

Appendix 42.B

Pinabete Permit

Wildlife Monitoring and Mitigation Plan

PINABETE PERMIT

WILDLIFE MONITORING and MITIGATION PLAN

1.0 INTRODUCTION..... 1

2.0 MONITORING AND MITIGATION RECOMMENDATIONS..... 1

 2.1 Raptor Monitoring 2

 2.2 General Wildlife Monitoring 3

3.0 MITIGATION 4

 3.1 Long-Term Mitigation 4

 3.1.1 Topography..... 4

 3.1.2 Revegetation 4

 3.1.3 Water Resources 4

 3.2 Short-term Mitigation 5

4.0 REFERENCES 6

1.0 INTRODUCTION

The purpose of this document is to describe the monitoring and mitigation for wildlife species listed by the U.S. Fish and Wildlife Service (USFWS) or Navajo Natural Heritage Program (NNHP) of the Navajo Nation Department of Fish and Wildlife (NNDFW), and documented or having potential to occur in the Pinabete Permit area (permit area) of ~~BHP Navajo Coal~~Navajo Transition Energy Company's (~~BNCCNTEC~~) mining lease. The measures described herein are intended to monitor and mitigate potential impacts to wildlife within the permit area boundaries by the continuation of coal extraction and associated activities, as well as address annual wildlife monitoring required by 30 CFR 780.16 and 816.97 administered by the Office of Surface Mining Reclamation and Enforcement (OSM).

2.0 MONITORING AND MITIGATION RECOMMENDATIONS

~~BNCCNTEC~~ has implemented and maintains a wildlife monitoring program for the ~~BNCCNTEC~~ mining lease area that extends from Area 4 North northward through Area 1, hereafter referred to as Navajo Mine. The monitoring and mitigation plan for the permit area, combined with the current Navajo Mine (OSM Permit No. NM-0003F) wildlife monitoring plan, has the following objectives:

- to assure that mitigation measures are limiting the impact of mining as intended;
- to identify the presence of additional important wildlife habitats that may occur (e.g., new raptor nests);
- to identify additional unanticipated impacts that require development of specific mitigation measures;
- to describe and characterize the wildlife use of reclaimed areas; and
- to generally track important wildlife activities in the mine lease area.

The following current USFWS or NNHP listed wildlife species have been documented during previous surveys or have potential to occur in the permit area: kit fox (*Vulpes macrotis*), mountain plover (*Charadrius montanus*), ferruginous hawk, golden eagle (*Aquila chrysaetos*), burrowing owl (*Athene cunicularia hypogaea*), and pronghorn antelope (*Antilocapra americana*) (USFWS 2011; Mikesic and Roth 2008). Both the Southwest willow flycatcher (*Empidonax traillii extimus*) and the yellow-billed cuckoo (*Coccyzus americanus*) have the potential to occur within the permit area. ~~Sufficient~~Sufficient suitable habitat to support black-footed ferret (*Mustela nigripes*) was also mapped in Areas 4 South and 5 (Ecosphere 2008). A prairie dog town was located in Area 4 North but further investigation determined it was too small to support black-footed ferret (Ecosphere 2004). To facilitate monitoring efforts, the wildlife species documented or having potential to occur in the permit area are categorized into two subgroups – Raptors and General Wildlife. Detailed information about the occurrence of wildlife species within the permit area can be found in Section 16 (Fish and Wildlife) of the Pinabete Permit Application Package.

2.1 Raptor Monitoring

The raptor monitoring program involves a three year recurrent cycle. In the first year of the cycle, all raptor nesting habitat within the permit area and a one mile buffer zone are surveyed aerially. In years two and three of the cycle, all raptor habitat within a one mile buffer zone of the most active mining areas (active pits, coal stockpiles, shop and office areas, major topdressing stockpiles, and future mining pits) is surveyed on the ground by a combination of walking and vehicles. The active areas included in the survey are those areas where the majority of the noise and disturbance by mining or mine personnel activity will take place and would be of most concern. Agricultural fields disturbed and operated by NAPI which are within either the aerial or ground survey buffer zones will not be surveyed at any time since the fields are not managed or controlled by ~~BNCCNTEC~~. The surveys will be conducted during the breeding season (April through June) to document the status of known and unknown nests (e.g., active, inactive). Potential raptor nesting habitat that does not currently support nesting raptors will also be examined to determine if and where new nests are established relative to mining activities. Monitoring and surveying for raptors during the aerial survey will be conducted between April 1 and 15 (or closest date a suitable aircraft is available) as part of the initial survey for that year. A second follow-up survey will be done on the ground between May 15 and June 15 of those areas determined as active territories during the aerial survey. The initial surveys conducted during years two and three will be conducted on all raptor habitat areas, as described above, between March 15 and April 15 and a follow-up survey of the active territories identified during the initial survey will be conducted between May 15 and June 15.

