



U.S. Fish and Wildlife Service

Draft Environmental Assessment

For the Issuance of Two Eagle Take Permits for Cedar Creek and Mountain Breeze / Panorama Wind Energy Projects Weld County, Colorado

Prepared by:

U.S. Fish and Wildlife Service, Upper Colorado Basin Region
Division of Migratory Bird Management
134 Union Boulevard, Lakewood, Colorado 80228

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This draft EA was prepared using NEPA regulations that expired on September 14, 2020. Agencies have the option of proceeding under the expired NEPA regulations if a project was begun prior to September 14, 2020, as is the case here. See 40 C.F.R. § 1506.13. Under the expired regulations, the term "significantly" was defined at 40 C.F.R. § 1508.27, and requires consideration of both context and intensity.

1. Introduction

This draft Environmental Assessment (EA) is prepared to analyze the environmental consequences of the U.S. Fish and Wildlife Service (Service) issuing two incidental eagle take permits (IETPs) for the take of bald (*Haliaeetus leucocephalus*) or golden (*Aquila chrysaetos*) eagles associated with the existing and operating Cedar Creek Wind Project (CCWP), and Mountain Breeze / Panorama Wind Energy Project (MBPWP) (collectively "Project"), pursuant to the National Environmental Policy Act (NEPA) (42 United States Code [U.S.C.] §§ 4321–4347). Issuance of a permit 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 and 50 Code of Federal Regulations [C.F.R.] § 22.80) constitutes a discretionary Federal action that is subject to NEPA. This draft 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 draft EA evaluates the effects of alternatives for our decision whether to issue the IETPs.

The Eagle Act authorizes the Service to issue eagle take permits only when the take is compatible with the preservation of each eagle species, defined (Service 2016) 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." The Eagle Act authorizes incidental take of eagles when take is associated with, but not the purpose of, an activity (50 C.F.R. § 22.80).

Cedar Creek Wind Energy, LLC, Mountain Breeze, LLC, and Panorama Wind, LLC, (collectively, Applicant) is requesting Eagle Act take coverage for operational activities associated with the Cedar Creek Wind Energy Facility and the Mountain Breeze/Panorama Wind Energy Project. Leeward Renewable Energy Development, LLC is the funding entity for both Projects. The Applicant submitted an IETP applications and Eagle Conservation Plans (ECPs) to the Service on October 11, 2019, requesting the maximum 30-year permit for both Projects.

The Applicant is requesting an IETP for the take of up to 0.13 bald eagle and up to 6.33 golden eagles annually, over the 30-year project related to the operations at the Cedar Creek wind project and one bald eagle and up to 6.9 golden eagles annually related to the operation at the Mountain Breeze / Panorama wind project. This draft EA evaluates whether issuance of the IETPs will have significant impacts on the existing human environment. "Significance" under NEPA is defined at 40 C.F.R. § 1508.27 (of the expired NEPA regulations) and requires

consideration of both short and long-term effects. *Id.* Significance also requires consideration of both context and intensity. *Id.*

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 2016). The PEIS is incorporated herein by reference, and this draft EA tiers from the 2016 PEIS (40 C.F.R. §§ 1508.28).

Project-specific information not considered in the PEIS (Service 2016) will be considered in this draft 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. 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 Eagle Act 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). 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 81 Fed. Reg. 91494 (2016)). The preservation standard under the Eagle Act means to be consistent with the goals of maintaining stable or increasing breeding populations in all eagle management units and the persistence of local populations of bald and golden eagles throughout the geographic range of each species (50 C.F.R. § 22.6).

The need for this action is a decision on two IETP applications from the Applicant. The decision must comply with the Eagle Act, all applicable regulatory requirements, and 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 USC §§ 668–668e) and its regulations (50 C.F.R, Part 22). The PEIS (Service 2016) has a full list of authorities that apply to this action (PEIS Section 1.6, pages 7-12), which are incorporated herein by reference.

1.3 Background

Both Projects are located in northern Weld County, Colorado. The Mountain Breeze / Panorama Wind Energy Project is located within the north end of the Pawnee National Grassland, managed by the U.S. Forest Service, boundary. The Mountain Breeze / Panorama Wind Energy Project

was initially planned as two separate projects but was ultimately combined into one wind farm. For the purpose of the analysis presented here, the MBPWP is considered as one wind farm but some of the project site-specific information is presented separately as Mountain Breeze Wind Project (MBWP) and Panorama Wind Project (PWP). The Pawnee National Grassland is a 30-by-60-mile (mi; 48-by 97 kilometer [km]) area that contains private, state, and federal lands within its boundary. No infrastructure or construction activities associated with the construction of wind turbines, roads, or transmission routes for MBPWP occur on federal lands.

The Project area for CCWP contains approximately 29,495.7 acres (ac; 11,936.5 hectares [ha]) of land, including 54.5 ac (22.1 ha) of Pawnee National Grasslands, 3,229.6 ac (1,307.0 ha) of Colorado State Land, and 26,211.6 ac (10,607.5 ha) of privately owned lands. The Project area for MBWP contains approximately 15,993.7 ac (6,472.4 ha) of land, including 22.8 ac (9.2 ha) of Pawnee National Grasslands, 619.4 ac (250.7 ha) of Colorado State Land, and 15,351.5 ac (6,212.5 ha) of privately owned lands. The Project area for PWP contains approximately 18,462.2 ac (7,471.4 ha) of land, including 152.2 ac (61.6 ha) of Pawnee National Grasslands, 2,019.9 ac (817.4 ha) of Colorado State Land, and 16,290 ac (6,592.3 ha) of privately owned lands. MBWP and PWP are adjacent to the north of CCWP. The nearest turbines and infrastructure of the CCWP are within 0.5 mi (0.8 km) of MBWP and PWP.

The nameplate capacity of the CCWP is 300 megawatts (MW), produced from 274 wind turbine generators, and includes a 230-kilovolt generational-tie (gen-tie) line. Of the 274 turbines, 21 are on state land and 253 are on privately owned land. Construction began in late 2006 and was completed in late 2007. All 274 turbines were erected and online by January 1, 2008. Electricity generated is sold to Public Services Company of Colorado under a Power Purchase Agreement, which expires in November 2027.

The nameplate capacity of the MBPWP is approximately 370 MW produced by up to 128 wind turbine generators, with 62 turbines in MBWP and 66 turbines in PWP. Additionally, the MBWP would include the construction of an approximate 10-mi (16-km) gen tie line (230-kilovolt transmission line) to deliver power from the MBWP to the existing gen-tie line at the CCWP operation and maintenance facility. The PWP will include the construction of an approximate 12-mi (19-km), 115-kilovolt transmission line to connect to the Tri-State Redtail substation, approximately 10 mi to the south. The MBWP and PWP will include associated infrastructure such as access roads, underground collector lines, and substations.

