# EAGLE CONSERVATION PLAN FOR THE MOUNTAIN WIND POWER I PROJECT, UINTA COUNTY, WYOMING

**Mountain Wind Power, LLC**
1748 County Road 202
Fort Bridger, WY 82933

April 2023

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## INTRODUCTION

On July 23, 2019, the United States Fish and Wildlife Service (USFWS) Region 6 Migratory Bird Office recently released a new guidance document for development of Eagle Conservation Plans (ECPs) titled "*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 Project*" (USFWS 2019). The following document has been prepared to address the items identified in the regional guidance and is intended to serve as an ECP in support of an Eagle Incidental Take Permit (EITP) application for the Mountain Wind Power I Project (Project).

## REQUESTED ITEMS/INFORMATION

1. **Intent to Apply for a Permit.**
   Provide a statement that the ECP was prepared to support an application for an EITP for a wind energy facility, the name of the facility, and relevant company/subsidiary names of the applicant/owner/operator.

   Mountain Wind Power, LLC owns and operates the Mountain Wind Power I Project (Project). This ECP has been prepared to support an application for an EITP for the Project.

2. **Project Location.**
   Provide a map showing the location of the wind energy facility that USFWS can use for the NEPA document.

   A map of the location of the Project is included in Figure 1. The Project is located in Uinta County, Wyoming approximately 3.5 miles (5.5 kilometers [km]) southwest of Fort Bridger and approximately 20 miles (32 km) east of Evanston, Wyoming.

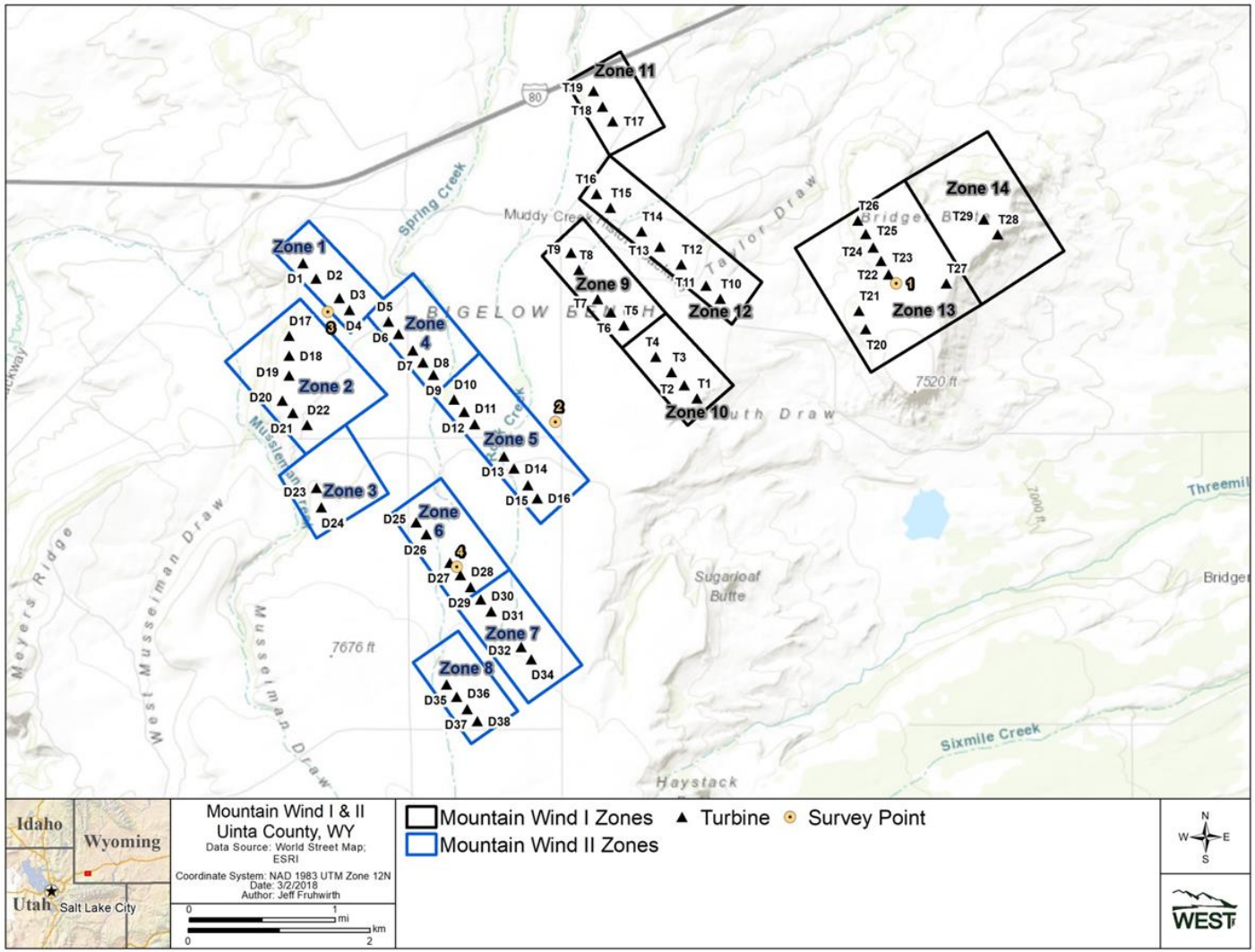


**Figure 1. General location of the Mountain Wind I (Black) Located next to the Mountain Wind II (Blue) Wind Energy Project, Uinta County, Wyoming.**

3. **Permit Duration.**
Provide a statement indicating how many years the applicant is requesting eagle take for. Note that per the USFWS 2016 Revised Eagle Rule (FRN Vol 81, 91494) all applications for EITPs submitted after July 14, 2017 will be processed under the 2016 BGEPA regulations.

The Project is requesting eagle take coverage under a permit for a thirty-year period under the USFWS 2016 eagle rule.

4. **Endangered Species Act Compliance.**
Provide documentation which demonstrates that compliance with the Endangered Species Act (ESA), for federally listed species and critical habitat (designated or proposed), has already been completed for the wind energy project.

TRC Mariah Associates, Inc. (TRC) conducted site-specific pre-construction surveys over the Project site and adjacent Mountain Wind II facility site in the spring of 2004 that included an assessment of special status species (identified as threatened, endangered, proposed, or candidate species and BLM sensitive species; TRC 2004; TRC 2005). The Project area does not contain known populations of federally threatened or endangered species and does not contain designated critical habitat for federally listed species.

5. **Department of Defense and Federal Aviation Administration**.
If the wind energy project that an EITP is being submitted for occurs in proximity to a Department of Defense (DoD) installation, or a civil or commercial airport, or both, include a statement that the permit applicant is coordinating with these entities regarding the wind project. Also in such cases the EITP applicant must provide documentation that DoD, Federal Aviation Administration (FAA), or both have reviewed the wind project and that they do not have any issues with the project design and layout relative to their radar systems and other infrastructure.

The FAA issued a Determination of No Hazard to Air Navigation on February 22, 2007 and the Project has been operational since July 2008.

6. **Project Description.**

As described above, the Project is located in Uinta County, Wyoming, approximately 20 miles (32 kilometers) east of Evanston. The Project consists of a total of 29 Suzlon S88/2100 2.1 MW wind turbine generators (WTGs) with a 44 m rotor radius and 80 m hub height (total height of 124 m to fully extended blade tip). The total nameplate capacity for the proposed Project is 60.9 MW. The Project also includes approximately 11.4 miles of underground collection lines, approximately 10.1 miles of turbine access roads, one permanent meteorological tower, an operations and maintenance building, a substation, and an approximately 1.4-mile 230-kilovolt (kV) generation-tie transmission line. Above-ground power lines were constructed following APLIC guidelines (APLIC 2006). The Project is adjacent to the Mountain Wind II Wind Energy Facility (Mountain Wind II) owned by Mountain Wind Power II, LLC, which became operational in 2008 and consists of 38 wind turbines and includes a nameplate capacity of 79.8 MW. The Project and the Mountain Wind II facility are separately owned and permitted projects that

independently contract with Clearway Renewable Operation & Maintenance, LLC (Clearway) to operate both projects. The Project shares the access road, substation, generation tie-in and O&M facility with Mountain Wind II. Project infrastructure is included in Figure 2.

