

U.S. Fish and Wildlife Service, Region 6, Mountain-Prairie Region

Final Outline and Components of an Eagle Conservation Plan (ECP) for Wind Development: Recommendations from USFWS Region 6

Purpose and Expectations:

The U.S. Fish and Wildlife Service (USFWS) Eagle Conservation Plan Guidance, Module 1, Land-based Wind Energy , Version 2 (ECPG)¹ provides specific in-depth guidance for developing an Eagle Conservation Plan (ECP) for conserving bald and golden eagles in the course of siting, constructing, and operating wind energy facilities. The ECP describes and documents how the project developer and/or operator intends to comply with the regulatory requirements for programmatic eagle take permits and the associated NEPA process by avoiding and minimizing the risk of taking eagles by evaluating possible alternatives in siting, configuration, construction, and operation of wind projects. The ECP should provide detailed information on siting, configuration, construction, and operational alternatives that avoid and minimize eagle take to the point where any remaining take is unavoidable and, if required, mitigates that remaining take to meet the statutory preservation standard. An ECP provides support for an application for a programmatic eagle take permit.

This Region 6 document provides recommendations, in an outline format, for developing and organizing the content of an ECP, and includes additional details on topics that should be addressed in an ECP. This guidance applies equally to both bald and golden eagles. While developing an ECP and applying for a programmatic eagle take permit is voluntary, take of eagles under the Bald and Golden Eagle Protection Act is prohibited without a permit; therefore, we encourage developers/operators of wind projects that may take eagles to develop an ECP and apply for a programmatic eagle take permit. Throughout the process of developing an ECP there should be regular communication between the project developer and/or operator and USFWS personnel (Ecological Services and Migratory Bird Management Offices). This can include emails, conference calls, and meetings involving review of survey data, review and editing of draft documents, joint development of avoidance and minimization measures, review and discussion on model runs, joint work on calculations for compensatory mitigation when required, etc.

¹ Available at <http://www.fws.gov/windenergy/PDF/Eagle%20Conservation%20Plan%20Guidance-Module%201.pdf>

ECP Outline Recommendations:

- I. Introduction and Purpose: Include an explanation of the relationship between the ECP and other related documents, such as NEPA reviews for the project (EA or EIS), Bird and Bat Conservation Strategy (BBCS), etc.

- II. Regulatory Framework
 - A. Laws and Regulations- Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BGEPA) – Use applicable default language taken from the USFWS Wind Energy Guidelines (WEG; USFWS 2012, pp. 2-3)

 - B. State or Tribal Wildlife laws and other Federal laws that apply

- III. Project Description
 - A. Describe all project components, including structures and infrastructure (wind turbines, roads, buildings, met towers, distribution and transmission lines, substations, etc.).

 - B. Provide a map of project area with project area boundary delineated.

 - C. Provide a map of topographic relief for the project area.

 - D. Provide a map of proposed final wind turbine layout, roads, distribution and transmission lines, substations, buildings, met towers (permanent), etc.

 - E. Provide a map of vegetation classes and aquatic features for the project, including a summary table with information on the acreage or linear miles of each class or feature present and how many acres/miles will be lost or degraded by project development.

- IV. Initial Site Assessment (ECPG Stage 1)
 - A. Brief summary of available sources reviewed for the project site relative to eagles, including reports, publications, GIS maps, agency files, species experts, on-line databases, and initial site visit(s).

 - B. Were alternate sites considered/evaluated, and if so what criteria were used to compare sites?

C. Address all questions in ECPG Appendix B on page 51. Clearly identify the process used to address these questions. Based on the responses to these questions develop a map that categorizes eagle risk for all sites initially considered for development.

D. Categorize Eagle Risk for Stage 1 (ECPG Appendix B) using ECPG criteria on pp. 25-26.

V. Site-specific Surveys and Assessment (ECPG Stage 2): This section should address the questions in ECPG Appendix C, page 53.

