

Region 6 Recommendations for Avoidance and Minimization of Impacts to Golden Eagles at Wind Energy Facilities, April 11, 2013

The following recommendations were developed through a joint effort between the Migratory Bird Management and Ecological Services Programs in the Region 6 Regional Office and Wyoming Ecological Services Field Office in Cheyenne, Wyoming. The document includes our joint recommendations to avoid and minimize impacts to golden eagles (GOEA) at: (a) recently occupied nests, (b) unoccupied nests, (c) areas of concentrated prey resources, and (d) other project-specific eagle activity areas. Our goal for avoiding and minimizing impacts is to contribute to maintaining stable or increasing breeding populations of eagles by recommending conservation measures that will maintain GOEA breeding territories and by minimizing impacts to other important eagle use areas (e.g., eagle nests, foraging areas, and communal roosts; 50 CFR 22.3). Currently, a sub-team of the Eagle Technical Assistance Team is developing recommendations for addressing activities near eagle nests, but their recommendations may not be available for several months or longer (they intend to use a peer review process). In developing our recommendations, we are aware that our approach could be more or less stringent than the recommendations ultimately developed by the Eagle Technical Assistance Team, but we have strived to use the best available science.

RECOMMENDATIONS

I. Occupied Nests – Use the ½ mean inter-nest distance (MIND) buffer for the project area.

II. Unoccupied (Historic) Nests – No turbines will be constructed within 0.5-mile (800-meters) of any unoccupied (historic) nest. In addition, all turbines between 0.5-mile and 1.0 mile (1,600-meters) of any unoccupied nest will be curtailed during each year starting 15 January until 1 May, unless adequate nest surveys demonstrate that the nests are unoccupied. Also, if the nest becomes occupied, turbines will be curtailed between the 0.5-mile and the ½-MIND during the breeding season until the young fledge or the nest becomes unoccupied.

III. Areas of Concentrated Prey Resources – Recommend turbines not be constructed in areas of concentrated prey resources unless it can be demonstrated that they do not overlap or are not immediately adjacent to other important eagle use areas, and where sufficient data are available to confirm that the concentrated prey resources are not in project-specific eagle activity areas.

IV. Other Project-Specific Eagle Activity Areas – Focus on areas where there is an intersection of geographic relief (e.g., cliff features used for nesting, ridge features used for migration, rims used for orthographic lift) and documented project-specific eagle activity areas.

DESCRIPTION OF RECOMMENDATIONS

A. Occupied Nests

An occupied nest is a nest used for breeding in the current year by a pair of eagles. Presence of an adult, eggs, or young, freshly molted feathers or plucked down, or current year's mutes (whitewash) suggest site occupancy. In years when food resources are scarce, it is not uncommon for a pair of eagles to occupy a nest yet never lay eggs; such nests are considered occupied (Eagle Conservation Plan Guidance [ECPG¹] 2012, p. 32). For purposes of these recommendations, we define occupied GOEA nests as nest sites that were occupied at least once during the last five years or last five years of field surveys. Because GOEAs will often use the same nest in multiple years (Kochert and Steenhof 2012), there is a high likelihood that these nests could be occupied again during the life of the project. Nests form the center of activity during the breeding season and are often centers of activity during the non-breeding season as well (Marzluff et al. 1997). Buffering or otherwise protecting eagle nests should substantially decrease the probability of lethal take, as well as disturbance take, of eagles. Other raptors using the same nesting habitats as GOEA (e.g., prairie falcon) will also benefit from protection of GOEA nest sites.

Use the ½ mean inter-nest distance (MIND) buffer for the project area.

The size of the ½-MIND buffer is based on an average distance among all occupied nests within a given year, and approximates the average territory size. Eagle pairs that nest within one-half the mean project-area inter-nest distance are potentially susceptible to disturbance take and blade strike mortality, as these pairs and offspring may use the project footprint (ECPG, p. 12). The ECPG recommends using the ½-MIND to delineate territories and associated breeding eagles at risk of mortality or disturbance (p. 12). Lacking other agency policy recommendations, guidance and regulations, our recommendation is to apply the ½-MIND risk evaluation method described in the ECPG as an avoidance buffer to maintain eagle nesting territories. Hence, using the ½-MIND for a buffer recommendation is a further application of the initial risk assessment approach described in the ECPG. The ½-MIND can be adjusted if site-specific data (e.g., telemetry, prey analysis, other data) are adequate to suggest the buffer should be larger/smaller/non-circular.

B. Unoccupied (Historic) Nests

We define unoccupied GOEA nests as those nests not selected by raptors for use in the current nesting season (ECPG 2012, p. 33). For purposes of these recommendations, we define unoccupied GOEA nests as nest sites that were not occupied during the last five years or last five years of field surveys. It should be noted that occupied nests can be incorrectly assigned as unoccupied if the nests are not repeatedly surveyed during the same nesting season. Even if a nest was unoccupied in one or more years, it is still possible that eagles could reuse that nest in future years (Kochert and Steenhof 2012), especially since the intervals between nest reuse can be lengthy (Kochert and Steenhof 2012, Slater et al. 2013). Given that the anticipated life of a wind project is 30 years (though repowering could extend that indefinitely) it is likely that some

¹ The reference is to internal version 2.0 from March 2012 that has not been released to the public.

unoccupied nests will become occupied during the life of the project. In addition, nests usually occur in areas of historical eagle use (due to topographic features and prey resources) and represent areas where eagles are expected to return in the future.

No turbines will be constructed within 0.5-mile (800-meters) of any unoccupied (historic) nest. In addition, all turbines between 0.5-mile and 1.0 mile (1,600-meters) of any unoccupied nest will be curtailed during each year starting 15 January until 1 May, unless adequate nest surveys demonstrate that the nests are unoccupied.

Further, if the nest becomes occupied, turbines will be curtailed between the 0.5-mile and the ½-MILE during the breeding season until the young fledge or the nest becomes unoccupied.

C. Areas of Concentrated Prey Resources

Protection buffers for prey base areas likely used by GOEA. These areas typically receive use by GOEA during the nesting season, migration, and during wintering (so potentially year-round).

Recommend turbines not be constructed in areas of concentrated prey resources unless it can be demonstrated that they do not overlap or are not immediately adjacent to other important eagle use areas, and where sufficient data are available to confirm that the concentrated prey resources are not in areas of project-specific eagle activity areas.

D. Other Project-Specific Eagle Activity Areas

Apply protections (e.g., buffers) for other project-specific eagle activity areas identified by survey data (e.g., 800-meter point counts) (these are different than “important eagle use areas” defined in regulations and the ECPG). Although project-specific, certain areas (e.g., topographic relief creating uplifts, migration corridors, perch sites) are typically used by eagles; therefore, it is appropriate to identify these and provide buffer recommendations for them.

Focus on areas where there is an intersection of geographic relief (e.g., cliff features used for nesting, ridge features used for migration, rims used for orthographic lift) and documented project-specific eagle activity areas.

Identify specific locations where the project-specific eagle activity areas intersect topographic and/or geographic features used by eagles and provide recommendations for a buffer where there is overlap. Recommended buffers for geographic features would vary based on the value/use of the geologic feature to eagles, with those having greater value/use by eagles receiving larger buffers. For this option, avoidance and minimization is site-specific, with custom-designed buffers for eagle activity areas based on project-specific geography and documented eagle use of those features.