

Ferruginous Hawk

Buteo regalis



Photo by Teri Slatauski

Habitat Use Profile

Habitats Used in Nevada	
Sagebrush Pinyon-Juniper (Salt Desert Scrub)	
Key Habitat Parameters ◦	
Plant Composition	Sagebrush spp., juniper spp., upland grasses and forbs
Plant Density	Details unknown, but avoids heavily forested areas ¹
Mosaic	Variety of open habitats with widely spaced juniper or pine trees ¹
Distance to Water	Unknown
Prey Populations	Typically associated with high-density prey populations ¹
Response to Vegetation Removal	Negative, if prey populations are reduced ^{E0}
Area Requirements ◦	
Minimum Patch Size	Unknown
Recommended Patch Size	> 8,000 ha [20,000 ac] ^{E0}
Home Range	590-760 ha [1,450 – 1,900 ac] ¹

Conservation Profile

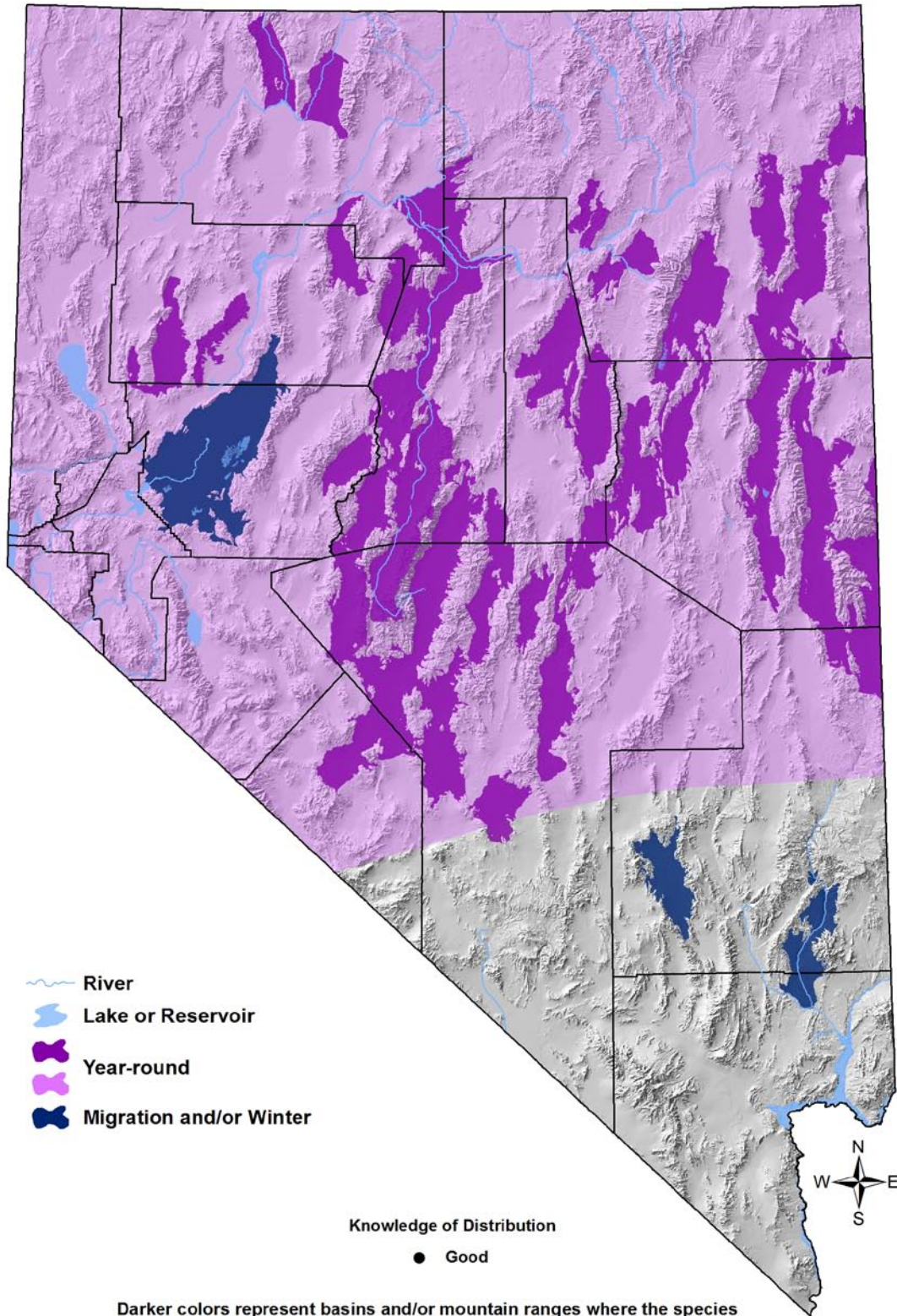
Priority Status	
Conservation Priority Species	
Species Concerns	
Possible recent declines Small population size Habitat threats	
Other Rankings	
Continental PIF	None
Audubon Watchlist	None
NV Natural Heritage	S2
USFWS	Bird of Conservation Concern, Migratory Bird
BLM	Sensitive Species
USFS	None
NDOW	Conservation Priority
Trends	
Historical ◦	Unknown
Recent ◐	Declines in the 1980s, probably declines more recently in Nevada ^{1, 5, 6}
Population Size Estimates	
Nevada (NBC) ◐	1,200
Global ◦	6,000 – 22,500 ^{1, 7}
Percent of Global	≥ 5%
Population Objective	
Maintain ^{E0}	
Monitoring Coverage	
Source	NDOW raptor surveys, Nevada Bird Count
Coverage in NV	Good
Key Conservation Areas	
Protection	Northern and eastern Nevada
Restoration	Same

Natural History Profile

Seasonal Presence in Nevada	
Year-round	
Known Breeding Dates in Nevada	
March – August ^{1, 3}	
Nest and Nesting Habits	
Nest Placement	Stick platform on isolated trees, ledges, poles, ground ¹
Site Fidelity	High for breeding territory ²
Food Habits	
Basic	Aerial predator
Primary Diet	Jackrabbits, cottontails ¹
Secondary Diet	Ground squirrels, birds, reptiles ¹

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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.

