B. Avian Fatality Monitoring Protocol

COTTEREL MOUNTAIN AVIAN FATALITY MONITORING PROTOCOL

June 28, 2006

1.0 INTRODUCTION

The primary goals of monitoring windpower development are to evaluate risk to birds from development, as well as the cumulative risk to birds from all windpower development in the region. The secondary goal of monitoring is to provide information that can be used to reduce potential risks to birds that could result from subsequent developments (Strickland *et al.* 1996).

2.0 BASELINE STATUS INVENTORY

Several years of baseline avian inventories have been conducted at Cotterel Mountain to assess the abundance and location of birds using specific habitats in the area. The following preliminary studies have been conducted: (1) a yearlong avian point count survey; (2) a fall migration point survey; (3) a raptor nest survey; (4) a nocturnal bird migration survey using radar; (5) two sage-grouse lek surveys; and (6) a sage-grouse radio telemetry study (TBR 2004). Field methods chosen for use in the Cotterel Mountain study were derived from a review of guidelines for studying wind energy and bird interactions published by the National Wind Coordinating Committee (Anderson *et al.* 1999), and of the methods used in a number of other recent avian baseline studies at proposed wind plants in the western U.S. These baseline studies included Johnson *et al.* (1997); Johnson *et al.* (2000b); Erickson *et al*. (2001a); Sharp *et al*. (2001a), West Inc. (2002); and Young *et al*. (2002). During the point count surveys, in-transit observations were made of large birds and sensitive species while the observers were in transit between observations points. In-transit observations were entered into a separate database and analyzed separately. After analysis, these data were deemed not comparable to the point count data. Therefore, the in-transit observation data were only used in a general way to augment the species composition and richness information for the avian study areas. These studies provide a baseline status of passerine bird and bat community composition, foraging and habitat use patterns, seasonal movements, migrations, and population trends.

3.0 FATALITY MONITORING

Mortality caused by windpower facilities is a primary indicator of windpower impact on bird and bat populations. Mortality will be measured by estimating the number of bird and bat fatalities in the wind development area whose death could be directly related to turbine collision. All avian and bat fatalities located within areas surveyed, regardless of species, will be recorded and a cause of death determined, if possible, based on field examination and necropsy results. An estimate of the total number of fatalities will be made. The total number of fatalities will be estimated by adjusting for "length of stay" (scavenging) and searcher efficiency bias.

3.1 FATALITY SEARCHES

Objectives of fatality searches will be to (1) estimate the number of mortalities attributable to wind turbine collisions for the Cotterel Mountain Wind Power Project area and (2) relate the mortalities by species to the relative abundance of each species and other parameters, such as turbine characteristics and habitat to aid in determining relative risk to that species.

Biologists trained in proper search techniques will conduct the fatality searches. An initial fatality search will be conducted across the project prior to turbine construction to estimate pre-construction natural mortality.

The fatality monitoring study will begin once all the turbines are constructed and operational. The following dates will be used to define seasons: (1) spring migration (March 16 – May 15); (2) breeding season (May 16 – August 15); (3) fall migration (August 16 – October 31); and (4) winter (November 1 – March 15).

Trials have been conducted at other windpower facilities (Johnson *et al*. 2000c) to establish the size of search plots surrounding a turbine. Higgins *et al.* WEST Inc. (1996) either dropped or threw 35 birds of varying species from the tops of the turbines. The distance these birds landed from turbines ranged from 8.2 meters (m) for birds dropped, to 28.5 m for birds thrown. The mean distance that birds landed from turbines was 19.8 m for small birds and 16.2 m for medium-sized birds. Data collected on 139 suspected turbine-related avian mortalities at a wind development area in California (Orloff and Flannery 1992) supported these data. The mean distance to the nearest turbine for the 139 avian mortalities was 24.1 m, and 77% of all turbine related casualties were found within 30.5 m of a turbine. Only 4% of the fatalities were found at distances greater than 61 m from a turbine (Orloff and Flannery 1992). Based on the above data, search plot sizes will be, at a minimum, large enough to cover all areas within 50 m of a turbine (Figure 1). Cotterel Mountain may present added challenges and preliminary planning requirements regarding monitoring due to the location of adjacent cliffs and drop-offs within the 50 m survey area for each turbine. One biologist may be required to survey the base of cliffs in these areas to accurately estimate the amount of casualties occurring.

A square plot, rather than a circular plot, will be used to facilitate marking search boundaries and conducting the search. Transects will be initially set at 6 m apart in the area to be searched, and the searcher will walk along each transect searching both sides out to 3 m for casualties (Johnson *et al.* 1993). Search radius and speed will need to be adjusted by habitat type. During similar studies (Johnson *et al.* 2000c) it was observed that approximately 30 to 45 minutes will be required for searching each plot. Searches of randomly selected turbines will be conducted once every two weeks to locate and collect any fatalities found under turbines; however, casualties found at other times and places will also be recorded. For all casualties found, data recorded will include species, sex, age, date and time collected, location, distance to nearest turbine, condition, and any comments regarding possible causes of death (Johnson *et al*. 2000c). The condition of each fatality found will be recorded using the following condition categories:

- Intact – carcass that is completely intact, is not badly decomposed, and shows no sign of being fed upon by a predator or scavenger.

