



U.S. Fish and Wildlife Service

Environmental Assessment
for the Issuance of an Incidental Eagle Take Permit
for the Rim Rock Wind Energy Project,
Montana

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Appendix A. Eagle-risk Analysis

Appendix B. Cumulative Effects Analysis

List of Acronyms

ACHP	Advisory Council on Historic Preservation
APLIC	Avian Power Line Interaction Committee
BBCS	Bird and Bat Conservation Strategy
C.F.R.	Code of Federal Regulation
COD	Commercial Operation Date
CRM	Collision Risk Model
ECP	Eagle Conservation Plan
ECPG	Eagle Conservation Plan Guidance
EMU	Eagle Management Unit
ESA	Endangered Species Act
EA	Environmental Assessment
EIS	Environmental Impact Statement
Fed. Reg.	Federal Regulation
IETP	Incidental Eagle Take Permit
LAP	Local Area Population
MATL	Montana Alberta Tie Line
MBTA	Migratory Bird Treaty Act
MET	Meteorological
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
PCMM	Post-Construction Mortality Monitoring
PEIS	Programmatic Environmental Impact Statement
REA	Resource Equivalency Analysis
SHPO	State Historic Preservation Office
SPCC	Spill Prevention, Control, and Countermeasure

1. Introduction

This Environmental Assessment (EA) is prepared to analyze the environmental consequences of the U.S. Fish and Wildlife Service (Service) issuing an Incidental Eagle Take Permit (IETP) for the take of bald (*Haliaeetus leucocephalus*) and golden (*Aquila chrysaetos*) eagles associated with the existing and operating Rim Rock Wind Energy Project (Project), pursuant to the National Environmental Policy Act (NEPA) (42 U.S.C. §§ 4321–4347 [1970]). Issuance of an IETP by the Service for take that is incidental to otherwise lawful activities under the Bald and Golden Eagle Protection Act (Eagle Act) (16 U.S.C. §§ 668–668d [1940]; *see also*, 50 C.F.R. § 22.80 [2022]) constitutes a discretionary Federal action that is subject to NEPA. This EA assists the Service in ensuring compliance with NEPA, and in making a determination as to whether any “significant” impacts could result from the analyzed actions that would require preparation of an Environmental Impact Statement (EIS). This EA evaluates the effects of alternatives for our decision whether to issue an IETP.

The Eagle Act authorizes the Service to issue IETPs only when the take is compatible with the preservation of each eagle species, defined as “consistent with the goals of maintaining stable or increasing breeding populations in all eagle management units and the persistence of local populations throughout the geographic range of each species” (50 C.F.R. § 22.6 [1974]). Wildlife and Fisheries regulation authorize incidental take of eagles when take is associated with, but not the purpose of, an activity (50 C.F.R. § 22.80 [2022]).

The Applicant, BHE Rim Rock Wind, LLC (Applicant), is requesting Eagle Act take coverage for operational activities associated with the 189 megawatt (MW) total output wind farm located in Toole and Glacier Counties, Montana. The Project consists of 126 wind turbines and associated infrastructure (substations, access roads, interconnection tie line, etc.) and has been operational since December 2012. The Applicant submitted a 30-year IETP application on November 20, 2018, under the Service’s 2016 Eagle Rule regulations (*see* Eagle Permits; Revisions to Regulations for Eagle Incidental Take and Take of Eagle Nests, 81 Fed. Reg. 91494 [December 16, 2016]) and an Eagle Conservation Plan (ECP; Attachment A) in support of the application.

The Applicant is requesting an IETP for the take of up to 3.64 bald eagles and up to 4.1 golden eagles annually, over the 30-year permit duration (Service 2023). This EA evaluates whether issuance of the IETP will have significant impacts on the existing human environment. “Significance” under NEPA is defined at 40 C.F.R. § 1501.3 [2020] and requires consideration of the potentially affected environment and the degree of effects to that environment (40 C.F.R. § 1501.3 [2020]).

This proposal conforms with, and carries out, the management approach analyzed in, and adopted subsequent to, the Service’s *Programmatic Environmental Impact Statement for the Eagle Rule Revision, December 2016* (PEIS; Service 2016a). The 2016 PEIS is incorporated

herein by reference, and this EA tiers to the 2016 PEIS (40 C.F.R. § 1508.1 (ff) [2022]). Project-specific information not considered in the PEIS (Service 2016a) will be considered in this EA as described below.

1.1 Purpose and Need

The Service's purpose in considering the proposed action is to fulfill our authority under the Eagle Act and its implementing regulations by issuing an IETP for eagle take while ensuring the conservation of bald and golden eagles. Applicants whose otherwise lawful activities may result in take of eagles, can apply for an IETP so that their projects may proceed without potential violations of the Eagle Act. Under the Wildlife and Fisheries regulations, the Service may issue an IETP for eagle take that is associated with, but not the purpose of, an activity (50 C.F.R. § 22.80(e)(2)(i)(v) [2022]). Such permits can be issued by the Service when the take that is authorized is compatible with the Eagle Act preservation standard; is necessary to protect an interest in a particular locality; is associated with, but not the purpose of, the activity; and cannot be practicably avoided. *Id.*; *see also* Eagle Permits; Revisions to Regulations for Eagle Incidental Take and Take of Eagle Nests, 81 Fed. Reg. 91494 (December 16, 2016). The preservation standard under the Wildlife and Fisheries regulation means to be "consistent with the goal of maintaining stable or increasing breeding populations of bald and golden eagles in all EMUs and the persistence of local populations throughout the geographic range of each species" (50 C.F.R. § 22.6 [2022]).

The need for the Service's proposed action is to respond to the Applicant's IETP application for incidental take of bald and golden eagles resulting from the operation of the Project. The decision must comply with the Eagle Act and all applicable regulatory requirements and must be compatible with the preservation of eagles.

1.2 Authorities

Service authorities are codified under multiple statutes that address management and conservation of natural resources from many perspectives, including, but not limited to, the effects of land, water, and energy development on fish, wildlife, plants, and their habitats. This analysis is based on the Eagle Act (16 U.S.C. §§ 668–668e [1940]) and the Services' regulations (50 C.F.R., Pt. 22 [1974]). The PEIS (Service 2016a, Section 1.6) has a full list of authorities that apply to this action, which are incorporated herein by reference.

1.3 Background

The Applicant is the developer and operator of the Project located approximately 6 miles northwest of the town of Kevin, Montana; approximately 11 miles northeast of the town of Cut Bank, Montana; and approximately 7 miles south of the U.S.-Canada border (Figure 1). The Project is located entirely on privately-owned land in both Toole and Glacier Counties. More specifically, the Project is located within Township 35 North, Ranges 3, 4, and 5 West, and

Township 36 North, Ranges 3 and 4 West. The Project boundary encompasses approximately 7,726 acres and is located adjacent to the Kevin Rim, an isolated geological feature consisting of a roughly linear cliff complex. The Project boundary is between 0.02 and 3.05 miles back from the edge of Kevin Rim, which is at an elevation of approximately 4,000 feet above mean sea level. The surrounding area is primarily devoted to agriculture crops (i.e., barley and wheat) and cattle grazing. The Project is located on or near approximately 14 scattered ranch sites, ranging from abandoned homesteads to extensive ranch operations. Oil and gas exploration and development have occurred within the Project vicinity for decades, and a network of both abandoned and active natural gas-associated wells, pipelines, compressor stations, oil-associated jacks, pipelines, and pumping stations exist throughout the general area.

Construction of the Project began in Fall 2011, and the Commercial Operation Date (COD) was achieved on December 28, 2012. The 189-MW Project includes 126 1.5-MW wind turbines, with a hub height of approximately 80 meters, a 77-meter rotor diameter, and a blade-tip height of approximately 118.5 meters above ground level (AGL). The Project includes approximately 45 miles of turbine access roads, approximately 50 miles of underground 34.5 kilovolt (kV) electrical collectors (including supervisory control and data acquisition [SCADA] cable), and 6.85 miles of a 230-kV overhead generation interconnection tie line (tie line) that was constructed in accordance with the avian impact minimization recommendations of the Avian Power Line Interaction Committee (APLIC; APLIC 2006). In addition, the Project includes three permanent meteorological (MET) towers equipped with avian strike diverters on the guy wires, two substations, one SCADA building, and one operations and maintenance (O&M) building and yard. Although the Hay Lake Switchyard is depicted as being located within the Project boundary, it is owned, operated, and maintained by the Montana Alberta Tie Line (MATL). During construction, a temporary laydown/staging area and concrete batch yard were also utilized.