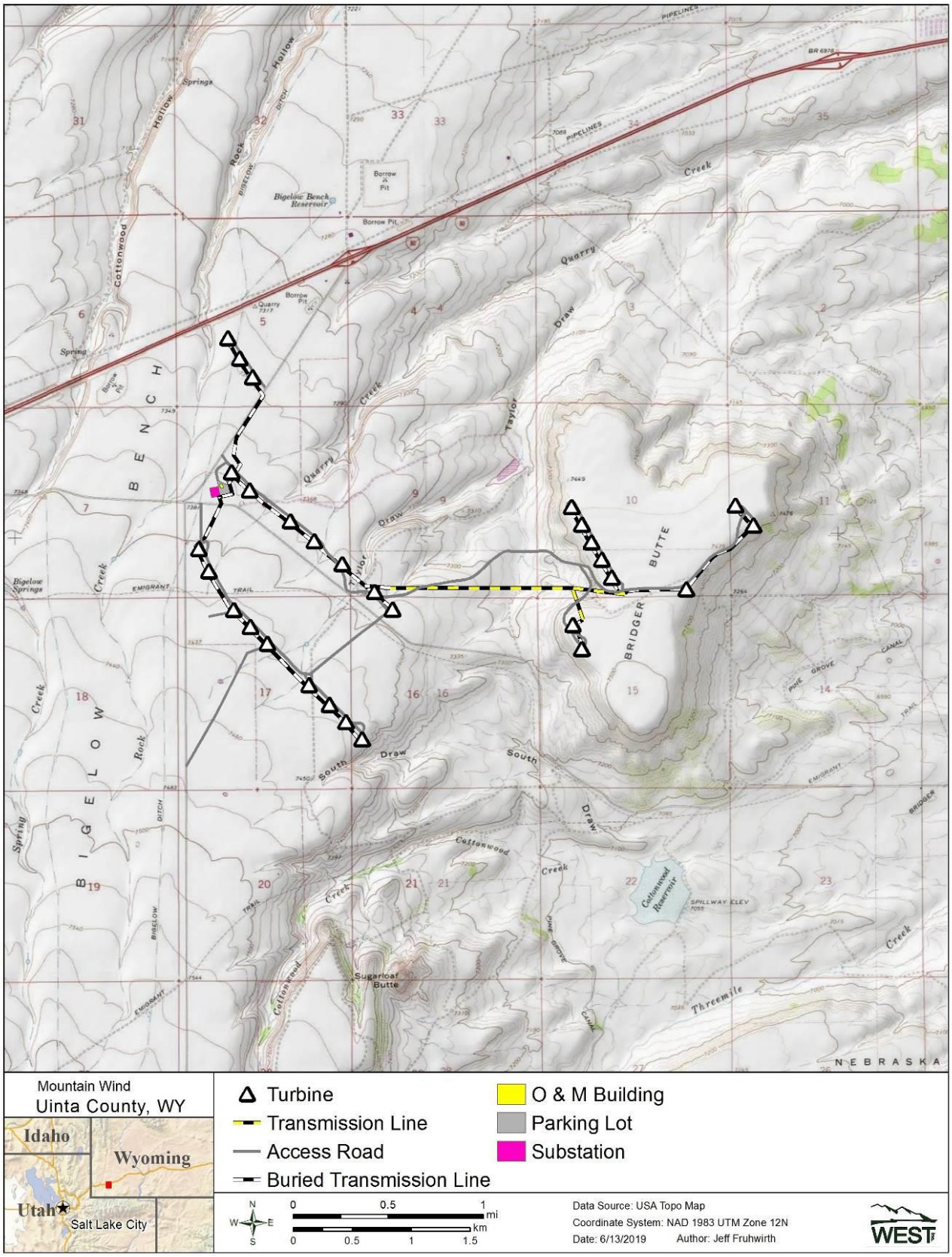


**Figure 2. Mountain Wind I Wind Energy Project, Uinta County, Wyoming.**

## 7. Eagle Data for the Project.

As the Project became operational in 2008, pre-construction data following the 2013 Eagle Conservation Plan Guidance and the 2016 eagle permit rule is not available for the Project. Prior to permitting and constructing the Project, Mountain Wind contacted the Wyoming Game and Fish Department (WGFD) in 2004 regarding the project and any potential wildlife concerns. Mountain Wind also worked with biologists from the BLM to address potential impacts related to overhead lines in 2007. After the Project was operational and beginning in 2012, Mountain Wind has been in regular communication with the USFWS regarding the Project and impacts to eagles.

Prior to construction, TRC Mariah Associates, Inc. (TRC) conducted site-specific pre-construction surveys over the Project site and adjacent Mountain Wind II facility site in the spring of 2004 (TRC 2004; TRC 2005). The following surveys provide information regarding eagles and/or potential prey resources: raptor nest surveys, special status species (identified as threatened, endangered, proposed, or candidate species and BLM sensitive species), greater sage-grouse leks, and greater sage-grouse and big game habitat use surveys (TRC 2004; TRC 2005). Final reports for these survey efforts are included in Appendix A.

Post-construction, after documenting eagles on the Project site through the Project's Wildlife Incident Reporting Procedure, Mountain Wind contracted with Western Ecosystems Technology, Inc. (WEST Inc.) to conduct eagle biomonitoring at the Project (and the adjacent Mountain Wind II facility). The eagle biomonitoring efforts have been conducted since July of 2014 at the Project and are currently ongoing although Mountain Wind took over the biomonitoring efforts in 2019. While these biomonitoring efforts have been conducted during Project operations, they provide valuable site-specific information on eagle use at the Project and as such are also summarized in this section.

In addition to the eagle biomonitoring efforts, Mountain Wind has conducted two years of standardized eagle mortality monitoring at the Project (from June 2016 through May 2018; WEST 2017; WEST 2018a) following protocols approved by the USFWS in 2016 and eagle nest surveys were conducted in 2018 (WEST 2018b). The data from the standardized mortality monitoring has been provided to the USFWS and the final reports are included in Appendix B.

The following eagle surveys that provide eagle data for the Project area summarized below: 1) eagle nest surveys; 2) prey base surveys; 3) eagle biomonitoring; and 4) standardized eagle mortality monitoring.

<u>Eagle Nest Surveys</u>

*2004 Aerial Raptor Nest and Ground Survey*

An aerial raptor nest survey was conducted within 1.0 mile of turbine strings and access roads in the spring of 2004 (TRC 2004). The survey was conducted in the morning and included flying north/south transects at approximately 0.5 mi intervals over the survey area. In addition

to the aerial survey, ground-based raptor nest surveys were also conducted to search all potential raptor nesting habitat within the Project area and within a 1.0-mile buffer of the Project in areas where access was available (this included conducting surveys via public roads for areas outside of the Project area) and to determine nest status if possible.

The aerial raptor nest survey was completed on April 20, 2004 and the ground based surveys were completed on April 21 and 22, 2004. The two historic eagle nests from the BLM database were not located during the aerial or ground surveys in 2004 however; a pair of eagles was observed hunting in the vicinity (TRC 2004).

*2018 Eagle Nest Surveys*

During the 2018 nesting season, two aerial eagle nest surveys were conducted from a helicopter by two qualified biologists and a pilot (WEST 2018b). The purpose of the surveys was to identify nest locations, determine the status and species of nests, and to assess the size of the nest structure to help inform whether the nest was potentially suitable for use by an eagle. The survey area was represented by a 10-mile buffer of existing turbine locations at the Project as well as the adjacent Mountain Wind II Wind Energy Project, an area of approximately 462 square miles (Figure 3). The first survey was completed February 26 – 27, and the second survey was completed May 1 – 3. The surveys were timed to target the courtship and mid-incubation periods respectively for eagles in the region. Surveys involved a comprehensive search of all suitable eagle nesting habitat (e.g., cliffs, large trees, rocky outcrops), and flying transects over areas without obvious nesting habitat to ensure complete coverage of the survey area. All eagle and potential eagle nests detected within the survey area were recorded.

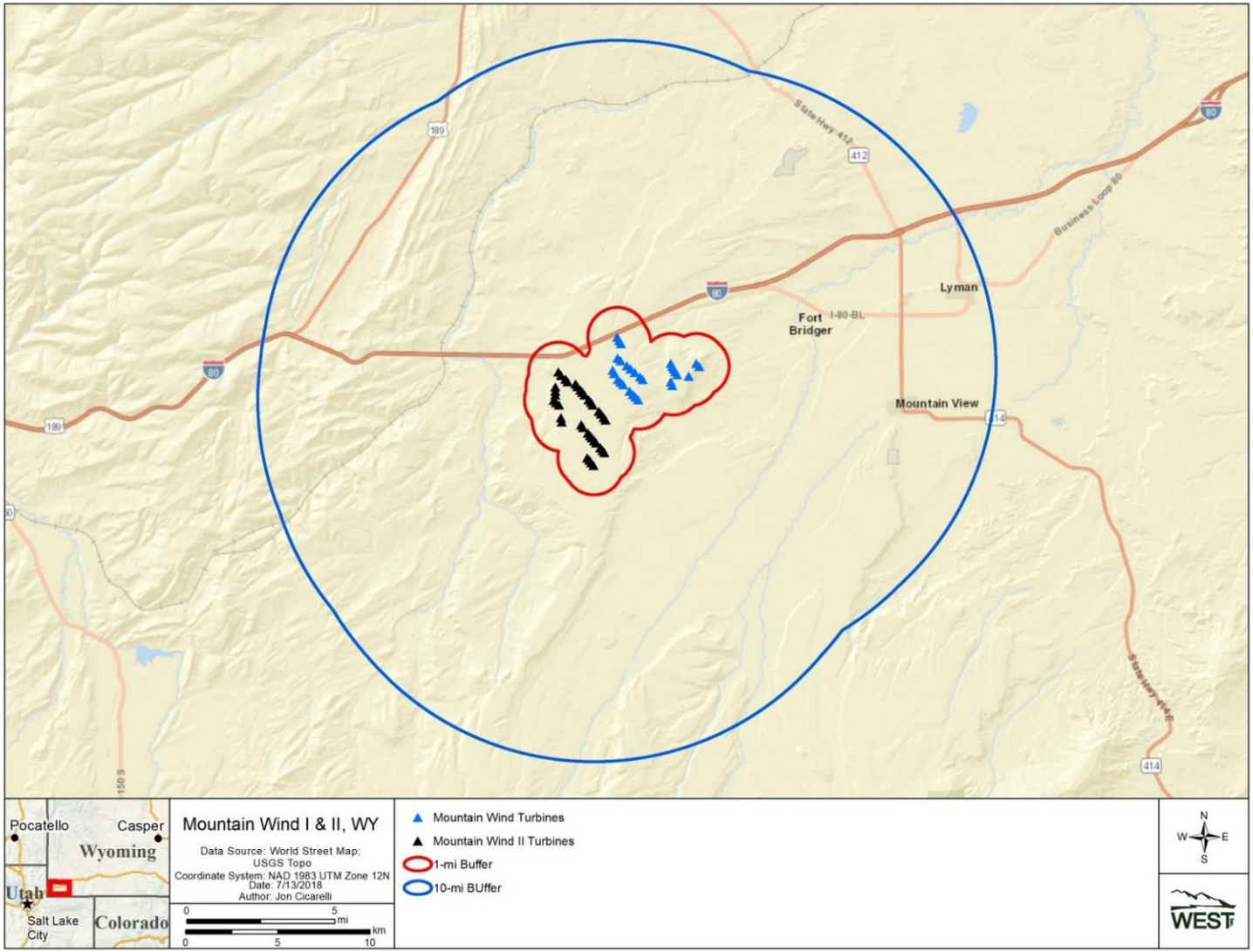


**Figure 3. Map of the survey area surrounding the Mountain Wind I and Mountain Wind II Wind Energy Projects located in Uinta County, Wyoming.**

A total of 72 eagle or potential eagle nests were identified within the survey area (WEST 2018b). These nests were classified as follows for the 2018 nesting season: five occupied active golden eagle (*Aquila chrysaetos*) nests, seven occupied inactive golden eagle nests, two occupied active bald eagle (*Haliaeetus leucocephalus*) nests, and 58 unoccupied or unknown inactive large stick nests (Figure 4; Table 1). In addition, there were six nests identified as large stick nests that were occupied by non-eagle species including: one occupied active osprey (*Pandion haliaetus*) nest, one occupied active red-tailed hawk (*Buteo jamaicensis*) nest, one occupied inactive prairie falcon (*Falco mexicanus*) nest, and three occupied active Canada goose (*Branta canadensis*) nests. One additional occupied inactive golden eagle nest (nest ID #2) is located outside the survey area. There was one occupied inactive golden eagle nest (Nest #30) identified within two miles of the nearest turbine in 2018 (Figure 4). Nest #30 was identified as being tended by golden eagles during the 2018 surveys, however, there were no eggs or chicks observed in the nest.

