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MEMO

TO	Pike County Solar Project, LLC
FROM	Environmental Resources Management, Inc.
DATE	25 October 2024
REFERENCE	Pike County Solar Project
SUBJECT	Protected Species Habitat Assessment

1. INTRODUCTION

On behalf of Pike County Solar Project, LLC, Environmental Resources Management, Inc. (ERM) is pleased to provide the following Protected Species Habitat Assessment for the proposed Pike County Solar Project (Project). The purpose of this memorandum is to establish compliance with applicable federal and state environmental regulations. ERM recognizes that the U.S. Fish and Wildlife Service (USFWS) and the Office of Kentucky Nature Preserves (OKNP) have responsibility for the protection of various natural resources. Figures are included as Attachment A.

The Project is situated on approximately 1,543 acres located in Pike County, Kentucky, approximately 0.5 miles northeast of Meta (Site; Attachment A, Figure 1 and 2,). Access to the Site is available from Bent Branch Road via US 119 on the east and Ford Mountain Road of Brushy Road via Meta Highway on the west. The Site is classified as a partially reclaimed, surface coal mine site (mountain top removal) and forested valley habitats. The Site is irregularly shaped and surrounded by mountains.

2. DESKTOP DATA REVIEW

ERM reviewed published occurrence records of protected species from available online data sources including obtaining a USFWS Information for Planning and Consultation (IPaC) and a OKNP Biological Assessment Tool (KYBAT) report. ERM additionally requested karst and cave location data from the Kentucky Speleological Society (KSS) and waterway data from Kentucky Division of Water (KDOW).

The results of the IPaC report identified three protected species (Attachment B; USFWS 2024):

- northern long-eared bat *(Myotis septentrionalis*; NLEB) – federal and state listed endangered.

- tricolored bat (*Perimyotis subflavus*) – federal proposed endangered and state listed threatened
- gray bat (*Myotis grisescens*) – federal listed endangered
- Indiana bat (*Myotis sodalis*) – federal listed endangered

No migratory bird species were listed in the IPaC report as birds of particular concern in or near the Site. Bird species are specifically listed either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention. Additionally, there are no documented cases of bald or golden eagles (*Haliaeetus leucocephalus; Aquila chrysaetos*), protected by the Bald and Golden Eagle Protection Act, being present at the Site. No designated USFWS critical habitat is known to occur within the Site (Attachment B; USFWS 2024). Additionally, monarch butterfly (*Danaus Plexippus*) was identified within the IPaC report for the Site listed as a federal candidate species which are not currently protected by the Endangered Species Act or Kentucky law, however, given the species potential to be uplisted to federal threatened or endangered in the immediate future, this species warrants assessment of the Project's potential impact to its existence and assessment of monarch butterfly was included as a best management practice.

The OKNP KYBAT was utilized to assess potential natural resources and protected species within a two-mile radius of the Site. KYBAT identified tricolored bat, and Canadian milk-vetch (*Astragalus canadensis var. canadensis*; state-listed threatened) with last observed occurrences in 1982 and 2005, respectively, within the Site. Additionally, the following state protected species were identified within the KYBAT report within a 2-mile search radius of the Site (Attachment C; OKNP 2024):

- tricolored bat
- Canadian milk-vetch
- Appalachian rosinweed (*Siphium wasiotense*) – state listed threatened

KSS data was not received at the completion of this assessment and the assessment will be updated upon reception.

Based on waterway information obtained from KDOW and the results of the wetland and waterbody delineation, completed August 12-14, 2024, areas within the central portion of the Site contain open waterbody features. However, due to the degradation from active mining, viable aquatic habitat is not present. Multiple ephemeral stream features have been identified within the Site, several of which drain into jurisdictional perennial streams in the surrounding areas outside of the southern portion of the Site. Multiple potential wetland features were also identified in the Site with the same surface degradation from active mining and do not represent viable aquatic habitat (Figure 3). None of the identified waterways are present within the Site that would require a special use or cold-water habitat designation. (e.g., Outstanding State Resource Waters, Coldwater Aquatic Habitats, or other Special Use Waters) from KDOW (KDOW 2024).

