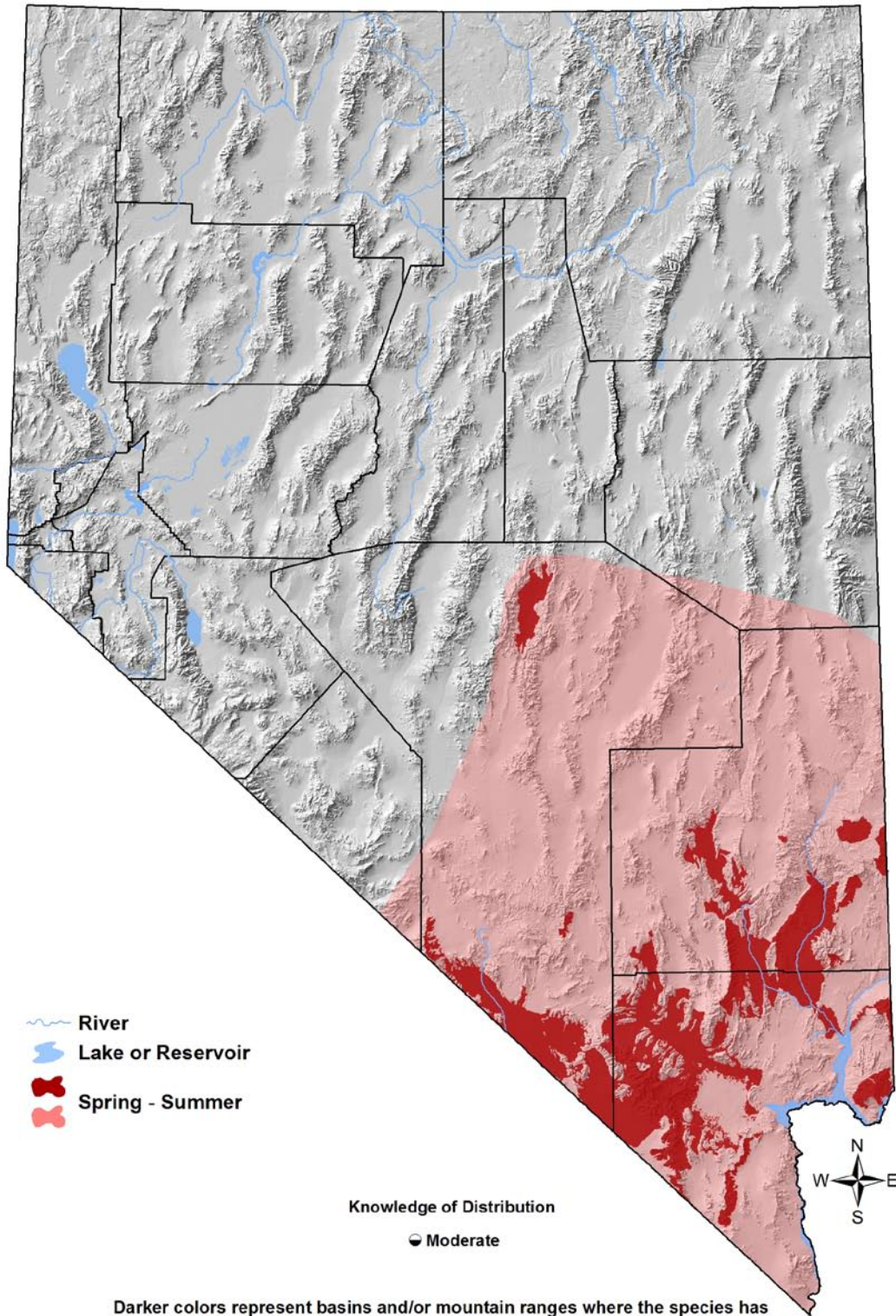
| Priority Status                             |   |
|---|---|
| Conservation Priority Species               |   |
| Species Concerns                            |   |
| Probable Recent Declines<br>Habitat threats |   |
| Other Rankings                              |   |
| Continental PIF                             | Watch List  |
| Audubon Watchlist                           | Red   |
| NV Natural Heritage                         | S3B   |
| USFWS                                       | Bird of Conservation Concern, Migratory Bird  |
| BLM   | None  |
| USFS  | None  |
| NDOW  | Conservation Priority   |
| Trends                                      |   |
| Historical ○                                | Unknown   |
| Recent ○                                    | Rangewide declines of 5%/year, declines probable but not confirmed in Nevada <sup>7, EO</sup> |
| Population Size Estimates                   |   |
| Nevada (NBC) •                              | 8,400   |
| Global •                                    | 3,900,000 <sup>6</sup>  |
| Percent of Global                           | < 1%  |
| Population Objective                        |   |
| Increase by 50% <sup>6, EO</sup>            |   |
| Monitoring Coverage                         |   |
| Source                                      | Nevada Bird Count   |
| Coverage in NV                              | Good  |
| Key Conservation Areas                      |   |
| Protection                                  | Spring Mountains, Sheep Range, Virgin Mountains   |
| Restoration                                 | Unknown   |