All ground surveys in years two and three and the follow-up for the aerial survey will be conducted by driving through existing and accessible roads. Wherever possible, vistas and high ground will be used to view larger areas with binoculars so that views overlap among observation points and comprehensive coverage of the survey area is achieved.— In areas inaccessible by vehicle, a walking transect and inspection of higher grounds, mesa cliffs and steep arroyo embankments will be conducted during this survey. Historic and current active prairie dog towns will also be checked for possible burrowing owl occupation.

Raptor survey results will be compiled into an annual report. The report will outline the methods and results of the surveys and will summarize historical and new active breeding areas. Mapping of nesting site locations is maintained by the NNDFW. Permits required to conduct off-lease monitoring activities under this plan will be obtained from the NNDFW. Results of each year's raptor survey will be submitted to NNDFW and OSM by August 31 of each year.

Annual mine operation plans are reviewed to identify potential conflicts with raptor nesting so that consideration can be made for mitigation. Early identification of conflicts is desirable to allow flexibility in resolving potential conflicts with the least possible impact to the birds or mine activities. For example, it is

much easier and less costly to move a raptor nest before or after the nesting season than when it contains young. Any moving of raptors or their nests will require special purpose permits and will be closely coordinated with the NNDFW and USFWS as necessary. The raptor nest monitoring program gathers data on the species using each nest, activity status, and number of young produced. If any golden or bald eagle nests are found on the mine permit area, its discovery and location will be reported to OSM.

When surface disturbance activities such as topdressing stripping are scheduled, the area to be disturbed will be examined prior to disturbance during the breeding season to determine if burrowing owls are nesting in the area. If burrowing owls are nesting, activities that would disturb the site will be managed to mitigate impacts to an active nest or other appropriate measures will be employed after consultation with the regulatory authorities.

2.2 General Wildlife Monitoring

General wildlife monitoring activities are conducted constantly by the **BNCENTE**C environmental staff as they travel around the mine during their daily activities and note wildlife in the area. Particular attention is paid to documenting any use of the permit area by threatened or endangered species or other species of high interest. When threatened or endangered species are observed on the mine lease, OSM and the Navajo Nation will be notified immediately. The Annual Raptor and Wildlife Monitoring report will document any findings or sightings of general wildlife, threatened or endangered, or other high interest species. This report will be submitted to OSM and NNDFW by August 31 of each year.

Specific surveys to monitor wildlife use of reclaimed areas are conducted annually during the summer and winter. The procedure involves vehicle or foot surveys during which the species and numbers of wildlife observed on the reclaimed area are recorded. Results of these monitoring activities will be submitted to OSM and NNDFW in the Annual Raptor and Wildlife Monitoring Report. These studies will be periodically evaluated relative to their utility in monitoring wildlife use of reclaimed areas.

It is generally accepted that if native vegetation can be established and suitable cover similar to undisturbed areas is provided, then the presence of small and medium-sized mammals, predators, and birds will be restored in reclaimed areas. A study by Westinghouse (1975) indicates that many of the small and medium-sized mammal species had returned to reclaimed areas within two years after seeding. Primary importance will be placed on the revegetation monitoring program to identify and correct any problems in establishing vegetation on the reclaimed area. These data and results of the periodic wildlife surveys on the reclaimed area will be used as the basis for discussion regarding reestablishment of wildlife habitat and wildlife populations for bond release.

Prairie dog colonies will be surveyed for the black-footed ferret, as determined necessary after consultation with the NNDFW. Reporting of survey results will be submitted to OSM and NNDFW by August 31 of each year.

3.0 MITIGATION

Mitigation to prevent or substantially reduce significant impacts to wildlife resources is discussed in the following material. Some of the mitigation measures will be employed to prevent or lessen potential impacts to wildlife as a general group, and other measures will be directed at specific species. Certain mitigation measures will be necessary only while the mine is operating, and the effects of other mitigation measures will persist long after the mine ceases operation. **BNCCNTEC** will follow the short-term and long-term wildlife mitigation measures to address and mitigate the impacts of mining, discussed in Section 39 (Fish and Wildlife Enhancement).