- Scavenged – entire carcass that shows signs of being fed upon by a predator or scavenger or a portion(s) of a carcass in one location (e.g., wings, skeletal remains, legs, pieces of skin, etc.).

- Feather Spot – 10 or more feathers at one location indicating predation or scavenging.

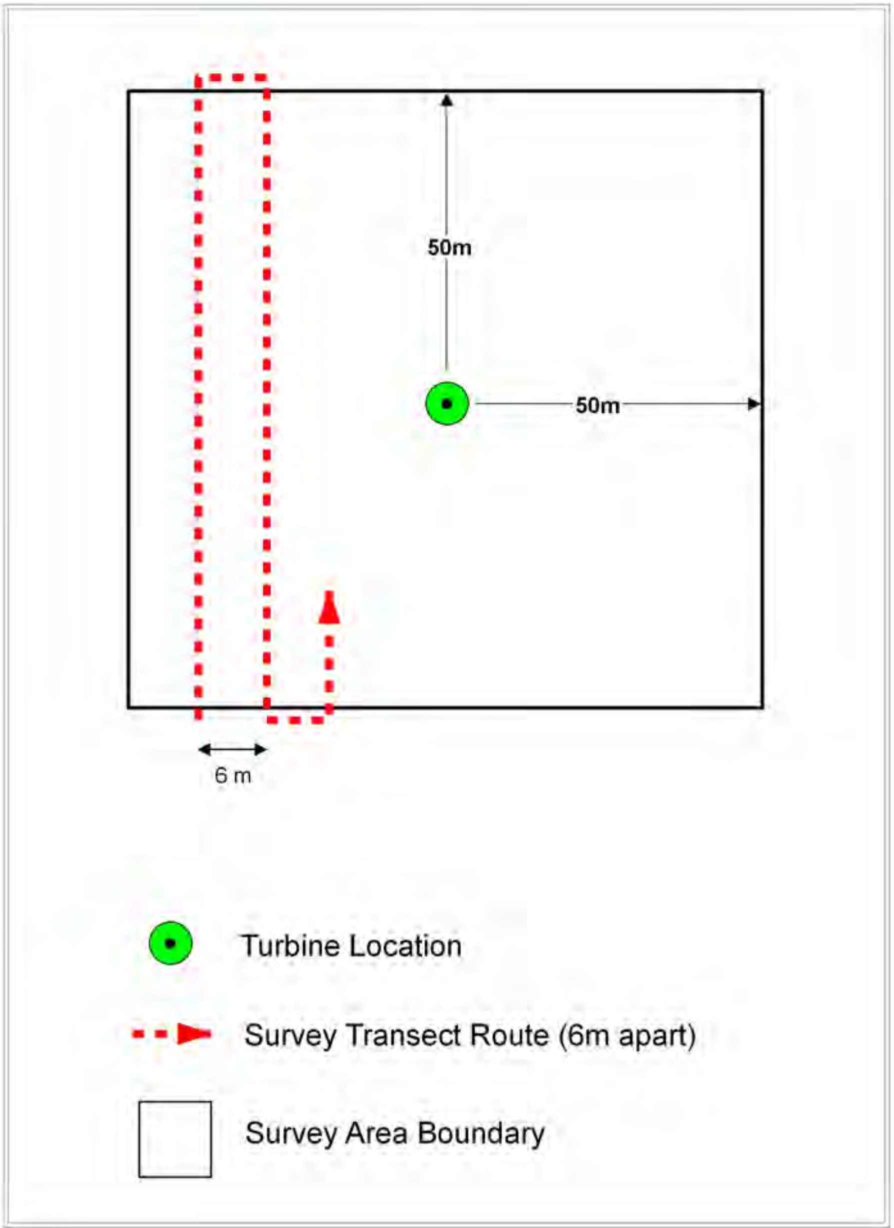

Figure 1. Diagram of a Typical Fatality Search Survey Area.

All casualties located will be photographed as found and mapped on a detailed map of the study area that will show the location of wind turbines and associated facilities, such as power lines and towers. Casualties found will then be labeled with a unique identification number, bagged, and frozen. A copy of the data sheet for each carcass will be maintained, bagged, and frozen with the carcass. This data sheet copy should remain with the carcass at all times. A certified wildlife veterinary laboratory will conduct gross necropsies of all intact, suitable avian fatalities found associated with a turbine. All bat fatalities found during the study will be assumed to be turbine-related and laboratory necropsies will not be conducted.

The estimated average number of fatalities detected per turbine (c) will be calculated by:

$$\overline{c} = \frac{\sum_{i=1}^{k} c_i}{k}$$

where c_i is the number of fatalities detected at turbine *i* for the period of study, and *k* is the number of turbines searched. The variance will be calculated by:

$$V(\overline{t}) = \frac{1}{k} * \left[\frac{\sum_{i=1}^{k} (c_i - \overline{c})^2}{k-1} \right].$$

The estimated total number of detectable fatalities (C) will be calculated by:

$$C = k * \overline{c}$$

with variance

$$Var(C) = k^2 * var(\overline{c}).$$

Local wildlife biologists associated with the U.S. Fish and Wildlife Service (USFWS), the Bureau of Land Management (BLM), and Idaho Department of Fish and Game (IDFG) will be contacted within 24 hours to report the casualties of any species of special concern (based on agency desire). These agencies will be periodically notified of casualty findings throughout the duration of the study.