The Applicant submitted two IETP applications and ECPs to the Service on October 11, 2019, requesting the maximum 30-year permit for the Projects operational activities.

Projects are located within the high-altitude plains, east of the Rocky Mountains in an area of rolling hills; more rugged topography lies along an escarpment to the south and west of the Projects. Within the Project boundaries, the topographic elevation ranges from approximately 5,000 to 5,575 feet (ft; 1,524 to 1,790 meters [m]) above sea level. The dominant land use within the Project boundaries is livestock (mostly cattle) grazing, although there are also cultivated lands.

Standardized Post Construction Monitoring (PCM) and eagle nest surveys were conducted from 2008 through 2010. Continued studies since 2012 consist of eagle nest surveys, prey habitat mapping, eagle attractant, and use assessments.

As a commitment to the protection and conservation of bald and golden eagles, the Applicant has developed ECP for each of the Projects (Attachment A, incorporated herein by reference). The Project-specific ECPs have been written in coordination with the Service and follows the Eagle Conservation Plan Guidance, Version 2 (ECP Guidance, Service 2013a), and the Service regional guidance memo “Final Outline and Components of an Eagle Conservation Plan (ECP) for Wind Development, Recommendations from USFWS Region 6” (Service 2013) for successful development and compliance with the Eagle Act. The ECPs document 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 ECPs further detail the implementation of compensatory mitigation, necessary to mitigate the potential take of golden eagles at the Project sites.

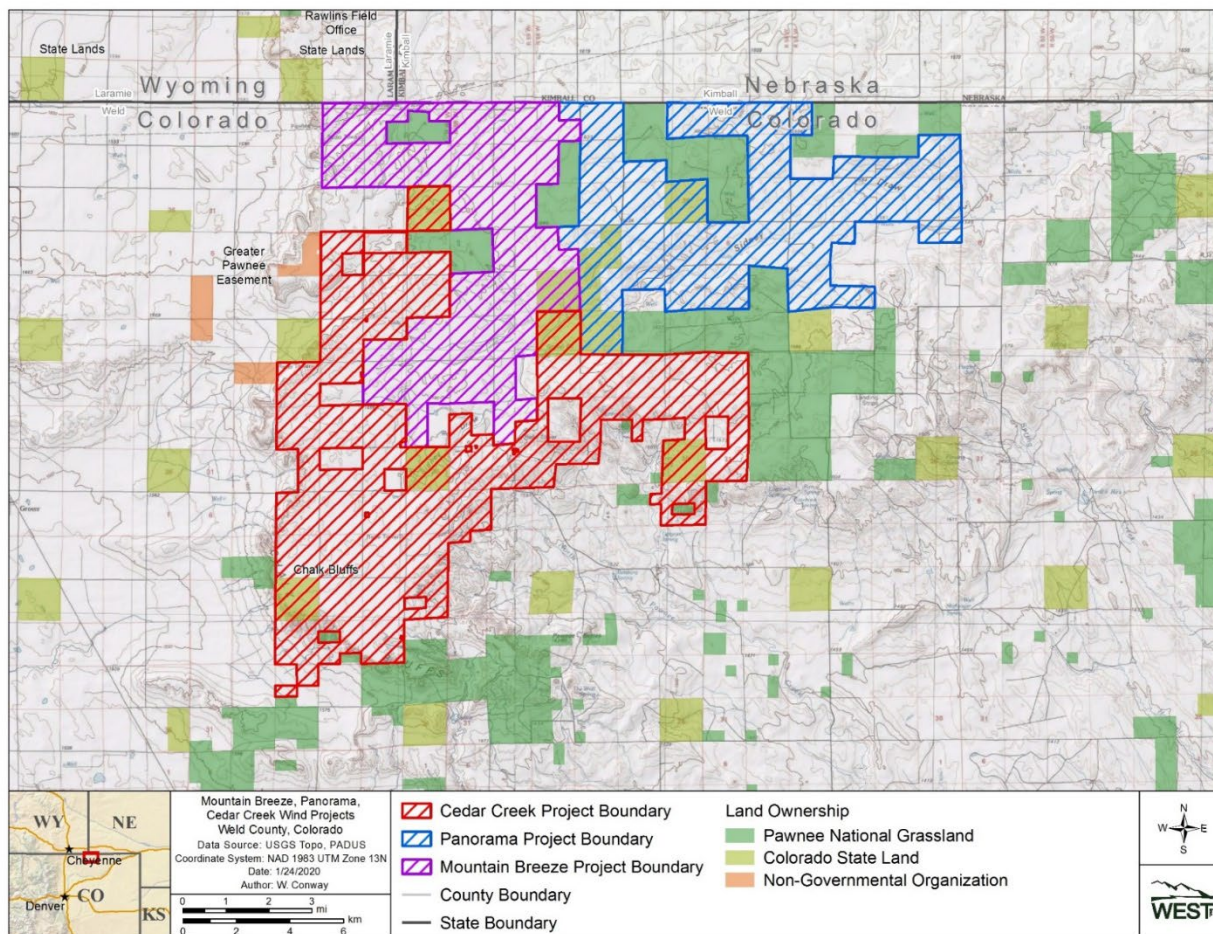


Figure 1. Land ownership within the Cedar Creek, Mountain Breeze, and Panorama Wind Energy Projects area, Weld County, Colorado.

