6.3 Golden Eagle (*Aquila chrysaetos canadensis*) – Category SO

Management Units with Known Occurrences

The golden eagle is distributed throughout much of the Northern Hemisphere and in western North America is most common in grasslands and open shrublands where it forages for rabbits, jack rabbits, ground squirrels, and other small mammals (Kochert et al. 2003). It nests on cliffs and occasionally in large trees.

Golden eagle nesting territories in San Diego County have been monitored by various raptor biologists since the late 1800s, with monitoring since the 1990s through the present conducted by Wildlife Research Institute (WRI). Beginning in the fall of 2014, a multi-year survey and tracking program was initiated and developed through a collaborative effort between USGS, USFWS, CDFW, and SDMMP to determine the status of the golden eagle. Based on the historical and recent data compiled by WRI (Bittner et al. 2010 [confidential report to SANDAG]), there are 11 active (recent nesting) territories in MUs 3, 4, and 5 and 2 inactive territories (adult pair not observed for several years) in MUs 3 and 6. MU8 was not included in the WRI surveys but also has active golden eagle territories. More recently, USGS trapped 26 golden eagles from November 2014 through February 2016, with 21 eagles captured in San Diego County, and is actively tracking 11 eagles (USGS 2016). See the online map for active and inactive nesting territories on Conserved Lands. Extirpated territories are not included on the map. Territories are considered "extirpated" when 5 years pass from the last recorded breeding and/or sighting of the pair or a single eagle on the territory (Bittner et al. 2010). Due to the sensitivity of the data, only territory names and foraging territory boundaries are provided on the map (contact the SDMMP for nest site locations).

There are 5 active and 1 inactive golden eagle nesting territories known to occur in MU3 in the South County area: Cedar Canyon, Copper Canyon (Butteweg Canyon, Otay Mountain), Lyon's Peak, O'Neal Canyon, San Miguel Mountain, and Tecate Peak (Marron Valley). The South County area contains large blocks of Conserved Lands with open habitat suitable for foraging golden eagles. There are 4 active golden eagle nesting territories known to occur in MU4 (El Cajon, Iron Mountain, Rock Mountain, and San Vicente Reservoir) and 2 active nesting territories in MU5. The nest sites in MU5 both occur on private property, but foraging territories overlap with Conserved Lands. The only known golden eagle nesting territory in MU6 occurs in the Lake Hodges/Del Dios Highlands area, is surrounded by urban

development, and has not had an active nest since 2003. Golden eagles have likely been extirpated from this territory. Foraging habitat and nesting areas for golden eagle are found in MU8 at Gregory Canyon and potentially other areas, but the SDMMP was unable to obtain the current information on these other sites.

Management Categorization Rationale

Golden eagles should be managed as a Species Management Focus Category SO Species due to a high risk of loss of nesting territories from Conserved Lands in the MSPA and because managing vegetation alone will not ensure persistence of the species (see Vol. 1, Table 2-4). Golden eagles should be managed at a species-specific level due to nest site fidelity and associated foraging area management needs, potential loss of locally produced floaters (i.e., future recruitment to the MSPA population) at wind energy facilities outside of the MSPA, and pair requirements in conservation plans within the MSPA.

Threats to golden eagles in the MSPA include urbanization and human use of preserves that disturb nest sites and nesting pairs, ravens preying on young in the nest, and direct mortality from powerline and wind power facilities (Kochert et al. 2002; Bittner et al. 2010). Altered fire regimes may affect nest site stability/nest destruction, change prey distributions, and potentially cause direct mortality.

Management and Monitoring Approach

The overarching goal for the golden eagle is to protect, enhance, and restore occupied and historically occupied habitat to create resilient, self-sustaining populations that provide for persistence over the long term (>100 years).

For the 2017–2021 planning cycle, the management and monitoring approach for the golden eagle is to:

(1) Continue the golden eagle nesting, foraging, and habitat use study to monitor golden eagle territory occupancy and reproduction in the MSPA (see Table of Occurrences) and to track eagle movements to identify important foraging, nesting, and roosting areas. Continue to study the influence of human activity and land use on patterns of eagle movement and habitat use, measure the response of eagles to human activity while foraging, and determine whether locally produced floaters recruit into the breeding population.

(2) Continue the golden eagle genetics study and collect genetic samples in conjunction with eagle captures for the golden eagle nesting, foraging, and habitat use study. Analyze these samples to determine the population genetic structure of golden eagles within the MSPA (see Table of Occurrences) and their relationship to eagle populations in other parts of the western United States.

(3) Use the results and recommendations from the golden eagle nesting, foraging, and habitat use study and the golden eagle genetics study to develop a comprehensive Golden Eagle Management Plan for managing golden eagle territories with nesting, roosting, and foraging habitat on Conserved Lands within the MSPA (see Table of Occurrences). The plan should include recommendations for managing important foraging habitat to minimize human disturbance to foraging eagles and to improve habitat quality to enhance prey availability, especially during drought periods. The plan should also include specifications to control human disturbance that could discourage nesting, cause nest abandonment, or adversely affect the survival of nestlings, and for managing unstable nest ledges or tree nest sites that are critical to maintaining a breeding pair in territories with limited nesting sites.

(4) Use the results and recommendations from the golden eagle nesting, foraging, and habitat use study and the golden eagle genetics study to develop a comprehensive Golden Eagle Monitoring Plan for monitoring golden eagle status and assessing nesting, roosting, and foraging habitat on Conserved Lands within the MSPA (see Table of Occurrences). The plan should include standardized monitoring protocols to track the status of eagles at nesting territories, to monitor use of important foraging areas, and to collect habitat and threats covariate data to inform needed management actions.

For details and the most up-to-date goals, objectives, and actions, go to the MSP Portal Golden Eagle summary page: https://portal.sdmmp.com/view_species.php?taxaid=175408

Golden Eagle References

Bittner, John D., C. Meador, Brittany Schlotfeldt, and Renée Rivard. 2010. *Report on the Status of the Golden Eagle in the San Diego MSCP 2004–2010*.

Confidential report prepared by the Wildlife Research Institute, Inc. for the San Diego Association of Governments.

Kochert, M. N., K. Steenhof, C. L. Mcintyre, and E. H. Craig. 2003. Golden Eagle (*Aquila chrysaetos*), *The Birds of North America Online* (A. Poole, Ed.), Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/684. DOI: 10.2173/bna.684.

USGS (U.S. Geological Survey). 2016. Biotelemetry Data for Golden Eagles (*Aquila chrysaetos*) Captured in Coastal Southern California, November 2014–February 2016: U.S. Geological Survey Data Series 994, 32 p. Prepared for San Diego Association of Governments, California Department of Fish and Wildlife, Bureau of Land Management, and U.S. Fish and Wildlife Service.