*2023 Nest Checks*

Based on recommendations from USFWS, Nests #29, #30, #41, #55, and #80 were visited from the ground on March 28th, 2023. Nest #30 was identified as occupied with an adult golden eagle sitting in the nest. Nest #29 was also located but there was no evidence of occupancy observed at the nest. Nests #41, #55, and #80 were not located. In 2018, Nest #55 was identified as being a poor condition tree nest and Nest #80 was identified as being a fair condition tree nest. Observable trees and brush did not have obvious nests or anything resembling old nests during the 2023 nest check. Nest #41 was identified as a poor condition nest with a rock substrate in 2018. Due to the amount of snow cover present during the 2023 nest check, it is possible that this nest was under snow and unobservable.

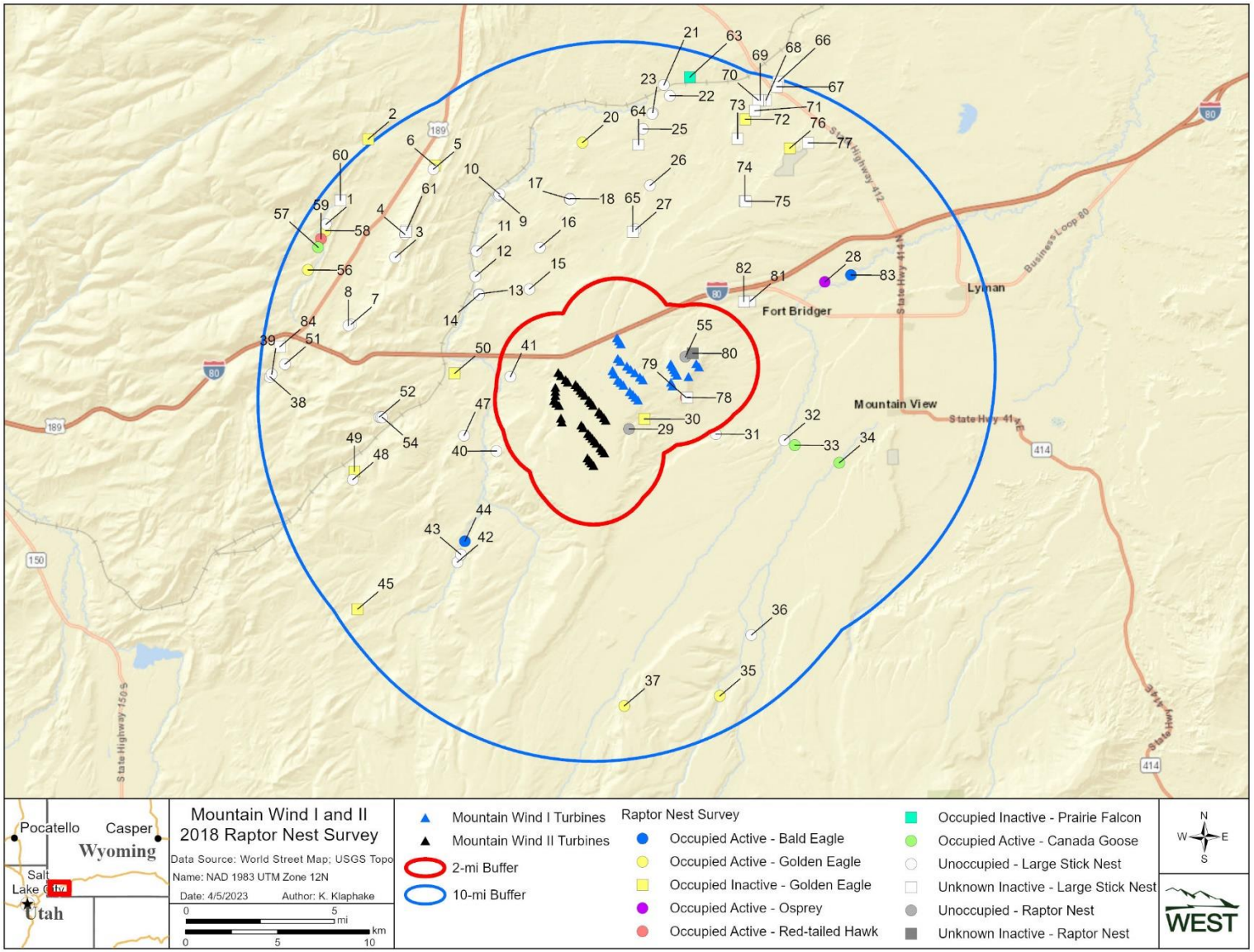


**Figure 4. Results of the 2018 eagle and raptor nest surveys conducted within the survey area surrounding the Mountain Wind I and Mountain II Wind Energy Projects.**

**Table 1. Eagle or potential eagle nests identified during aerial surveys conducted within ten miles of existing turbine locations at the Mountain Wind I and Mountain Wind II Wind Energy Projects. Unique ID (ID), nest features, location coordinates (NAD83, Zone 13), and distance to nearest turbine (meters) are included.**

| Nest ID | Species | Status | Condition | Substrate | Northing | Easting | Distance to Nearest Turbine (m) |
|---|---|---|---|---|---|---|---|
| 1 | Unknown | Unoccupied | Fair | Tree | 4579076 | 524303 | 16978 |
| 2* | Golden Eagle | Occupied Inactive | Good | Cliff | 4583709 | 526600 | 17303 |
| 3 | Unknown | Unoccupied | Fair | Cliff | 4577275 | 528064 | 12824 |
| 4 | Unknown | Unoccupied | Fair | Cliff | 4578521 | 528598 | 12816 |
| 5 | Unknown | Unoccupied | Poor | Cliff | 4582074 | 530145 | 13544 |
| 6 | Golden Eagle | Occupied Inactive | Fair | Cliff | 4582268 | 530234 | 13611 |
| 7 | Unknown | Unoccupied | Poor | Tree | 4573634 | 525666 | 14429 |
| 8 | Unknown | Unoccupied | Fair | Tree | 4573575 | 525522 | 14561 |
| 9 | Unknown | Unoccupied | Poor | Cliff | 4580636 | 533706 | 10039 |
| 10 | Unknown | Unoccupied | Fair | Cliff | 4580716 | 533740 | 10079 |
| 11 | Unknown | Unoccupied | Fair | Cliff | 4577620 | 532490 | 8967 |
| 12 | Unknown | Unoccupied | Remnant | Cliff | 4576242 | 532429 | 8383 |
| 13 | Unknown | Unoccupied | Fair | Cliff | 4575287 | 532614 | 7876 |
| 14 | Unknown | Unoccupied | Fair | Cliff | 4575248 | 532611 | 7866 |
| 15 | Unknown | Unoccupied | Fair | Cliff | 4575556 | 535363 | 5444 |
| 16 | Unknown | Unoccupied | Good | Cliff | 4577811 | 535931 | 6445 |
| 17 | Unknown | Unoccupied | Fair | Cliff | 4580445 | 537551 | 7956 |
| 18 | Unknown | Unoccupied | Fair | Cliff | 4580471 | 537563 | 7977 |
| 19 | Unknown | Unoccupied | Fair | Cliff | 4580439 | 537574 | 7943 |
| 20 | Golden Eagle | Occupied Active | Good | Cliff | 4583525 | 538251 | 10773 |
| 21 | Unknown | Unoccupied | Fair | Rock | 4586651 | 542669 | 13968 |
| 22 | Unknown | Unoccupied | Poor | Rock | 4586068 | 542986 | 13459 |
| 23 | Unknown | Unoccupied | Poor | Cliff | 4585147 | 542055 | 12382 |
| 24 | Unknown | Unoccupied | Fair | Cliff | 4585087 | 542031 | 12319 |
| 25 | Unknown | Unoccupied | Fair | Rock | 4584259 | 541527 | 11429 |
| 26 | Unknown | Unoccupied | Poor | Cliff | 4581189 | 541918 | 8464 |
| 27 | Unknown | Unoccupied | Remnant | Cliff | 4578794 | 541131 | 5962 |
| 28 | Osprey | Occupied Active | Good | Powerline | 4575949 | 551419 | 8254 |
| 29 | Unknown | Unoccupied | Fair | Tree | 4567947 | 540772 | 1656 |
| 30 | Golden Eagle | Occupied Inactive | Good | Tree | 4568495 | 541601 | 1087 |
| 31 | Unknown | Unoccupied | Fair | Tree | 4567667 | 545485 | 3460 |
| 32 | Unknown | Unoccupied | Fair | Tree | 4567333 | 549211 | 6124 |
| 33 | Canada Goose | Occupied Active | Fair | Tree | 4567068 | 549785 | 6734 |
| 34 | Canada Goose | Occupied Active | Good | Tree | 4566110 | 552203 | 9246 |
| 35 | Golden Eagle | Occupied Active | Good | Tree | 4553433 | 545708 | 16699 |
| 36 | Unknown | Unoccupied | Fair | Tree | 4556746 | 547423 | 14190 |
| 37 | Golden Eagle | Occupied Active | Good | Tree | 4552894 | 540512 | 16652 |
| 38 | Unknown | Unoccupied | Fair | Cliff | 4570777 | 521263 | 18618 |
| 39 | Unknown | Unoccupied | Good | Cliff | 4570930 | 521354 | 18524 |
| 40 | Unknown | Unoccupied | Poor | Cliff | 4566757 | 533571 | 7642 |

