

White-faced Ibis

Plegadis chihi



Photo by Larry Neel

Habitat Use Profile

Habitats Used in Nevada	
Marsh Wet Meadow Agriculture	
Key Habitat Parameters •	
Plant Composition	Cattail, bulrush, sedges, pasture grasses, hay crops, willows, salt cedar
Plant Density	<u>Nesting</u> : Dense emergent vegetation or flooded shrub thickets; <u>Foraging</u> : Moderately dense, flooded wet meadow or agricultural vegetation ⁶
Mosaic	Shallow marsh with emergent vegetation, < 6 km [3.7 mi] from flooded agricultural fields or wet meadows; ^{6, EO} population requires both core and peripheral breeding sites distributed over a large area ¹
Water Depth	< 30 cm [12 in] for foraging ^{EO}
Hydrology	Requires flooded conditions in foraging areas ⁶
Response to Vegetation Removal	Negative in nesting site ^{EO}
Area Requirements ○	
Minimum Patch Size	Unknown
Recommended Patch Size	> 1,200 ha [2,960 ac] ^{6, EO}
Home Range / Territory Size	Unknown

Conservation Profile

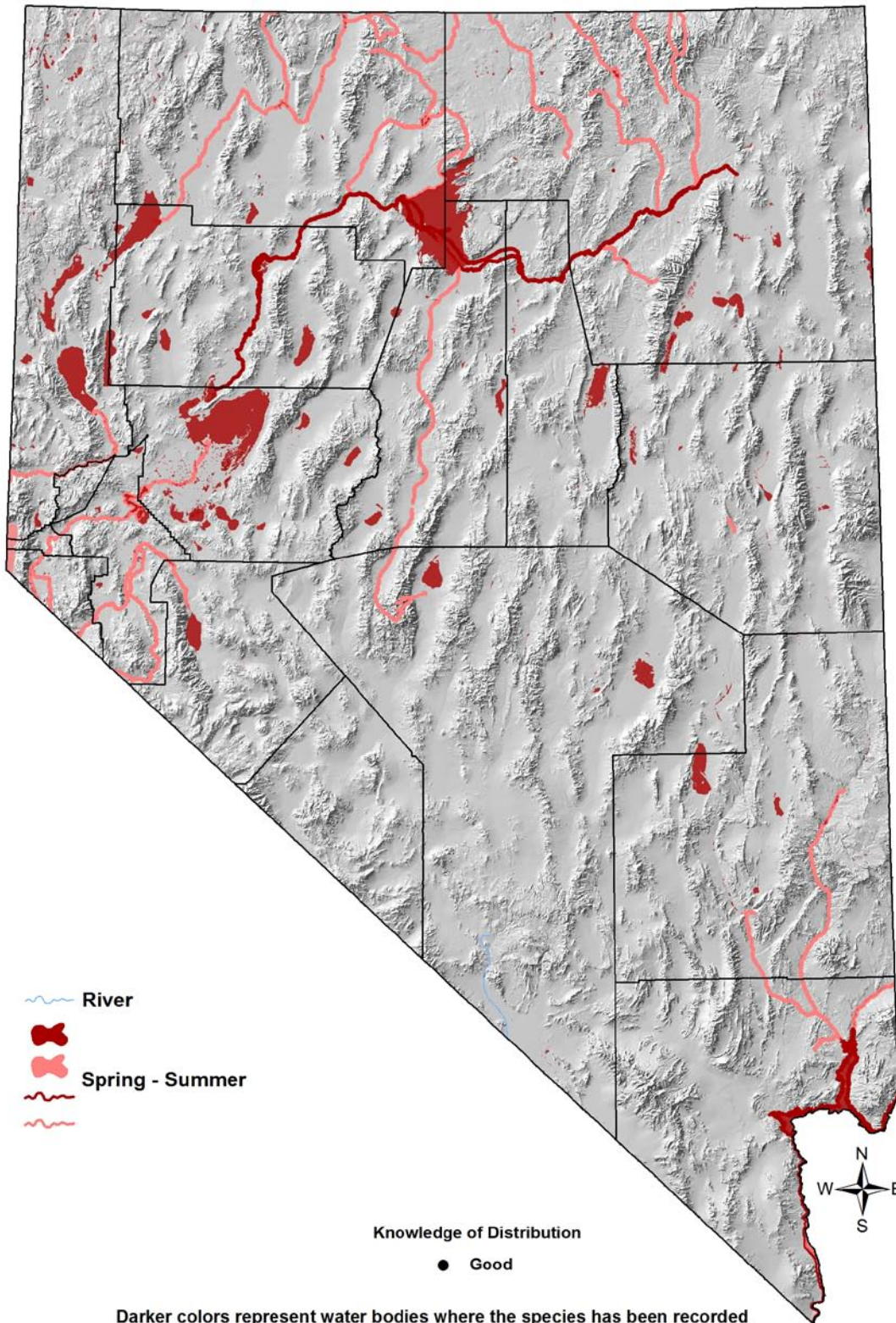
Priority Status	
Conservation Priority Species	
Species Concerns	
Unknown population trend Habitat threats Possible high stewardship responsibility	
Other Rankings	
Continental PIF	None
Audubon Watchlist	None
NV Natural Heritage	S3B
USFWS	Migratory Bird
BLM	None
USFS	None
NDOW	Conservation Priority
IW Waterbird Plan	Moderate Concern
Trends	
Historical •	Significant declines ⁶
Recent ○	Unknown, but possibly declining
Population Size Estimates	
Nevada •	~ 5,000 – 6,000 with high annual variability ^{3, 5, EO}
Global ○	> 100,000 ⁴
Percent of Global	< 10%
Population Objective	
Increase by 20% ^{EO}	
Monitoring Coverage	
Source	Nevada Colonial Waterbird Inventory, NDOW aerial surveys and Lahontan Valley counts, NWR and WMA counts, Aquatic Bird Count
Coverage in NV	Good
Key Conservation Areas	
Protection	Lahontan and Ruby Valleys, Humboldt River system
Restoration	Degraded marshes and wet meadows