In addition to standardized fatality monitoring, biologists will also record observations of birds on the study area while driving between survey points and between study sites. Emphasis will be placed on recording rare species, not previously recorded during standardized surveys, unusual observations of bird concentrations or behavior, and any species listed as threatened, endangered, or special status by the USFWS, the BLM, or IDFG.

Casualties or fatalities found by maintenance personnel and others not conducting the formal searches will be documented using a wildlife incidental reporting system. When carcasses of animals are discovered by non-study personnel, a project biologist will be contacted to identify and collect the casualty.

3.2 FATALITY SEARCH BIASES

Estimation of Carcass Removal

The objective of carcass removal trials will be to estimate the length of time avian mortalities remain in the search area. Carcass removal studies will be conducted in the same areas and habitats where fatality searches occur on randomly selected turbine locations and reference plots. Carcass removal trials will be conducted within each of the following seasons: (1) spring migration (March 15 - May 15); (2) breeding season (May 16 - August 15); (3) fall migration (August 16 – October 31); and (4) winter (November 1 - March 14). Trials will be spread over most of the season to incorporate effects of varying weather, climatic conditions, and scavenger densities.

During the entire study, approximately 50 carcass removal trials will be conducted. Carcasses will be selected to represent a variety of avian species and size classes. Adult female mallards could be used to represent large birds such as raptors; adult rock doves could be used to simulate medium-sized birds such as small raptors; and juvenile mallards, adult house sparrows, and adult European starlings could be used to represent small birds such as passerines. Additional trials (approximately five) will be conducted with bat carcasses. The bat carcasses will be monitored during each trial to determine if removal rates for bats differed from that of birds of similar size. During removal trials at other wind power facilities (Johnson *et al.* 2000c), bats used for the trial were intact fresh bats found dead during the study; this could potentially be simulated at Cotterel Mountain as well.

Carcasses shall be placed in a variety of postures to simulate a range of conditions. They will be (1) placed in an exposed posture (e.g., thrown over the left shoulder while standing under a turbine); (2) hidden to simulate a crippled bird or bat (e.g., placed beneath a shrub or tuft of grass); and (3) partially hidden. An equal proportion of carcasses will be included in each of the above categories. Carcasses will be checked for up to 14 days to determine scavenger removal rates, and will be removed at the end of the 14-day period. Carcasses will be marked discreetly with black electrical tape on the feet so searchers can recognize the carcass as experimental and leave it at the location found. Estimates of carcass removal shall be used to adjust fatality counts for removal bias.

The length of time a carcass remained in the study area before it is removed will be denoted as t_i. Mean length of time a carcass remained at the site before it is removed (t) will be calculated by:

$$\bar{t} = \frac{\sum_{i=1}^{k} t_i}{k}$$

where k is the number of carcasses where t_i is obtained. The variance, V(t), will be calculated using the usual variance of a mean formula:

$$V(\bar{t}) = \frac{1}{k} * \left[\frac{\sum_{i=1}^{k} (t_i - \bar{t})^2}{k-1} \right].$$

Carcass removal statistics will be estimated by season, habitat type, and size class of bird.

Estimation of Searcher Efficiency

The objective of searcher efficiency trials is to estimate the percentage of avian mortalities found and missed by searchers. Searcher efficiency trials will be conducted in the same areas that fatality searches occur. Approximately 50 trials will be conducted over the course of the study. Searcher efficiency is estimated by season and major habitat type. The major habitat types on Cotterel Mountain consist of big sagebrush, low sagebrush, grassland, juniper, mountain mahogany, and rock. Estimates of searcher efficiency will be used to adjust the number of carcasses found, correcting for detectability bias. Carcasses used for searcher efficiency trials will have the same composition as those used for carcass removal trials. Searcher efficiency trials will not be conducted with bats as we assumed detectability of bats is similar to that of small birds with similar colors.

Personnel conducting searches will not know the location of searcher efficiency carcasses. All carcasses will be placed at random locations within areas being searched for fatalities prior to the search on the same day. Carcass placement will be spread over the entire season to incorporate effects of varying weather and vegetation growth. Carcasses will placed in a variety of postures (exposed, hidden, partially hidden) to simulate the range of conditions done for carcass removal trials.

Each carcass will be discreetly marked (see carcass removal studies) so that it can be identified as a study carcass after found. The number, location, and habitat of the detectability carcasses found during fatality searches will be recorded. Carcasses not found by the searcher will be removed following the search trial.

Searcher efficiency will be expressed as *p*, the estimated proportion of detectability carcasses found by searchers. Results of searcher efficiency trials will be used to evaluate effectiveness of the fatality search effort and to make adjustments for the final estimate of the total number of fatalities. The variance, V(*p*), will be calculated by the formula:

$$V(p) = p^2 * \left[\frac{V(f)}{f^2} + \frac{V(k)}{k^2} - 2 * \rho \frac{se(f)se(k)}{(f)(k)} \right]$$

where *k* is the total number of carcasses placed, *f* is the number of carcasses found, and *ρ* is the correlation between *k* and *f* across trials. A different searcher efficiency rate will be estimated for each habitat type and carcass size class.