**Table 1. Eagle or potential eagle nests identified during aerial surveys conducted within ten miles of existing turbine locations at the Mountain Wind I and Mountain Wind II Wind Energy Projects. Unique ID (ID), nest features, location coordinates (NAD83, Zone 13), and distance to nearest turbine (meters) are included.**

| Nest ID | Species | Status | Condition | Substrate | Northing | Easting | Distance to Nearest Turbine (m) |
|---|---|---|---|---|---|---|---|
| 41 | Unknown | Unoccupied | Poor | Rock | 4570788 | 534326 | 5562 |
| 42 | Unknown | Unoccupied | Fair | Cliff | 4560704 | 531441 | 13188 |
| 43 | Unknown | Unoccupied | Fair | Cliff | 4561126 | 531631 | 12756 |
| 44 | Bald Eagle | Occupied Active | Good | Tree | 4561848 | 531855 | 12085 |
| 45 | Golden Eagle | Occupied Inactive | Good | Cliff | 4558152 | 526023 | 18858 |
| 47 | Unknown | Unoccupied | Fair | Cliff | 4567593 | 531809 | 8812 |
| 48 | Unknown | Unoccupied | Poor | Cliff | 4565194 | 525760 | 15316 |
| 49 | Golden Eagle | Occupied Inactive | Good | Cliff | 4565632 | 525849 | 15070 |
| 50 | Golden Eagle | Occupied Inactive | Good | Cliff | 4570969 | 531295 | 8584 |
| 51 | Unknown | Unoccupied | Good | Cliff | 4571475 | 522077 | 17803 |
| 52 | Unknown | Unoccupied | Fair | Cliff | 4568605 | 527212 | 12916 |
| 53 | Unknown | Unoccupied | Fair | Cliff | 4568584 | 527288 | 12845 |
| 54 | Unknown | Unoccupied | Poor | Cliff | 4568584 | 527362 | 12773 |
| 55 | Unknown | Unoccupied | Poor | Tree | 4571873 | 543838 | 692 |
| 56 | Golden Eagle | Occupied Active | Good | Tree | 4576592 | 523327 | 17195 |
| 57 | Canada Goose | Occupied Active | Fair | Cliff | 4577827 | 523881 | 16970 |
| 58 | Golden Eagle | Occupied Active | Good | Cliff | 4578728 | 524289 | 16868 |
| 59 | Red-tailed Hawk | Occupied Active | Good | Tree | 4578289 | 524034 | 16963 |
| 60 | Unknown | Unknown Inactive | Remnant | Cliff | 4580379 | 525090 | 16784 |
| 61 | Unknown | Unknown Inactive | Fair | Tree | 4578735 | 528675 | 12843 |
| 62 | Unknown | Unknown Inactive | Remnant | Tree | 4578676 | 528646 | 12842 |
| 63 | Prairie Falcon | Occupied Inactive | Fair | Rock | 4587080 | 544074 | 14703 |
| 64 | Unknown | Unknown Inactive | Good | Tree | 4583401 | 541288 | 10548 |
| 65 | Unknown | Unknown Inactive | Fair | Tree | 4578675 | 540977 | 5821 |
| 66 | Unknown | Unknown Inactive | Fair | Tree | 4586832 | 548894 | 15968 |
| 67 | Unknown | Unknown Inactive | Fair | Tree | 4586557 | 548805 | 15679 |
| 68 | Unknown | Unknown Inactive | Poor | Tree | 4585825 | 548212 | 14815 |
| 69 | Unknown | Unknown Inactive | Fair | Tree | 4585817 | 547903 | 14731 |
| 70 | Unknown | Unknown Inactive | Fair | Tree | 4585821 | 547793 | 14709 |
| 71 | Unknown | Unknown Inactive | Fair | Tree | 4585257 | 547607 | 14117 |
| 72 | Golden Eagle | Occupied Inactive | Good | Tree | 4584789 | 547086 | 13550 |
| 73 | Unknown | Unknown Inactive | Fair | Tree | 4583732 | 546671 | 12434 |
| 74 | Unknown | Unknown Inactive | Fair | Tree | 4580350 | 547063 | 9232 |
| 75 | Unknown | Unknown Inactive | Fair | Tree | 4580327 | 547121 | 9227 |
| 76 | Golden Eagle | Occupied Inactive | Good | Tree | 4583212 | 549505 | 12764 |
| 77 | Unknown | Unknown Inactive | Fair | Tree | 4583507 | 550504 | 13456 |
| 78 | Unknown | Unknown Inactive | Fair | Tree | 4569657 | 543933 | 1028 |
| 79 | Red-tail | Occupied Active | Good | Tree | 4569661 | 543865 | 974 |
| 80 | Unknown | Unknown Inactive | Fair | Tree | 4572059 | 544233 | 588 |
| 81 | Unknown | Unknown Inactive | Fair | Tree | 4574897 | 547349 | 4481 |

**Table 1. Eagle or potential eagle nests identified during aerial surveys conducted within ten miles of existing turbine locations at the Mountain Wind I and Mountain Wind II Wind Energy Projects. Unique ID (ID), nest features, location coordinates (NAD83, Zone 13), and distance to nearest turbine (meters) are included.**

| Nest ID | Species | Status | Condition | Substrate | Northing | Easting | Distance to Nearest Turbine (m) |
|---|---|---|---|---|---|---|---|
| 82 | Unknown | Unknown Inactive | Poor | Tree | 4574871 | 547007 | 4245 |
| 83 | Bald Eagle | Occupied Active | Good | Tree | 4576319 | 552833 | 9646 |
| 84 | Unknown | Unknown Inactive | Good | Cliff | 4572430 | 521808 | 18116 |

* denotes nest that is located outside the survey area

Prey Base Surveys

Greater sage-grouse lek surveys conducted in 2004 identified one of two known greater sage-grouse leks that occur within the Project and the adjacent Mountain Wind II facility and a surrounding 2.0 mile buffer of the Project. The active lek identified during surveys in 2004 is located south and west of the Projects while the other known lek is within the Project area (Appendix A; TRC 2004). There were no new greater sage-grouse leks identified during the surveys in 2004. The Project is within crucial winter range for mule deer and elk and is also within yearlong range for pronghorn antelope and winter/yearlong range for moose. Crucial big game ranges and known WGFD greater sage-grouse leks located in the vicinity of the Project are depicted in Figure 5. Both mule deer and pronghorn antelope were very abundant during the aerial survey in April of 2004 and three moose were also observed in the riparian areas along Evans Creek and the Black's Fork River (Appendix A; TRC Mariah and Associates 2004). Other potential prey sources recorded during the baseline surveys in 2004 included numerous prairie dog colonies, ground squirrels, passerines, and waterbirds. In addition, hundreds of domestic sheep were observed grazing within and in the vicinity of the Project during the surveys in 2004 (Appendix A; TRC 2004).

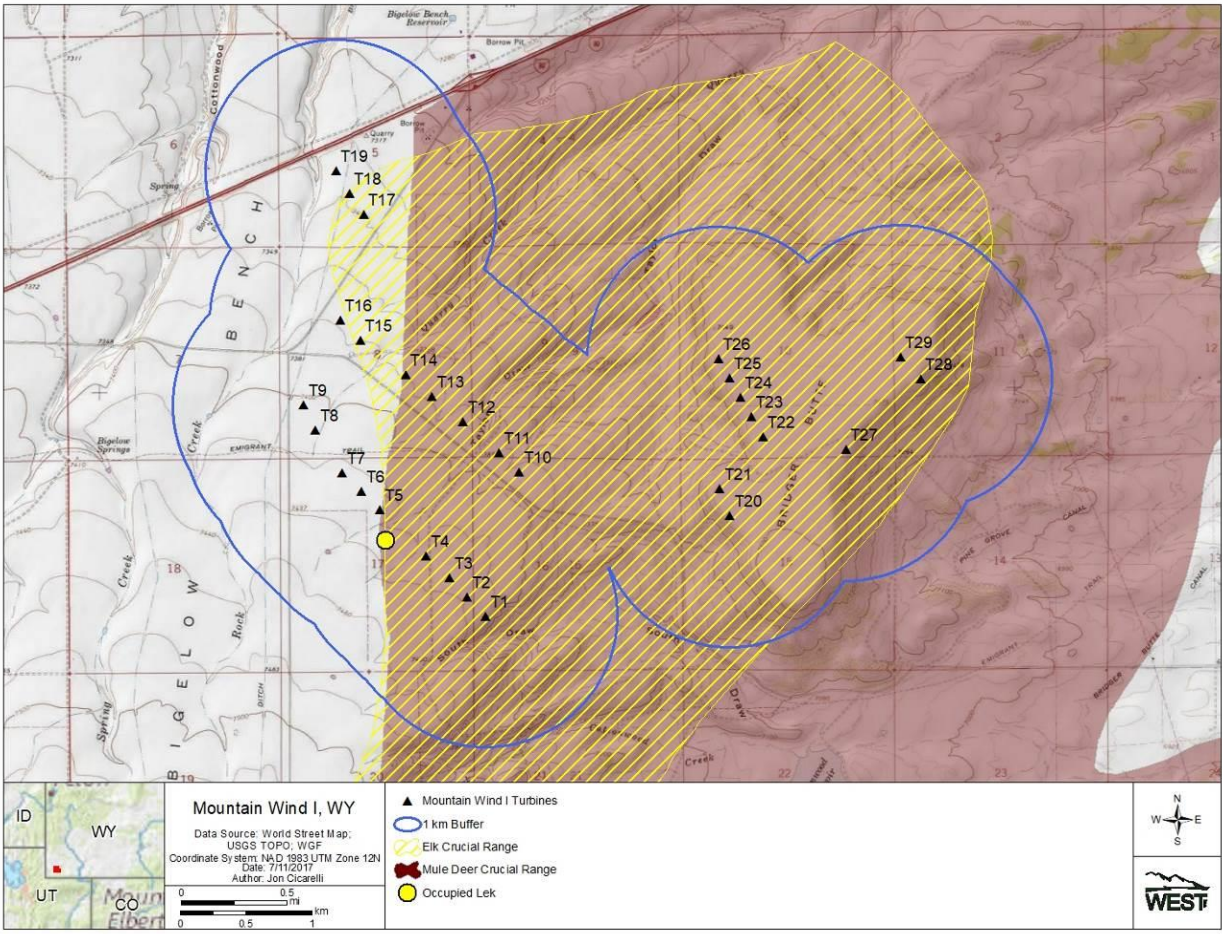


**Figure 5. Locations of Crucial Big Game Ranges and Known Greater Sage Grouse Leks in the Vicinity of the Mountain Wind I Wind Energy Project, Uinta County, Wyoming.**

## Eagle Biomonitoring

Biological monitoring has been conducted at the Project since July of 2014 and is currently ongoing. The program has been modified over time in coordination with USFWS. See Item #8 below for additional details regarding the current biological monitoring program. In addition the current Biological Monitoring Protocol is included in Appendix C. Biological monitoring includes observing for eagles with binoculars and spotting scopes and shutting down turbines when eagles are at risk of collision. The initial protocol allowed the biological monitors to roam the Project to search for eagles. However, in coordination with the USFWS, a protocol change was implemented in December of 2015 to ensure future biomonitoring was primarily conducted from fixed observation locations to enable standardization of the data being collected. This section presents a summary of the eagle use data collected during the bio-monitoring efforts through November of 2016 which includes one full year of observational eagle use data that was collected primarily from the fixed observation locations.