Natural History Profile

Seasonal Presence in Nevada	
Spring – Summer	
Known Breeding Dates in Nevada	
May – July ²	
Nest and Nesting Habits	
Nest Placement	20 – 50 cm [8 – 20 in] above water in tall emergent vegetation or flooded shrubs ⁶
Site Fidelity	High for colony site ⁶
Other	Highly colonial nester ⁶
Food Habits	
Basic	Prober
Primary Diet	Benthic, aquatic, and soil invertebrates ⁶
Secondary Diet	Small vertebrates ⁶

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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

Determining the population trend and conservation status of the White-Faced Ibis in Nevada is surprisingly difficult considering that it is a fairly common and easily detected species. White-faced Ibises have suffered significant historical declines due to habitat loss and pesticides, but staged a strong recovery beginning in the 1980s.^{1,3,6} Until recently, it appeared that ibis numbers had stabilized in Nevada (subject to normal precipitation-driven fluctuations),⁵ but more recent data suggest the possibility of a renewed declining trend. Evidence comes primarily from Lahontan Valley, the White-faced Ibis's breeding stronghold in the state. The current ten-year average count for Lahontan Valley is 4,200 birds, substantially lower than the three-year average reported in 1999 (12,200),³ the five-year average reported in 2000 (11,300; L. Neel pers. comm.), and far below the peaks reported in the 1980s and early 1990s.^{1,6} If the species is indeed declining in Nevada, this would contrast with the regionally-reported trend towards increases or stability over the past few decades.⁶

Determining whether recent counts indicate a real population decline, or represent an extended, precipitation-driven fluctuation, is a high priority. The ongoing Nevada Colonial Waterbird Inventory project being conducted by GBBO and NDOW as part of a regional USFWS colonial waterbird inventory initiative should help in this regard. However, White-faced Ibises are nomadic during their seasonal tenure in Nevada, and they are known to shift colony sites flexibly based on local conditions^{1,3} (L. Neel, *pers. comm.*), which can complicate monitoring efforts and add an additional element of uncertainty to population and trend estimates.

Abundance and Occupancy by Habitat

The current population estimate is based on a 10-year average of Lahontan Valley counts, plus an estimated 800 birds in Ruby Valley and elsewhere in Nevada. Densities of 75 – 150 nests / ha [30 – 60 / ac] have been recorded at Carson Lake and Lahontan Valley.⁶

Nevada-Specific Studies and Analyses

Earnst et al.¹ conducted a detailed analysis of White-faced Ibis monitoring and inventory data from the Great Basin for the 1985 – 1997 time period. Data from different states, including Nevada, were broken out separately in their presentation. During the period analyzed, ibis numbers nearly tripled, a phenomenon that appeared to be partly, though not completely, explained by annual precipitation patterns. The authors discussed the nomadic habits of the White-faced Ibis as an adaptive strategy to cope with shifting resource availability, and introduced the concepts of core and peripheral breeding areas, both of which are needed for long-term population health and persistence.

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Main Threats and Challenges

Habitat and Other Threats

- Loss or degradation of marsh and wet meadow habitat due to water diversions, declines in water quality, or development
- Water level fluctuations during nesting may cause nest failure⁶
- Changes in traditional flood irrigation practices in or near critical nesting areas, which reduces foraging opportunities
- Human disturbance at colony sites can cause nest abandonment³
- White-faced Ibises are susceptible to avian botulism^{3,5}

Research, Planning, and Monitoring Challenges

- Current population trends in Nevada are not known
- White-faced Ibises are challenging to monitor because of high annual variability and frequent nomadic movements within and among years
- Patch size requirements need further study

Conservation Strategies

Habitat Strategies

- Marsh (p. Hab-9-1), Wet Meadow (p. Hab-20-1), and Agriculture (p. Hab-1-1) habitat conservation strategies benefit this species; also, Ivey et al.⁷ provide additional conservation strategies for Great Basin populations
- Protect marshes near wet meadows and flood-irrigated agricultural fields from water diversions and development
- Maintain water levels in breeding sites during the nesting period (1 May – 15 July)
- Protect colony sites from human disturbance

Research, Planning, and Monitoring Strategies

- Explore existing data, collect additional data, and conduct studies to determine population status of White-faced Ibises in Nevada
- Continue the Nevada Colonial Waterbird Inventory, Aquatic Bird Count, or other similar efforts to better document breeding distribution, numbers, and Nevada trends
- Investigate patch size requirements
- Assess whether both core breeding sites and a network of peripheral sites¹ are healthy and adequately protected

Public Outreach Strategies

- Encourage traditional practices in agricultural areas within known range, including flood irrigation

References: ¹Earnst et al. (1998); ²GBBO unpublished Atlas data; ³Ivey and Herzinger (2006); ⁴Kushlan et al. (2002); ⁵Nevada Wildlife Action Plan Team (2006); ⁶Ryder and Manry (1994); ⁷Ivey et al. (2004); ^{EO} Expert opinion