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Overview

Open, rolling sagebrush near the pinyon-juniper interface is the preferred landscape for breeding Ferruginous Hawks in Nevada. Usually a “sit-and-wait” predator, this hawk forages where scattered tree perches are available near open shrubland.¹ Ferruginous Hawks are known for their extensive post-breeding vagrancy, and the birds that winter in Nevada are often different individuals than those that breed here. They may also range into a wider variety of habitats than is the case during the breeding season. Ferruginous Hawks exhibit substantial annual variability in numbers and in nest success as a function of the fluctuating abundance of jackrabbits and cottontails, their preferred prey items. Clear population trends are therefore difficult to obtain. Ferruginous Hawks in Nevada reportedly prefer landscapes where the human presence is minimal,^{EO} and they are generally more sensitive to nest disturbances than most other raptors.^{1,10} In other states and regions, however, Ferruginous Hawks sometimes exhibit either an aversion⁸ or an affinity⁴ for the shrubland-agriculture interface.² The relationship between agriculture and Ferruginous Hawks in Nevada therefore merits further investigation.

Based on widespread population declines in the 1980s, Ferruginous Hawks were petitioned for listing under the ESA in 1991,¹ but were not subsequently listed. Nonetheless, the Ferruginous Hawk remains a conservation priority among land management agencies in Nevada due to its small numbers and probable declines. Keys to management are providing suitable nest sites, protecting active nest areas from disturbance, and improving habitat for prey.²

Abundance and Occupancy by Habitat

- The highest densities of Ferruginous Hawks in Nevada have been reported in relatively remote valleys where native vegetation is mostly intact and where human activities are minimal^{EO}
- Densities of Ferruginous Hawks may be as high as 1 pair / 40 km² [1 pair / 4,000 ha] under optimal conditions (Pete Bradley, *pers. comm.*)

Nevada-Specific Studies and Analyses

NDOW Telemetry Studies in Northeastern Nevada (Pete Bradley, *pers. comm.*)

Ferruginous Hawks monitored by radio-telemetry spent 97% of their June foraging time in sagebrush and salt desert habitats. Birds nearly always remained within 4 km [2.5 mi] of their breeding territory until early July, when they began to make 1-3 day foraging trips (sometimes accompanied by fledged young) to adjacent valleys up to 46 km [29 mi] from the nest site. Post-fledging migrational movements of 40 – 600 km [25 – 370 mi] per day began in late July. Tagged birds wintered in a variety of areas outside Nevada, to the east, south, and west, suggesting that Nevada’s wintering population and breeding population are not comprised of the same individuals.

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Photo by Larry Neel

Main Threats and Challenges

Habitat and Other Threats

- Sensitive to factors negatively affecting prey populations, including invasive plants, habitat fragmentation, fire, and development
- More sensitive to nest site disturbances than other *Buteos*, especially during early stages of nesting cycle^{1, 10}
- Loss of nesting trees (usually isolated junipers) at the shrubland-woodland interface
- Illegal take of eggs or nestlings^{EO}

Research, Planning, and Monitoring Challenges

- Relative impacts of specific modes of habitat degradation (invasive plants, livestock grazing, fragmentation) are not clear

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Conservation Strategies

Habitat and Other Strategies

- Sagebrush (p. Hab-17-1) and Pinyon-Juniper (p. Hab-16-1) habitat conservation strategies benefit this species
- Maintain or create a sagebrush / pinyon-juniper interface in which scattered or lone trees are present; fuels reduction and pinyon-juniper management projects should avoid creating an abrupt shrubland-woodland edge
- Manage rangelands to promote healthy prey populations and maintain intact herbaceous understory⁶
- Attempt to control invasive plants, particularly cheatgrass and *Halogeton*
- Trails, access roads, and other developments should be sited to maintain a non-disturbance buffer (minimally 250 m [820 ft], ideally 4 km [2.5 mi]) around nest sites^{9, EO}
- Minimize fragmentation in sagebrush habitats by consolidating development and land impacts as much as possible
- From 1 April – 30 June, consider seasonal road closures and increased law enforcement presence in key breeding areas to reduce illegal take of eggs or nestlings

Research, Planning, and Monitoring Strategies

- Continue monitoring to better determine population trends in Nevada, and document important nesting areas and regions
- Develop and implement a fire management plan that prioritizes conservation of productive sagebrush habitat, especially near the pinyon-juniper interface
- Where disturbances do occur in proximity to nesting locations, document nesting outcomes to improve our knowledge of necessary buffer areas
- Conduct research to investigate the relationships between prey density, land use practices, and site occupancy or abundance
- Explore the use of artificial nest platforms by this species¹ as a short-term management tool to mitigate for nest site losses to impacts.

Public Outreach Strategies

- None identified

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References: ¹Bechard and Schmutz (1995); ²Dechant et al. (1999); ³GBBO unpublished Atlas data; ⁴Leary et al. (1998); ⁵Olendorff (1993); ⁶Paige and Ritter (1999); ⁷Rich et al. (2004); ⁸Schmutz (1987); ⁹Suter and Jones (1981); ¹⁰White and Thurow (1985); ^{E0}Expert opinion



Sagebrush-woodland interface with scattered junipers, White Pine Co. Photo by John Boone