# Lucy’s Warbler

*Oreothlypus luciae*

## Conservation Profile

<table>
<thead>
<tr>
<th>Priority Status</th>
<th>Conservation Priority Species</th>
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<tbody>
<tr>
<td>Species Concerns</td>
<td>Historical declines, Habitat threats</td>
</tr>
</tbody>
</table>

### Other Rankings

- **Continental PIF**: Watch List
- **Audubon Watchlist**: Yellow
- **NV Natural Heritage**: S2S3B
- **USFWS**: Bird of Conservation Concern, Migratory Bird
- **BLM**: Sensitive Species
- **USFS**: None
- **NDOW**: Conservation Priority

### Trends

- **Historical**: Declines \(^{5,7}\)
- **Recent**: Stable regionally, uncertain in Nevada \(^{6}\)

### Population Size Estimates

<table>
<thead>
<tr>
<th>Source</th>
<th>Nevada (NBC)</th>
<th>Global</th>
<th>Percent of Global</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2,900</td>
<td>920,000</td>
<td>&lt; 1%</td>
</tr>
</tbody>
</table>

### Population Objective

Maintain / Increase \(^{5,6}\)

### Monitoring Coverage

- **Source**: Nevada Bird Count
- **Coverage in NV**: Good

### Key Conservation Areas

- **Protection**: Muddy, Virgin, and Lower Colorado River corridors, Meadow Valley Wash, Ash Meadows NWR, Pahranagat Valley, Springs
- **Restoration**: Same

## Habitat Use Profile

### Habitats Used in Nevada

- Mojave Lowland Riparian
- Mesquite-Acacia (Springs)

### Key Habitat Parameters

#### Plant Composition

Riparian mesquite (especially honey mesquite), willow, Fremont cottonwood, saltcedar

#### Plant Density & Age

Dense mid-story, relatively sparse shrub understory; older stands of mesquite preferred, but unclear whether Lucy’s Warblers use mature cottonwood gallery woodland \(^{4}\, \text{EO}\)

#### Mosaic

Prefers intact riparian mesquite, but also uses washes with old mesquite and saltcedar \(^{3}\, \text{EO}\)

#### Distance to Water

Always close to water but distance not quantified

#### Response to Vegetation Removal

Negative \(^{\text{EO}}\)

### Area Requirements

<table>
<thead>
<tr>
<th>Minimum Patch Size</th>
<th>Unknown, probably ~ 5 ha (12 ac) (^{\text{EO}})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended Patch Size</td>
<td>&gt; 20 ha (50 ac) (^{\text{EO}})</td>
</tr>
<tr>
<td>Territory Size</td>
<td>Often &lt; 0.5 ha (1.2 ac) (^{3})</td>
</tr>
</tbody>
</table>

## Natural History Profile

### Seasonal Presence in Nevada

Spring – Summer

### Known Breeding Dates in Nevada

Early March – early August \(^{2}\)

### Nest and Nesting Habits

- **Nest Placement**: Pre-existing cavities and cavity-like crevices (under peeling bark) 1 – 6 m (3 – 20 ft) above ground in large trees \(^{3}\)
- **Site Fidelity**: Unknown, probably high for breeding territory \(^{\text{EO}}\)

### Food Habits

- **Basic**: Foliage gleaner
- **Primary Diet**: Arthropods \(^{3}\)
- **Secondary Diet**: n/a

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Confidence in Available Data:  ● High  ◇ Moderate  ○ Low

Spp-68-1
Lucy’s Warbler
*Oreothlypis luciae*

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.