Beginning in July 2014, full time biological monitors were deployed to observe for eagles and curtail turbines to reduce the likelihood of eagle mortality due to collision with a wind turbine at the Project. The biological monitors also collected information on eagle use in the area that

could be used to assist in assessing the level of use of the area by eagles and to help identify any temporal or spatial patterns in observed eagle use. Beginning in December of 2015, four primary observation stations were established and biomonitors were directed to conduct the majority of their observations from these locations unless eagle activity necessitates otherwise or if site and road conditions restrict access to the primary observation stations. Figure 6 illustrates the locations of the four primary observation stations from which biomonitoring occurred in December of 2015 through November of 2016). The four stations were located within the Project study area that includes the adjacent Mountain Wind II Wind facility (Study Area).

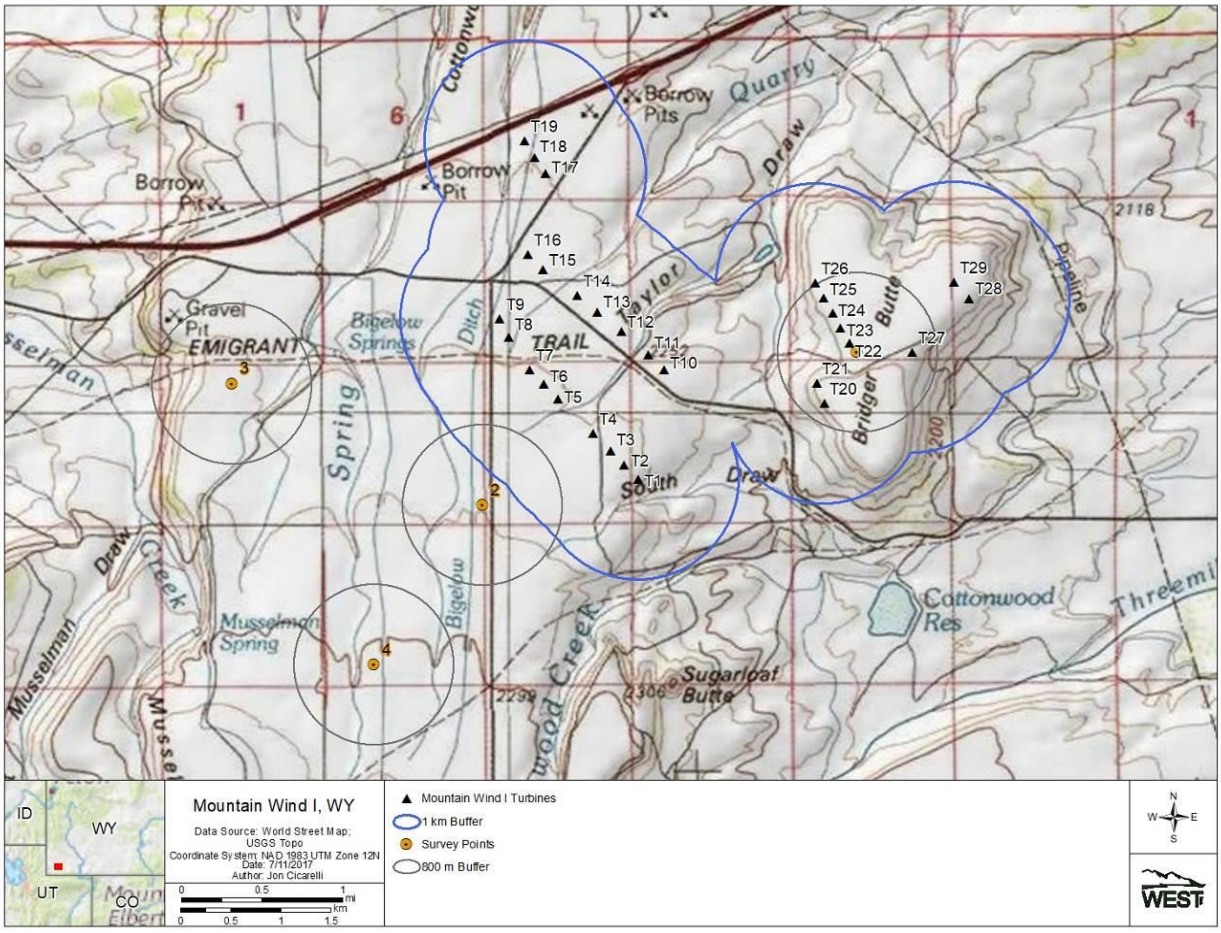


**Figure 6. Location of the four primary biological monitoring stations in the Study Area.**

From July 2014 through November 2016, approximately 16,974 hours of survey effort were conducted during biological monitoring efforts. A total of 12,287 golden eagle observations and 284 bald eagle observations were recorded during this time period. After implementation of the four fixed primary observation stations (from December 2015 through November 2016), approximately 10,195 hours of survey effort were conducted and a total of 4,975 golden eagle observations and 164 bald eagle observations were recorded resulting in overall mean eagle

use of approximately 0.50 golden eagles/800-m plot/60 min survey and approximately 0.02 bald eagles/800-m plot/60 min survey at the four primary observation stations.

An analysis of temporal patterns in eagle use based on the data from December 2015 through November 2016, suggest that golden eagle use generally peaked in the middle of the day with the highest use occurring from 11 am to 4 pm (Figure 7a). Patterns in bald eagle use appeared to be more sporadic with the highest use occurring from approximately 9 am to 5 pm (Figure 7b).

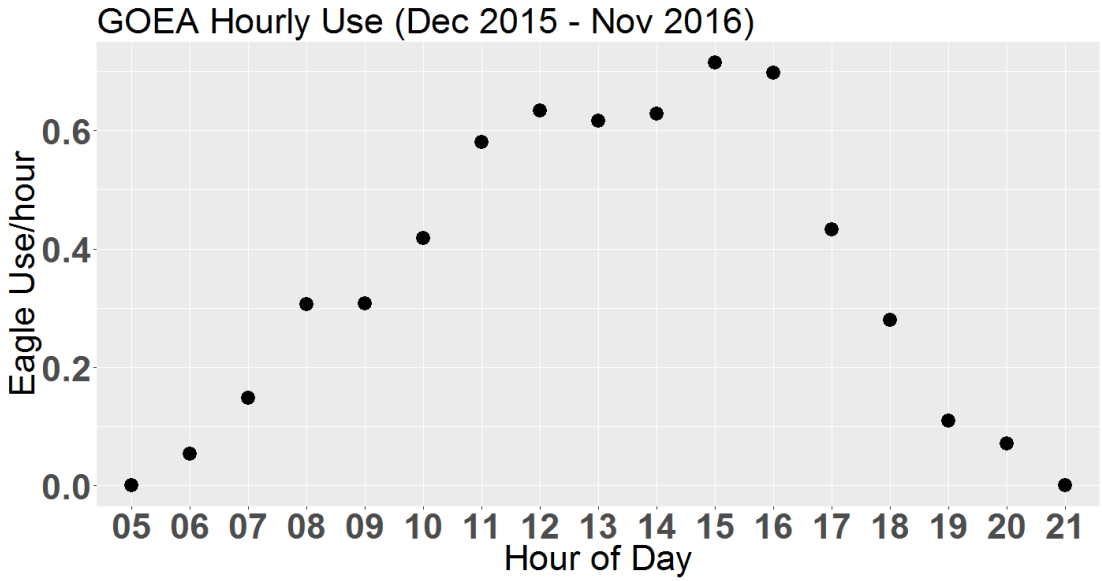


**Figure 7a. Mean golden eagle use by hour for the four primary observation stations from December 2015 through November 2016 in the Study Area**. *Note this only includes data from surveys that extended for at least a full hour (data from partial hours has been excluded in the analysis).

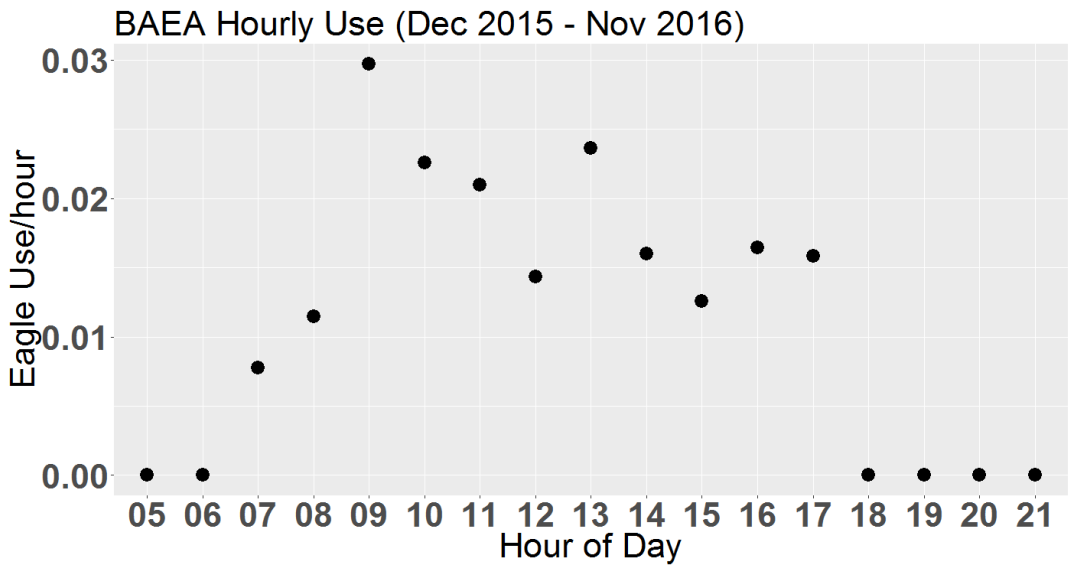


**Figure 7b. Mean bald eagle use by hour for the four primary observation stations from December 2015 through November 2016 in the Study Area.** *Note this only includes data from surveys that extended for at least a full hour (data from partial hours has been excluded in the analysis).