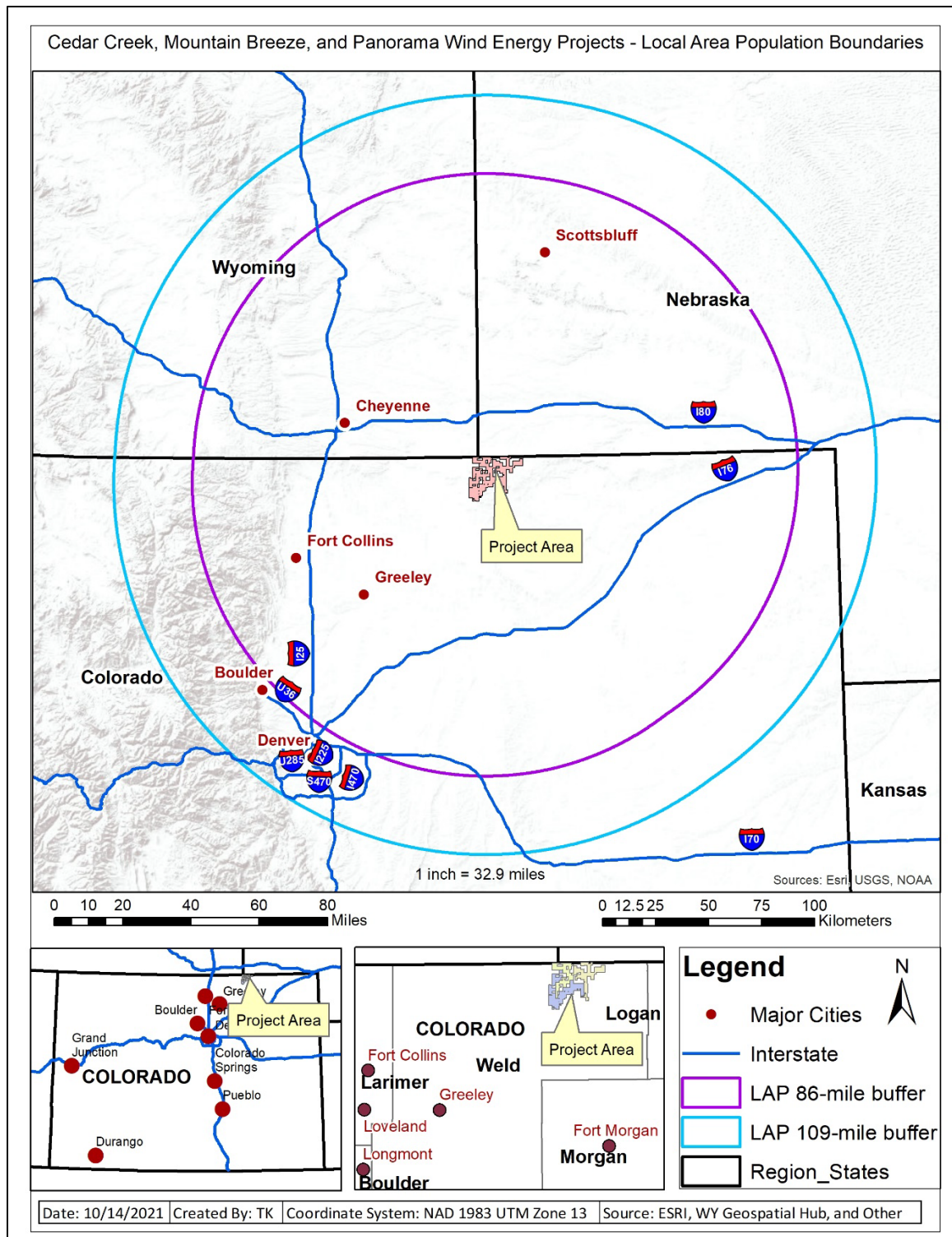


Figure 2. Cedar Creek, Mountain Breeze, and Panorama Wind Energy Projects area Boundary and Local Area Population (LAP) Boundary Map

1.4 Scoping, Consultation and Coordination

This draft EA incorporates, by reference, the scoping performed for the PEIS (Chapter 6, page 175). The Applicants worked closely with the Service and Colorado Parks and Wildlife (CPW) to develop the ECPs in support of its application to avoid, minimize, and mitigate adverse effects on eagles. The Applicant has communicated regularly with the Service and CPW regarding the Projects' plans and biological surveys beginning in August 2017 for MBWP and PWP and in spring 2005 for CCWP. The Service and CPW were consulted in determining the final turbine and gen-tie layout for the projects. The Applicants coordinated with the Service throughout the development of the ECPs and intend to continue to coordinate with the Service throughout the permit process. In addition, the Applicants intend to continue working with the Service to avoid and minimize impacts to migratory birds including 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 Central Flyway. At the time this draft EA is made available for the 30-day public comments period, we will contact ten native sovereign nation tribal leaders through formal letters, and other tribes potentially affected by this Project via email, to offer 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 applications and preparation of this draft EA by the Service.

Coordination with tribal governments is an ongoing process. If the Service issues 30-year IETPs to the Applicant and the Applicant chooses to apply for new permits when the IETPs expire, 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 for the take 0.13 bald eagle and up to 6.33 golden eagles annually (for a total authorized take of up four bald eagles and up to 190 golden eagles over the life of the 30-year permit) for the operation of the Cedar Creek wind project; and a 30-year IETP for the take of one bald eagle and up to 6.9 golden eagles annually (for a total authorized take of up 30 bald eagles and up to 207 golden eagles over the life of the 30-year permit) for the operation of the Mountain Breeze / Panorama Wind Energy Project, 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 Applicant-committed measures, the conservation commitments described in the Applicant's ECPs and 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, after the April 2009 environmental baseline cutoff date as discussed in the 2016 PEIS, by implementing compensatory mitigation as part of the conditions of the IETP. Compensatory mitigation for golden eagles is not required for take estimated for the Cedar Creek Wind Project, since it became operational on January 1, 2008 and it's considered baseline take as analyzed in the 2009 PEIS. The MBPWP will be required to fully offset golden eagle take. The estimated annual take for the MBPWP at the 80th quantile is 6.9 golden eagles and must be offset at a 1.2:1 ratio annually.

Compensatory mitigation for this Project will consist of retrofitting high-risk power poles, or other Service-approved compensatory mitigation, proportional, to the estimated and adjusted golden eagle take estimate calculated by the Service and will be located in the Central Flyway EMU. Together, these conservation and mitigation measures aim to ensure there will be no significant impacts to golden eagle populations. Compensatory mitigation must be additional or additive and is calculated using the Service's Resource Equivalency Analysis (REA) model for eagles, as outlined in the Eagle Conservation Plan Guidance Module 1-Land-based Wind Energy Version 2 (USFWS 2013).

Retrofitting or reframing refers to installing eagle-safe perches, installing perching deterrents, and insulating electrified phases or reframing the power poles to achieve adequate spacing between energized conductors and/or grounded equipment. The Applicant's commitment to retrofit power poles to meet or exceed the Avian Power Line Interaction Committee's (APLIC) recommendations would minimize the risk of bird electrocution and collision (APLIC 2012) on the retrofitted power poles.

If the estimated take is less than mitigated take at the end of the 30-year period, the excess take will be credited to the Project if the operators apply for and receive an IETP for future Project operations. If take is higher, increased mitigation will be required. In either case, compensatory mitigation for any potential subsequent IETP would be re-evaluated based on actual take levels observed/estimated at the Project as compared with permitted levels of take. The re-evaluation will be subject to current regulations in place at the time of the renewal.

Post Construction Monitoring - The Applicant will conduct Post Construction Mortality Monitoring (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. This 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. All monitoring reports shall document annual fatalities for eagles, other birds, and bats on a per-turbine basis. Additionally, any bald or golden eagle found dead or injured 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. All post construction monitoring will be conducted on existing disturbance, using existing roads, and conducted on foot.

