

# American White Pelican

*Pelicanus erythrorhynchos*



Photo by Bob Goodman

## Habitat Use Profile

Habitats Used in Nevada	
Open Water (Great Basin Lowland Riparian)	
Key Habitat Parameters •	
Plant Density	No emergent vegetation cover
Colony Site	Large, dry, sparsely-vegetated island in large lake
Mosaic	For foraging, open waterbodies of various sizes, with a diverse depth profile
Water Depth	Deep sections for fisheries, shallow areas < 2 m deep [6.6 ft] for foraging <sup>3</sup>
Water Quality	Sufficient to support healthy fish populations
Area Requirements •	
Minimum Patch Size	Probably 20 - 40 ha [50 -100 ac] for colony island; smaller for foraging water bodies <sup>EO</sup>
Recommended Patch Size	Unknown
Home Range	1,000s of km <sup>2</sup> (see Overview, below)

## Conservation Profile

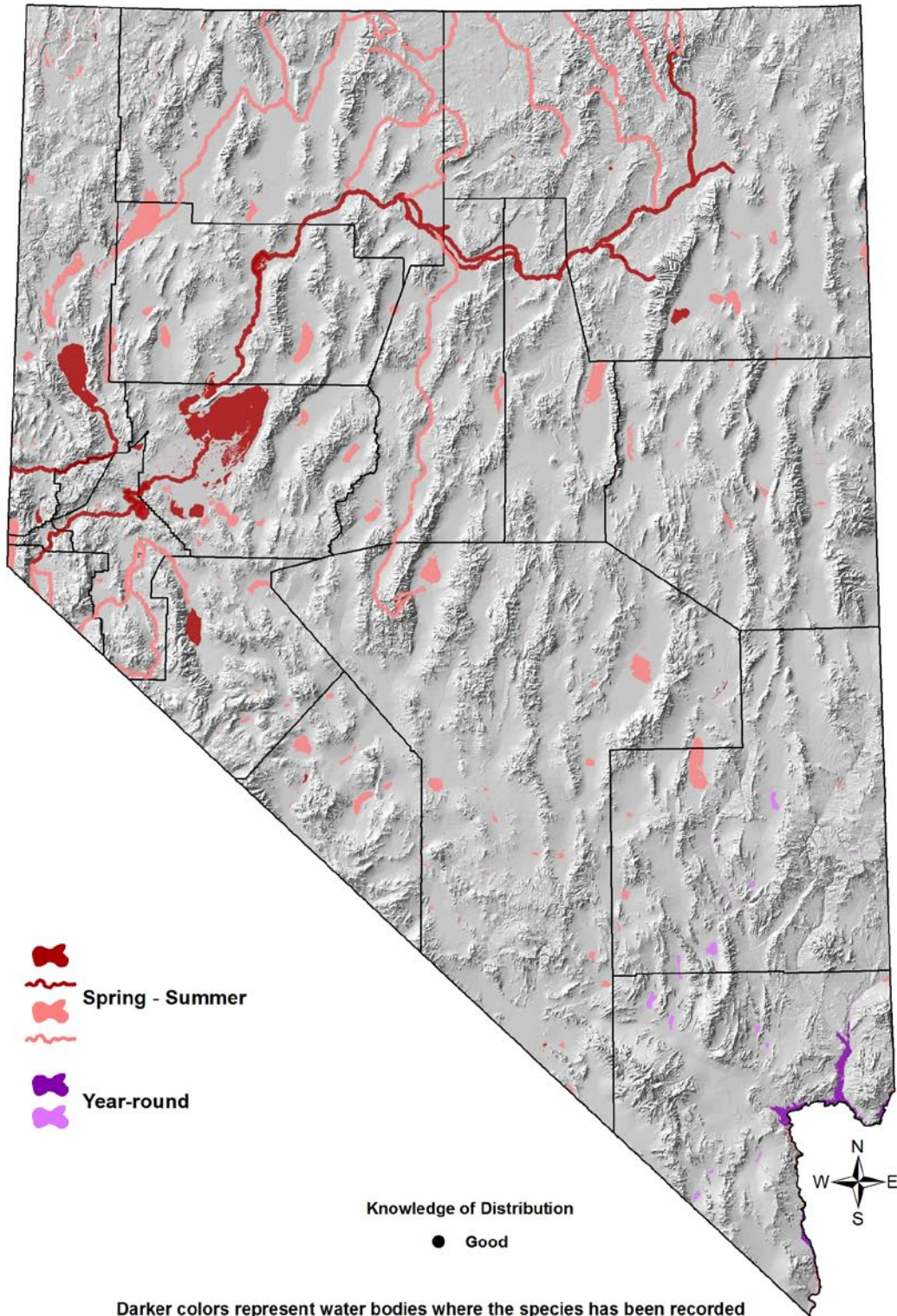
Priority Status	
Conservation Priority Species	
Species Concerns	
Restricted habitat (breeding colony) Habitat threats	
Other Rankings	
Continental PIF	None
Audubon Watchlist	None
NV Natural Heritage	S4B
USFWS	Migratory Bird
BLM	Sensitive Species
USFS	None
NDOW	Conservation Priority
IW Waterbird Plan	High Concern
Trends	
Historical •	Decreases until 1960s; then increases <sup>3</sup>
Recent •	Probably stable <sup>4</sup>
Population Size Estimates	
Nevada •	Average 8,600, highly variable among years <sup>10</sup>
Global •	134,000 <sup>4</sup>
Percent of Global	~ 6 %
Population Objective	
Maintain / Increase <sup>EO</sup>	
Monitoring Coverage	
Source	Anaho Island NWR annual colony counts and other NWR migration counts <sup>10</sup>
Coverage in NV	Good
Key Conservation Areas	
Protection	Pyramid Lake, Truckee River, Walker Lake, Topaz Lake
Restoration	All Great Basin rivers and open waterbodies with fisheries

