

Golden Eagle (*Aquila chrysaetos*)

NMPIF level: Biodiversity Conservation Concern, Level 2 (BC2)

NMPIF assessment score: 12

NM stewardship responsibility: Low

National PIF status: No special status

New Mexico BCRs: 16, 18, 34, 35

Primary breeding habitat(s): Cave/Rock/Cliff (often mountain canyons near open grassland or shrubland)

Other Habitats used: Widespread foraging across multiple habitat types

Summary of Concern

Golden Eagle is a widespread raptor of Europe, Asia, and North America. Although trends appear stable, this species is vulnerable due to its relatively small population size and various sources of mortality, including habitat loss or degradation.

Associated Species

Ferruginous Hawk (SC1), Red-tailed Hawk, Peregrine Falcon (BC1), Prairie Falcon (SC2), White-throated Swift (SC2), Common Raven

Distribution

Golden Eagles breed across a great range of latitudes in North America, from the Brooks Range in Alaska south to central Mexico. The species also breeds in Europe and Asia. In the United States, Golden Eagle is resident in all western states, with a breeding range extending east into the Great Plains. United States populations increase in winter with the arrival of migrants from northern breeding areas.

In New Mexico, Golden Eagles breed locally in suitable habitat throughout the state (Kochert et al. 2002, Parmeter et al. 2002).

Ecology and Habitat Requirements

During the breeding season, Golden Eagle occurs primarily in areas of mountain cliffs or canyons. In the west, it is often associated with rimrock terrain adjacent to open desert or grassland areas. Suitable nesting sites may exist within a variety of surrounding habitats, from desert to mountain areas, although dense forests tend to be avoided. In Utah, Golden Eagles nest in grass, shrub, pinyon-juniper, and aspen-conifer habitats (Peterson 1988, Bates and Moretti 1994). In Arizona, the species prefers desert grasslands and chaparral habitats (Millsap 1981). Most common nesting areas in New Mexico are steep-walled mountain canyons. Although cliffs are the most common nesting substrate, trees or man-made structures are also sometimes used. Many nests have a wide view of surrounding area or are on prominent escarpments. Proximity to hunting grounds is an important factor in nest-site selection (Kochert et al. 2002).

Golden Eagles typically forage in open grassland or shrubland habitat, and tend to avoid agricultural areas. Although capable of killing large prey, including small ungulates and young domestic livestock, this species subsists primarily on rabbits, hares, ground squirrels, and prairie dogs. Golden Eagles establish and defend territories of 20-30 km². Eagle territories may contain up to 14 nests, which a pair maintains and repairs as part of their courtship. The prolonged nesting season extends more than 6 months from the time eggs are laid until young reach independence. A typical Golden Eagle raises an average of only 1 young per year, and up to 15 young over its lifetime. (Kochert et al. 2002). When prey is abundant, 2 young are not uncommon (Hawks Aloft, unpublished data).

Conservation Status

Species Assessment

DISTRIBUTION	1
THREATS	3
GLOBAL POPULATION SIZE	4
LOCAL POPULATION TREND	3
IMPORTANCE OF NEW MEXICO TO BREEDING	1
COMBINED SCORE	12

Golden Eagle is a Biodiversity Conservation Concern, Level 2 species for New Mexico, with a combined vulnerability score of 12. It receives a high vulnerability score of 4 from PIF for its small population size.

Population Size

PIF estimates a species population of 170,000, roughly half of which occurs in the United States. Size of the New Mexico breeding population is unknown. Density estimates (pairs/km²) include 34 to 89 (mean 60) in Wyoming, 100-119 in Utah, 66 in southwest Idaho and 252 in Nevada (various sources cited in Kochert et al. 2002).

Population Trend

Long-term surveys show declines in nesting populations in the western United States but not Alaska or Canada (Kochert and Steenhof 2002). No significant trends are shown at migration sites in western North America since mid-1980s, but increases in adult detection rates and a decrease in migratory immatures may indicate lowered reproduction in parts of the western United States in response to habitat changes (Kochert et al. 2002). BBS data have limited value for assessing trends in this species because of the low number of routes and individuals counted. Trends for New Mexico are largely unknown. Survey-wide BBS data show an increase for the 1980-2004 period (annual trend = 3.0, p = 0.04, n = 306). BBS data for 1966-2004 are:

	Annual Trend (%)	P-value	Number of Routes
New Mexico	-10.2	0.14	16
FWS Region 2	-8.6	0.06	24
Western States	0.6	0.69	280

Threats

Golden Eagles have been shot and poisoned, sometimes in large numbers, and some illegal killing continues to occur. Elevated levels of lead in blood, probably from ingestion of ammunition in hunter-killed birds or mammals, have been recorded. Chronic subclinical lead exposure may weaken eagles and predispose them to injury, predation, starvation, disease, or reproductive failure (Craig and Craig 1998). Golden Eagles are vulnerable to electrocution when landing on power poles. Most mortalities occur during winter in western states where natural perches are lacking; poles with cross arms diagonal or parallel to prevailing winds are most lethal (Harness and Wilson 2001). Mortality also occurs from collisions with cars, fences and wind turbines. In some areas, Golden Eagles have been collected for Native American ceremonial purposes. Agricultural and urban development have reduced suitable habitat. Nesting success is lower in areas where fire has burned shrublands and reduced the prey base (Kochert et al. 2002).

Management Issues and Recommendations

Management options for Golden Eagle in New Mexico are limited, and the species is not considered highly threatened in the state.

NMPIF Recommendations

- Protect known breeding sites from disturbance.
- Work with public utilities and rural electric cooperatives to re-fit power poles to reduce risk of electrocution.

Species Conservation Objectives

NMPIF Objectives

- Establish statewide monitoring to better assess population trends.
- Maintain or increase current populations.

Sources of Information

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