Adaptive Management—The Applicant has developed an adaptive management plan, for each project, to monitor for impacts and avoid, minimize, and mitigate impacts to eagles and other avian species based on the Project specifics and data available. The 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, we would take no further action on the IETP applications. In reality, the Service must take action on the IETP applications, determining whether to deny or issue the Permits. We consider this alternative because regulations require evaluation of a no action alternative, and it provides a clear comparison of any potential effects to the human environment from the proposed action.

The no action alternative in this context analyzes predictable outcomes of the Service not issuing IETPs. Under the no action alternative, the Projects 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 required.

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 projects proponent may choose to implement some, none, or all of those conservation and adaptive management measures. Under this alternative, we assume that the Applicant will take some reasonable steps to avoid taking eagles.

2.3 Other Alternatives Considered but Not Evaluated in this Environmental Assessment

2.3.1 Alternative 2: Deny Permits

Under this alternative, the Service would deny the IETP applications, and not issue an IETPs because the Applicant falls under one of the disqualifying factors and circumstances denoted in 50 C.F.R. § 13.21; the application fails to meet all regulatory IETP issuance criteria and required

determinations listed in 50 C.F.R. § 22.80; or because the Service determines that the risk to eagles is so low that a take permit is unnecessary for the Project.

Our Permit issuance regulations at 50 C.F.R. § 13.21(b) & (c) 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, or the Eagle Act disqualifies any such person from receiving or exercising the privileges of a permit). The Applicant does not meet any of the disqualifying factors or circumstances denoted in 50 C.F.R. § 13.21. We next considered whether the Applicant meets all issuance criteria for the type of permit being issued. For eagle take permits, those issuance criteria are found in 50 C.F.R. § 22.80(f) in the 2009 regulations (74 FR 46878, Sept. 11, 2009). The Project application meets all the regulatory issuance criteria and required determinations (50 C.F.R. § 22.80) for permits.

When an applicant for a permit is not disqualified under 50 C.F.R. § 13.21 and meets all the issuance criteria of 50 C.F.R. § 22.80, denial of the permit is not a reasonable option. Therefore, this alternative—denial of the permit—was eliminated from further consideration.

2.3.2 Alternative 3: Issue a Five-year Term Incidental Eagle Take Permit

Under this alternative, the Service would issue a five-year term IETPs to the Applicant. This alternative does not meet the scope and the purpose and need of this document, because the Applicant submitted IETP applications for the maximum permit term of 30-years. The applicant has stated that the existing and operating, long-term projects will continue to operate for at least the next 30-years. There is no information that would indicate that the Projects will not be operating for at least the next 30-years. The term of the permit does not affect the number of eagles that the Service estimated could be killed as related to the project operation. The Project's operation will continue, potentially exposing eagles to collision with the wind turbines, regardless of the term of the permit. A five year-permit term would thus not provide any greater conservation benefit for eagles and could potentially provide less. Therefore, this alternative five-year term of the IETPs issuance was eliminated from further consideration.

3. Affected Environment

This section describes the status of the environmental resources and values that are affected by the Proposed Action and alternatives. During the development of the CCWP, preconstruction surveys, and post-construction surveys extensive consultation between Cedar Creek Wind Energy, LLC and the Service and CPW was completed. These consultation efforts are summarized in the appropriate sections below. Mountain Breeze, LLC and Panorama Wind, LLC conducted combined pre-construction surveys using the Project boundary for both Projects while working with the Service to develop the ECPs.

Surveys for the Projects varied as changes were made to reflect Project-specific data collected and as a better understanding of the Projects-related impacts to eagles. Table 2 summarizes the surveys completed for the Projects and the changes that occurred as the Projects evolved.

Table 2. Comparison of Surveys Completed for the Cedar Creek, Mountain Breeze, and Panorama Wind Projects, Weld County, Colorado.

Time Frame	Surveys Completed	Area Surveyed
Cedar Creek Wind Project (CCWP) Surveys		
Pre-Construction		
April 2006 – May 2006	Wildlife Baseline Studies	CCWP boundary
May – September 2006	Bat Use Surveys	Mist netting was completed at stock tanks located within turbine strings.
April – May 2007	Plains sharp-tailed grouse lek surveys	Survey routes were located along proposed turbine strings.
Post-Construction		
April – June 2008	Plains sharp-tailed grouse lek and raptor nest surveys	Lek survey route were located along turbine strings. Raptor nest surveys were conducted for half of CCWP infrastructure.
January 2008 – January 2010	Fatality Monitoring	787-foot X 787-foot (240-meter X 240-meter) square plots around 69 turbines
November 25 – 26, 2013 December 2 – 3, 2013	Clearing Search	All 274 turbines were searched 100–164 feet (30–50 meters) out from the base for carcasses
April – September 2014	Post-construction Monitoring	787-foot X 787-foot square plots around 82 turbines
Mountain Breeze and Panorama Wind Projects (MTBP) Surveys		
February and May 2017	Raptor Nest Survey	MTBP boundary, plus 1.0-mile (1.6-kilometer) raptor buffer and 10.0-mile (16.1-kilometer) eagle buffer
January 2017 – December 2018	Avian Use Studies	MTBP boundary plus up to 10.0-mile buffer
April 2018	Raptor Nest Survey	MTBP boundary, plus 1.0-mile raptor buffer and 10-mile eagle buffer
April 2018	Sharp-tailed grouse surveys	MTBP boundary
May 2018	Prairie Dog Mapping	MTBP boundary, plus up to 10.0-mile buffer
April – May 2019	Sharp-tailed grouse surveys	MTBP boundary

3.1 Bald Eagle

General information on the taxonomy, ecology, distribution, and population trends of bald eagles is given in Section 3.2.1 of the PEIS (Service 2016b, pages 44–60) and is incorporated herein by reference. The rest of this section focuses on bald eagle occurrences in the EMU in which the Projects occur (Central Flyway), the local area population (LAP; within 86 mi [138 km] of the Projects), and areas surrounding the Projects (the Project boundaries and an associated 10-mi buffer for pre-construction surveys). The estimated median population size of bald eagles in the Central Flyway EMU is 30,427 (Service 2020). Based on the Service’s process to calculate the LAP, the population size in the LAP is estimated to be 73 bald eagles.

Cedar Creek Wind Project - Pre-construction Surveys

Table 2 contains information and comparison of survey efforts related to Project. Avian use surveys were completed for CCWP in 2006. CCWP pre-dates the Service's Land Based Wind Energy Guidelines (Service 2012) and the ECPG (Service 2013); therefore, avian use surveys for CCWP followed standard line transect methodology. Two surveys were conducted along each transect, 7–14 days apart between May 15 and June 15, 2006. Two surveys were conducted in order to incorporate variation between survey days during the study period. Forty-four transects were surveyed in the CCWP Project boundary. There were 2,295 birds in 1,369 groups representing 41 species observed during the surveys. However, no bald eagles were observed in the CCWP Project boundary.