During Project design and construction, the Applicant considered proximity to both active and historical golden eagle nests while making turbine siting decisions. As a result of eliminating and relocating designed turbine locations, the Applicant was able to achieve a minimum setback distance of 1.0 mile from each occupied golden eagle nest within the Project vicinity. During Project construction, and through further consultation with the Service, the Applicant relocated additional turbines to achieve a minimum setback distance of 0.5 mile from known historical non-eagle raptor nest locations. The final design included 10 turbines that have remained within 0.5 mile of historical non-eagle raptor nest locations and have a setback distance of greater than 0.25 miles.

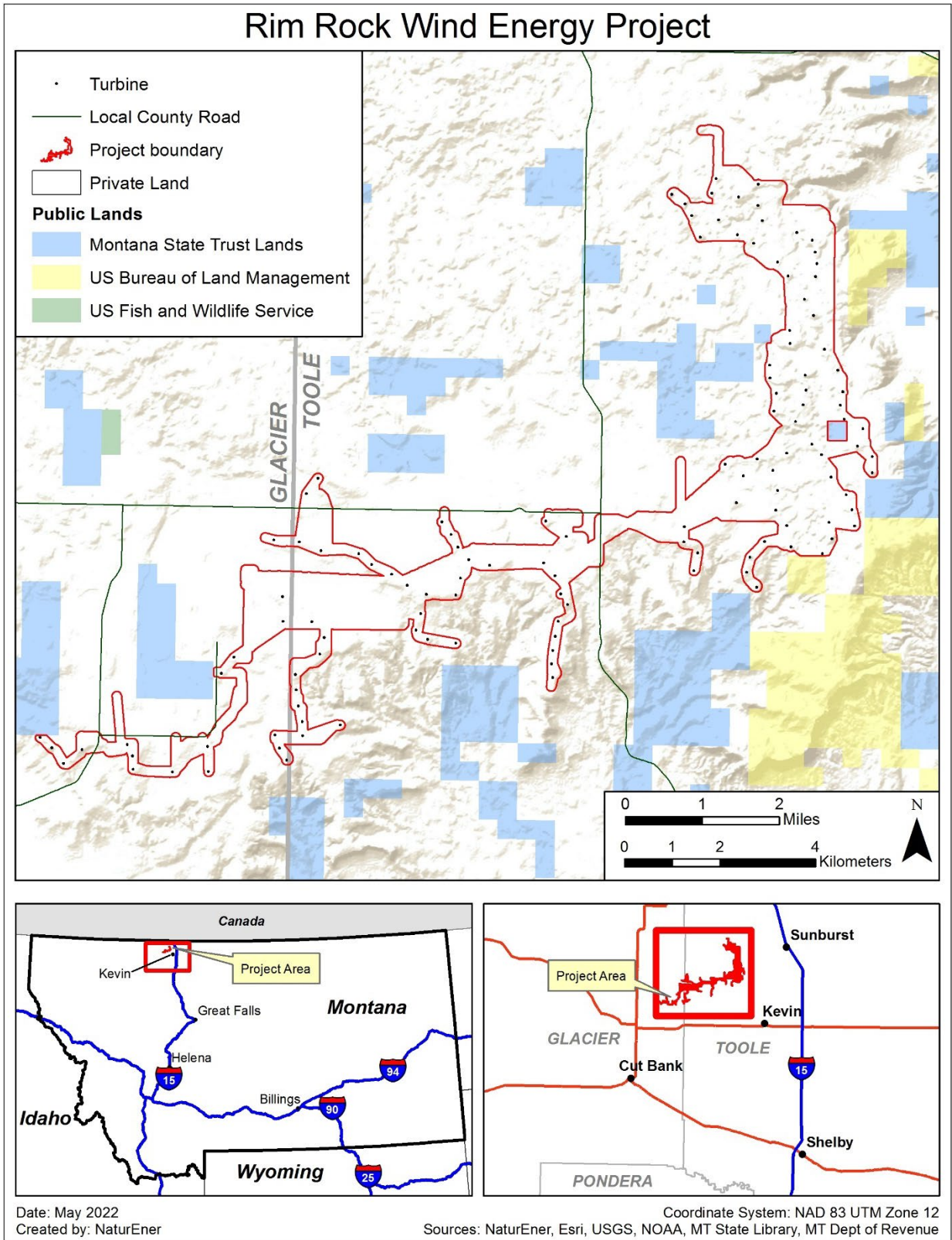


Figure 1. Project and Vicinity Map

The Applicant has conducted numerous pre- and post-construction biological studies and surveys for the Project, including desktop literature reviews and reconnaissance-level field assessments of biological resources (pre-construction); general avian point counts (pre-construction); eagle-specific point counts (pre- and post-construction); aerial and ground-based raptor and eagle nest surveys (pre- and post-construction); and avian/bat/eagle Post-Construction Mortality Monitoring (PCMM). Detailed descriptions and results of the surveys are provided in the Affected Environment section of this EA and in Section 5.0 of the ECP (Attachment A).

As a commitment to the protection and conservation of bald and golden eagles, the Applicant has developed an ECP for the Project (Attachment A, incorporated herein by reference). The Project-specific ECP has been written in communication and coordination with the Service and follows the *Eagle Conservation Plan Guidance, Module 1 – Land-based Wind Energy* (ECPG; Service 2013), and the Service regional guidance document *U.S. Fish and Wildlife Service, Region 6, Recommended Approach for Development and Submission of Eagle Conservation Plans submitted to Region 6, Migratory Management Office in support of an Eagle Incidental Take Permit Application for Wind Energy Projects* (Service 2020a) for successful development and compliance with the Eagle Act. The ECP documents how the Project's siting, design, and planned operation will accomplish (or is currently accomplishing) avoidance and minimization of bald and golden eagle take when the take is associated with, but not the purpose of, an otherwise lawful activity, and cannot practicably be avoided.

The Applicant prepared a Bird and Bat Conservation Strategy (BBCS) for the Project in 2013. The purpose of the voluntary, project-specific BBCS is to develop and implement a program designed to reduce the risk to birds, bats, and other wildlife as a result of construction and operations of a specific wind energy facility. The overall goal of the BBCS is to reduce avian and bat mortality to the extent practicable. The BBCS is separate and distinct from the ECP. It should be noted that the Service provides technical advice to those preparing a BBCS but does not approve the document.

1.4 Scoping, Consultation, and Coordination

This EA incorporates by reference the scoping performed for the PEIS (Chapter 6, page 175). The Applicant worked closely with the Service to develop the ECP in support of its application to avoid, minimize, and provide compensatory mitigation for adverse effects to eagles. The Service was also involved in the siting of Project turbines in relation to setbacks from eagle and non-eagle raptor nests. The Project was built and in operation prior to the release of the ECPG (Service 2013). However, guidance and recommendations in this document have since been implemented, further aiding to reduce impacts associated with the Project.

The Applicant coordinated with the Service, Montana Fish, Wildlife and Parks (MFWP), Bureau of Land Management (BLM), and Montana Audubon about the Project beginning in 2009.

Consultation with these agencies focused on state Species of Concern (SOC), federally threatened and endangered (T&E) species and habitat, biological resource studies, survey and monitoring protocols, eagle and non-eagle raptor nest setbacks, wetland setbacks, potential impacts to avian and bat species, and avoidance/minimization/conservation/mitigation measures. In addition, the Applicant entered into a 2-year-long Memorandum of Understanding (MOU) with Montana Audubon in 2012 memorializing Project infrastructure setbacks from historical raptor nests and both parties' commitment to maintain open communications with each other regarding the Project and potential wildlife impacts. Agency communications, recommendations, and involvement are further described in the ECP.