Seasonally, mean golden eagle use (# golden eagles/hour/within 800 m and below 200 m) started to increase in October although use was highest in the winter season (January through March; Figure 8a). For bald eagles, use was also highest in the winter season with the highest bald eagle use recorded in February and March (Figure 8b).

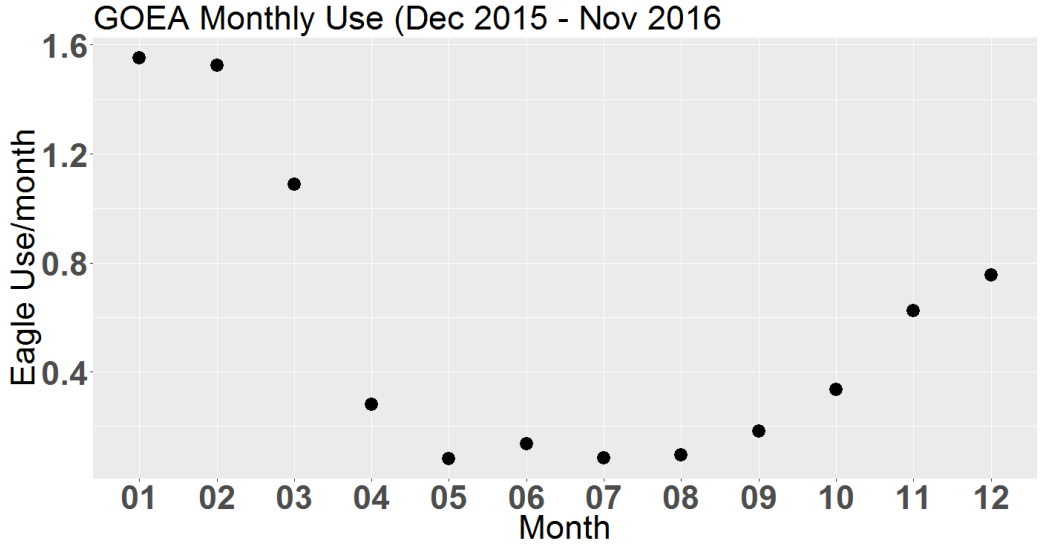


**Figure 8a. Mean golden eagle use per month for the four primary observation stations from December 2015 through November 2016 in the Study Area.**

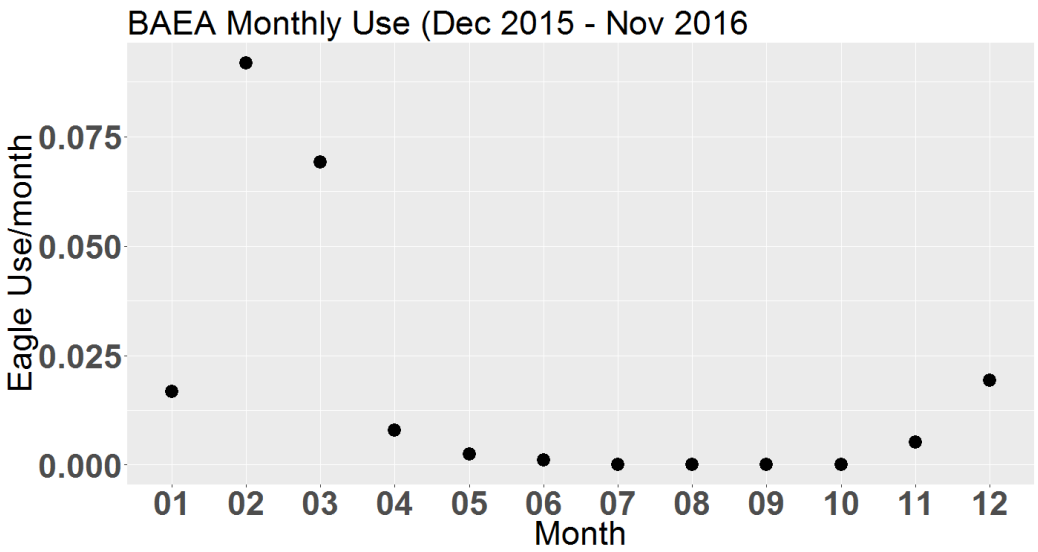


**Figure 8b. Mean bald eagle use per month for the four primary observation stations from December 2015 through November 2016 in the Study Area.**

An analysis of spatial patterns in eagle use from December 2015 through November 2016, suggested that golden eagle use was generally higher at primary observation station #4 followed by station #3, station #2, and then station #1 (Table 2a). For bald eagles, use was highest at station #1, followed by stations #3 and #4, with zero bald eagle use recorded at station #2 (Table 2b).

**Table 2a. Mean golden eagle by station from December 2015 through November 2016 in the Study Area.**

| Observation Station | Mean Golden Eagle Use |
|---|---|
| 1 | 0.22 |
| 2 | 0.63 |
| 3 | 0.64 |
| 4 | 0.75 |

**Table 2b. Mean bald eagle by station from December 2015 through November 2016 in the Study Area.**

| Observation Station | Mean Bald Eagle Use |
|---|---|
| 1 | 0.02 |
| 2 | 0.00 |
| 3 | 0.01 |
| 4 | 0.01 |

Mapped eagle flight paths were overlaid on a 100 X 100 grid cell and then the length of flight paths within each cell was measured to help visually depict the intensity of mapped flight paths within the Project and surrounding area (Figure 9). In addition to the flight path grids, mapped eagle perch locations are also depicted. The results indicate that mapped flight path intensity and eagle perch locations are relatively higher on the western edge of Bridger Butte within the Project (Figure 9).

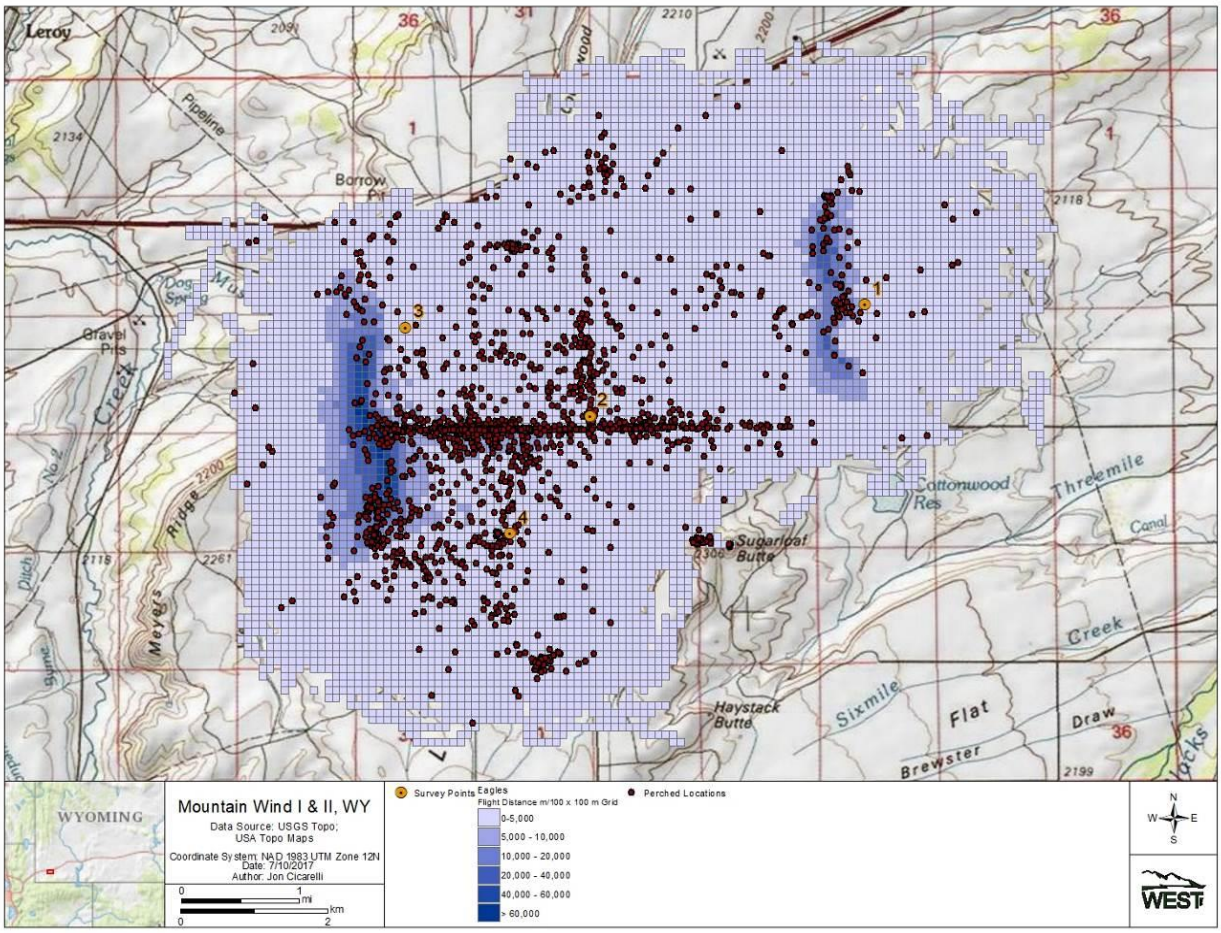


**Figure 9. Mapped eagle flight path intensity (depicted by the length of flight paths within 100 X 100 grid cells) along with mapped eagle perch locations.**

## Standardized Eagle Mortality Monitoring

In coordination with the USFWS, two years of standardized eagle mortality monitoring has been implemented at the Project to provide a means of measuring the amount of eagle take that occurs at the Project (WEST 2017; WEST 2018a). The protocol for standardized mortality monitoring included searching 100% of the turbines once a month by walking transects spaced approximately 10 m apart within a 160 X 160 m search plot. In addition to the searches, experimental bias trials were conducted to allow for estimation of carcass persistence (how long a carcass remains to be detected) and searcher efficiency (the ability of searches to detect carcasses). Protocols for the standardized eagle mortality monitoring

were developed with USFWS and the protocols, final reports, and data have been provided to the USFWS. Final reports for the standardized eagle mortality monitoring studies are also included in Appendix A. A map of the of the survey plots is also included in Figure 10. During the two-year standardized mortality monitoring study, there were no golden eagles discovered at the Project (either incidentally or during standardized searches from June 6, 2016 through May 23, 2018 (Table 3; Figure 11). However, there were six golden eagles discovered prior to the start of the standardized study and three golden eagles have been discovered after the completion of the two-year study.