A pre-construction ground-based survey for raptor nests was conducted for the CCWP and within 0.5 mi of turbine locations and Project infrastructure. The survey was conducted from April 26 – May 16, 2006. Thirty-five active and 39 inactive nests were observed within a 62 square mi (161 square km [km²]) search area during 2006. No bald eagle nests were recorded during the 2006 pre-construction raptor nest surveys. Other raptor species observed included prairie falcon (*Falco mexicanus*), Swainson's hawk (*Buteo swainsoni*), ferruginous hawk (*B. regalis*), red-tailed hawk (*B. jamaicensis*), great horned owl (*Bubo virginianus*), burrowing owl (*Athene cunicularia*), American kestrel (*F. sparverius*) and golden eagle. Nest locations were shared with CPW and the Service.

Prey resources available to bald eagles in the CCWP area is similar to the prey resources within the MBWP and PWP Project boundaries. Similarly, livestock grazing is primarily cattle grazing with a few random horses observed in area fields. Dead livestock, and the prey species mentioned above, may attract either eagle species to the area for foraging.

Cedar Creek Wind Project - Post-construction Surveys

Table 2 contains information and comparison of survey efforts related to Project. A post-construction ground-based survey for raptor nests was conducted for the CCWP and within 0.5 mi of turbine locations and Project infrastructure. The survey was conducted from April 2 – June 27, 2008. An initial survey was conducted April 2 – May 7, 2008. A second survey was conducted June 3 – June 27, 2008, to determine if late nesting species occupied nests that were inactive during the initial survey. Thirty-two active and 43 inactive nests were observed during the 2008 post-construction raptor nest survey. Nest locations were shared with CPW and the Service. No bald eagle nests were observed.

Standardized post-construction monitoring (PCM) for bird and bat carcasses was conducted for two years from 2008-2010, with shorter-term follow up PCM in late 2013, and for six months in 2014. This effort included searcher efficiency and carcass persistence trials. Surveys were designed to search the wind-energy facility systematically for bird and bat casualties attributable to collision with Project facilities from January 2008 through January 2010. Sixty-nine turbines

were searched in the first study year, and 68 turbines were searched in the second year. Turbines within 400 meters of the escarpment edge were considered to have higher potential for raptor and bat fatalities due to the relatively high density of raptor nests and the presence of potential roosting habitat for bats on the escarpment. Detailed description of the survey methodology can be found in the ECP (Attachment A).

No bald eagle remains were found during this time period as part of this specific survey efforts. Standardized post-construction monitoring (PCM) for bird and bat carcasses was conducted for two years from 2008-2010.

One search round of all 274 wind turbines at the Project was conducted in late 2013. All Project turbines were searched during November 25-26 and December 2-3, 2013. No bald eagle remains were detected as part of this survey efforts.

Monthly standardized carcass surveys were conducted once per month from April through September 2014, including searcher efficiency and carcass persistence trials. A total of 495 turbine searches were conducted at the 82 searched turbines. No bald eagle remains were detected during this time period. Detailed description of the survey methodology can be found in the ECP (Attachment A).

Mountain Breeze and Panorama Wind Projects - Pre-construction Surveys

Table 2 contains information and comparison of survey efforts related to Project. Fixed-point avian use surveys were conducted at 29 plots within the MBWP and PWP Project boundaries from January 25, 2017 through December 22, 2017. During 2017, 346.82 observation hours were completed and yielded no bald eagle observations. During 2018, 234.00 observation hours were completed and yielded 10 bald eagle observations. Flight paths were mapped and digitized for all eagle observations recorded during avian use surveys. Bald eagles accounted for approximately 4% of all raptor detections during these surveys. In the MBWP and PWP Project boundaries, bald eagle observations occurred in September, and November 2018 (Poulton 2019).

In the spring of 2017 and 2018, nest surveys were conducted throughout the proposed MBWP and PWP Project boundaries and included a 1-mi (1.6-km) buffer for raptor nests and a 10-mi buffer for any eagle nests, following the survey methods detailed in the MTBP ECP (Appendix A). During those surveys, no bald eagle nests were located. Bald eagle nesting habitat is not present in the MBWP and PWP Project boundaries and foraging habitat is minimal. No communal bald eagle roosts or habitat for such roosts exist in the MBWP and PWP Project boundaries. Given these observations, it was determined that there was no need for formal eagle roost surveys at the Project.

Prey resources available to bald eagles in the MTBP area include waterfowl, plains sharp-tailed grouse (PSTG; *Tympanuchus phasianellus jamesi*), black-tailed prairie dogs (*Cynomys ludovicianus*; prairie dog colonies were identified and mapped during May 2018), and big game

species including mule deer (*Odocoileus hemionus*) and pronghorn (*Antilocapra americana*) (Appendix D in Attachment A). Prior to construction, Mountain Breeze, LLC and Panorama Wind, LLC modified the MBWP and PWP layouts to minimize potential impacts to eagles by increasing the distance from MBWP and PWP Project infrastructure to potential prey-based concentration points, such as PSTG leks, in the area.

Livestock grazing within the MBWP and PWP Project boundaries is primarily cattle grazing (although horses may also occur in the area) and occurred at the MBWP and PWP during pre-construction and operational periods. Dead livestock, and several of the species mentioned above in the MBWP and PWP Project boundaries, could be used by either eagle species.

3.2 Golden Eagle

General information on the taxonomy, ecology, distribution, and population trends of golden eagles are given in Section 3.3.1 of the PEIS (Service 2016b, pages 71–81) and is incorporated herein by reference. The rest of this section focuses on golden eagle occurrences in the EMU in which the Projects occur (Central Flyway), the LAP (within 109 mi [175 km] of the Projects), and areas surrounding the Projects (the Projects' boundaries and an associated 1-mi buffer for pre-construction surveys and an associated 2.0- to 2.5-mi [3.2- to 4.0-km] buffer for post-construction surveys). The estimated median population size of golden eagles in the Central Flyway EMU is 15,327 (Service 2016a). Based on the Service's process to calculate the LAP, the population size in the LAP is estimated to be 461 golden eagles.

Cedar Creek Wind Project - Pre-construction Surveys

Table 2 contains information and comparison of survey efforts related to Project. Avian use surveys were completed for CCWP in 2006. CCWP pre-dates the Land-based Wind Energy Guidelines (Service 2012) and ECPG (Service 2013); therefore, avian use surveys for CCWP followed standard line transect methodology. Two surveys were conducted along each transect, 7–14 days apart between May 15 and June 15, 2006. Two surveys were conducted in order to incorporate variation between survey days during the study period. Forty-four transects were surveyed in the CCWP Project area. One golden eagle was observed during avian use surveys at the CCWP.