Throughout Project development, construction, and post-construction, the Applicant evaluated and adopted conservation measures into the infrastructure layout and design, construction/clean-up, and operations in order for the Project to avoid and minimize impacts to eagles.

1.4.1 Tribal Coordination

The Service currently manages bald and golden eagles at the Eagle Management Unit (EMU) level, which is defined as the four administrative flyways with some modifications. This Project occurs in the Pacific Flyway. At the time the draft EA was made available for the 30-day public comment period, we contacted nineteen native sovereign nation tribal leaders and other Tribes potentially affected by this Project via email with an attached formal letter and offered the opportunity for formal consultation concerning this potential federal action. The letters informed the tribal leaders and other potentially affected Tribes of the receipt of the IETP application and preparation of the draft EA by the Service.

The Service published the draft EA on February 8, 2023, opening a 30-day public comment period which ended on March 10, 2023. We did not receive any comments during the public review period. It has been determined that there is no new significant information, and the Service has prepared this FONSI in accordance with NEPA regulations (40 C.F.R. § 1508.13). Coordination with tribal governments is an ongoing process. If the Service issues a 30-year IETP to the Applicant and the Applicant chooses to apply for a new permit when the IETP expires, the tribes will again be notified and offered the opportunity for consultation.

2. Proposed Action and Alternatives

2.1 Proposed Action

We propose to issue a 30-year IETP to take up to 3.64 bald eagles and up to 4.1 golden eagles annually (for a total authorized take of up to 110 bald eagles and up to 123 golden eagles over the life of the 30-year permit) with associated conditions, as allowed by regulation. The Applicant will implement all measures required by other agencies and jurisdictions to conduct the activity at this site including the Applicant-committed measures, the conservation

commitments described in the Applicant's ECP, Avoidance and Minimization, Compensatory Mitigation, Post-Construction Monitoring, and Adaptive Management.

Compensatory Mitigation – The Applicant has committed, and will be required, to fully offset the authorized take of golden eagles by implementing compensatory mitigation as part of the conditions of the IETP. Compensatory mitigation for this Project will consist of retrofitting high-risk power poles proportional to the predicted and adjusted golden eagle take estimate calculated by the Service and will be located in the Pacific Flyway EMU. Other compensatory mitigation measures could be considered in the future if alternatives to power pole retrofits have been approved by the Service. Retrofitting could include all types of retrofits performed to be consistent with APLIC (APLIC 2006) suggested practices (e.g., reframe, rebuild, insulating covers, and pole replacement). The Applicant will either work directly with local utilities to compensate them for retrofitting poles or place the funds to retrofit power poles in a third-party mitigation account. Regardless of the method(s):

- All power poles retrofitted by the Project will be high-risk power poles that pose a high risk of electrocution to golden eagles.
- All power poles retrofitted by the Project will be located within the Pacific Flyway eagle management unit (EMU).
- All power poles retrofitted by the Project must be in addition to any retrofits that are already being implemented or are already scheduled for retrofitting or replacement by the power company in the foreseeable future.
- An inspection and maintenance program will be required to ensure the retrofits remain effective for the duration of the credited period and will be repaired or replaced if no longer effective in preventing eagle electrocution.
- Reporting requirements will include an accounting of the poles retrofitted, outcomes from the implementation monitoring work, and the agreement with the utility for the long-term maintenance of the retrofits.
- If retrofits involve pole replacement or other land disturbance, a cultural resources assessment must be conducted at the location of each pole and the assessment must be provided to the Service for review and approval before retrofits are conducted.
- The Project will retrofit the required number of poles to offset estimated take of eagles at a 1 to 1.2 mitigation ratio.
- The mitigation plan must be approved by the Service. Any changes to the mitigation program must be coordinated with and approved by the Service.

The Service has calculated the required number of poles using the Resource Equivalency Analysis (REA) model for eagles, as outlined in the ECPG (USFWS 2013). Inputs into the Service's REA include the effectiveness of retrofits and the timing of the implementation of compensatory mitigation. Both the length of time retrofits are effective in avoiding the loss of eagles (to be determined from the type and quality of retrofit and the inspection and maintenance

commitments) and when the retrofits will be completed affect the number of poles required. Compensatory mitigation will be completed for the 30-year permit period by retrofitting approximately up to 1,387 high-risk power poles to mitigate the loss of 123 golden eagles. If there are changes to the longevity or implementation schedule, the Service will recalculate the number of poles that will be required to offset authorized take at a 1 to 1.2 mitigation ratio. Compensatory mitigation will be completed to fully offset take over the duration of the 30-year permit and will be determined at each permit review based on estimated past take and estimated future take. If the estimated take is less than mitigated take at the permit review, the excess mitigation will be carried forward for the next permit review period. If take is higher than what was mitigated, increased mitigation will be required. The Applicant commitment to retrofit power poles to meet or exceed the APLIC 2006 guidelines would minimize the risk of bird electrocution and collision on the retrofitted power poles (APLIC 2006).

Post-Construction Mortality Monitoring – The Applicant will conduct PCMM for all years of the permit including an intensive monitoring effort for the first two full years after the IETP is issued, as part of the condition(s) of approval. These data will be used to verify that take limits are not being exceeded, to update take estimates, and to evaluate the overall eagle mortality as related to meeting the objectives of Adaptive Management. This monitoring also includes searcher efficiency trials (to estimate rates of observer bias) and carcass persistence trials (to better understand carcass persistence on the landscape). These trials are designed to address uncertainty and to develop robust estimates of mortality at the Project site.

Fatality estimates would be updated to reflect Project-specific conditions and compensatory mitigation would be adjusted accordingly. Annual monitoring reports will be prepared within three months of completing each year of post-construction monitoring required by the IETP, with each report including all raw monitoring data upon which the reports are based and cumulative results of post-construction monitoring performed to date. Additionally, any bald or golden eagle found injured or dead must be reported to the Migratory Bird Permit Office within 24 hours of discovery. Eagle remains will be handled and processed according to current Service procedures.

Adaptive Management – The Applicant has developed an adaptive management table to monitor for impacts and avoid, minimize, and mitigate impacts to eagles and other avian species based on the Project specifics and data available (ECP Section 9.0). The stepwise process identified in the ECP will be used to guide the implementation of additional conservation measures as needed and applies before actual take exceeds the permitted take levels.

2.2 Alternative 1: No Action

Under the no action alternative, the Service would deny the permit application, and not issue an IETP. Our permit issuance regulations at 50 C.F.R. § 13.21(b)(c) [1974] set forth a variety of circumstances that disqualify an applicant from obtaining a permit (e.g., a conviction, or entry of a plea of guilty or nolo contendere, for a felony violation of the Lacey Act, the Migratory Bird

Treaty Act (MBTA), or the Eagle Act disqualifies any such person from receiving or exercising the privileges of a permit).

The no action alternative analyzes predictable outcomes of the Service not issuing an IETP. Under the no action alternative, the Project would likely continue to operate without an IETP being issued. Thus, for purposes of analyzing the no action alternative, we assume that the Applicant will continue to implement all measures required by other agencies and jurisdictions to operate the Project, but the conservation measures proposed in the IETP application package (that have not already been implemented by the Applicant) would not be implemented.

No post-construction eagle mortality monitoring would occur, and no additional data would be available to the Service to contribute to the overall refining efforts of the Collision Risk Model (CRM). The Applicant may choose to implement some, none, or all of the conservation and adaptive management measures. Further, the Applicant would not be required to provide compensatory mitigation and would not retrofit high-risk power poles. Under this alternative, we assume that the Applicant will take some reasonable steps to avoid taking eagles, but the Applicant would be liable for violating the Eagle Act should take of an eagle occur.

3. Affected Environment

This section describes the current status of the environmental resources and values that are affected by the proposed action and no action alternative. It is important to note that the Project was built and operational prior to the release of the ECPG (Service 2013); this document provides recommendations and guidelines for pre-construction surveys and methodologies that could not be followed at the Project. The ECP was prepared, and consultation with the Service was completed, with general consideration of the recommendations and guidance provided in the ECPG (Service 2013), as well as the *U.S. Fish and Wildlife Service Land-based Wind Energy Guidelines* (Service 2012).