3.3 ESTIMATING FATALITY TOTALS

The estimate of the total number of avian and bat fatalities will consist of the three components discussed previously: (1) the estimate and associated variance for the number of fatalities detected during the study period, (2) the estimate and associated variance for the mean length of time fatalities remained in the study area before being removed, and (3) the estimate and associated variance for the searcher efficiency rate. To calculate mortality for the entire study period, values used for searcher efficiency and mean length of stay will be weighted based on the relative proportions of each habitat type in the study area, and averaged across all three seasons. Bat mortality will be restricted primarily to summer and early fall; therefore, only searcher efficiency and scavenger removal data collected during this time period will be used to estimate total bat mortality. It will be assumed that searcher efficiency data collected using small dark brown or black birds (i.e., adult house sparrow or adult European starling) will be appropriate for estimating detection rates for bats.

The estimated total number of fatalities for the wind development area, *m*, for the time frame between searches will be calculated by:

$$m = \frac{N * I * C}{k * \bar{t} * p}$$

where *N* is the total number of turbines, *I* is the interval between searches in days, *C* is the total number of fatalities found for the period of study, *k* is the number of turbines sampled, *t* is the mean length of time fatalities remain in the study area before being removed, and *p* is the searcher efficiency.

The variance will be calculated using the variance of a product formula (Goodman 1960) and the variance of a ratio formula (Cochran 1977). The variance of the product *t* and *p* is:

$$V(\bar{t} * p) = \bar{t}^2 * V(p) + p^2 * V(\bar{t}) - V(\bar{t}) * V(p) .$$

From this, the variance of *m* is:

$$V(m) = \frac{N^2}{n^2} * I^2 * m^2 * \left[\frac{V(\overline{t} * p)}{\overline{t}^2 * \overline{p}^2} + \frac{V(\overline{c})}{\overline{c}^2} \right] .$$

The standard error of m will be calculated by:

$$SE(m) = \sqrt{Var(m)} .$$

An approximate 90% confidence interval around m is:

$$m \pm 1.67 * SE(m) .$$

3.4 QUALITY ASSURANCE/QUALITY CONTROL

QA/QC measures will be implemented at all stages of the study, including field data collection, data entry, data analysis, and report preparation. Observers will be trained in the methods used and tested on their ability to identify avian species, to estimate size of large flocks, and to estimate distance to and flight heights of birds. At the end of each survey day, each observer will be responsible for inspecting his or her data forms for completeness, accuracy, and legibility. The study team leader shall periodically review data forms to insure completeness and legibility. Standard protocol procedures detailing the step by step procedures to be followed by field biologists for fatality searches and fatality search bias trials will be prepared prior to data collection.

4.0 MONITORING TIMELINE

Fatality monitoring will be initiated within two weeks of the start of project operation. Fatality monitoring will be conducted on a year round basis, weather permitting. The monitoring will continue for a period of five years. At the end of the fifth year the monitoring effort will be evaluated to determine if additional monitoring should continue in an effort to provide useful information regarding the impact of wind power on avian and bat species at Cotterel Mountain.

5.0 REPORTING REQUIREMENTS

Summary results of the avian and bat fatality monitoring will be submitted on a monthly basis to the BLM, Twin Falls District, Burley Field Office. If during monitoring a significant fatality event is recorded at a single or multiple turbines, the event and the results of that days monitoring will be reported immediately to the BLM. Results regarding each year of avian and bat fatality monitoring will be summarized in an annual report. This report will include the complete data set for all fatality monitoring collected since the beginning of the facility operation. The report will be submitted to the BLM Burley Field Office by January 15th of each year.

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C. Raptor Nesting & Migration Monitoring Protocol

COTTEREL MOUNTAIN RAPTOR NESTING AND MIGRATION MONITORING PROTOCOL

Photo courtesy of Tim Reynolds

June 28, 2006

1.0 INTRODUCTION

The primary goal of this study is to collect annual information that will be used to help evaluate the impacts of the Cotterel Mountain wind energy facility on nesting and migrating raptor species in the region. Objectives of the raptor nest studies will be to evaluate numbers and distribution of nesting raptors that may be potentially influenced by the project, and to evaluate potential effects of wind turbines and other project features on nesting success.

Cotterel Mountain is somewhat unique in both location and height; because of these unique features, some local biologists believe that Cotterel Mountain acts as a leading line and serves as a significant passageway for birds during fall migration. Fall migration surveys will be conducted in an effort to better understand local raptor migration patterns, and determine the level of potential impact that could result from the addition of a wind power facility on Cotterel Mountain. The objectives this raptor migration study will be to identify any general annual changes occurring in the number of raptors observed migrating, changes in species composition, or flight paths used by raptors observed migrating through the Cotterel Mountain project area.

2.0 EXISTING BASELINE STUDIES FOR COTTEREL MOUNTAIN

NESTING SURVEYS

Raptor nest surveys were conducted during May and June of 2003 on Cotterel Mountain (TREC 2004). During the survey flights 41 nests were recorded. Excluding corvids and ground nesting-species, there were 21 active and 20 inactive raptor nests. 13 sightings of birds of prey initially not associated with nests were recorded. The behavior of some of these birds suggested they were hunting or loafing, while others exhibited territorial behavior. Nests for some of these territorial birds were ultimately located during the second survey. Two groups of owl fledglings (Short-eared Owl and Great-horned Owl) were recorded. A pair of Barn-Owls loafing near a suspected cliff nest site was also recorded. Twenty raptor nests were inactive, and ranged in condition from relatively sturdy and fresh looking to dilapidated and derelict.