3. FIELD HABITAT ASSESSMENT

ERM biologists conducted a field habitat assessment of the Site from August 12-14, 2024, to identify ecological communities and land uses to determine whether the Site could support protected species identified in the USFWS IPaC and the KDFWR database of threatened and endangered species by county. Assessments were conducted in conjunction with a routine wetland delineation and consisted of random meander surveys and targeted habitat reviews with a focus on known protected species habitat requirements. Photographs representative of site conditions are included in Attachment D.

3.1 OVERALL CONDITIONS

The Site has been severely disturbed and contains mostly exposed rock in the areas where surface mining has occurred, while surrounding valleys remain wooded. The edge and transition zones between the mined land and the natural valley is overgrown with invasive vegetative communities consisting predominantly of autumn olive (*Elaeagnus umbellata*). The portion of the surface that has been reclaimed is a mixture of scrub/shrub and grassland vegetation communities. Dominate native species in this area include Tulip Poplar (*Liriodendron tulipifera*) and Black Locust (*Robinia pseudoacacia*) and are limited to the deep valleys which also contain stream features.

3.2 PROTECTED SPECIES ASSESSMENT

Determinations of potential protected species, identified from desktop resources analyzed in Section 2, habitat and presence were made from observations and assessment from the site survey. Table 1 presents a summary of the federal and state listed species, their suitable habitats, and related findings.

Table 1 presents a summary of the federal and state listed species, their suitable habitats, and related findings. Species with suitable habitat within the Site are discussed in more detail below. A figure depicting observed habitat is included as Figure 4.

TABLE 1. PROTECTED SPECIES POTENTIALLY OCCURRING AT OR IN THE VICINITY OF THE SITE.

Taxonomic Group	Species	Protection Status	Preferred Habitat	Preferred Habitat Observed on Site?	Likelihood for Occurrence on Site	USFWS Effects Finding
Mammals	northern long-eared bat (*Myotis septentrionalis*)	FE, SE	Mixed, hardwood, and coniferous forests and riparian areas. Hibernation occurs in caves and abandoned mines. Roosts in sloughing bark and small crevices/cracks of dead or dying trees.	Yes	Possible; suitable habitat limited to forested areas.	If no tree removal, May Affect – Not Likely to Adversely Affect. If tree removal, survey warranted.
	tricolored bat *(Perimyotis subflavus*)	PFE, ST	Mixed, hardwood, and coniferous forests and riparian areas. Hibernation occurs in caves and abandoned mines. Roosts live and dead leaf clusters hanging the canopy of large trees. Often use bridges and culverts to roost as well.	Yes	Possible; suitable habitat limited to forested areas.	If no tree removal, May Affect – Not Likely to Adversely Affect. If tree removal, survey warranted.
	Indiana bat (*Myotis sodalis*)	FE	Mixed, hardwood, and coniferous forests and riparian areas. Hibernation occurs in caves and abandoned mines. Roosts in sloughing bark and small crevices/cracks of dead or dying trees.	Yes	Possible; suitable habitat limited to forested areas.	If no tree removal, May Affect – Not Likely to Adversely Affect. If tree removal, survey warranted.
	gray bat (*Myotis grisescens*)	FE	Roosts in caves with deep vertical shafts that provide a cold air trap	No	Unlikely; no caves	May Affect – Not Likely to

Taxonomic Group	Species	Protection Status	Preferred Habitat	Preferred Habitat Observed on Site?	Likelihood for Occurrence on Site	USFWS Effects Finding
			during winter and caves with domed ceilings that trap warm air during summer.		observed on Site.	Adversely Affect
Plants	Appalachian Rosinweed (*Silphium wasiotense*)	ST	Dry-mesic forest, usually somewhat open due to disturbance, roadsides, and powerlines.	Yes	Possible; suitable habitat is present within the Project.	Not Likely to Jeopardize Continued Existence of the Species
	Canadian Milk-vetch (*Astragalus canadensis var. Canadensis*)	ST	Occurs in a variety of habitats including oak barrens, open areas in rich, moist soil over limestone, moist openings, wet ground, and sandy lake shores.	No	Unlikely; no suitable habitat observed on Site	Not Likely to Jeopardize Continued Existence of the Species

Note: FE = Federally Endangered; FC = Federal Candidate; FT = Federally Threatened; PFE = Proposed Federally Endangered; SE = State Endangered; ST = State Threatened.