## Natural History Profile

| Seasonal Presence in Nevada              |   |
|--|---|
| Spring – Summer                          |   |
| Known Breeding Dates in Nevada           |   |
| Late March – mid August <sup>3, EO</sup> |   |
| Nest and Nesting Habits                  |   |
| Nest Placement                           | Above ground in dense shrub <sup>8</sup>      |
| Site Fidelity                            | Low <sup>8</sup>                              |
| Food Habits                              |   |
| Basic                                    | Shrub gleaner                                 |
| Primary Diet                             | Insects <sup>8</sup>                          |
| Secondary Diet                           | Seeds during non-breeding season <sup>8</sup> |

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Darker colors represent basins and/or mountain ranges where the species has been recorded within the past 12 years. Lighter colors represent the broader area within which the species is presumed to occur in appropriate habitat types.

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## Overview

Although the Nevada Bird Count and the Nevada Breeding Bird Atlas project significantly expanded the known range and the population size estimate for this species, Nevada's Black-chinned Sparrow population may be somewhat disjunct from the main breeding populations in the Southwest and Mexico. Indeed, Black-chinned Sparrows are patchily distributed throughout much of their occupied range, and are sometimes absent from apparently suitable habitat.<sup>8</sup> This, in part, may be due to a preference for some particular (but not yet quantified) "blend" of juxtaposed habitat types. Data from the Nevada Bird Count have provided some insight into the Black-chinned Sparrow's key habitat requirements in Nevada (see below), but there is still a large and problematic deficit in our knowledge of the biology and conservation needs of this reclusive species.<sup>5</sup> Some evidence exists that Black-chinned Sparrows tend to avoid close proximity to development,<sup>1</sup> and furthermore, their habitat preferences seem to vary among the different regions within their breeding range.<sup>4</sup>

## Abundance and Occupancy by Habitat

### Birds / 40 ha on NBC Transects in the Mojave Region

| Primary Habitat at Transect | Transects Occupied | Birds/40 ha (95% C.I.) |
|-----------------------------|--------------------|------------------------|
| Pinyon-Juniper              | 92% (11/12)        | 2.0 (0.9 – 3.1)        |
| Montane Shrubland           | 75% (6/8)          | 0.9 (0.3 – 1.5)        |
| Montane Riparian            | 44% (4/9)          | 1.4 (0.1 – 1.5)        |
| Joshua Tree                 | 15% (3/20)         | 1.1 (0.3 – 1.9)        |

- In southern California chaparral, densities as high as 37 birds / 40 ha [0.37 / ac] reported<sup>4</sup>

## Nevada-Specific Studies and Analyses

### Landscape Associations (NBC data)

Black-chinned Sparrows were strongly associated with percent cover of Pinyon-Juniper habitat in both multivariate and univariate regressions (*Appendix 3*). More interestingly, they were especially numerous in NBC transects where Pinyon-Juniper and Mojave Scrub habitats were both present (i.e. "edge" areas between lower-elevation shrubland and higher-elevation woodland), as shown by a strong interaction term between these two cover types in the multivariate logistic regression. There were positive but weaker associations of Black-chinned Sparrow density with Montane Shrubland and Montane Riparian habitats. The species was never detected on transects containing any Mesquite-Acacia habitat, or more than 3% cover of Salt Desert habitat. These findings are consistent with a preference for a specific "blend" of different woodland and grassland patches.

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## Main Threats and Challenges

### Habitat Threats

Threats are not well documented, but may include:

- Alteration of fire regimes that are increasing the density of pinyon-juniper woodlands
- Heavy grazing by horses, burros, or livestock<sup>8</sup>
- Invasive plants EO
- Heavy OHV use<sup>8</sup>

### Research, Planning, and Monitoring Challenges

- Poor understanding of Nevada population trends and habitat / landscape preferences
- Poor understanding of the causes of probable, ongoing declines

## Conservation Strategies

### Habitat Strategies

- Pinyon-Juniper (p. Hab-16-1), Montane Shrubland (p. Hab-14-1), and Joshua Tree (p. Hab-8-1) habitat conservation strategies benefit this species
- Thinning overgrown pinyon-juniper woodlands near their shrubland interface may be beneficial

### Research, Planning, and Monitoring Strategies

- Conduct studies to better pinpoint key habitat and landscape features that are important to Black-chinned Sparrows
- Continue monitoring to determine Nevada population trends
- Conduct further research to identify and quantify conservation threats

### Public Outreach Strategies

- None identified

References: <sup>1</sup>Bolger et al (1997); <sup>2</sup>Floyd et al. (2007); <sup>3</sup>GBBO unpublished Atlas data; <sup>4</sup>Hargrove (2010); <sup>5</sup>Nevada Wildlife Action Plan Team (2006); <sup>6</sup>Rich et al. (2004); <sup>7</sup>Sauer et al. (2008); <sup>8</sup>Tenney (1997); <sup>EO</sup> Expert opinion