3.1 Long-Term Mitigation

The primary long-term mitigation measure is the reclamation of disturbed sites to provide the habitat components necessary to support wildlife species that inhabited the site prior to mining. The effectiveness of this mitigation measure is a function of the success achieved in reclamation. From a wildlife standpoint, the primary factors to be reestablished are topography, vegetation, and water resources. These long-term mitigation measures are discussed in further detail in Section 39 (Fish and Wildlife Enhancement).

3.1.1 Topography

BNCCNTEC will utilize the geomorphic reclamation approach to create post-mine topography in the permit area to benefit both livestock and wildlife. Post-mine topography is discussed further in Section 34 (Post-Reclamation Topography) and Section 38 (Post-Reclamation Surface Stabilization and Sediment Control).

3.1.2 Revegetation

Vegetation is a primary habitat component that influences the suitability of an area for wildlife. The primary use of the area after mining will be for livestock grazing; however, provision for wildlife habitats is also incorporated in the mine's revegetation plan. A detailed description of the revegetation program is presented in detail in Section 37 (Post-Reclamation Vegetation)

3.1.3 Water Resources

There are few water features (mainly man-made livestock impoundments) that exist within the permit area as discussed in Section 16 (Fish and Wildlife) and Section 18 (Water Resources). Further discussion on **BNCCNTEC**'s replacement of pre-mine water features and use is in Section 35 (Hydrologic Reclamation Plan).

3.2 Short-term Mitigation

Procedures employed to minimize or prevent impacts to wildlife during the operation of the mine will include (1) limiting the amount of vegetation and topography disturbed to only that necessary to conduct mining; (2) designing facilities, such as transmission lines, to prevent mortality of raptors; and (3) monitoring important wildlife habitat, such as raptor nests, so appropriate plans to avoid significant undesirable impacts can be developed and implemented.

Minimizing the area disturbed to only that necessary to safely conduct mining is an effective mitigation measure that will avoid unnecessary disturbance of wildlife habitat. Limiting the extent of the disturbed area is not only a conservation measure for wildlife habitat that currently exists, it is also economically advantageous since areas that are not disturbed do not require reclamation. Location of important wildlife habitats (such as rimrocks, raptor nests, and water sources) will be considered when planning the location of haul roads and ancillary facilities so that they can be avoided as much as practicable.

To protect raptors from direct mortality due to electrocution, ~~the design and construction of~~ electric powerlines and other transmission facilities on the permit area will ~~meet the guidelines set forth in "Suggested Practices for Raptor Protection on Powerlines—the State of the Art in 1996" (Avian Power Line Interaction Committee (APLIC), 1996).~~ be designed and constructed with a raptor-safe power pole design per Raptor Electrocution Prevention Regulations (REPR) (NNDFW 2008). All guy wires will be marked with highly visual daytime markers to prevent bird collisions within the Pinabete Permit area).

Buffer zones will be established around active raptor nests located on and adjacent to the permit area. The buffer zones will be established through consultation with the BIA and NNDFW on a site and species specific basis as necessary. Raptor nests will be monitored to identify potential problem areas relative to the mining operations on the permit area. If raptor nesting success is affected by mining activity, ~~BNCNTEC~~ will consult with the NNDFW, BIA, and USFWS to develop plans to limit impacts. Such plans will be developed on a site by site basis and could include rescheduling of mining activities and moving or taking of nests as necessary. Any work involving the handling of raptors or their nests will require special permits and would be closely coordinated with the NNDFW and USFWS to ensure the safety of the birds and promote the use of the breeding territory in the future.

Unless authorized by NNDFW, prairie dog colonies with active nesting burrowing owls will not be disturbed during the nesting season (late March through July) (Marks and Ball, 1983) to avoid impacts to active nests. Reoccupation of the reclaimed area by prairie dogs and other burrowing mammals will be monitored to determine if burrows will be available for use by burrowing owls. If no burrows are present on reclaimed areas, ~~BNCNTEC~~ will consult with the NNDFW and BIA to determine if artificial burrows

are necessary on the reclaimed area to promote use by burrowing owls. Burrowing owls have readily accepted artificial burrows (Collins and Landry, 1977; Henry and Blus, 1981), but the acceptance of artificial burrows on reclaimed areas has not been proven (Marks and Ball, 1983).

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[Permit NM-0003C, Chapter 17, Appendix 17-A]