A pre-construction ground-based survey for raptor nests was conducted for the CCWP and within 0.5 mi of turbine locations and CCWP Project infrastructure. The survey was conducted from April 26 – May 16, 2006. Thirty-five active and 39 inactive nests were observed within the 2006 search area. Two active and one inactive golden eagle nests were recorded during the 2006 pre-construction raptor nest surveys. Nest locations were shared with CPW and the Service.

Prey resources available to golden eagles in the CCWP area is similar to the prey resources within the MBWP and PWP areas. Similarly, livestock grazing is primarily cattle grazing with a few random horses observed in area fields. Dead livestock, and the prey species mentioned above, may attract either eagle species to the area for foraging.

Cedar Creek Wind Project - Post-construction Surveys

Table 2 contains information and comparison of survey efforts related to Project. During the post-construction ground-based surveys for raptor nests described for bald eagles (Section 3.1.2.2), two active and two inactive golden eagle nests were observed.

Please refer to section 3.1 above for a brief description of the methodology used in survey efforts for bald and golden eagles. Detailed survey efforts descriptions can be found in the ECP (Attachment A).

Two golden eagle carcasses were found during the Standardized post-construction monitoring (PCM) for bird and bat carcasses was conducted for two years from 2008-2010.

One search round of all 274 wind turbines at the Project was conducted in late 2013. All Project turbines were searched during November 25-26 and December 2-3, 2013. No golden eagle remains were detected as part of this survey efforts.

Monthly standardized carcass surveys were conducted once per month from April through September 2014, including searcher efficiency and carcass persistence trials. A total of 495 turbine searches were conducted at the 82 searched turbines. No golden eagle remains were detected during this time period. Detailed description of the survey methodology can be found in the ECP (Attachment A).

Mountain Breeze and Panorama Wind Projects - Pre-construction Surveys

Table 2 contains information and comparison of survey efforts related to Project. Fixed-point avian use surveys were conducted as described for bald eagles (Section 3.1). The surveys yielded 10 golden eagle observations during 2017 and five golden eagle observations in 2018. Four additional golden eagles and two unidentified eagles were incidentally observed in 2018. Golden eagles accounted for 6.25% of all raptor detections during these surveys. In the MTBP survey area, golden eagle observations occurred in January, March, August, October, and December 2017, and March and October 2018 (Poulton 2019).

Similar to bald eagles, a pre-construction ground-based survey for raptor nests was conducted for the MBWP and PWP within one-0.5 mi of turbine locations and Project infrastructure. Nest surveys were conducted in February and May of 2017, and again in March and May of 2018. During the May 2017 surveys, four occupied, active golden eagle nests were detected including the active nest detected in February, plus two occupied, active known nests that were unoccupied during the February surveys, and one previously unrecorded active golden eagle nest location. In March 2018, three occupied, active golden eagle nests were detected and all in previously recorded locations. During the May 2018 surveys, four occupied, active golden eagle nests were located. One of the occupied, active nests recorded in March 2018 was unoccupied and inactive in May 2018.

Prey resources and land use are discussed in the Bald Eagle - Mountain Breeze and Panorama Wind Projects - Pre-construction Surveys section above.

Migratory Birds

General information on migratory birds protected under the Migratory Bird Treaty Act is discussed in Section 3.5.1 of the PEIS (Service 2016b, pages 97–98) and is incorporated by reference here. Species most likely affected by our permit decisions evaluated for the Projects are those that might benefit from the mitigation options developed in the ECPs, primarily power pole retrofits that protect birds from electrocution.

Cedar Creek Wind Project - Pre-construction Surveys

Table 2 contains information and comparison of survey efforts related to Project. Avian use surveys were completed for CCWP following standard line transect methodology (Buckland et al. 2001). It is important to note that the stated goal of these surveys was to estimate the breeding density of grassland songbirds in the CCWP area. There were 2,295 birds in 1,369 groups representing 41 species observed during the surveys. Statistical analysis of avian use survey data was limited to density estimates for four most common species observed during the surveys: horned lark (*Eremophila alpestris*), western meadowlark (*Sturnella neglecta*), lark bunting (*Calamospiza melanocorys*), and brown-headed cowbird (*Molothrus ater*). Horned lark density in the CCWP area was 533.5 birds/km². Western meadowlark density in the CCWP area was 42.6. Lark bunting density in the CCWP area was 58.8. Brown-headed cowbird density in the CCWP area was 33.9.

In addition to general avian use surveys, species specific mountain plover (*Charadrius montanus*) surveys were completed May 8 – June 7, 2006, in the CCWP area. Mountain plover surveys were completed following Service guidelines for the species. No mountain plovers were detected during formal mountain plover surveys; however, mountain plovers were observed on five occasions within the CCWP area during other surveys. Four of the five mountain plover observations occurred prior to May 1. Plovers observed prior to May 1 were assumed to be either migrating through the CCWP area or were attempting to set up territories. Breeding was confirmed near CCWP on June 30, 2006 (during other surveys), when one adult and three young were observed north of County Route (CR) 122.

Mountain Breeze and Panorama Wind Projects - Pre-construction Surveys

Table 2 contains information and comparison of survey efforts related to Project. Mountain Breeze, LLC and Panorama Wind, LLC's ECP described pre-construction avian survey methods and results; incorporated by reference is a summary of avian use results. Three hundred forty-eight, 10-minute fixed-point surveys were conducted in 2017 and 234, 10-minute fixed-point surveys were conducted in 2018 prior to MBWP and PWP construction. In 2017, 42 bird species were identified. Two hundred forty individual raptors were recorded in 2017 representing 19 species. Waterbirds were observed only in the spring (0.10 species/800-m [2,625-ft] plot/60-

minute survey). Waterfowl use was highest during the winter (3.10) and in the fall (0.03). Shorebirds had the highest use in both spring and fall (0.03). Raptor use was highest during the summer (0.84), followed by spring (0.68), fall (0.59), and winter (0.41). The most common raptors observed were Swainson's hawk and rough-legged hawk (*Buteo lagopus*). Vultures were recorded during the spring (0.03) and fall (less than 0.01). Upland game birds were only observed during the fall (0.03). Doves and pigeons had the highest use in the winter (0.47), followed summer (0.17), fall (0.16), and spring (0.09). Large corvids had the highest use in the winter (0.07) and the lowest in the spring (less than 0.01). Goatsuckers had the highest use in the spring (0.34), followed by summer (0.21) and fall (less than 0.01). Passerines were only recorded within a 100-m (328-ft) viewshed and, therefore, is not directly comparable to the other bird types. Passerine use was the highest in summer (5.33 species/100-m plot/10-minute survey), followed by spring (4.91), fall (3.35), and winter (1.29).

