September 16, 2024

Rob LeForce
Environmental Project Manager
Associated Electric Cooperative, Inc.
2814 S Golden Ave
Springfield, MO 65801

Re: Habitat Assessment Report for Turney Energy Center
Burns & McDonnell Project No. 141827

Dear Mr. LeForce:

Burns & McDonnell was retained by Associated Electric Cooperative, Inc. (AECI) to provide habitat assessment services for the proposed Turney Energy Center (Project). The proposed Project and results of the habitat assessment effort are described below.

INTRODUCTION

AECI is considering constructing a simple-cycle combustion turbine in Clinton County, Missouri. The project is located approximately 1.5 miles south of Turney, Missouri (Figure A-1, Appendix A).

Burns & McDonnell conducted a habitat assessment survey for the Project to evaluate the potential for the Project to impact state and federally protected species and designated critical habitats. This habitat assessment letter report included the results of the desktop analysis of species known or likely to occur in the area and the results of a field survey conducted within the Project (Survey Area).

EXISTING DATA REVIEW

The U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) tool and the Missouri Department of Conservation (MDC) listed species and known critical habitat for Clinton County, Missouri, were utilized to identify federally and state-protected species that may occur within the Survey Area (Appendix B).

According to the USFWS IPaC tool, 5 species that are protected, or anticipated to be protected, under the Endangered Species Act (ESA) are known or likely to occur in Clinton County in Missouri (Table 1). There is one species protected by MDC in Clinton County, however it is already protected under the ESA (Table 1). The Project was also reviewed for potential impacts to the bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*), which are federally protected by the Bald and Golden Eagle Protection Act (BGEPA) and the Migratory Bird Treaty Act (MBTA).

Table 1: Federally and State Protected Species Known or Likely to Occur in Clinton County, Missouri

Common Name	Scientific Name	Status[1]
Mammals		
Tricolored bat	*Perimyotis subflavus*	FPE
Gray bat	*Myotis grisescens*	FE; SE
Indiana bat	*Myotis sodalis*	FE; SE
Northern long-eared bat	*Myotis septentrionalis*	FE; SE
Insects		
Monarch butterfly	*Danaus plexippus*	FC

Source: USFWS IPaC; http://ecos.fws.gov/ipac, accessed 04/22/2024; MDC field guide: https://mdc.mo.gov/field-guide/statuses?status=994, accessed 04/22/2024.
[1]FC: Federal Candidate Species for Listing; FE: Federally Endangered; FPE: Federally Proposed for Listing as Endangered; SE: State Endangered.

FIELD ASSESSMENT

A field-based habitat assessment was conducted by Burns & McDonnell biologists on April 22, 2024, and August 6, 2024. The habitat assessment field survey was conducted on foot within the Survey Area and encompassed approximately 184 acres. Habitat conditions were recorded using a sub-meter accurate Global Positioning System (GPS) and an iPad camera. Natural color photographs taken onsite are included in Appendix C.

RESULTS

The Survey Area is dominated by agricultural fields and vehicular right-of-way's (Figures A-1). Common vegetation in the Survey Area included eastern cottonwood (*Populus deltoides*), black willow (*Salix nigra*), American elm (*Ulmus americana*), Osage orange (*Maclura pomifera*), American sycamore (*Platanus occidentalis*), white mulberry (*Morus alba*), stinging nettle (*Urtica dioica*), tall goldenrod (*Solidago altissima*), short-awn meadow-foxtail (*Alopecurus aequalis*), and sticky-willy (*Galium aparine*). Representative ground photographs from the field assessment are included in Appendix C.

The following paragraphs provide Burns & McDonnell's evaluation of the Project's potential effect on the protected species as identified in Table 1. The effects determinations of Burns & McDonnell follow effects determinations as put forth by the USFWS and may be categorized as *may affect and is likely to adversely affect*; *may affect but is not likely to adversely affect*; or *no effect.*

Tricolored Bat

The tricolored bat is proposed for listing as endangered under the ESA. This bat species hibernates in caves or abandoned mines during the winter. During the spring, summer, and fall,

tricolored bats roost among live and dead leaf clusters in the trees of hardwood forested habitats. Additionally, the summer roosts of the tricolored bat may include pine trees, eastern red cedar trees, and structures such as barns, sheds, under bridges, or in other buildings that have little human disturbance. Female tricolored bats form maternity colonies, while male tricolored bats tend to roost singly or in small groups. Foraging habitat for the tricolored bat includes forest edges and riparian corridors where small insects such as caddisflies, moths, beetles, wasps, flying ants and flies are concentrated.

The tricolored bat occurs throughout the entire state of Missouri. The field assessment did observe leaf clusters and trees suitable for tricolored bat roosts. Although the Project has been sited to minimize the amount of tree clearing that is necessary, some trees may need to be cleared. The USFWS has not established conservation recommendations for the tricolored bat. Conducting tree clearing during the bats' inactive season is a generally recommended conservation measure for protecting bats. The USFWS has published that November 16–March 31 is the season of inactivity for bats in Missouri. The Project may also conduct presence/absence surveys for tricolored bats. If surveys concluded that this species is likely absent, seasonal tree clearing could be avoided. Coordination with the USFWS and MDC could establish whether presence/absence surveys may be needed. If tree clearing for the Project is restricted to the season of inactivity, it is anticipated that the Project **may affect but is not likely to adversely affect** the tricolored bat.

