

**Western Riverside County
Multiple Species Habitat Conservation Plan (MSHCP)
Biological Monitoring Program
Lincoln's Sparrow (*Melospiza lincolni*) Survey Report**



Photo: Walter Siegmund

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NOTE TO READER:

This report is an account of survey activities undertaken by the Biological Monitoring Program for the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The MSHCP was permitted in June 2004. The Biological Monitoring Program monitors the distribution and status of the 146 Covered Species within the Conservation Area to provide information to Permittees, land managers, the public, the California Department of Fish and Game, and the U.S. Fish and Wildlife Service. Monitoring Program activities are guided by the MSHCP species objectives for each Covered Species, the information needs identified in MSHCP Section 5.3 or elsewhere in the document, and the information needs of the Permittees.

We would like to acknowledge the land managers in the MSHCP Plan Area, who in the interest of conservation and stewardship facilitate Monitoring Program activities on the lands for which they are responsible. A list of the lands where this year's data collection activities were conducted is included in Section 7.0 of the Western Riverside County Regional Conservation Authority (RCA) Annual Report to the Wildlife Agencies.

Partnering organizations and individuals contributing data to our projects are acknowledged in the text of appropriate reports. We would especially like to acknowledge the Santa Ana Watershed Association, the Center for Natural Lands Management, and the Orange County Water District for their willingness to initiate or modify their data collection to complement our survey efforts in 2008.

While we have made every effort to accurately represent our data and results, it should be recognized that our database is still under development. Any reader who would like to make further use of the information or data provided in this report should contact the Monitoring Program to ensure that they have access to the best available or most current data. All Monitoring Program data, including original datasheets and digital datasets are stored in the Monitoring Program office in downtown Riverside, CA.

The primary author of this report was the 2008 Avian Program Lead, Nick Peterson. If there are any questions about the information provided in this report, please contact the Monitoring Program Administrator. If you have questions about the MSHCP, please contact the Executive Director of the RCA. For further information on the MSHCP and the RCA, go to www.wrc-rca.org.

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INTRODUCTION

Lincoln's sparrow (*Melospiza lincolnii*; LISP) is a small sparrow that ranges from the southern United States (including southern California), Mexico, and northern Central America in the winter to Alaska, Canada, and boreal portions of the continental United States during the summer (Ammon 1995). In Riverside County, LISP may breed irregularly in the San Jacinto Mountains (Small 1994).

LISP males typically arrive on breeding grounds from mid to late May and start singing immediately thereafter (Ammon 1995). Territories range in size from 35 m in diameter in densely populated areas to > 100 m in diameter in less densely populated areas (Speirs and Speirs 1968). Preferred breeding habitat for LISP, along with much of their biology, is poorly documented due to their preference for shrub cover and secretive behaviors. Adding to this problem is the fact that LISP usually breed in remote boreal regions (Ammon 1995). From what has been documented regarding LISP breeding habitat, LISP seem to prefer low willow cover with dense vegetation, usually nesting in boggy sites (Ammon 1995). There seems to be some variation in preferred breeding habitat relative to elevation. LISP breeding at high elevations prefer habitats dominated by bogs, willow (*Salix*), sedge (*Carex*), and moss, especially where shrub cover is dense (Knopf et al 1988; Ammon 1995b as cited in Ammon 1995). At lower elevations, LISP seem to prefer mesic willow shrubs, mixed deciduous wood groves containing aspen and cottonwoods (*Populus* spp.), or other riparian habitat types for breeding habitat (Salt 1957; Erskine 1977; Ewert 1982; Douglas et al 1992; Dobkin 1994).

Nests are usually constructed on or near the ground, most often inside a low willow shrub (Ammon 1995). Nest construction commences in early June, with most clutches initiated during the second week of June. Eggs hatch from approximately 26 June–6 July, with nestlings fledging by mid to late July, and as late as early August when rare second nesting attempts are made (Ammon 1995). Nests are infrequently parasitized by brown-headed cowbirds (*Molothrus ater*, "BHCO") (e.g., 0–3% of nests in Colorado; Ammon 1995), and there are not any reports of LISP nests fledging BHCO young.

Rangewide, LISP populations are stable, with populations in Quebec and other northern spruce-hardwood forests being the only ones showing significant declines (Ammon 1995). In California, LISP populations have shown no detectable change from 1966–2007 (Sauer et al 2008).

LISP is one of 45 bird species covered by the Western Riverside County MSHCP. Three species objectives are identified for LISP. Two objectives require inclusion of breeding and wintering habitat for LISP within the Conservation Area, and the third objective is a reproductive objective requiring that LISP "maintain occupancy within three large Core Areas...in at least one year out of any five consecutive-year period" (Dudek & Associates 2003). The 3 Core Areas should be ≥ 100 acres in size and should consist of ≥ 50 acres of montane meadow, wet montane meadow, and edges of montane riparian or riparian scrub, all of which are considered ideal breeding LISP habitats. Each

Core Area should support ≥ 20 LISP pairs and show evidence of successful reproduction, defined as at least 1 nest producing ≥ 1 LISP fledgling (Dudek & Associates 2003). Thus, the goals of our study in 2008 were to:

- A) locate LISP breeding pairs and their nests,
- B) identify potentially suitable LISP breeding habitats within the Plan Area,
- C) determine how many acres of suitable LISP breeding habitat may be occupied by breeding pairs of LISP, and
- D) determine if this pilot study design is an effective and efficient method to monitor breeding LISP.

METHODS

Personnel and Training

We trained all field personnel in the visual and aural identification of LISP and other species that we expected to encounter within LISP habitat (Appendix A). Personnel were also trained to conduct point-count surveys and to complete the associated data sheets. Personnel conducting LISP surveys in 2008 were:

- Nick Peterson, Avian Program Lead (California Department of Fish and Game)
- Masanori Abe (Regional Conservation Authority)
- Conan Guard (Regional Conservation Authority)
- Lynn Miller (Regional Conservation Authority)
- Carol Thompson (Regional Conservation Authority)
- Nate Zalik (Regional Conservation Authority)

Study Site Selection

We used a GIS vegetation layer (CDFG et al 2005) in ArcGIS 9.2 (ESRI 2006) to identify meadows, marshes, and montane riparian scrub, woodland, and forest within the San Jacinto Mountains, which is where all of the historical LISP breeding sites in the Plan Area are located. We used Hawth's Tools (Beyer 2004) to randomly place survey points located within accessible lands located in these habitats. We chose a total of 26 survey points, including one located in Alvin Meadows west of Pine Cove and 25 located within Garner Valley (Figure 1).

Survey Methods

Survey methods used in 2008 are detailed in the *Western Riverside County MSHCP Biological Monitoring Program Protocol for Lincoln's Sparrow (*Melospiza lincolnii*) Surveys* (Appendix B).

Point-count surveys followed the variable-radius point-count methodology outlined by Ralph et al (1995). These methods can be used to estimate bird densities,

Figure 1. Locations of LISP survey points in 2008.