In 2018, 44 bird species were identified. Two hundred sixty individual raptors were recorded in 2018, representing 21 species. Waterbirds were observed in the fall (0.80 species/800-m plot/60-minute survey) and the spring (0.04). Waterfowl use was highest during the winter (0.50), fall (0.23) and spring (0.01). Shorebirds had the highest use in spring (0.13) and fall (0.05). Raptor use was highest during the fall (1.14), followed by spring (1.07), winter (1.03), and summer (0.8). The most common raptors observed were Swainson's hawk and northern harrier (*Circus hudsonius*). Owl use was highest in during the winter (0.18). Vultures were recorded during the summer (0.02) and fall (0.01). Doves and pigeons had the highest use in the spring (4.79), followed summer (3.98), fall (1.53), and winter (0.03). Goatsuckers had the highest use in the summer (0.09), followed by spring (0.23). Passerines were only recorded within a 100-m viewshed and, therefore, is not directly comparable to the other bird types. Passerine use was the highest in summer (7.14 species/100-m plot/10-minute survey), followed by spring (6.32), fall (5.58), and winter (2.24).

3.4 Species listed under the Endangered Species Act

The Endangered Species Act (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... insure 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)). Because issuance of an IETP is a Federal Agency action, the ESA is applicable and addressed in this draft EA.

As per the ECP (page 8; Appendix A), no federally listed threatened or endangered species were observed in the Project area during pre-construction fixed-point avian use surveys. Seven species listed as federally endangered or threatened under the Endangered Species Act (ESA) may occur in the Project Area or have potential to be affected by the proposed action. These species include the Preble's Meadow Jumping mouse (*Zapus hudsonius preblei*), Eastern black rail (*Laterallus jamaicensis ssp. jamaicensis*), Ute ladies'-tresses (*Spiranthes diluvialis*), and four Platte river

species: piping plover (*Charadrius melodus*), whooping crane (*Grus americana*), pallid sturgeon (*Scaphirhynchus albus*), and western prairie fringed orchid (*Platanthera praeclara*). Additionally, monarch butterfly (*Danaus plexippus*), a candidate species for listing under ESA, could potentially occur in the Project area.

On October 14, 2021, the Service initiated an intra-service Section-7 consultation for the issuance of an IETP for the Project (Attachment B). It was determined that the Project will have “no effect” on seven federally listed species: Preble's Meadow Jumping mouse, Eastern black rail, Ute ladies'-tresses, and four Platte river species: piping plover, whooping crane, pallid sturgeon, western prairie fringed orchid, and monarch butterfly which is a candidate species for listing under ESA.

Our decision regarding the IETP will not alter the physical footprint of the Project and will not alter its impacts to federally threatened and endangered species; therefore, no further evaluation of impacts to species listed under the ESA is warranted for the Service's decision of whether or not to issue an IETP.

3.5 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) 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 State Historic Preservation Office (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). The criteria used to evaluate the NRHP eligibility of properties affected by federal agency undertakings are contained in 36 CFR § 60.4.

No new ground-disturbing activities will occur as part of or related to issuing an IETPs.

Eagles can be considered a feature or element of a Traditional Cultural Property pursuant to Service regulations (74 FR 46836-46874). 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. 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 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 IETPs for this Project.

3.6 Climate Change

Climate change was considered in the PEIS (Service 2016; 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 or not to issue a permit.

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 2016) and is incorporated by reference here. This section of this EA analyzes only the effects that may result from the issuance of IETPs for this specific Project.

4.1 Proposed Action

In determining the significance of effects of the Project on eagles, we screened the proposed action against the analysis provided in the PEIS (Service 2016) and the Service's 2016 report, "Bald and Golden Eagles: status, trends, and estimation of sustainable take rates in the United States." We also used our eagle-risk analysis (Service 2013, Appendix D), and Cumulative Effects Analysis (Service 2013, Appendix F) to quantify eagle fatality risk and cumulative local area population level effects.

The proposed action is consistent with 50 C.F.R. § 22.80(a) Purpose and Scope, 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

The CRM uses the pre-construction eagle use of a wind facility (eagle exposure), the probability that an eagle collides with a turbine (collision probability), and the hazardous space of a wind facility operating during daylight hours (expansion factor) to estimate the annual number of eagle fatalities at a wind facility. These parameters are modeled in a Bayesian framework where uncertainty surrounding eagle exposure and collision probability are defined by national prior-probability distributions (priors) for each parameter. Wind facility-specific pre-construction use and post-construction mortality monitoring data can be used to update these priors, thereby reducing uncertainty in the parameter estimates, yielding more precise estimates of annual eagle fatalities at a wind facility (New et al. 2015).

To estimate annual fatalities at for this Project, we did have data for the Mountain Breeze but we did not have sufficient pre-construction eagle-use data for Cedar Springs and Panorama to update exposure for the CRM; therefore, we used the national priors for the eagle exposure parameter.

Because we only had sufficient data for MBWP but not for CSWP or PWP, the CRM was run separate for each. We adjusted the expansion factor based on applicant-provided operational daylight hour data collected during monitored years.

4.1.2 Estimating Golden Eagle Take

Under the proposed action, we estimate that up to 13.23 (combined total) golden eagles at the 80th quantile could be taken annually. This number is multiplied by the number of years in the permits term (30) and rounded up to the next whole number (for a total authorized take of up to 397 golden eagles over the life of the two 30-year permits). Eagle-specific post-construction monitoring is required for the IETP and is included as a permit condition. The required post-construction mortality 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 process identified in the adaptive management framework; will be used to guide the implementation of additional conservation measures as needed; and applies before actual take exceeds the permitted take levels. To fully offset the authorized take (that is not part of the baseline take), the Applicant will commit to retrofitting high-risk power poles 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 Estimated Bald Eagle Take

Under the proposed action, we estimate that up to 1.13 (combined total) 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 34 bald eagles over the life of the two 30-year permits). Eagle-specific post-construction monitoring 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 process identified in the adaptive management framework; will be used to guide the implementation of additional conservation measures as needed; and applies 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; 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 and alleviating the risk of electrocution associated with those structures, and will be located in the Central Flyway EMU. The actual location of the compensatory mitigation has not been determined; however, the Service recommends that the Applicant implement it within the bald 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 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 LAPs surrounding the Projects to evaluate whether the take to be authorized under these permits, together with other sources of permitted take and unpermitted eagle mortality, may be incompatible with the persistence of the Project LAPs. 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 ECP Guidance (Service 2013; Appendix F).

Six permitted projects overlap the LAP for bald eagles and three permitted projects overlap the LAP for golden eagles.

