

Ferruginous Hawk (*Buteo regalis*)

NMPIF level: Species Conservation Concern, Level 1 (SC1)

NMPIF assessment score: 17

NM stewardship responsibility: Low

National PIF status: No special status

New Mexico BCRs: 16, 18, (34), (35)

Primary breeding habitat(s): Plains-Mesa Grassland

Other habitats used: Pinyon-Juniper Woodland, Great Basin Shrub, Plains-Mesa Sand Shrub, Agricultural

Summary of Concern

Ferruginous Hawk is a broadly distributed raptor of western North America. Although United States populations may be increasing, Ferruginous Hawk is considered highly sensitive to disturbance and to loss or alteration of native grassland habitat.

Associated Species

Swainson's Hawk (SC2), American Kestrel, Scaled Quail (SC2), Mountain Plover (SC1), Mourning Dove, Common Nighthawk, Ladder-backed Woodpecker, Say's Phoebe, Loggerhead Shrike (SC2), Bendire's Thrasher (SC1), Vesper Sparrow (SC2), Western Meadowlark

Distribution

Ferruginous Hawk breeds across western North America, from southern Canada south to central Arizona and New Mexico. The species winters south from Colorado and Kansas to northern and central Mexico.

In New Mexico, Ferruginous Hawk is a breeding species across the northern two-thirds of the state, and may be found statewide during winter. Breeding generally occurs north from Clovis in the eastern plains, north from San Antonio in the Rio Grande valley, and north from the Plains of San Agustin in the western part of the state. Nesting in isolated areas further south is possible. High nesting densities of Ferruginous Hawks have been observed in the Estancia Valley (Bechard and Schmutz 1995, Cartron et al. 2002).

Ecology and Habitat Requirements

Ferruginous Hawks occur in open areas containing broad expanses of prairie grassland or shrub-steppe vegetation. Landscapes with low to moderate agricultural coverage (less than 50%) may be used for nesting and foraging, and agricultural fields may serve as important foraging areas due to high prey densities (Leary et al. 1998, Dechant et al. 2001). The species also uses transitional and edge areas between grassland and juniper savannah or pinyon-juniper woodland. It avoids areas of intensive agriculture or high human disturbance (Bechard et al. 1990).

Nesting sometimes occurs in elevated locations on the ground, particularly in broad and undisturbed grassland areas. Above-ground nesting is common in New Mexico, and occurs most frequently in isolated tree stands or rock outcrops (Stravers and Garber 1998). Power poles or other vertical structures, including artificial platforms, are also sometimes used. Non-ground-nesting hawks appear somewhat less sensitive to surrounding land use (Bechard et al. 1990). In eastern New Mexico, Ferruginous Hawks often use old homestead trees for nesting (D. Svingen, pers. comm.). In the northwest part of the state, nesting often occurs on rock spires. In woodland edge habitat, flat-topped junipers with thick support branches are a preferred nest substrate (Stravers and Garber 1998).

Nesting activities begin in early to mid-March; young fledge from late June to early July. Territory and nest site re-occupancy is common, and one of several nests within a territory may be used in alternate years. Clutch size is typically 2-4. Birds are easily disturbed during the breeding season, and usually will not reinitiate nesting if a clutch is lost or abandoned (Bechard et al. 1990, Bechard and Schmutz 1995). Estimates of home range size vary from 3-8 square kilometers in the Columbia River Basin and Great Basin, to 90 square kilometers in Washington (Janes 1985, Leary et al. 1998). Range-wide, density and productivity are closely associated with cycles of prey abundance (Bechard and Schmutz 1995). Ferruginous Hawks feed primarily on small mammals, especially ground squirrels, prairie dogs, and rabbits. In New Mexico, wintering Ferruginous Hawks show a strong association with prairie dog colonies (Bak et al. 2001).

Conservation Status

Species Assessment

DISTRIBUTION	3
THREATS	4
GLOBAL POPULATION SIZE	5
LOCAL POPULATION TREND	3

IMPORTANCE OF NEW MEXICO TO BREEDING	2
COMBINED SCORE	17

Ferruginous Hawk is a Species Conservation Concern, Level 1 species for New Mexico, with a total assessment score of 17. It receives the highest vulnerability scores from PIF for its small population size, and a score of 4 for threats during the breeding season. Ferruginous Hawk is a U.S. Fish and Wildlife Service (2002) national Bird of Conservation Concern.

Population Size

PIF estimates a species population of 23,000, and that New Mexico holds about 3.4% of the species population, or about 800 birds. As of 1998, at least 73 known pairs and 11 additional suspected pairs were breeding in New Mexico.

Population Trend

BBS coverage is insufficient to determine a long-term trend for Ferruginous Hawk in New Mexico, but limited data suggest population stability. Long term declines of migrating Ferruginous Hawks in the West were detected at two locations including the Manzano Mountains in New Mexico from 1977-2001. However, sample sizes at these sites are low because this species is not generally a mountain ridge migrant. Since the mid-1990s, four of six migration counts in five western states, as well as Christmas Bird Count data, have indicated decreases (Hoffman and Smith 2003). BBS data for 1966-2004 are as follows:

	Annual Trend (%)	P-value	Number of Routes
New Mexico	22.4	0.20	11
FWS Region 2	0.0	0.99	15
Western States	2.0	0.13	119

Threats

Historically, Ferruginous Hawk populations have been reduced by conversion of prairie grassland habitat to agriculture and urban development. Conversion of native grassland remains a long-term threat (Dechant et al. 2001). The ability of existing grassland habitat to support Ferruginous Hawks may be reduced by a number of different factors, including: fragmentation brought about by road construction

or energy development; exotic species and/or shrub encroachment; elimination of nest substrate and/or loss of suitable nest sites; and decreased prey base due to human activities and/or drought. Disturbance to nesting, and shooting of birds on both the breeding and wintering grounds, are also threats to the species (Bechard and Schmutz 1995, Dechant et al. 2001).

Management Issues and Recommendations

Management for Ferruginous Hawks should be directed toward maintaining large blocks of native grassland habitat across the landscape, ensuring an adequate prey base and supply of suitable nest sites, and protecting birds from disturbance during the breeding season.

NMPIF Recommendations

- Avoid converting additional tracts of native rangeland habitat to cropland.
- Seek to restore grassland on abandoned cropland. Encourage use of native seed mix on all CRP lands.
- Discourage use and spread of non-native grasses in all grassland habitats.
- Seek to reduce habitat loss or fragmentation by urban or infrastructure development, road-building, energy extraction, and other activities in remaining grassland habitat.
- Seek to reduce disturbance to nesting hawks, such as by construction or energy development activities.
- Discourage killing of prairie dogs, ground squirrels or other prey species in areas occupied by Ferruginous Hawks.
- In juniper savannah, maintain open grassland between trees without a shrub layer, especially on the edges of pure grasslands.
- Encourage landowners and lessees to carry out habitat manipulations outside of the nesting season, protect traditional nest sites, and maintain a buffer of 820 ft around nest sites from March 15 to July 15.

Species Conservation Objectives

NMPIF Objectives

- Maintain known populations, especially in the high density area of the Estancia Valley.

- Survey for additional pairs, especially in the northeastern quadrant of New Mexico. Increase the number of known pairs in the state by 20% in 10 years.
- Continue and expand monitoring to determine the status and trends of Ferruginous Hawks in the state. Determine production levels necessary to sustain the state population.

Sources of Information

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