Survey efforts encompassed approximately 68 square miles. The density of known active nests for large raptors on Cotterel Mountain during 2003 was approximately 0.32 nests/mi^2. Raptor nesting density at other wind project sites in Oregon, Washington, Colorado, Wyoming, and Minnesota ranged from 0.03 – 0.30 nests/mi^2, with a median density of 0.16 nests/mi^2 (n = 28; Burt, In Litt. 2004). Reasons for slightly higher densities are likely due to the diversity of habitats on Cotterel Mountain, plus ample relatively inaccessible cliffs with suitable nest platforms.

MIGRATION SURVEYS

On August 21, 2003, biologists from URS and TREC identified and established a series of migration survey points on Cotterel Mountain. Points were selected mostly for their panoramic view of the ridgeline and, based on the biologists' opinions, vantage of likely migration corridors. A total of 1,299 observations of 14 species of birds of prey were recorded. Results of the 2003 fall migration survey at Cotterel Mountain suggests it to be a significant course for fall raptor migration (TREC 2003) when compared to other western-states raptor migration monitoring stations (TREC 2003, HawkWatch Intl. 2003).

3.0 METHODS

NESTING SURVEYS

Nesting surveys will focus on key habitat features for raptor species of primary interest, including, but not limited to, golden eagle (*Aquila chrysaetos*) and ferruginous hawk (*Buteo regalis*). However, the entire project area and buffer will be completely surveyed each year.

Helicopter surveys to locate active raptor nests will be conducted within a two-mile buffer surrounding the outmost edge of the turbine strings (Figure 1). A second helicopter survey will be conducted approximately 29 days later to determine nest success and activity of later season nesters, such as Swainson's hawks (*Buteo swainsoni*).

A minimum of two aerial helicopter surveys will be completed to locate and map nest sites, as well as to gather nest success data. Approximately 31 north-south transects will be flown during the survey effort (Figure 2). Locations of inactive nests will also be recorded as they may be occupied during subsequent years. All nests, whether active or inactive, will be given a unique identification number, and locations will be recorded using a Global Positioning System (GPS). When possible, the behavior (territorial defense, hunting, roosting, etc.) of nesting raptors will be recorded. The nest type (platform, scrape, other) and nest material will also be recorded when possible (Harrison, 1979).

North-south transects will be flown at 655 foot intervals at approximately 100 feet above ground level. The starting point of the aerial survey will be approximately two miles east and south of the southernmost project feature, moving each subsequent transect to the west. Key raptor habitat features, as well as previously recorded data (TREC 2004) will be utilized to determine approximate flight paths in an effort to maximize efficiency and time. Flight paths on the west slope of Cotterel Mountain will be determined by topography; when surveyors come upon the head of a canyon, the flight path will transition to east-west, traversing along both rims of every canyon. In an effort to be more efficient, the second survey (approximately 29 days later) will be flow in a serpentine pattern, concentrating on cliffs, sparse juniper habitat, other likely raptor nesting areas, and locations of nests observed during the initial survey flights (TREC 2004).