3.1 Bald Eagles

General information on the taxonomy, ecology, distribution, and population trends of bald eagles is given in Section 3.2.1 of the PEIS (Service 2016a, pages 44-60) and is incorporated herein by reference. The remainder of this section focuses on bald eagle occurrences in the EMU in which the Project occurs (Pacific Flyway), the Local Area Population (LAP) (within 86 miles of the Project; *see* Figure 2), and the Project area (the actual footprint of the Project). The estimated median population size of bald eagles in the Pacific Flyway EMU is 42,068 (Service 2020c). Based on the Service's process to calculate the LAP, the population size in the LAP is estimated to be 278 bald eagles (Service 2023).

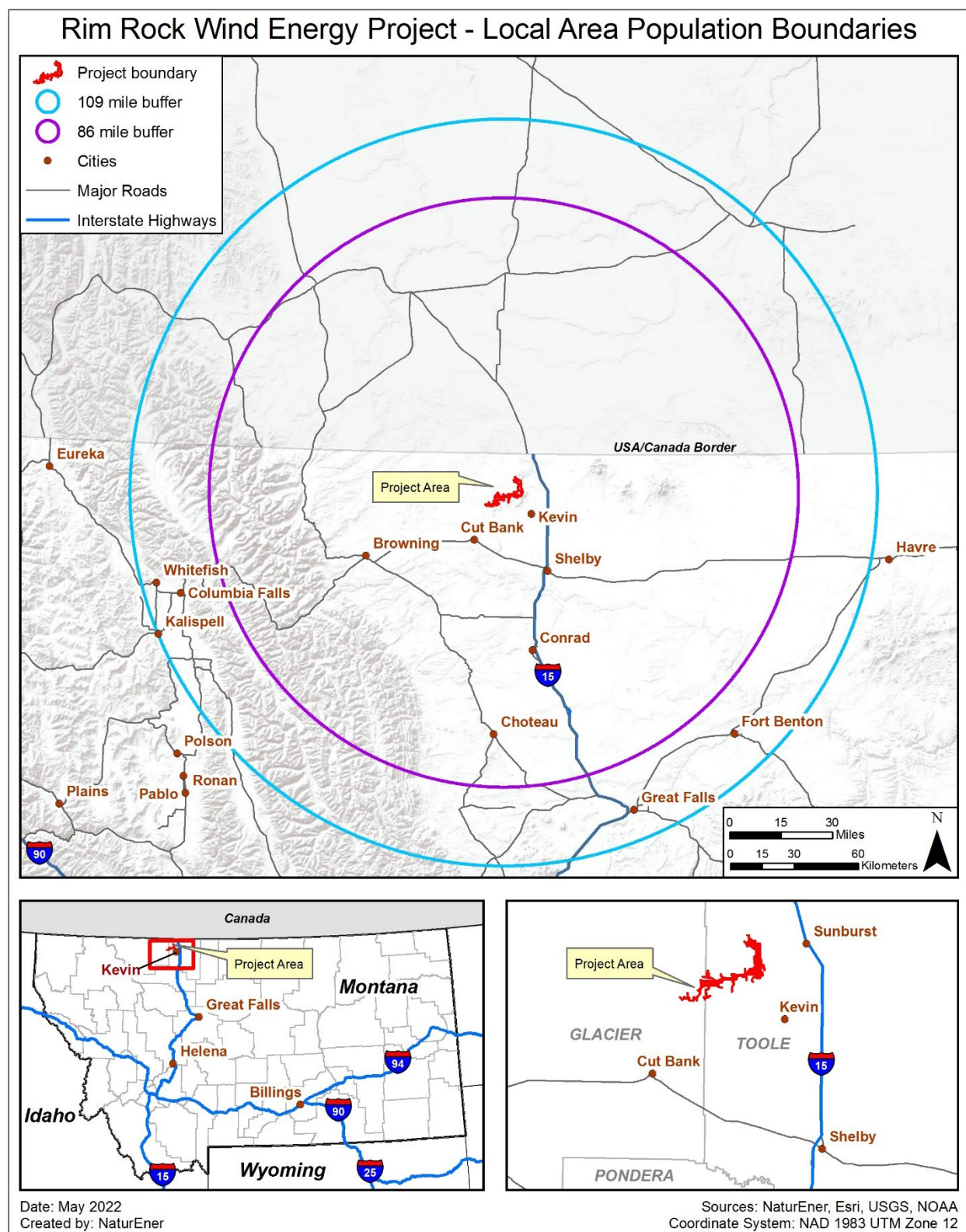


Figure 2. Local Area Population Boundaries

3.2 Golden Eagles

General information on the taxonomy, ecology, distribution, and population trends of golden eagles are given in Section 3.3.1 of the PEIS (Service 2016a, pages 71-81) and is incorporated herein by reference. The remainder of this section focuses on golden eagle occurrences in the EMU in which the Project occurs (Pacific Flyway), the LAP (within 109 miles of the Project; *see* Figure 2), and the Project area (the actual footprint of the Project). The estimated median population size of golden eagles in the Pacific Flyway EMU is 14,437 (Service 2016b). Based on the Service's process to calculate the LAP, the population size in the LAP is estimated to be 325 golden eagles (Service 2023).

3.3 Current Adaptive Management

The Applicant has evaluated the effectiveness of, and implemented, multiple avoidance, minimization, and conservation measures at the Project. These measures include the evaluation of two avian radar systems in 2014 and 2015, which were determined to be ineffective at the Project site; the evaluation of an automated avian detection/deterrent system equipped with cameras and auditory alarms from 2014 to 2016, which was determined to be ineffective at the Project site; turbine setbacks from eagle and raptor historical nest locations; underground electrical collection lines between turbines and substations; removal of potential cover for eagle prey species; carrion removal; an ongoing voluntary biomonitoring and informed turbine curtailment program that was implemented in 2013; and eight years of eagle use data collection/analyses at the Project to better understand site-specific eagle activity, behavior, flight patterns, and trends.

The Applicant will continue to remove and/or evaluate potential source(s) of eagle attractions in the Project area (e.g., carrion [wild game and livestock] and calving afterbirth) in accordance with applicable state and federal laws. The Applicant has a carrion removal contract in place with a contractor at the Project to collect and remove observed carrion, which could create an attraction for foraging eagles, raptors, and other scavengers. Depending upon the carcass(es) observed, the Applicant will contact applicable landowners to request permission before relocating or disposing of the carcass(es). All BHE Rim Rock Wind, LLC employees and contractors are actively engaged in the location and reporting process. The Applicant will make all attempts to remove or tarp carcasses within 24 hours as allowed by safety, weather, landowners, or other contributing factors.

Lessons learned from the implemented avoidance, minimization, and conservation measures can be used when/if needed at the Project to further reduce eagle attraction and mortalities at the site. Biomonitoring and the informed turbine curtailment program will continue to be implemented post construction (ECP Section 7.0). These studies will provide the basis for the implementation of additional measures and avoid a prolonged research and development phase.

3.4 Pre-construction Surveys

Pre-construction general avian use surveys were conducted at 13 plots across the Project area once per month from May 3, 2012, through March 19, 2013. Three of the eleven total surveys were conducted after the Project achieved COD on December 28, 2012. The non-overlapping 100-meter-radius survey plots were situated in locations with good visual coverage of the landscape, particularly the areas where turbines were likely to be installed and/or were installed. The 10-minute fixed-point surveys totaled 22 hours of survey time.

Pre-construction eagle-specific use surveys were conducted at 18 plots across the Project area twice per month from April 4, 2012 through March 21, 2013 (year 1 of the surveys). Five of the 22 total surveys were completed after the Project achieved COD. The non-overlapping three-dimensional plots formed a cylinder with a radius of 800 meters and a height of 200 meters. Plot locations were selected for their close proximity to planned turbine locations and were situated with good visual coverage of the landscape. The 20-minute fixed-point surveys totaled 132 hours of survey time.