It should be noted that standardized mortality monitoring was conducted while the Project was implementing the Best Management Practices (BMPs) and experimental Advanced Conservation Practices (ACPs) described above and under item #7 below including the biomonitoring/turbine curtailment measures.

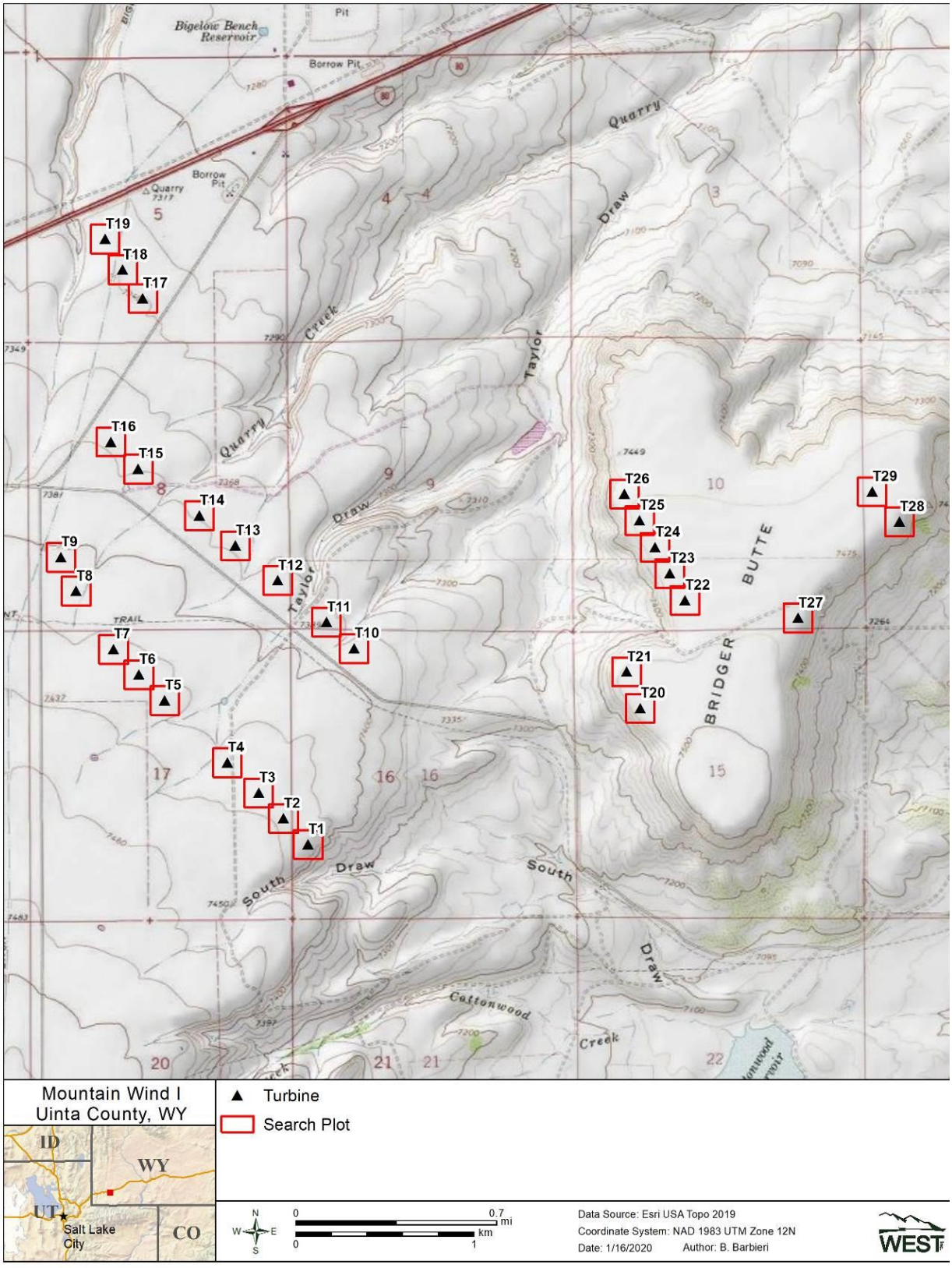


**Figure 10. Standardized eagle mortality monitoring search plots at the Mountain Wind I Wind Energy Project, Uinta County, Wyoming.**

**Table 3. List of eagle carcasses found at Mountain Wind I.**

| Date | Found During | Species | Nearest Turbine location | Distance to Turbine (m) |
|---|---|---|---|---|
| 4/25/2012 | Incidental | Golden Eagle | T-24 | 59 |
| 4/25/2012 | Incidental | Golden Eagle | T-4 | 61 |
| 5/3/2012 | Incidental | Golden Eagle | T-19 | 61 |
| 3/11/2013 | Incidental | Golden Eagle | T-21 | 15 |
| 10/25/2013 | Incidental | Golden Eagle | T-4 | 0[2] |
| 1/23/2015 | Incidental | Golden Eagle | T-23 | 41[3] |
| 7/11/2019 | Incidental | Golden Eagle | T-5 | 30 |
| 6/04/2020 | Incidental | Golden Eagle | T-14 | 33 |
| 2/24/2021 | Incidental | Golden Eagle | T-10 | 3 |

[1] Two years of standardized mortality monitoring was completed on May 23, 2018; however, searches continued until August of 2018, while Mountain Wind waited for concurrence from USFWS to stop standardized mortality searches.

[2] Carcass was discovered on the top of the turbine nacelle.

[3] This was an injured eagle that was determined to be a vehicle strike on 1-80 that was taken to a rehab facility in Jackson, Wyoming by Wyoming Game and Fish Department.

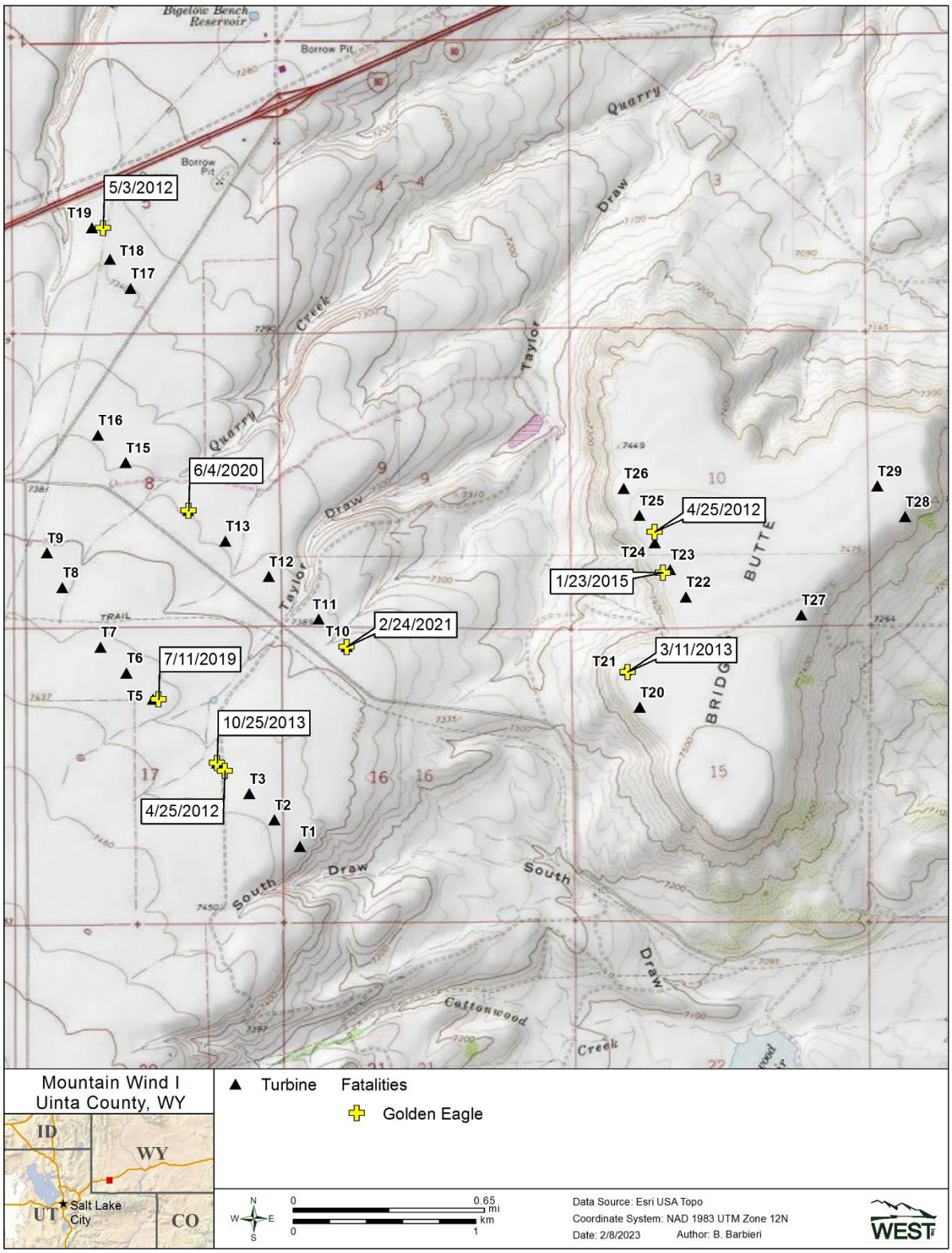


**Figure 11. Location of all eagle mortality discoveries at the Mountain Wind I Wind Energy Project, Uinta County, Wyoming.** Note that GPS coordinates were not recorded for discoveries prior to 2017 and as such, locations are approximate.