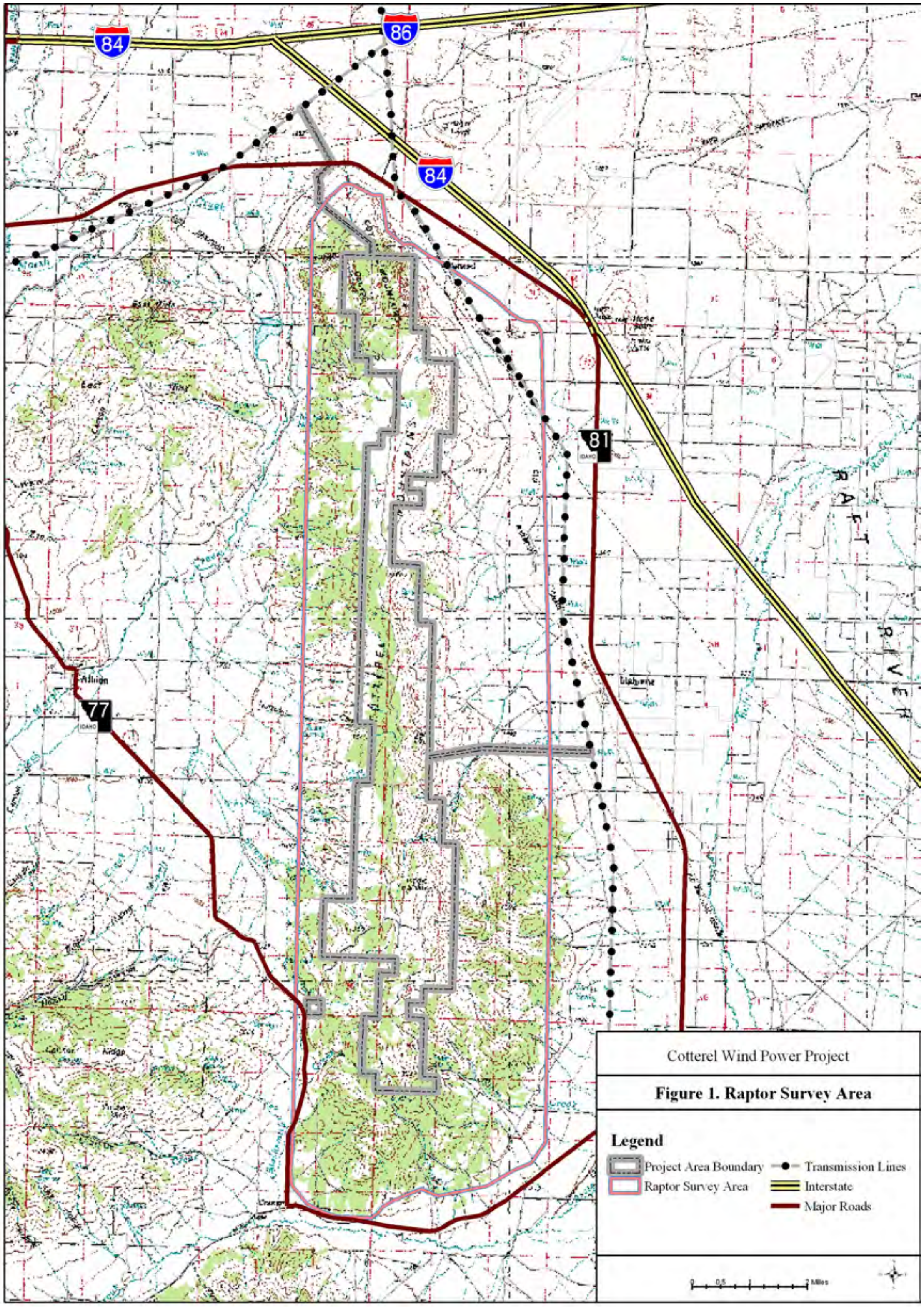

Figure 1. Raptor Survey Area.