Pre-construction eagle and raptor nest surveys were completed at the Project in 2012, consisting of two helicopter aerial surveys (April and June) that covered a 10-mile survey radius from the Project boundary. Nest status classifications were recorded for each raptor and eagle nest observed, and nest productivity (number of eagle chicks) was documented for each occupied eagle nest.

3.5 Post-construction Surveys

Post-construction eagle-specific use surveys were conducted at nine of the original 18 plots across the Project area at least twice per month from April 1, 2013 through March 29, 2014 (year 2); four of the plots were surveyed once per week. The non-overlapping three-dimensional plots formed a cylinder with a radius of 800 meters and a height of 200 meters. The 60-minute fixed-point surveys totaled 313 hours of survey time. The surveys generally followed the methods for Point Count Surveys in the ECPG (Service 2011; Service 2013), the surveys were conducted during construction (April through December 2012) and post-construction (January 2013 through March 2014), as opposed to pre-construction.

Post-construction eagle and raptor nest surveys were completed in six additional years following the initial 2012 pre-construction nest surveys. Surveys in 2013 and 2014 targeted all nesting raptor species, while the 2016, 2019, 2020, and 2021 surveys were specifically focused on eagles. Nest surveys prior to 2020 were conducted solely by helicopter (with the exception of the 2019 survey which was supplemented with ground-based visits), whereas the 2020 and 2021 surveys were exclusively ground-based. Survey protocols were based on the 2010 Interim Golden Eagle Technical Guidance (Pagel et al. 2010), the ECPG (Service 2013), and recommendations from USFWS Region 6 personnel regarding timing of surveys. The 2019

surveys pre-dated the 2020 USFWS Region 6 recommended nest survey protocol (Service 2020a) and therefore did not comply with the protocol. Similar to the 2012 pre-construction nest surveys, the 2013-2019 post-construction nest surveys were completed within a 10-mile radius of the Project boundary, while the 2020 and 2021 nest surveys were completed within a reduced 2-mile radius of the Project boundary. The Service updated the size of eagle nest survey areas (Service 2020b), deviating from the guidance provided in the ECPG (Service 2013); this change was based on recent research that shows golden eagles typically stay within 3 km of the center of their territory (Service 2020c). As a result, the Project's Survey Area was reduced from a 10-mile radius around the Project boundary to a 2-mile radius around the boundary. Nest status classifications were recorded for each raptor and eagle nest observed, and nest productivity (number of eagle chicks) was documented for each occupied eagle nest.

Avian and bat PCMM commenced in February 2013 and was completed for three consecutive years (2013-2016) after operations began in December 2012. The objective of the standardized carcasses surveys was to systematically search wind turbines for bird and bat casualties that were attributable to collision with Project infrastructure. PCMM surveys were conducted at 38 of the 126 total turbines (30%) in each of the three survey years. Standardized turbine transect searches were completed within 118-meter-radius circular plots with the turbine base at the center of the plot. Searcher efficiency trials were conducted each survey year to estimate the proportion of test carcasses found by searchers and to use the detection rate to correct fatality estimates. Carcass persistence trials were also completed each year to determine the proportion of carcasses that would be expected to remain between scheduled search intervals and use this proportion to adjust for carcass removal bias when calculating fatality estimates. In addition to the standardized transect searches of turbines, the PCMM effort included incidental carcass searches of the Project's three meteorological (MET) towers and tie line once per season during years 2 and 3.

3.6 Bald Eagle Survey Results

3.6.1 Pre-construction Survey Results

In the general avian use surveys, zero bald eagles were observed during 22 hours of 10-minute fixed-point counts. For the eagle-specific use surveys, one bald eagle was observed during the 132 hours of 20-minute fixed-point counts. The bald eagle observation occurred during the spring season for a total 3 minutes, resulting in 0.01 bald eagle observations per survey hour during year 1 of the eagle use surveys. During the pre-construction nest surveys in 2012, zero bald eagle nests were discovered within the 10-mile-radius nest survey area.

3.6.2 Post-construction Survey Results

During the post-construction eagle use surveys, zero bald eagles were observed during the 313 hours of 60-minute fixed-point counts. No bald eagle nests were discovered in any of the aerial or ground-based post-construction nest surveys from 2013 through 2021, within either the 10-

mile or 2-mile buffers of the Project area. In addition, no bald eagle fatalities were discovered during the scheduled searches, or incidentally, of the PCMM surveys from 2013-2016.

3.7 Golden Eagle Survey Results

3.7.1 Pre-construction Survey Results

In the general avian use surveys, zero golden eagles were observed during 22 hours of 10-minute fixed-point counts. For the eagle-specific use surveys, 12 golden eagles were observed during the 132 hours of 20-minute fixed-point surveys. The golden eagles were observed for a total of 33 minutes, resulting in 0.09 golden eagle observations per survey hour in year 1. Golden eagles were observed in the spring, summer (breeding), and fall seasons, while none were observed in the winter. Golden eagle use in year 1 was highest in the spring and fall seasons (0.21 and 0.13 observations per survey hour, respectively). During the pre-construction nest surveys in 2012, five occupied golden eagle nests were discovered within the 10-mile-radius nest survey area, and those five nests produced a total of eight golden eagle chicks.

3.7.2 Post-construction Survey Results

In year 2 of the eagle use surveys, 12 golden eagles were observed during the 313 hours of 60-minute fixed-point counts. The golden eagles were observed for a total of 56 minutes, resulting in 0.04 golden eagle observations per survey hour in year 2. Golden eagles were observed in the spring, fall, and winter seasons, while none were observed in the summer (breeding). Golden eagle use was highest in the fall, accounting for 48 minutes (0.12 eagle observations per survey hour) of the 56 total observation minutes.

During the post-construction aerial and ground-based nest surveys from 2013-2021 (within both the 10-mile and 2-mile buffer of the Project area), an average of 5.8 occupied golden eagle nests were discovered each year. During these six nest survey years, the occupied golden eagle nests produced a total of 48 chicks.

During the PCMM surveys from 2013-2016, no golden eagle fatalities were discovered during the scheduled searches or incidentally. Separate from the PCMM survey effort, one adult golden eagle fatality was discovered in the vicinity of a Project turbine and is discussed further in Section 3.7.

3.8 Migratory Birds

General information on migratory birds protected under the MBTA is discussed in Section 3.5.1 of the PEIS (Service 2016a, pages 97-98) and is incorporated by reference herein. Species most likely affected by our permit decision evaluated for this Project are those that might benefit from

the mitigation options developed in the ECP, primarily power pole retrofits that protect birds from electrocution.

3.8.1 Pre-construction Survey Results

During the 2012-2013 pre-construction general avian use surveys, 723 observations of individual birds representing 23 species were recorded during the 22 hours of 10-minute fixed point counts. Three species of passerine land birds accounted for more than 75% of all bird observations. The horned lark (*Eremophila alpestris*), a common year-round Montana resident species, was the most commonly observed species with a total of 358 individual observations (49.5% of all observed individuals). In total, passerine species accounted for approximately 90% of all observations during general avian use surveys. Three diurnal raptor species were recorded during the surveys: five observations of northern harrier (*Circus hudsonius*), two observations of ferruginous hawk (*Buteo regalis*), and one observation of Swainson's hawk (*Buteo swainsoni*). No bald or golden eagles were observed during the general avian use surveys.

The average flight height for all birds observed in flight was 14 meters AGL. The majority of bird species detected during surveys were at heights of less than 40 meters AGL, and 6% of all birds in flight were observed flying within the 40-120-meter altitude band defined to be the rotor-swept height. Twenty of the 23 species detected were not observed within the rotor-swept zone; the three species with flights observed in this band were the marbled godwit (*Limosa fedoa*), horned lark, and common redpoll (*Acanthis flammea*).

3.8.2 Post-construction Survey Results

During year 1 (2013-2014) of the PCMM surveys, 26 avian fatalities were discovered (13 during scheduled searches and 13 incidentally). The 26 fatalities were represented by 10 species (all protected by the MBTA); with six of the fatalities not identifiable to species. Of the fatalities discovered, two of the individuals were raptor species (one ferruginous hawk and one northern goshawk [*Accipiter gentilis*]). No bald eagle or golden eagle fatalities were discovered, and no bird species listed as threatened, endangered, or candidate under the federal Endangered Species Act (ESA) were identified as fatalities in the first year of PCMM surveys.