4.2.1 Bald Eagles

The LAP of bald eagles for the Project is approximately 73 eagles and the annual 1% and 5% benchmarks for this local area population are 0.73 and 3.66 bald eagles, respectively. Six currently permitted project LAP areas overlap this Project's LAP for bald eagles. Taken together, this Project's take and the overlapping take of the other projects could result in a total annual take of 2.58 bald eagles (or 3.52% of the LAP). Analyses conducted by the Service showed that over most of the United States, bald eagle populations are growing at a rate of approximately 5% per year (USFWS 2016c). Additionally, a recently published report (Service 2020) estimated that bald eagle population have increased by a factor of 4.4 since 2009 across EMUs, excluding the southwestern U.S. and Alaska. Based on these results, the Service (2020) concluded that the bald eagle population has continued to increase rapidly since our previous survey.

The take at the LAP level of 3.52% does not exceeds the 5% benchmark for the LAP associated with the Project, and this level of bald eagle take from the local area is consistent with the management objective established in the PEIS and codified in regulation. The impacts to bald eagle populations at both the LAP and EMU scales are therefore not significant. It is reasonable to assume that bald eagle numbers in the project 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 17 reported bald eagle mortalities within the LAP between 2012 and 2021, for an average of 1.7 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, 1.7 unpermitted bald eagle takes equals about 2.32% of the total estimated bald eagle population in the LAP associated with the Project. This amount of unpermitted take is well 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 approximately 461 eagles and the 1% and 5% benchmarks for this local area population are 4.61 and 23.06, respectively. Six currently permitted projects overlap this Project's LAP for golden eagles. Taken together, this Project's take and the overlapping take of the other projects could result in a total annual take of 21.06 golden eagles (or 4.57% of the LAP). The LAP predicted take level of 4.57% does not exceeds the 5% benchmark for the LAP associated with the Project.

Based on the Service's eagle mortality database, there were 130 reported golden eagle mortalities within the LAP between 2011 and 2021, for an average of 13 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, 13 unpermitted golden eagle takes equals about 2.82% of the total golden eagle population in the LAP associated with the Project. This amount of unpermitted take is well below the 10% threshold level for unpermitted take within the LAP.

4.2.3 Summary of Cumulative Effects on Bald and Golden Eagles

The take that would be authorized by this permit does not exceed 5% of the LAP for bald eagles and golden eagles. The authorized take for bald eagles does not exceed the EMU level for bald eagles. It is reasonable to assume that bald eagles in the project 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, and therefore would not significantly impact bald eagle populations.

As described above, the EMU take level for golden eagles is zero, therefore issuance of this permit would exceed the EMU take level. Accordingly, compensatory mitigation is required for the anticipated take of golden eagles by the Project. This take would be offset by commitments from the Applicant to retrofit high-risk power poles 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.

4.2.4 Reasonably Foreseeable Future

The Service is aware of operational wind projects in the LAP areas that have contributed to unauthorized take of bald and golden eagles. Some of these projects are currently operating under court-approved settlement agreements and are working with the Service to pursue and possibly attain an IETP. At the time this draft EA is being prepared, one of these operational wind facilities, located within this Project's LAP areas, has a draft EA prepared which has been released for a public comment period. Even with those impacts being considered, the EMU take limits are not expected to be exceeded, as demonstrated by accounting for unauthorized take in these analyses. While additional future wind developments and other activities may further increase take in the LAP during the permit tenure, the Service cannot reasonably predict the resulting impacts to eagles of such projects when important aspects of the projects (size, location, configuration, and lifespan) are currently unknown. There is no reasonable basis to consider such speculative impacts in this draft EA.

4.3 Cumulative Effects of Alternative 1 – No Action

Even though we would take no action on the IETP applications under the No-Action Alternative, the project would likely continue to operate without authorization for take of eagles. None of the impacts to golden eagles would be offset by compensatory mitigation. Negative impacts to

golden eagle populations such as: population decline, potential loss of eagle breeding territory, and decrease in genetic diversity could occur at a cumulative scale. The eagle take at the Project would be considered un-permitted and would not be accounted for in the permitted take, cumulative effects analysis when considering the impacts related to future projects seeking an IETP. Additionally, there would be no PCM mortality data for future use by the Service to update and strengthen the CRM, related analysis and supporting data. Acquiring such data, to refine and strengthen the currently used process for cumulative effects analysis, ensures that conservation management objectives for eagle populations are being met at a cumulative scale. No permit check-in visits would occur with the Applicant, and the Service would have no way to relate the eagle mortality occurring at this Project to other wind projects in the area, on a cumulative scale, when updating existing IETPs. Because the Applicant would not be bound by the terms and conditions of the IETPs, the Service would not be able make recommendations for adaptive management triggers and implementation of conservation measures that would benefit eagle populations on a cumulative scale

4.4 Comparison of Effects of Alternatives

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

	Proposed Action – Issue Permits	Alternative 1 – No Action
Eagle Take Levels	Up to 397 golden eagles and up to 34 bald eagles over 30 years	Up to 397 golden eagles and up to 34 bald eagles over 30 years
Avoidance and Minimization	Project is operational and will continue to operate	Project is operational and will continue to operate
Compensatory Mitigation	The Applicant has committed, and will be required, to retrofit high-risk power poles proportional to the predicted and adjusted eagle take estimate as compensatory mitigating, for the loss of golden eagles as a condition of approval related to the IETP	Zero
Unmitigated Eagle Take	Zero	Up to 397 golden eagles and up to 34 bald eagles over 30 years
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 eagles; information on the effects of specific, applied, conservation measures	None
Company Liability for Eagle Take	No (if in compliance with permit conditions)	Yes

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

5. Mitigation and Monitoring

Bald Eagles

The proposed action incorporates measures to minimize and avoid 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. 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 per golden eagle take offset will likely benefit bald eagles by retrofitting high-risk power poles and alleviating the risk of electrocution associated with those structures and will be located in the Central Flyway EMU. The actual location of the compensatory mitigation has not been determined; however, the Service recommends that the Applicant implement it within the bald eagle LAP area related to the Project.

Golden Eagles

The proposed action incorporates measures to minimize and avoid 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 (above baseline take) at a 1.2 to 1 ratio. As golden eagle take limits for all EMUs were determined to be zero (Service 2016), compensatory mitigation is necessary to offset any authorized take of golden eagles. The Applicant will commit to retrofitting high-risk power poles (above baseline take) 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 IETPs. 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 IETPs 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 IETPs. 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 IETPs, 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 IETPs.

List of Abbreviations and Acronyms

EA	Environmental Assessment
ECP	Eagle Conservation Plan
EIS	Environmental Impact Statement
IETP	Incidental Eagle Take Permit
EMU	Eagle Management Unit
ESA	Endangered Species Act
LAP	Local Area Population
MBTA	Migratory Bird Treaty Act
MBCP	Migratory Bird Compliance Plan
NEPA	National Environmental Policy Act
PEIS	Programmatic Environmental Assessment

6. List of Preparers

Tomas Kamienski, Biologist, NEPA coordination, USFWS
National Eagle Support Team, NEPA Analysis, USFWS

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