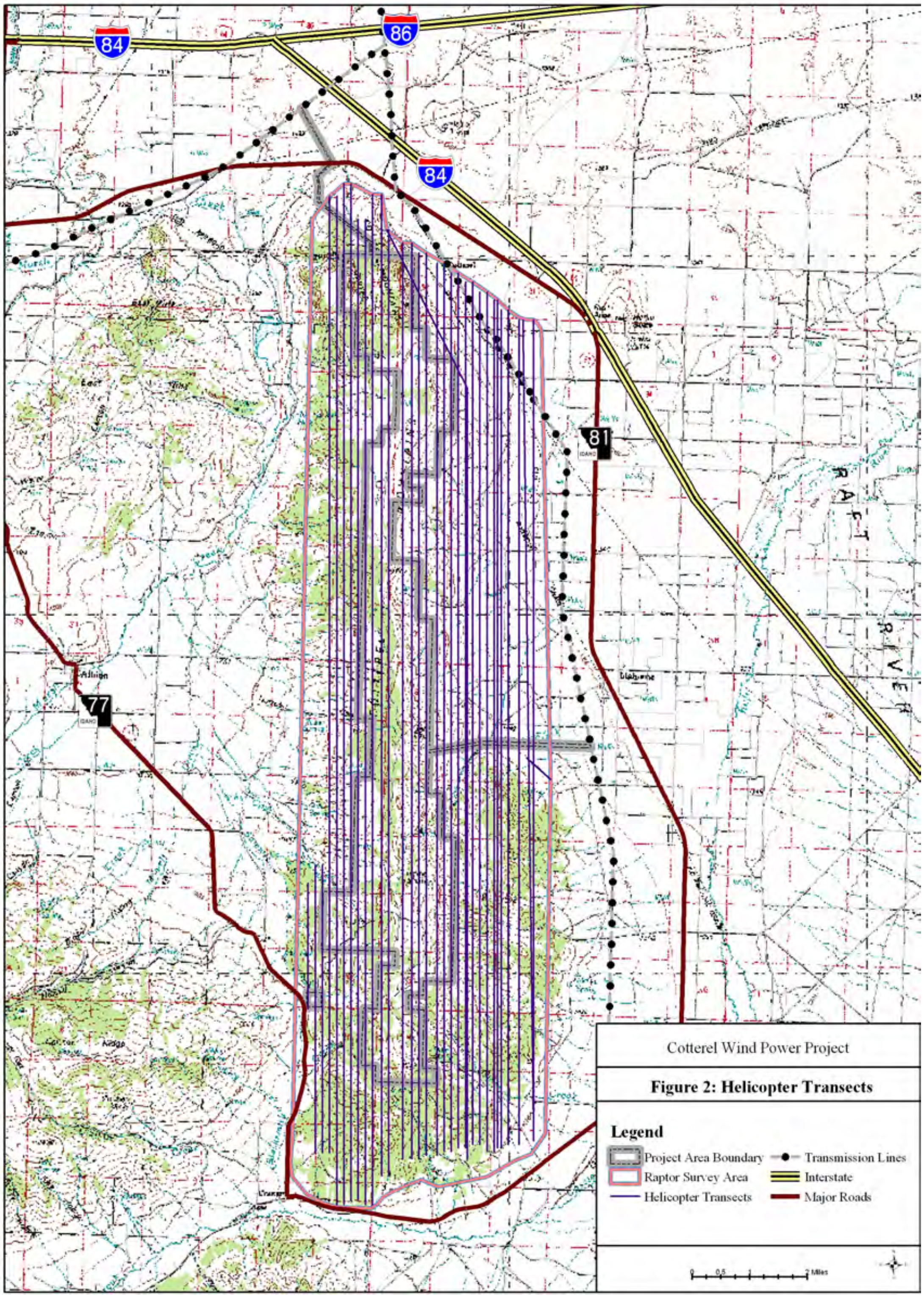

Figure 2. Typical Raptor Nest Survey Helicopter Transect Flight Path.

MIGRATION SURVEYS

Annual migration surveys will utilize the existing 18 established migration survey points (Figure 3). Survey locations may need to be adjusted or moved due to the creation of new access roads and turbine locations. Project biologists will use best professional judgment, in combination with Idaho Department of Fish and Game feedback, when establishing long-term migration survey points. Surveys will begin generally in late August and continue through late October. Data will be collected following the established protocol (Appendix A), and be recorded on standardized field data sheets (Appendix B). Surveys will be conducted six days a week (Monday through Saturday), starting at 1000 and ending at 1800 each survey-day. To reduce bias related to observer fatigue or time of day, the start point for each survey cycle will be randomized (one complete round of all 18 survey stations). Observation bouts will be 30 minutes at each station, during which time the observer will make six 360^0 sweeps with binoculars at approximately 5 minute intervals. Flight paths will be drawn on individual topographic maps for each survey station and surrounding environs. To help estimate distances accurately, field personnel will have a laser range finder at their disposal, and visible markers will be placed at known distances from each survey point.

4.0 MONITORING TIMELINE

Raptor nesting and migration monitoring will be initiated within two weeks of the start of project operation. The annual monitoring will continue for a period of five years. At the end of the fifth year the monitoring effort will be evaluated to determine if additional monitoring should continue in an effort to provide useful information regarding the impact of wind power on raptor species at Cotterel Mountain.

5.0 REPORTING REQUIREMENTS

Results regarding each year of raptor nesting and migration monitoring will be summarized in an annual report. This report will include the complete data set for all monitoring collected since the beginning of the facility operation. The report will be submitted to the BLM Burley Field Office by January 15th of each year.