8. **Avoidance and Minimization Measures Implemented for the Project.**

In discussion with the USFWS, the Project has implemented the following measures for the Project:

- Agreement with local landowners to restrict sheep from grazing during lambing on the Project has been adopted based on recommendations from USFWS.
- A notification system to the Range Rider to remove any sheep, alive or dead, from the Project has been adopted based on recommendations from USFWS.
- As discussed in item #6 above, a biological monitoring program and eagle fatality program for the Project has been developed and implemented, which includes shutting down turbines when eagles are observed to be at risk of collision with turbines. The biological monitoring protocol has been revised over time in coordination with USFWS with latest version (Rev 4) completed in 2022. The current protocol provides more details regarding the program and has been included in Appendix C.
- Installation of four IdentiFlight® systems to detect eagles and curtail turbines for a portion of the Project (Turbines T20 – T29; Appendix C).
- Construction of an observation tower that provides coverage for portions of the Project not covered with the IdentiFlight® systems (Turbines T1 – T19; Appendix C).
- A carcass removal program was developed and implemented in coordination with WGFD to minimize carrion which could attract eagles.
- In the event that informed curtailment is not able to be implemented as describe above, full seasonal curtailment will be implemented during daylight hours for all turbines within 2 miles of active, occupied eagle nests during the breeding season (January 1st through August 31st), or until (1) May 1 if the golden eagle nest is determined to be unoccupied that year, (2) when the young fledge and are no longer dependent on the nest, or (3) until the nest fails (becomes inactive). Nest status will be determined by surveys conducted by a third party-qualified biologist.

9. **Eagle Conservation Measures for the Project.**

Provide a list of all conservation measures (pre-construction, construction, and post-construction) that were or will be implemented to reduce risk to eagles. Only include those measures that provide a direct conservation benefit to eagles.

Pre-Construction Best Management Practices

The following BMPs were implemented during the pre-construction phase of the Project to reduce risk to eagles:

- The area and intensity of disturbances (e.g., utilizing existing roads while traveling on site) was minimized during pre-construction monitoring and testing activities.
- Existing roads and transmission corridors were incorporated into the site plans to the extent possible.
- Site plans minimized the extent of the road network needed for the Project.
- To the extent possible, electrical collection lines were buried underground.

- In communication with BLM biologist, plans for overhead lines included the use of anti-perch triangles on overhead lines at the Project to prevent eagle interactions.
- No lattice towers or structures that are attractive to birds for perching were included in plans for the facilities, except for the required meteorological (MET) tower.
- No guy wires were included on the MET tower.
- Wind Turbine Generators (WTGs) feature tubular supports, rather than lattice supports, to minimize bird perching and nesting opportunities. External ladders and platforms were not used on WTGs, to minimize perching and nesting opportunities for birds.
- The facility was not sited in any areas containing high concentrations of ponds, streams, or wetlands.

Best Management Practices During Construction

The following BMPs that help to reduce impacts to eagles were implemented at the Project during construction:

- The area and intensity of disturbance was minimized to the extent possible during construction, and construction activities were conducted in a way that prevented any unnecessary damage to, or destruction of, natural habitats.
- A transportation plan was developed and implemented to minimize impacts to wildlife during all phases (construction, operations and decommissioning). Speed limits for construction and operations personnel along the access and service roads is restricted to 25 miles per hour (mph) to reduce the risk of wildlife or livestock collisions and to minimize sound emissions. Vehicle movement associated with the Project is restricted to designated access and service roads and temporary construction areas. This measure helps to minimize carrion availability for golden and bald eagles.
- Activities which may attract raptors or their prey near turbine locations were minimized to the extent possible. These included:
    - Adhering to speed limits included in the Transportation Plan (25 mph) to reduce the likelihood of wildlife collisions;
    - Instructing Project personnel and all contractors to remove garbage promptly to avoid creating attractive scavenging opportunities for birds;
    - Seeding areas with forbs was avoided, as forbs may attract mammalian or bird prey;
    - Removing rock piles resulting from construction activities, which may attract or provide cover for mammalian prey, and;
    - Avoiding storage of parts or equipment near turbines and creation of large rock piles that attract small mammals and their predators.
- Perch deterrents were installed on Project related structures based on discussions with a BLM biologist to discourage eagles from perching on powerlines.
- To the extent possible, facility construction minimized cutting into hill slopes, with an objective of achieving smooth, rounded terrain, rather than sudden berms or cuts. This measure was intended to reduce attraction of fossorial or burrowing mammals and to reduce prey abundance.
- Gravel was placed at least 15 ft. (4.6 m) around each turbine foundation, to discourage small mammals and reptiles from burrowing under or near turbine bases.

Best Management Practices During Operation

The following BMPs have been and/or continue to be implemented during operation of the Project to provide additional avoidance and minimization of risks to eagles:

- A wildlife incident reporting procedure is implemented.
- Installed guards under the Pad Mounted Transformers (PMTs) to prevent prey from living under the PMT's fins and to stop predators from carrying their prey under the PMT and leaving carcasses that may attract eagles.
- Management activities such as seeding forbs or maintaining rock piles, which attract potential prey, will not be implemented.
- Parts and equipment which may be used as cover by prey are not allowed to be stored in the vicinity of wind turbines.
- Low level speed limits (< 25 mph) are required to be maintained on all roads within the Project.
- Personnel are trained to be alert for wildlife at all times, especially during low visibility conditions. All new employees undergo an employee orientation program that will enhance wildlife awareness, minimize impacts to natural resources, and facilitate employee understanding of their respective roles in ensuring compliance with the Project permit conditions and commitments. Any known occurrence or habitat of federal listed species or other species of concern identified within construction areas will be included in the training.
- Personnel, contractors, and visitors are instructed to avoid disturbing wildlife, especially during the breeding seasons and seasonal periods of stress.
- Project personnel and all contractors are instructed to remove garbage promptly at the end of each day, to avoid creating attractive scavenging opportunities for birds.
- All met towers and wind turbines that are no longer operational will be removed.
- When snow removal is needed, roads are plowed so as not to impede ungulate movement. Snow banks can cause ungulates to run along roads, resulting in their colliding with vehicles. Roadside carcasses attract raptors, subjecting them to collision as well.

Additional measures that have been implemented on an experimental basis beyond those described in item #7 above include:

- Agreement with local landowners to restrict sheep from grazing during lambing on the Project has been adopted based on recommendations from USFWS.
- A notification system to the Range Rider to remove any sheep, alive or dead, from the Project has been adopted based on recommendations from USFWS.
- A carcass removal program was developed and implemented in coordination with WGFD to minimize carrion which could attract eagles.

## 10. **Compensatory Mitigation**

As the Project was operational prior to the final USFWS BGEPA regulations in the Federal Register Notice of September 11, 2009, the Project does not require compensatory mitigation for an eagle take permit.

## 11. **Adaptive Management**

As discussed in items #6 and #7 above, the Project is currently implementing a biomonitoring and turbine curtailment program at the Project. However, in coordination with USFWS and assuming an eagle take permit is granted, Mountain Wind I proposes to retain the ability to discuss modifications to the biomonitoring/curtailment program if warranted and use monitoring and adaptive management to ensure that eagle take remains within permitted levels. In communication with the appropriate agencies, Mountain Wind I will discuss the need for and implement mitigation or experimental ACPs if it is determined that eagle take is higher than anticipated based on eagle take estimates. A stepwise process will be used to guide the implementation of additional conservation measures as needed (Table 4).

**Table 4. Summary of Potential Conservation Measures to be implemented if a Threshold is reached using a Step-wise Approach.**

| Step | Conservation Measures | Threshold or Trigger |
|---|---|---|
| Step I | Assess eagle fatalities to determine if cause or contributing risk factors can be determined (e.g., nest proximity, weather, presence of prey/carrion) and if management response is warranted and feasible. Consult with USFWS about findings from assessment. Of primary concern is whether common elements between eagle fatalities exist that indicate a more concentrated assessment of the cause of mortality should be performed. | Any eagle is taken |
| Step II | Perform additional observational/behavioral studies to further evaluate risk and inform potential conservation measures. Consult with USFWS about findings from evaluation. | To be determined based on authorized take levels. Take is within the authorized limit. Trigger will be determined based on a rate of take that could exceed the authorized take if take continues at the rate identified. |

**Table 4. Summary of Potential Conservation Measures to be implemented if a Threshold is reached using a Step-wise Approach.**

| Step | Conservation Measures | Threshold or Trigger |
|---|---|---|
| Step III | If threshold is exceeded, Mountain Wind will consult with the USFWS regarding information gained with respect to eagle take experienced to date, in an attempt to identify causal factors which might be exploited~~,~~ to avoid further take. Total costs associated with examination and/or implementation of conservation measures and experimental advanced conservation practices (including loss of revenue from curtailment) will be limited to $475,000.00 per year or a maximum of $2,375,000.00 (the "Capped Amount")[1]. Under a 30 year permit, the Project will be subject to 5 year review periods, Mountain Wind's overall adaptive management program for the subsequent 5-year permit period will be re-evaluated, based on the results of the previous 5 year period, and this stepwise approach will start over with Step I.<br><br>• Employ onsite biological monitor(s) during daylight hours at locations and/or times of suspected risk, to further refine the understanding of risk factors.<br>• Implement an informed curtailment program specific to the area(s) and/or period(s) of highest collision risk.<br>• Develop and evaluate an automated detection and deterrent system for eagles approaching area(s) of risk.<br>• Other agreed upon measures | To be determined based on authorized take levels. Take is within the authorized limit. An additional take would meet the authorized amount under the permit. |

[1] Establishing a "cost cap" for the implementation of experimental advanced conservation practices is in accordance with the final rule for 50 CFR Parts 13 and 22, Eagle Permits; Changes in the Regulations Governing Eagle Permitting published in the Federal Register in December of 2013 which states "We [Service] and the permittee will agree on the upper limit of the costs to implement and on trigger points tied to post construction monitoring that, if reached, would result in implementation of the experimental ACPs."

## 12. **Other USFWS Permits**

The Project has a MBTA 21.27 Special Purpose Utility permit.

## REFERENCES

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## APPENDICES

Appendix A. Pre-Construction Wildlife Surveys Mountain Wind I Project, Uinta County, Wyoming

Appendix B. Post-Construction Monitoring Reports, Mountain Wind I Project, Uinta County, Wyoming.

Appendix C. Biological Monitoring and Curtailment Protocol, Mountain Wind Power, LLC and Mountain Wind Power II, LLC, Revision 4, February 2022.