During year 2 (2014-2015) of PCMM surveys, 65 avian fatalities were discovered (39 during scheduled searches and 26 incidentally). The 65 fatalities were represented by 22 species (all protected by the MBTA); with 13 of the fatalities not identifiable to species. Of the fatalities discovered, two of the individuals were raptor species (one prairie falcon [*Falco mexicanus*] and one short-eared owl [*Asio flammeus*]). No bald eagle or golden eagle fatalities were discovered, and no bird species listed as threatened, endangered, or candidate under the federal ESA were identified as fatalities in the second year of PCMM surveys.

During year 3 (2015-2016) of PCMM surveys, 76 avian fatalities were discovered (38 during scheduled searches and 38 incidentally). The 76 fatalities were represented by 25 species (all protected by the MBTA); with 16 of the fatalities not identifiable to species. Of the fatalities discovered, two of the individuals were raptor species (one ferruginous hawk and one Swainson's hawk). No bald eagle or golden eagle fatalities were discovered, and no bird species listed as threatened, endangered, or candidate under the federal ESA were identified as fatalities in the third year of PCMM surveys.

3.9 Ongoing Monitoring

The Applicant continues to implement informal eagle mortality scan searches that are conducted concurrent with ongoing monthly turbine and pad mount transformer inspections required under the Applicant's SPCC Plan. The Applicant's O&M Technicians are required to inspect all 126 turbines and pad-mount transformers on site for oil leaks once per month. O&M Technicians are instructed to scan turbine pads and the surrounding landscape for eagle (and other avian species) carcasses coincident with the SPCC inspections. In May 2019, one adult golden eagle fatality was discovered in the vicinity of a Project turbine during monthly SPCC turbine inspections and the concurrent eagle carcass scan searches. The eagle fatality was determined to be caused from an eagle/turbine collision. Additional details about the eagle fatality can be found in the ECP (Attachment A).

3.10 Species listed under the Endangered Species Act

The ESA directs the Service to identify and protect endangered and threatened species and their critical habitat, and to provide a means to conserve their ecosystems. The ESA requires specifically that [the], "... Federal agency shall ... ensure that any action authorized, funded, or carried out by such agency ... is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat of such species..." (16 U.S.C. 1536 (a)(2) [2023]). Because issuance of an IETP is a Federal agency action, the ESA is applicable and addressed in this EA.

One species listed as federally endangered or threatened under the ESA may occur in the Project area or have potential to be affected by the proposed action. This species is the grizzly bear (*Ursus arctos horribilis*).

On July 14, 2022, the Service initiated an Intra-Service Section 7 consultation for the issuance of an IETP for the Project (Attachment B). It was determined that issuance of an IETP for the Project would have "no effect" on two federally listed/proposed species, the threatened grizzly bear and proposed North American wolverine. Our decision regarding the IETP will not alter the physical footprint of the Project and will not result in impacts to federally listed or proposed

threatened or endangered species; therefore, no further evaluation of impacts to species listed under the ESA is warranted for the Service's decision of whether to issue an IETP.

3.11 Cultural and Socio-economics Interests

The National Historic Preservation Act (NHPA) is the principal federal law guiding federal actions with respect to the treatment of cultural, archaeological, and historic resources. Section 106 (54 U.S.C. § 306108 [2014]) of the NHPA requires federal agencies, prior to taking action to implement an undertaking, to take into account the effects of their undertaking on historic properties and to give the Advisory Council on Historic Preservation (ACHP) and the SHPO a reasonable opportunity to comment regarding the undertaking. Historic properties are “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on, the National Register...” of Historic Places [NRHP] (54 U.S.C. § 300308 [2014]). The criteria used to evaluate the NRHP eligibility of properties affected by federal agency undertakings are contained in 36 C.F.R. § 60.4 [2012].

No new ground-disturbing activities will occur as part of or related to issuing an IETP. Eagles can be considered a feature or element of a Traditional Cultural Property under the NHPA. (Eagle Permits; Take Necessary to Protect Interests in Particular Localities; Final Rules, 74 Fed. Reg. 46844 [2009]; *see also* Service 2009). Resources or issues of interest to the Tribes that could have a bearing on their traditional use and/or religious freedom include eagles (e.g., ceremonial use of eagle feathers). The Religious Freedom Restoration Act of 1993 ensures that interests in religious freedom are protected. The IETP will include permit conditions to ensure all recoverable eagle remains, parts, and feathers are sent to the National Eagle Repository and could then be used for Native American cultural and religious purposes. In addition, some Tribes and tribal members may consider eagle nests sacred sites (or traditional cultural properties) or potential historic properties of religious and cultural importance, as provided for in the American Indian Religious Freedom Act. Section 1.4.1 of this EA describes our effort to coordinate with tribal governments to ensure Tribes are given the opportunity to consult with us on matters related to potential issuance of an IETP for this Project.

3.12 Climate Change

Climate change was considered in the PEIS (Service 2016a; Section 3.9, page 144) and is incorporated herein by reference. The proposed action, of issuing a permit, will have no direct impact on climate change. The Project is existing and currently operational. It will likely continue to operate regardless of the decision whether to issue an IETP.

4. Environmental Consequences

This section summarizes the effects on the environment of implementing the proposed action and the no action alternative. The discussion of overall effects of the IETP program is provided in the

PEIS (Service 2016a) and is incorporated by reference here. This section of the EA analyzes only the effects that may result from the issuance of an IETP for this specific Project. Since the Project is fully built and operational, the effects associated with developing and constructing a wind project are not considered in this analysis.

4.1 Proposed Action

In determining the significance of effects of issuing and IETP for the Project on eagles, we screened the proposed action against the analysis provided in the PEIS (Service 2016a) and the Service's 2016 report, "*Bald and Golden Eagles: Population Demographics and Estimation of Sustainable Take in the United States*" (Service 2016c). We also used our eagle-risk analysis (Service 2013, Appendix A), and Cumulative Effects Analysis (Service 2013, Appendix B) to quantify eagle fatality risk and cumulative LAP level effects.

Under the proposed action, 4.1 golden eagles are estimated to be taken annually (123 over the 30-year life of the Permit). However, the golden eagle take that would be authorized by the Permit would be fully offset by the compensatory mitigation that would be provided by the Applicant and would not significantly impact local area eagle populations. To fully offset the authorized take of 123 golden eagles over the 30-year period, the Applicant will commit to retrofitting high-risk power poles at a 1.0 to 1.2 ratio to ensure regional eagle populations are maintained consistent with the preservation standard (Eagle Permits; Revisions to Regulations for Eagle Incidental Take and Take of Eagle Nests, 81 Fed. Reg. 91494 [December 16, 2016]). Power pole electrocution has been shown to cause a significant number of eagle mortalities (APLIC 2006). Therefore, retrofitting high-risk electric poles is an effective way to minimize mortalities in eagle populations (Service 2013). Retrofits are also an effective and quantifiable compensatory mitigation measure that may be used to offset any mortalities that may occur as a result of operation of a project.

The take that would be authorized by this permit will be offset by the compensatory mitigation provided by the Applicant, so will not significantly impact the EMU eagle population. The avoidance and minimization measures and additional adaptive management measures that would be required under the permit are designed to further ensure that the permit is compatible with the preservation of the golden eagle at the regional EMU population scale.

Additionally, to ensure that eagle populations at the local scale are not depleted by cumulative take in the local area, the Service analyzed in the PEIS (Service 2016) the amount of take that can be authorized while still maintaining the LAP of eagles. In order to issue an IETP, cumulative authorized take must not exceed 5% of a LAP, nor can cumulative unauthorized take exceed 10% of a LAP, unless the Service can demonstrate why allowing take to exceed that limit is still compatible with the preservation of eagles (Eagle Permits; Revisions to Regulations for Eagle Incidental Take and Take of Eagle Nests, 81 Fed. Reg. 91494 [December 16, 2016]).

Permit regulations require the Service to conduct an individual LAP analysis for each IETP application as part of our application review.