Source: USFWS 2024; OKNP 2024

3.3 FEDERALLY PROTECTED SPECIES

Consultation with USFWS is advised under Section 7 of the Endangered Species Act (ESA) if the Project has a federal nexus, such as Clean Water Act (CWA) 404 permitting, to determine potential Project impacts to federally listed species and recommended mitigation measures to ensure compliance. Additionally, the Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BGEPA) prohibit individuals from intentionally taking, possessing, transporting, and selling or purchasing migratory birds and eagles along with their parts, nests, or eggs without a valid permit. Any person or organization who plans activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures.

3.3.1 BATS

During the summer, NLEB and Indiana bat roost underneath bark, in cavities, and in crevices of live and dead trees that provide suitable roosting habitat, with access to nearby open areas for foraging opportunities. The tricolored bat roosts in live and/or dead leaf clusters in the foliage of live and dead trees and sometimes utilize bridges and culverts for roosting. The gray bat uses caves year-round and forages over open water when it is not hibernating. No caves were observed within the Project, but the Site provides suitable foraging habitat for the gray bat. Suitable roosting and maternity trees for the tricolored, Indiana, and NLEB are sparse within the disturbed portions of the Site and are primarily concentrated within the narrow valleys not disturbed during mining activities. Foraging habitat within the Site is medium quality due to native vegetative cover. If tree clearing is anticipated to occur for this Project, timing restrictions for tree clearing and/or additional bat-specific surveys may be required. The inactive season for bats in Kentucky is from November 15 – March 31.

3.3.2 MONARCH BUTTERFLY

The monarch butterfly can be found in a variety of habitats, such as forests, agricultural fields, and meadows; however, wildflowers for feeding adults and native milkweeds (*Asclepias* spp.) as host plants must be available. Milkweed (*Asclepias syriaca*) was encountered throughout the Site in areas reclaimed from previous mining activities. Since the monarch butterfly is currently a candidate species, no additional coordination with USFWS is required regarding this species. If the species is listed prior to project completion, additional coordination may be necessary.

3.4 STATE PROTECTED SPECIES

Kentucky state statuses for protected species are found in Title XII, Chapter 150 of the Kentucky Revised Statutes. Taking or harassing a species designated as state endangered or threatened is a violation of state law.

3.4.1 BATS

The forested areas identified within the Site are considered potential habitat for the tricolored bat. Refer to section 3.3.1 for further information.

3.5PLANTS

The majority of the Site is significantly disturbed, with open areas consisting largely of gravel lots with sericea lespedeza (*Lespedeza cuneata*). Potential Habitat for the Appalachian is limited to roadsides and disturbed forested areas outside of the mined areas. Habitat for the Canadian milk-vetch was not observed on the Site. The Project should incorporate avoidance and minimizations measures of these habitats to reduce impacts to state listed species and initiate coordination with OKNP.

4. CONCLUSIONS AND RECOMMENDATIONS

Suitable habitat was observed for multiple federal and state protected species. No designated critical habitat is present at the Site. Based on the habitat assessment, considerations of the above-mentioned species, and current design plans, ERM concludes that there is potential for federally listed threatened and endangered species to occur on the Site and that the development of the proposed project has the potential to affect species under the jurisdiction of the USFWS and OKNP.

Consultation with USFWS is required under Section 7 of the Endangered Species Act if the Project has a federal nexus, such as Clean Water Act, Section 404 permitting, to determine potential Project impacts to federally listed species and recommended mitigation measures to ensure compliance, however, informal consultation is recommended as a best management practice.

The following summarizes recommendations of next steps:

- Avoid and/or minimize impacts to forested areas to the greatest extent practicable.
- Initiate correspondence with USFWS and OKNP for further comment and recommendations for the project to de-risk potential impacts to protected species.
- If the Project cannot avoid cutting trees and under the direction of USFWS and OKNP, perform applicable species presence/probable absence surveys.

5. REFERENCES

United States Fish and Wildlife Service Information for Planning and Consultation (USFWS IPaC). 2024. https://ecos.fws.gov/ipac/. Accessed August 2024.

Office of Kentucky Nature Preserves (OKNP). 2024. Kentucky Biological Assessment Data Request. Kentucky Energy and Environment Cabinet. August 30, 2024.

Kentucky Division of Water (KDOW). 2024. Water Maps Portal. https://watermaps.ky.gov/. Accessed October 3, 2024