A. Eagle Use

1. Thoroughly describe what types of eagle-use surveys were conducted, the survey protocols used, the number of surveys completed, and when surveys were conducted (years, seasonal coverage, time of day, etc.). Survey types may include, but are not limited to, eagle point count surveys, flight paths, migration monitoring, behavioral studies, and telemetry. If any survey protocols changed during these surveys, explain the changes and provide a rationale for them. If survey types and protocols differed from Appendix C in the ECPG, describe what the differences were and provide a rationale.

2. Include a map of points used for eagle use surveys and an estimate of the percentage of the project area and project footprint they cover.

3. Provide results and thorough details on all pre-construction site-specific surveys that were conducted by year and/or season. Summarize survey results in the ECP. If annual monitoring reports are available for the project, they may be included in an Appendix.

4. Provide results from any other field work to identify migration corridors, roost sites, foraging areas, wintering areas, etc., not mentioned above.

B. Eagle Nests

1. Describe what is known about eagle nesting in the project area prior to any project-related surveys; include a map showing the locations of all historic eagle nests.

2. Thoroughly describe all raptor/eagle nest surveys conducted (i.e. aerial, ground searches, etc.), including methodology, timing and frequency of the surveys; provide a map of the area searched for nests (i.e., how far out from the project area and project footprint did you survey for nests); describe condition of all eagle nests, provide photographs of eagle nest sites, provide outcomes for each eagle nest by species (i.e., tending, occupancy, productivity, and nest success); and provide project-area mean inter-nest distance for eagles by species (if calculated, provide methods used for that calculation).

C. Eagle Prey Base Assessment

1. Thoroughly describe methodologies/protocols used to assess the eagle prey base (especially areas with concentrated prey resources).
2. Provide map(s) indicating areas with concentrated prey resources (e.g., prairie dog towns, leks, ungulate wintering/parturition areas, etc.) in relation to proposed final turbine layout. Map rivers, lakes and reservoirs where bald eagles forage on fish and waterfowl, and map areas of open water available during winter, if any.
3. Describe potential anthropogenic sources of eagle prey for the project area including cattle or sheep grazing operations, road kill carcasses on roads, gut piles from hunting seasons, etc.

D. Eagle Risk Categorization for Stage 2

1. Describe how the eagle use, eagle nest, and eagle prey base assessment data were used to assess the eagle risk category. Use ECPG criteria on pgs. 25-26.

VI. Avoidance and Minimization of Risks in Project Siting (ECPG Stage 4)

A. Project Planning/Design Phase: site selection

1. Were alternative sites considered for development and was there consideration for reducing eagle/raptor/migratory bird risk in this process?
2. Were wind turbines removed and/or relocated from the initial project design, and if so, why?
3. Were any project roads, power lines, or buildings removed or relocated from the initial project design, and if so, why?
4. Document all key adjustments made to the initial project design, why they were made, what information was used to make changes, and any subsequent draft designs. Thorough descriptions should accompany any maps.
5. Were the USFWS Region 6 Recommendations for Avoidance and Minimization of Impacts to Golden Eagles at Wind Energy Facilities (April, 2013) followed in the project design phase? If not, provide a rationale.

VII. Predicting Eagle Fatalities (ECPG Stage 3)

A. Describe the methods and assumptions used. If these differ from Appendix D in the ECPG, describe the differences and provide a rationale.

1. Provide all input data used.
2. Present results from Eagle Modeling by Eagle Species
 - a. USFWS eagle fatality model
 - b. Outcomes from other models (if any)

B. Other Eagle Risk Assessment

1. Disturbance/Displacement Assessment
2. Assessment of Project-level Take: Complete this analysis consistent with ECPG Appendix F.
3. Local Area Population (LAP) Analysis
4. Cumulative Impacts Analysis – Comprehensive assessment of known factors impacting eagles, eagle habitat, prey base, etc., within the sphere of the LAP. This includes known eagle mortality from all other factors within the LAP, including existing wind facilities, power lines, poisoning, etc. Proponent will need to work jointly with USFWS on this section. Refer to ECPG Appendix F.