This analysis, therefore, considers cumulative effects to the LAP surrounding the Project to evaluate whether the take to be authorized under this IETP, together with other sources of permitted take and unpermitted eagle mortality, may be incompatible with the persistence of the Project LAP. Data provided by the Applicant, Service data on other eagle take authorized and permitted by the Service, and other reliably documented unauthorized eagle mortalities were used to estimate cumulative impacts to the LAP. The scale of our analysis is a 138-km (86-mi) radius for bald eagles and 175-km (109-mi) radius for golden eagles around the Project Area. The cumulative effects analysis was conducted as described in the Service's ECPG (Service 2013).

The proposed action is consistent with 50 C.F.R. § 22.80(a) [2022] where the “permit authorizes take of bald and golden eagles where the take is compatible with preservation of the bald and golden eagle; is necessary to protect an interest in a particular locality; is associated with, but not the purpose of, the activity; and cannot practicably be avoided.”

4.1.1 Estimating Eagle Fatalities

In the absence of defensible project-specific eagle use information, the Service uses the upper 80th credible interval around the estimated number of annual eagle fatalities for permit decisions in an effort to avoid underestimating fatality rates at wind projects. In these instances, the Service uses the “priors-only” to estimate the annual fatality rate at a project. This estimate is based on a conservative approach that is expected to overestimate annual and cumulative take at the outset of the permit. Eagle-specific post-construction monitoring is required for the IETP and is included as a permit condition. The required post-construction fatality monitoring also includes searcher efficiency trials and carcass persistence trials designed for the purpose of addressing uncertainty and for developing robust estimates of mortality at the project site. This project-specific, robust estimate of mortality is then used for the purpose of updating our eagle-risk analysis, to yield a refined estimate of mortality for the Project.

4.1.2 Estimating Golden Eagle Take

Under the proposed action, we estimate that 4.1 golden eagles could be taken annually. This number is multiplied by the number of years in the permit term (30) and rounded up to the next whole number (for a total authorized take of up to 123 golden eagles over the life of the 30-year permit). Eagle-specific post-construction monitoring is required for the IETP and is included as a permit condition. The required PCMM also includes searcher efficiency trials and carcass persistence trials designed for the purpose of addressing uncertainty and for developing robust estimates of mortality at the project site. This project-specific, robust estimate of mortality is

then used for the purpose of updating our eagle-risk analysis, to yield a refined estimate of mortality for the Project. Monitoring is a critical component of adaptive management. The proposed conservation measures include adaptive management that could result in additional monitoring and operational adjustments. Adaptive management measures will be implemented based on the stepwise process identified in the adaptive management framework; will be used to guide the implementation of additional conservation measures as needed; and apply before actual take exceeds the permitted take levels. To fully offset the authorized take, the Applicant will commit to retrofitting high-risk power poles, or another form of compensatory mitigation if approved by the Service in the future, proportional to the predicted and adjusted eagle take estimate, calculated by the Service, as compensatory mitigation for the loss of golden eagles. Together, these conservation and mitigation measures aim to ensure there will be no significant impacts to golden eagle populations.

4.1.3 Estimating Bald Eagle Take

Under the proposed action, we estimate that up to 3.64 bald eagles could be taken annually. This number is multiplied by the number of years in the permit term (30) and rounded up to the next whole number (for a total authorized take of up to 110 bald eagles over the life of the 30-year permit). Eagle-specific PCMM is required for an IETP and is included as a permit condition. The required post-construction fatality monitoring also includes searcher efficiency trials and carcass persistence trials designed for the purpose of addressing uncertainty and for developing robust estimates of mortality at the Project site. This project-specific robust estimate of mortality is then used for the purpose of updating our eagle-risk analysis, to yield a refined estimate of mortality for the Project. Monitoring is a critical component of adaptive management. The proposed conservation measures include adaptive management that could result in additional monitoring and operational adjustments. Adaptive management measures will be implemented based on the stepwise process identified in the adaptive management framework; will be used to guide the implementation of additional conservation measures as needed; and apply before actual take exceeds the permitted take levels. Together, these conservation measures ensure there will be no significant impacts to bald eagle populations. The annual take of bald eagles that would be authorized by this permit does not exceed the EMU take limit as specified in the 2016 PEIS; therefore, compensatory mitigation for bald eagles is not required. However, compensatory mitigation required per golden eagle take offset will likely benefit bald eagles by retrofitting high-risk power poles, or other forms of Service-approved compensatory mitigation, and alleviating the risk of electrocution associated with those structures and will be located in the Pacific Flyway EMU. The actual location of the compensatory mitigation has not been determined; however, the Service recommends that the Applicant implement it within the golden eagle LAP area related to the Project.

4.2 Cumulative Effects

Take of eagles has the potential to affect the larger eagle population. Accordingly, the 2016 PEIS, incorporated herein by reference, analyzed the cumulative effects of permitting take of bald and golden eagles in combination with ongoing unauthorized sources of human-caused eagle mortality and other present or foreseeable future actions affecting bald and golden eagle populations. As part of the analysis, the Service determined sustainable limits for permitted take of bald eagles within each EMU. The bald eagle take that would be authorized by this permit does not exceed the EMU take limit for bald eagles, so it will not significantly impact the EMU bald eagle population. Take limits for golden eagles in all EMUs are set to zero; therefore, all permits for golden eagles take must incorporate offsetting compensatory mitigation after all appropriate and practicable avoidance and minimization measures are employed. Golden eagle take being considered under this application would require mitigation, described in further detail below. The avoidance and minimization measures and compensatory mitigation for golden eagles that would be required under the permit, along with the additional adaptive management measures, are designed to further ensure that the permit is compatible with the preservation of bald and golden eagles at the regional EMU population scale. Additionally, to ensure that eagle populations at the local scale are not depleted by cumulative take in the local area, the Service analyzed in the 2016 PEIS the amount of take that can be authorized while still maintaining the LAP of eagles. In order to issue an IETP, cumulative authorized take should not exceed 5%, nor can cumulative unauthorized take exceed 10% of a LAP, unless the Service can demonstrate why allowing take to exceed that limit is still compatible with the preservation of eagles. The IETP regulations require the Service to conduct an individual LAP analysis for each permit application as part of our application review.

We, therefore, considered cumulative effects to the LAP surrounding the Project to evaluate whether the take to be authorized under this permit, together with other sources of permitted take and unpermitted eagle mortality, may be incompatible with the persistence of the Project LAP. We incorporated data provided by the Applicant, our data on other eagle take authorized and permitted by the Service, and other reliably documented unauthorized eagle mortalities (i.e., known eagle take at nearby wind farms, electrocution, and documented mortalities due to anthropogenic and natural causes) to estimate cumulative impacts to the LAP. The scale of our LAP analysis is an 86-mile radius around the Project site for bald eagles and a 109-mile radius for golden eagles (Figure 2). We conducted our Cumulative Effects Analysis as described in the Service's ECPG (Service 2013).

4.2.1 Bald Eagles

The LAP of bald eagles for the Projects is approximately 278 eagles and the annual 1% and 5% benchmarks for this LAP are approximately three and fourteen bald eagles, respectively. There is one project currently permitted for short-term bald eagle take that overlaps this Project's LAP

boundary for bald eagles. Taken together, this Project's take with overlapping take of the other project could result in a total annual take of 3.84 bald eagles (or 1.38% of the LAP). The overlapping LAPs effect is discussed in more detail in the Section 4.2.4 (Reasonably Foreseeable Future).

The impacts to bald eagle populations at both the LAP and EMU scales are, therefore, not significant. It is reasonable to assume that bald eagles in the Projects' vicinity are increasing and the conservative take estimate at the Project would not contribute to declines in the overall bald eagle population in the EMU.

We also documented, through an assessment of unpermitted take, that bald eagles are not experiencing atypically high levels of unpermitted mortality in this LAP. Based on the Service's eagle mortality database (which tracks sources of unpermitted take), there were 28 reported bald eagle mortalities within the LAP between 2002 and 2023, for an average of 1.27 per year. These mortalities are all considered to be unpermitted take and are largely due to anthropogenic causes (e.g., electrocution, shooting, poisoning, collision with wind turbines, etc.) and less due to natural causes or undetermined. On an annual basis, 1.27 unpermitted bald eagle takes equals about 0.46% of the total estimated bald eagle population in the LAP associated with the Project. This amount of unpermitted take is below the 10% threshold level for unpermitted take within the LAP.