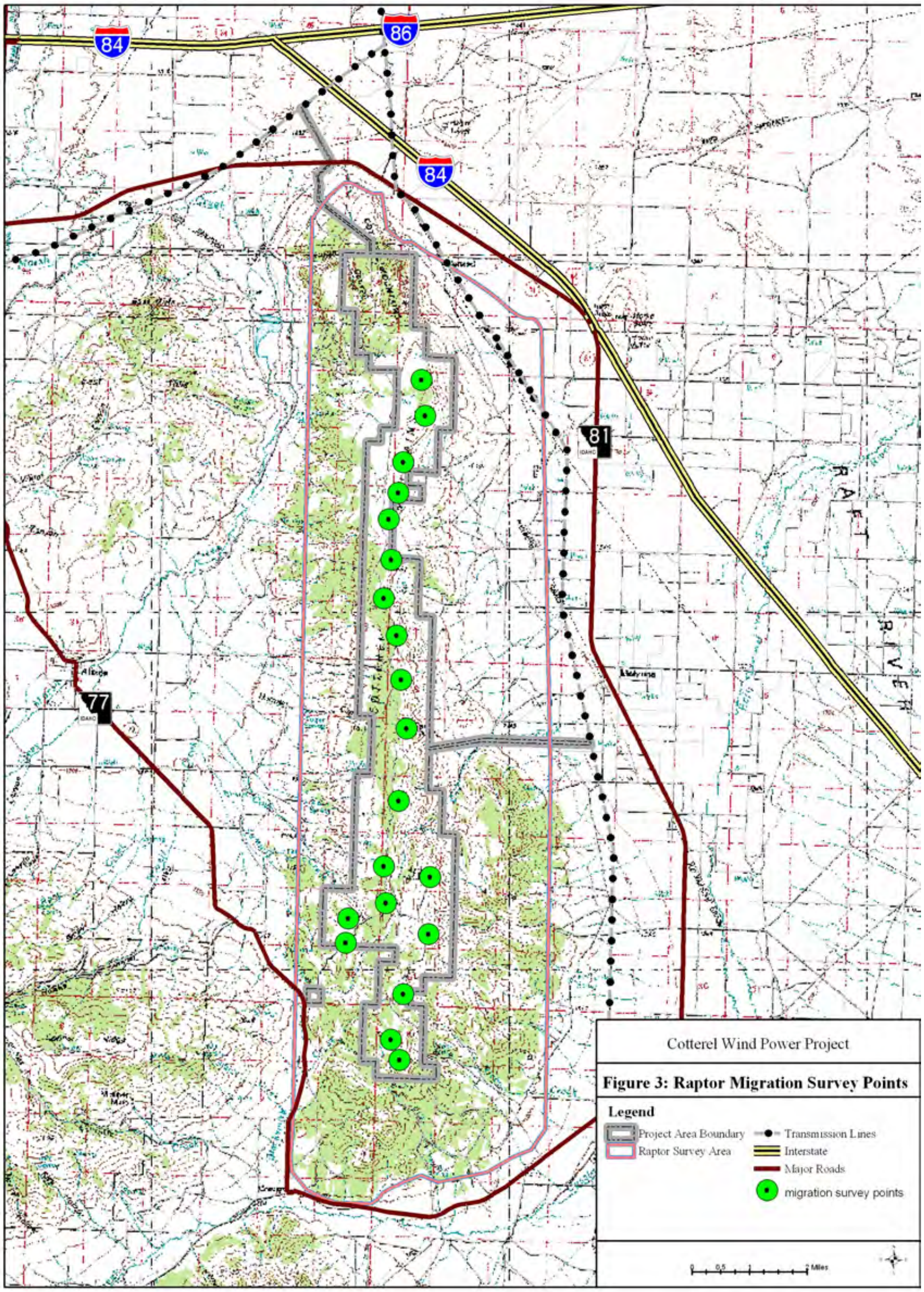

Figure 3. Raptor Migration Survey Points.

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APPENDIX A

Avian Migration Survey Protocol

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Avian Migration Survey Protocol
Cotterel Mountain Wind Project

- Avian Migration Surveys (AMS) will be conducted from 18 pre-determined locations (Stations) along the three proposed primary wind turbine strings on Cotterel Mountain.
- AMS will be conducted from 1000 – 1800 hours, daily except Sunday.
- AMS will be conducted for 30 minutes at each station.
- During the 30 minute survey period, the observer will make six 360^0 sweeps with binoculars at 5 minute intervals.
- Stations will be visited in a random order to avoid time-of-day and observer-fatigue bias.
- All birds observed will be recorded on the data sheets.
- Flight paths of all individual raptors and flocks (> 5 individuals) of other birds will be sketched on the data sheet regardless of distance from the observer (there is no "count circle").
- Data Sheet
  1. Observation Number: Used to map flight paths
  2. Time of day (24 hr clock)
  3. Species: Standard AUO alphanumeric abbreviations
  4. Sex (if determinable, otherwise "?")
  5. Age (A = adult; HY = hatch year; AHY = after hatch year)
  6. Number of individuals
  7. Distance (in meters): from observer when first observed and when closest to observer
  8. Activity:
     - PE = Perched
     - SO = Soaring
     - FL = Flapping Flight
     - CS = Circle Soaring
     - HU = Hunting
     - OT = Other (explain in comment section)
  9. Migrant ? In your opinion is this a migrating bird/flock? Y = Yes, N = No.
  10. Height (in meters) when first observed, lowest, and highest.
  11. Flight direction (16 point cardinal direction; N, NNE, ENE, E, ESE, etc.)
  12. Check any and all of the six binocular sweeps in which the bird(s) was (were) observed.
  13. Add any additional comments.

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APPENDIX B

Avian Migration Observer Data Sheet

and

In Transit and Incidental Observation Form

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Cotterel Mountain Wind Project

AVIAN MIGRATION OBSERVATION DATA SHEET

DATE (mmddyy)_____________ OBSERVER_________ START TIME________ END TIME________ **Station**_____

WEATHER: VISIBILITY(circle one) good fair poor CLOUD COVER (%)_________ TEMP____________ (°C) (°F) (circle one

WIND: DIRECTION (circle one) N NE E SE S SW W NW n/a SPEED Low:_______ High:________ (kph) (mph) (circle one) Page__of ___

PRECIPITATION (circle one) none (n) light rain (lr) rain (r) light snow (ls) snow (sn) sleet (sl) hail (h) other (o), describe in comments

Obs. No.	Time (24 hr clock)	Species or best possible ID	Sex	Age	No. of ind.	Dist.(m) from obs. 1st//closest	Activity			Migrant?	Flight Height (meters)			Flight Dir. (to)	Sweep number						Comments
											1st	low	high		1	2	3	4	5	6	
1							PE	SO	FL												
							CS	HU	OT												
2							PE	SO	FL												
							CS	HU	OT												
3							PE	SO	FL												
							CS	HU	OT												
4							PE	SO	FL												
							CS	HU	OT												
5							PE	SO	FL												
							CS	HU	OT												
6							PE	SO	FL												
							CS	HU	OT												
7							PE	SO	FL												
							CS	HU	OT												
8							PE	SO	FL												
							CS	HU	OT												
9							PE	SO	FL												
							CS	HU	OT												
10							PE	SO	FL												
							CS	HU	OT												
11							PE	SO	FL												
							CS	HU	OT												
							CS	HU	OT												

COTTEREL MOUNTAIN PROJECT FALL MIGRATION INTRANSIT AND INCIDENTAL DATA FORM

DATE __________OBS______START TIME__________ENDTIME_________ OBSERVER__________DATA FORM ID _____________

COMMENTS ON WEATHER OR OTHER NOTABLE CONDITIONS/CHANGES:

Obs. No.	Time	Species	Sex	Age	# of ind.	Distance from obs.	Flight height			Between points?	NOTES
							1st	low	high		