Black Tern
*Chlidonias niger*

Conservation Profile

<table>
<thead>
<tr>
<th>Priority Status</th>
<th>Conservation Priority Species</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Species Concerns**

- Historical and recent declines
- Small population size
- Habitat threats

**Other Rankings**

- Continental PIF: None
- Audubon Watchlist: None
- NV Natural Heritage: S2S3B
- USFWS: Migratory Bird
- BLM: None
- USFS: None
- NDOW: Conservation Priority
- IW Waterbird Plan: High Concern

**Trends**

- Historical ●: Rangewide declines
- Recent ○: Declining

**Population Size Estimates**

- Nevada →: 700 EO
- Global ●: 300,000 4
- Percent of Global < 1%

**Population Objective**

- Maintain / Increase EO

**Monitoring Coverage**

- Source: Ruby Lake NWR surveys, Aquatic Bird Count
- Coverage in NV: Good at Ruby Lake NWR, Fair / Poor elsewhere

**Key Conservation Areas**

- Protection: Ruby Valley
- Restoration: Lahontan Valley, Ruby Valley

Natural History Profile

**Seasonal Presence in Nevada**

- Spring – Summer

**Known Breeding Dates in Nevada**

- Late June – August

**Nest and Nesting Habits**

- Nest Placement: Floating nest in emergent or dense mats of submerged vegetation, near open water
- Site Fidelity: Low fidelity to nest area
- Other: Semi-colonial, 11-50 pairs, nests spaced 5 - 20 m

**Food Habits**

- Basic: Aerial forager and dipper
- Primary Diet: Insects; fish 2.5-3 cm [1-1.2 in] in length
- Secondary Diet: Unknown

---

**Habitat Use Profile**

**Habits Used in Nevada**

- Marsh
- Open Water

**Key Habitat Parameters**

<table>
<thead>
<tr>
<th>Plant Composition</th>
<th>Pondweed, bulrush, sedges, rushes 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant Density</td>
<td>25-75% cover within patches of emergent vegetation 2</td>
</tr>
<tr>
<td>Mosaic</td>
<td>Large marsh complexes (avoids small isolated marshes); roughly equal amounts of open water and emergent vegetation; &lt; 50% tilled upland 2, 5</td>
</tr>
<tr>
<td>Water Depth</td>
<td>0.5 – 1.2 m [1.6 – 3.9 ft] at nest site 2</td>
</tr>
<tr>
<td>Water Quality</td>
<td>Presumed to require very low salinity EO</td>
</tr>
<tr>
<td>Hydrology</td>
<td>Minimal fluctuation in stage during incubation EO</td>
</tr>
<tr>
<td>Response to Vegetation Removal</td>
<td>Probably negative EO</td>
</tr>
</tbody>
</table>

**Area Requirements**

| Minimum Patch Size | 20 ha [49 ac] 2 |
| Recommended Patch Size | > 1,000 ha [2,500 ac] based on requirement of marsh complexes 2, EO |
| Home Range / Territory Size | Unknown |

---

Confidence in Available Data: ● High ○ Moderate ◀ Low
Black Tern
*Chlidonias niger*

Darker colors represent water bodies where the species has been recorded within the past 12 years. Lighter colors represent water bodies where the species could potentially occur. Smaller water bodies may be difficult to visualize on the map.
Black Tern  
*Chlidonias niger*

**Overview**

The Black Tern is one of several Conservation Priority species covered in this plan that are declining in Nevada for no clearly identified reason. The regional loss and degradation of marshes is undoubtedly an important factor, but this does not explain why Black Terns seem to be declining more rapidly than most other marsh-associated species. Until very recently, the main Black Tern breeding colony in Nevada has been located at Ruby Lake NWR. However, no breeding has been observed in this colony since 2006, which is particularly disturbing because waterbird habitats in this NWR are well-managed and protected from most threats. Biologists have not yet developed concrete hypotheses for the recent loss of this colony, nor is there any information about whether it is the result of regional declines, or simply a displacement of birds to other breeding locations. It should be noted that the Black Tern’s declining trends in Nevada are mostly attributable to the decline and recent loss of the Ruby Lake NWR colony. Confirming definitive statewide trends (that may also include migrant populations) will require collecting additional survey and monitoring data from a wider area. Apart from Ruby Lake NWR, other known historical and current breeding sites within Nevada include the Lahontan Valley, Humboldt Sink, Mason Valley WMA, the Boyd Humboldt Valley IBA, Quinn River, and Pahranagat NWR. The numbers of breeders at these sites have always been relatively low and variable, at least over recent decades. Possible breeding locations that deserve further study include Kirch WMA, and Key Pittman WMA, which are currently migration stopover sites for the species. Because several nearby sites in California provide important migration stopover location for Black Terns, it is likely that many of the Nevada sites shown in the map above as Spring–Summer range also provide important migration habitat.

**Abundance and Occupancy by Habitat**

The Nevada population estimate shown above in the Conservation Profile table is based on recent historic average of 600 breeders at Ruby Lake NWR before 2006, plus an estimate of 100 additional breeders EO at scattered locations throughout state.

**Nevada-Specific Studies and Analyses**

No information

**Main Threats and Challenges**

**Habitat and Other Threats**

- Loss or degradation of marshes due to water diversions, declines in water quality, or development
- Changes in water level during incubation may destroy nests
- Heavy metal contamination may be a threat

Spp-42-3
Black Tern  
*Chlidonias niger*

- Human nest disturbance, invasive plants, and pesticides have also been suggested as threats, but not well documented\(^2\)

Research, Planning, and Monitoring Challenges

- Causes of ongoing declines are not well understood and require more detailed research and monitoring in order to determine appropriate conservation actions
- Enhanced monitoring and survey efforts are needed to better determine breeding numbers and distributions at known or potential breeding sites across the state. This could also help to determine whether current declines, which are largely attributable to the decline and recent loss of the Ruby Lake NWR breeding colony, are systemic across Nevada

<table>
<thead>
<tr>
<th>Conservation Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habitats Strategies</td>
</tr>
<tr>
<td>- Marsh (p. Hab-9-1) and Open Water (p. Hab-15-1) habitat conservation strategies benefit this species; Shuford(^8) provides additional Black Tern conservation strategies</td>
</tr>
<tr>
<td>- Restored or artificial marshes can provide suitable habitat if the amount of emergent vegetation is appropriate.(^5) Additionally, artificial nest platforms may be beneficial in waterbodies where water fluctuations would otherwise threaten nests</td>
</tr>
<tr>
<td>- River restoration projects along the Humboldt River system and elsewhere in historic breeding habitat can benefit Black Terns, if river-associated wetlands are created(^2)</td>
</tr>
</tbody>
</table>

Research, Planning, and Monitoring Strategies

- Additional research and monitoring is needed to document the ongoing status of the Ruby Lake NWR, and to determine the causes for the cessation of breeding activity in 2006
- Expanded statewide surveys and monitoring efforts are needed to determine:
  - The numbers distribution of breeders at other sites
  - Whether declines are systematic
  - The extent to which Nevada marshes provide important migration stopover habitat
- Monitor water quality in important breeding sites

Public Outreach Strategies

- None identified

References: \(^1\)GBBO unpublished Atlas data; \(^2\)Heath et al. (2009); \(^3\)Ivey and Herziger (2006); \(^4\)Kushlan et al. (2002); \(^5\)Naugle et al. (2000); \(^6\)Sauer et al. (2008); \(^7\)Shuford and Gardali (2008); \(^8\)Shuford (1999); \(^{10}\) Expert opinion

Spp-42-4