## Natural History Profile

Seasonal Presence in Nevada	
Spring-Summer, Fall Year-round (Mojave)	
Known Breeding Dates in Nevada	
Mid March – early September <sup>1</sup>	
Nest and Nesting Habits	
Nest Placement	On ground on large colony island located on large water body <sup>3, 10</sup>
Site Fidelity	High for Anaho Island colony, variable elsewhere <sup>3</sup>
Other	May form new colonies in high water years <sup>3, 10</sup>
Food Habits	
Basic	Fishes by dabbling
Primary Diet	Fish up to 70 cm [27 in] long <sup>3, 9</sup>
Secondary Diet	None

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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.

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### Overview

The American White Pelican is unique among the Conservation Priority species covered in this plan in that its Nevada breeding population is almost entirely represented by a single large colony located on Pyramid Lake's Anaho Island. This is one of the ten largest colonies in North America.<sup>2</sup> Birds from this colony forage not only in Pyramid Lake, but they frequently commute long distances (regularly exceeding 100 km [62 mi] one-way), to other relatively shallow waterbodies,<sup>12</sup> as reflected in the range map shown above. In these widespread sites, they hunt for fish such as cui-ui (*Chasmistes cujus*), tui chub (*Gila bicolor*), and similar-sized species that are about 21-69 cm in length [8 – 27 in].<sup>9,11</sup> In wet years, pelican numbers may be double of those of dry years,<sup>11</sup> and reproductive success on Anaho Island is positively correlated with Truckee River spring and summer flows.<sup>6</sup> Also during wet years, smaller colonies may form and breed on ephemeral islands in the Carson Sink, at Franklin Lake in Ruby Valley, or elsewhere in the Great Basin,<sup>7</sup> but this is a very intermittent phenomenon. After breeding, birds from Anaho Island wander throughout the state until they eventually migrate along the west coast to their wintering grounds in southern California, Arizona, the Sea of Cortez, and Central America.<sup>12</sup> In the fall, migrating pelicans from the north pass through Nevada and often make foraging stopovers. Some birds also winter along the lower Colorado River system.

The Pyramid Lake colony is monitored annually by Anaho Island NWR, and Anaho Island is well-protected from disturbances. Therefore, the primary threats to American White Pelicans within Nevada probably take the form of threats to their prey populations.

### Abundance and Occupancy by Habitat

The Anaho Island colony has persisted annually from the time of the original record of the site. The number of breeders present at Anaho Island over the past 50 years has varied from 2,670 to 21,500 birds, with an annual average of 8,600 and a typical ten-year peak of 13,500.<sup>10</sup> All bodies of open water that contain fish in the preferred size range are potential foraging habitat for pelicans during the breeding, post-breeding, or fall migration season. However, densities of birds at foraging sites have not been systematically determined.

### Nevada-Specific Studies and Analyses

The Anaho Island colony has been surveyed annually for about 50 years by Anaho Island NWR,<sup>10</sup> resulting in detailed productivity, survival, and demographic information.

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## Main Threats and Challenges

### Habitat and Other Threats

- Decline in water quality or water inflow volume, resulting in decline of prey populations within key waterbodies such as Pyramid Lake, Walker Lake, Lahontan Valley wetlands, and Humboldt Sink
- Foraging adults are sensitive to human disturbance
- Pelicans are susceptible to Type C Botulism and West Nile Virus<sup>8,12</sup>

### Research, Planning, and Monitoring Challenges

- Systematic monitoring of important foraging and stopover sites and compilation of all existing data would be valuable

## Conservation Strategies

### Habitat Strategies

- The Open Water (p. Hab-15-1) habitat conservation strategy benefits this species
- Protect or restore water quality and inflow volume for key foraging areas (Pyramid Lake, Walker Lake, Humboldt River, and other large waterbodies and rivers in the Great Basin) in order to maintain healthy populations of prey fish

### Research, Planning, and Monitoring Strategies

- Monitor water quality where declines in water quality may be occurring
- Collect and compile monitoring data from important foraging areas and intermittent colony areas outside of Pyramid Lake
- Conduct additional study on the possible population-level impacts of West Nile Virus and Type C Botulism

### Public Outreach Strategies

- None identified

References: <sup>1</sup>GBBO unpublished Atlas data; <sup>2</sup>King and Anderson (2005); <sup>3</sup>Knopf and Evans (2004); <sup>4</sup>Kushlan et al. (2002); <sup>5</sup>Murphy (2005); <sup>6</sup>Murphy and Tracy (2005); <sup>7</sup>Nevada Wildlife Action Plan Team (2006); <sup>8</sup>Rocke et al. (2005); <sup>9</sup>Scoppettone et al. (2006); <sup>10</sup>Anaho Island NWR data; <sup>11</sup>Wiemeyer and Saake (2007); <sup>12</sup>Yates (1999a); <sup>EO</sup>Expert opinion