C. Eagle Risk Categorization for Stage 3. Use ECPG criteria on pp. 25-26.

VIII. Additional Avoidance and Minimization of Risks, ACP's, and Compensatory Mitigation (ECPG Stage 4)

A. Construction Phase Best Management Practices (all that apply from USFWS 2012, WEG Chapter 7)

B. Operational Phase

1. Best Management Practices (Including, at a minimum, those from USFWS 2012, WEG Chapter 7 which apply to eagles)
2. Experimental Advanced Conservation Practices, per ECPG Appendix E.

C. Compensatory Mitigation

1. Calculations of needed mitigation for your project using Appendix G of ECPG; thoroughly describe calculations that were used to generate results.

2. Present a plan for the implementation of compensatory mitigation, including the type of compensatory mitigation that will be implemented. How was the type of compensatory mitigation being proposed actually selected? The plan should demonstrate the project developer's/operator's ability to complete it. Where will the compensatory mitigation be completed relative to relevant Local Area Population, Bird Conservation Regions (ECPG pg. 38), Eagle Management Units (ECPG pg. 39), etc.? What is the expected life of the compensatory mitigation action(s)?

3. Effectiveness monitoring: describe monitoring approach, duration, etc.

4. Adaptive Management, including commitments to change operations in response to monitoring outcomes as applicable. (See ECPG pg. 28 and ECPG Appendix A)

IX. Calibration and Updating of the Fatality Prediction and Continued Risk Assessment (ECPG Stage 5)

A. Post-construction monitoring (eagle/avian surveys)

1. Describe the methodology/protocols to be used for carcass surveys for eagles/migratory birds (including searcher efficiency trials and carcass persistence trials). These will be developed jointly by the developer/operator and the USFWS per ECPG Appendix H.

Note: General considerations for design of the fatality monitoring program include:

- Kunz et al. (2007). Assessing impacts of wind-energy development on nocturnally active birds and bats: a guidance document. *Journal of Wildlife Management* 71: 2449-2486.
- Strickland et al. (2011). *Studying Wind Energy/Wildlife Interactions: a Guidance Document*. Prepared for the National Wind Coordinating Collaborative, Washington, D.C., USA, and relevant points from USFWS WEG pp. 35-37.

2. Surveys of eagle/raptor nests (occupancy, productivity, and success)

- Describe methods to be used, number of years surveys will be conducted, area to be surveyed, etc.

3. Disturbance Monitoring: Document any post-construction monitoring of eagle nesting territories and communal roost sites to evaluate disturbance effects. (See ECPG Appendix H, pg. 98). Provide details of the protocols and methods to be used for such monitoring.

4. Describe eagle use/migratory bird surveys that will be conducted post-construction. Provide methodology, timing and frequency of survey effort, location of survey points,

percent of area that will be surveyed, number of surveys, etc. If such surveys will not be conducted, provide a rationale.

5. If there will be an incidental (i.e., informal) wildlife monitoring system established, describe the system, including personnel that will implement it, data forms to be used, how the reporting process will work, and how conflicts with informal monitoring and formal carcass surveys will be avoided.

X. Permits

- A. For USFWS programmatic eagle take permits, conditions will be provided by USFWS.
- B. Other USFWS Permit Types: Other Migratory Bird Treaty Act (MBTA) permits may be required for project management. These include, but are not limited to, nest relocation, temporary possession, depredation, salvage/disposal, and scientific collection.
 - 1. Identify MBTA permit types the project is likely to apply for. Also describe the process which will be used to obtain and comply with all necessary MBTA take permits for the project.
 - 2. Other State or Tribal wildlife permits

XI. References/Literature Cited

What not to include in your ECP:

- Literature review or summary of effects of wind turbines on eagles/migratory birds/wildlife
- Comparisons of predicted eagle take at your project with other on-line wind energy facilities