4.2.2 *Golden Eagles*

The LAP of golden eagles for the Project is 325 individuals (USFWS Cumulative Effects Tool, run 16 February 2023). Estimated annual take of 4.1 golden eagles represents 1.26% of the LAP. There are no permitted project LAP boundaries that overlap with this LAP boundary. Based on the Service's eagle mortality database, there were 43 reported golden eagle mortalities within the LAP between 2002 and 2023, for an average of 1.95 per year. These mortalities are all considered to be unpermitted take and are largely due anthropogenic causes (e.g., electrocution, shooting, poisoning, collision with wind turbines, etc.) and less due to natural causes or undetermined. On an annual basis, 1.95 unpermitted golden eagle takes equals about 0.60% of the total golden eagle population in the LAP associated with the Project. This amount of unpermitted take is below the 10% threshold level for unpermitted take within the LAP. The impacts to golden eagle populations at both the LAP and EMU scales are therefore not significant. Additionally, based on this information and rationale, it is reasonable to assume that golden eagles in the Project vicinity are increasing and the conservative take estimate at the Project would not contribute to declines in the overall golden eagle population in the EMU.

4.2.3 Summary of Cumulative Effects on Bald and Golden Eagles

The Service considered several alternatives for benchmark harvest rates at the LAP scale, and after comparative evaluation identified take rates of between 1% and 5% of the estimated total eagle population size at this scale as not significant, with 5% being at the upper end of what might be appropriate under the Eagle Act preservation standard, whether offset by compensatory mitigation or not. These local-area harvest rate benchmarks are overlain by the more conservative take thresholds for the eagle management units, so the overall harvest rate at the EMU scale should not exceed levels established in the Final EA (Service 2009).

The 2016 PEIS (Service 2016), incorporated herein by reference, analyzed the cumulative effects of permitting take of eagles in combination with ongoing unauthorized sources of human-caused eagle mortality and other present or foreseeable future actions affecting eagle populations. As part of the analysis, the Service determined sustainable limits to permitted take within each EMU. The authorized take for bald eagles does not exceed the EMU level for bald eagles. Take limits for golden eagles in all EMUs are set to zero; therefore, all permits for golden eagle take must incorporate offsetting compensatory mitigation after all appropriate and practicable avoidance and minimization measures are applied.

The take of golden eagles that would be authorized by this IETP will be offset by commitments from the Applicant to retrofit high-risk power poles, or other forms of Service-approved compensatory mitigation, proportional to the predicted and adjusted eagle take estimate; therefore, the proposed action will not significantly impact golden eagle populations. *See the* “Mitigation and Monitoring” section below for more discussion. The avoidance and minimization measures and additional adaptive management measures that would be required under the IETP are designed to further ensure that the IETP is compatible with the preservation of eagles at the regional EMU population scale.

4.2.4 Reasonably Foreseeable Future Potential Impacts

General impacts within a distance of two times the Project LAP are examined to include information from all LAP boundaries that overlap the Project LAP boundary. In terms of general growth, Montana’s population grew 9.7% from 2010 to 2022 (World Population Review 2022). This rate of growth is trending upward at a slower pace than the rest of the nation. The major industries of Toole County include health care and social assistance, agriculture, forestry, fishing and hunting, and accommodation and food services (Data USA 2021). Long-term plans for the Project area include continued agricultural use, oil and gas development, and wind energy. Some habitat loss and fragmentation over the 30-year permit term may occur due to development. Within 218 miles of the Project area (i.e., a distance that would capture overlapping LAPs), there are 48 operational wind energy facilities (Hoen et al. 2021). The potential impacts from the other 48 operational wind energy facilities are unknown because their fatality and monitoring data are not publicly available.

Drought associated with climate change can affect golden eagle populations in this region by reducing availability of prey. Precipitation in this part of the region is not consistent and short-term drought periods are common.

4.3 Comparison of Effects of Alternatives

The following table compares the effects of the proposed action and alternative.

Table 1. Comparison of the Effects of the No Action and the Proposed Action Alternative.

	Proposed Action – Issue Permit	Alternative 1 – No Action
Eagle Take Levels	Up to 110 bald eagles and up to 123 golden eagles over 30 years. In practice we anticipate lower take levels due to avoidance and minimization actions which will be required under the permits.	Up to 110 bald eagles and up to 123 golden eagles over 30 years.
Unmitigated Eagle Take	Zero	Up to 110 bald eagles and up to 123 golden eagles over 30 years.
Compensatory Mitigation	The Applicant has committed, and will be required, to retrofit up to 1,387 high-risk power poles, or another form of compensatory mitigation, proportional to the predicted and adjusted eagle take estimate as compensatory mitigation, for the loss of golden eagles as a condition of approval related to the IETP.	None
Avoidance and Minimization	Project is operational and will continue to operate.	Project is operational and will continue to operate.
Adaptive Management	The plan is to avoid and minimize impacts to avian resources.	The plan is to avoid and minimize impacts to avian resources.
Data Collected by Service	Annual monitoring report of fatalities; reporting of injured and dead eagles; information on the effects of specific, applied, and conservation measures.	Reporting of injured and dead eagles.
Company Liability for Eagle Take	No (if in compliance with permit conditions).	Yes

5. Mitigation and Monitoring

5.1 Bald Eagles

The proposed action incorporates measures to minimize and avoid take to the maximum degree practicable, as required by regulation. To ensure that regional eagle populations are maintained consistent with the preservation standard, our regulations require that any take that cannot practicably be avoided and is above EMU take limits must be offset by compensatory mitigation (Eagle Permits; Revisions to Regulations for Eagle Incidental Take and Take of Eagle Nests, 81 Fed. Reg. 91494 [December 16, 2016]). In this case, authorized take remains below the EMU take thresholds and no compensatory mitigation is needed to meet the Eagle Act preservation standard. However, compensatory mitigation required for golden eagle take offset will likely benefit bald eagles and will be located in the Pacific Flyway EMU. The actual location of the compensatory mitigation has not been determined; however, the Service recommends that the Applicant implement it within the golden eagle LAP area related to the Project.

5.2 Golden Eagles

The proposed action incorporates measures to minimize and avoid take to the maximum degree practicable, as required by regulation. To ensure that regional eagle populations are maintained consistent with the preservation standard, regulations require that any golden eagle take that cannot practicably be avoided and is above EMU take limits must be offset by compensatory mitigation at a 1 to 1.2 ratio. As golden eagle take limits for all EMUs were determined to be zero (Service 2016a), compensatory mitigation is necessary to offset any authorized take of golden eagles. The Applicant will commit to retrofitting high-risk power poles, or another form of Service-approved compensatory mitigation, proportional to the predicted and adjusted eagle take estimate as compensatory mitigation, for the loss of golden eagles as a condition of approval related to the IETP.

The Applicant will be required to monitor eagle fatalities using independent, third-party monitors that report directly to the Service, according to protocols consistent with Service's national guidelines as outlined in the terms and conditions of the IETP. After the two-year interval, the Service will review the eagle mortality data and other pertinent information, as well as information provided by the Applicant and independent third-party monitors. The Service will assess whether the Applicant is in compliance with the terms and conditions of the permit and has implemented all applicable adaptive management measures specified in the IETP and ensure eagle take has not exceeded the amount authorized within that time frame. We will update fatality predictions, authorized take levels, and compensatory mitigation, as needed, for future years of the IETP. If authorized take levels for the period of review are exceeded in a manner or to a degree not addressed in the adaptive management conditions of the IETP, based on the observed levels of take using approved protocols for monitoring and estimating total take, the Service may require additional actions including but not limited to: adding, removing, or

adjusting avoidance, minimization, or compensatory mitigation measures; modifying adaptive management conditions; modifying monitoring requirements; and suspending or revoking the IETP.

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