Knowledge of Distribution
- Good
Lucy’s Warbler

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**Overview**

Lucy’s Warbler is one of several Conservation Priority Species covered in this plan with a restricted southwestern geographical range that includes southern Nevada. Unlike the other representatives of this group, however, Lucy’s Warbler can occur in particularly high densities within its preferred habitat. This unusual cavity-nesting warbler prefers dense riparian mesquite woodlands (especially honey mesquite) with older, larger trees for nesting. Nest cavities are either created by woodpeckers or provided by peeling bark or other structural fissures within tree trunks. Cottonwood and willow woodlands with a relatively open understory are also suitable for Lucy’s Warblers, as are non-riparian mesquite-acacia stands in seasonal washes. However, breeding densities are generally lower as the distance from permanent water increases.

Many areas formerly occupied by native riparian woodlands are now dominated by saltcedar. As is the case with several other Mojave lowland riparian birds, Lucy’s Warblers now make use of saltcedar habitat for nesting, presenting a potential dilemma to resource managers wishing to restore native vegetation. Complete removal of saltcedar without creating suitable native habitats afterwards may leave Lucy’s Warbler without suitable habitat within a treatment area. Lucy’s Warbler’s use of saltcedar and dry washes suggests that they may be relatively resilient to the effects of groundwater depletion, but further loss of its preferred native riparian habitat would still be detrimental.

**Abundance and Occupancy by Habitat**

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

<table>
<thead>
<tr>
<th>Primary Habitat at Transect</th>
<th>Transects Occupied</th>
<th>Birds/40 ha (95% C.I.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowland Riparian</td>
<td>86% (31/36)</td>
<td>6.1 (4.3 – 7.9)</td>
</tr>
<tr>
<td>Mesquite - Acacia</td>
<td>43% (6/14)</td>
<td>6.3 (-2.2 – 14.8)</td>
</tr>
</tbody>
</table>

Note: Lowland Riparian habitat as defined by the NBC includes mesquite – acacia habitat occurring within the riparian zone. Mesquite-Acacia refers exclusively to non-riparian stands of mesquite-acacia

- Densities up to 25 birds / ha [10 / ac] have been reported in optimal habitat

**Nevada-Specific Studies and Analyses**

**Landscape Associations (NBC Data)**

Nearly all NBC transects with significant numbers of Lucy’s Warblers had at least some Mojave Lowland Riparian habitat, including mesquite, present. The presence of this habitat type was the strongest explanatory factor for Lucy’s Warbler abundance in the logistic regression model (*Appendix 3*). Transects closer to water also had significantly more Lucy’s Warblers than those at greater distances from water. Mesquite-Acacia habitat (comprised exclusively of non-riparian mesquite stands) was also an important predictive variable after controlling for Lowland Riparian habitat.

Spp-68-3
Lucy’s Warbler
Oreothlypus luciae

Main Threats and Challenges

Habitat Threats

- Loss or degradation of native riparian habitat (including mesquite) due to
  - Wood-cutting
  - Fire
  - Water diversions
  - Invasive plants
  - Recreational activities
- Loss of saltcedar habitat during restoration efforts, unless suitable restored habitat becomes available shortly after removal

Research, Planning, and Monitoring Challenges

- None identified

Conservation Strategies

Habitat Strategies

- Mojave Lowland Riparian (p. Hab-11-1) and Mesquite–Acacia (p. Hab-10-1) habitat conservation strategies benefit this species
- Protect mature mesquite stands and intact lowland riparian woodlands
- Restore native riparian woodlands (including mesquite), but do not remove large expanses of saltcedar within a short time frame; instead, stagger restoration spatially and temporally so that suitable new habitat can be created as saltcedar is removed

Research, Planning, and Monitoring Strategies

- Continue monitoring to better determine population size and trends
- Collect additional information on microhabitats selected
- Develop fire management and suppression priorities that favor the long-term persistence of mature riparian and mesquite woodlands

Public Outreach Strategies

- None identified

References: ¹Brand et al. (2010a); ²GBBO unpublished Atlas data; ³Johnson et al. (1997); ⁴Meents et al. (1984); ⁵Rich et al. (2004); ⁶Sauer et al. (2008); ⁷Shuford and Gardali (2008); ⁸EO Expert opinion