Gray Bat
The gray bat is listed as federally endangered under the ESA and is listed as state endangered. This species was listed under the ESA in 1976 and hibernates in caves or abandoned mines during the winter. During the spring, summer, and fall, gray bats continue to use caves, or occasionally a cave-like structure such as mines, dams, bridges, quarries, and culverts. Female gray bats form maternity colonies, while male gray bats tend to roost singly or in small groups. Foraging habitat for the gray bat includes bodies of water including lakes, rivers, and streams where stoneflies, mayflies, and caddisflies are concentrated. They may also use wooded habitat for foraging. No caves or mines were observed in the Survey Area, although foraging habitat may occur throughout the Survey Area. Due to lack of potential roosting or hibernating sites and presence of potential foraging habitat, it is anticipated that the Project **may affect but is not likely to adversely affect** the gray bat.

Indiana Bat
The Indiana bat is listed as federally endangered under the ESA and is listed as state endangered. This species was listed under the ESA in 1967 and hibernates in caves or abandoned mines during the winter. During the spring, summer, and fall, Indiana bats roost in bark or cavities within the trunks of trees. Female Indiana bats form maternity colonies, while male Indiana bats

tend to roost singly or in small groups. Foraging habitat for the Indiana bat includes forest edges and riparian corridors where small insects such as caddisflies, moths, beetles, wasps, flying ants, and flies are concentrated.

Indiana bats are a species of conservation concern in Missouri and are present throughout much of the state. The field assessment noted potential Indiana bat roost trees within the Survey Area. Although the Project has been sited to minimize the amount of tree clearing that is necessary, tree clearing may be required. Conducting tree clearing during the bats' inactive season is a generally recommended conservation measure for protecting bats. The USFWS has published that November 16–March 31 is the season of inactivity for bats in Missouri. The Project may also conduct presence/absence surveys for Indiana bats. If surveys concluded that this species is likely absent, seasonal tree clearing could be avoided. Coordination with the USFWS and MDC could establish whether presence/absence surveys may be needed. If tree clearing for the Project is restricted to the season of inactivity, it is anticipated that the Project **may affect but is not likely to adversely affect** the Indiana bat.

Northern Long-eared Bat
The northern long-eared bat is listed as federally endangered under the ESA. This species hibernates in caves or abandoned mines during the winter. During the spring, summer, and fall, northern long-eared bats roost in bark or cavities within the trunks of trees. Additional summer roosts occasionally include structures such as barns, under bridges, or in other buildings that have little human disturbance. Female northern long-eared bats form maternity colonies, while male northern long-eared bats tend to roost singly or in small groups. Foraging habitat for the northern long-eared bat includes forest edges and riparian corridors where small insects such as caddisflies, moths, beetles, wasps, flying ants, and flies are concentrated.

The northern long-eared bat is found throughout the state of Missouri. The field assessment noted potential roost trees within the Survey Area. Although the Project has been sited to minimize the amount of tree clearing that is necessary, some tree clearing may be required. Conducting tree clearing during the bats' inactive season is a generally recommended conservation measure for protecting bats. The USFWS has published that November 16–March 31 is the season of inactivity for bats in Missouri. The Project may also conduct presence/absence surveys for northern long-eared bats. If surveys concluded that this species is likely absent, seasonal tree clearing could be avoided. Coordination with the USFWS and MDC could establish whether presence/absence surveys may be needed. If tree clearing for the Project is restricted to the season of inactivity, it is anticipated that the Project **may affect but is not likely to adversely affect** the northern long-eared bat.

Monarch butterfly
Monarch butterfly is a federal candidate for listing under the ESA. This species feeds on nectar from a variety of flowering plants and requires milkweed to complete its life cycle. Preferred habitat for this species includes prairies, savannas, rights-of-way, and field edges with abundant flowering plants. The Project is located on primarily agricultural fields and roadsides. Any suitable habitat that is currently present is likely fragmented and highly disturbed. All permanent impacts by the Project are sited in agricultural fields and would not disturb potential monarch butterfly habitat. Any temporary impacts to potential habitat, namely alongside roads, are already highly disturbed and fragmented due to the surrounding agricultural fields and vehicular rights-of-way. Coordination with USFWS may be necessary if this species is listed to determine revegetation plans to avoid permanent damage to potential habitats. Therefore, the Project is anticipated to have **no effect** on the monarch butterfly.

Other Federally Protected Species
The MBTA prohibits the take of migratory birds and their eggs, young, or active nests. Recommended conservation measures include conducting tree clearing or unmowed grassland disturbance outside the migratory bird nesting period for Missouri (May 1 – July 1). Due to the existing disturbance and the relatively small amount of potential woodland and shrubland nesting habitat that would be affected by the Project, the Project as proposed is not anticipated to impact migratory bird populations.

The BGEPA prohibits take of bald eagles and golden eagles. The project is within the range of the bald eagle and the migratory range of the golden eagle. Golden eagles may occur in the Project vicinity but would likely be temporary visitors to the area and would not be impacted by proposed Project activities. No bald eagle nests were observed within the vicinity of the Survey Area during the habitat assessment. If an active bald eagle nest is observed during construction activities, AECI should work with the USFWS to minimize potential impacts. The Project as proposed is anticipated to have **no adverse effects** on bald and golden eagles.

CONCLUSIONS
Based on the results of this habitat assessment, the Project as proposed is anticipated to have **no effect** on monarch butterfly. It is anticipated that the Project as proposed may **affect but is not likely to adversely affect** the tricolored bat, gray bat, Indiana bat, and northern long-eared bat.

If you have any questions regarding the proposed Project or the contents of this habitat assessment report, you may contact me at crogers@burnsmcd.com at your convenience.

Sincerely,

Cara Rogers

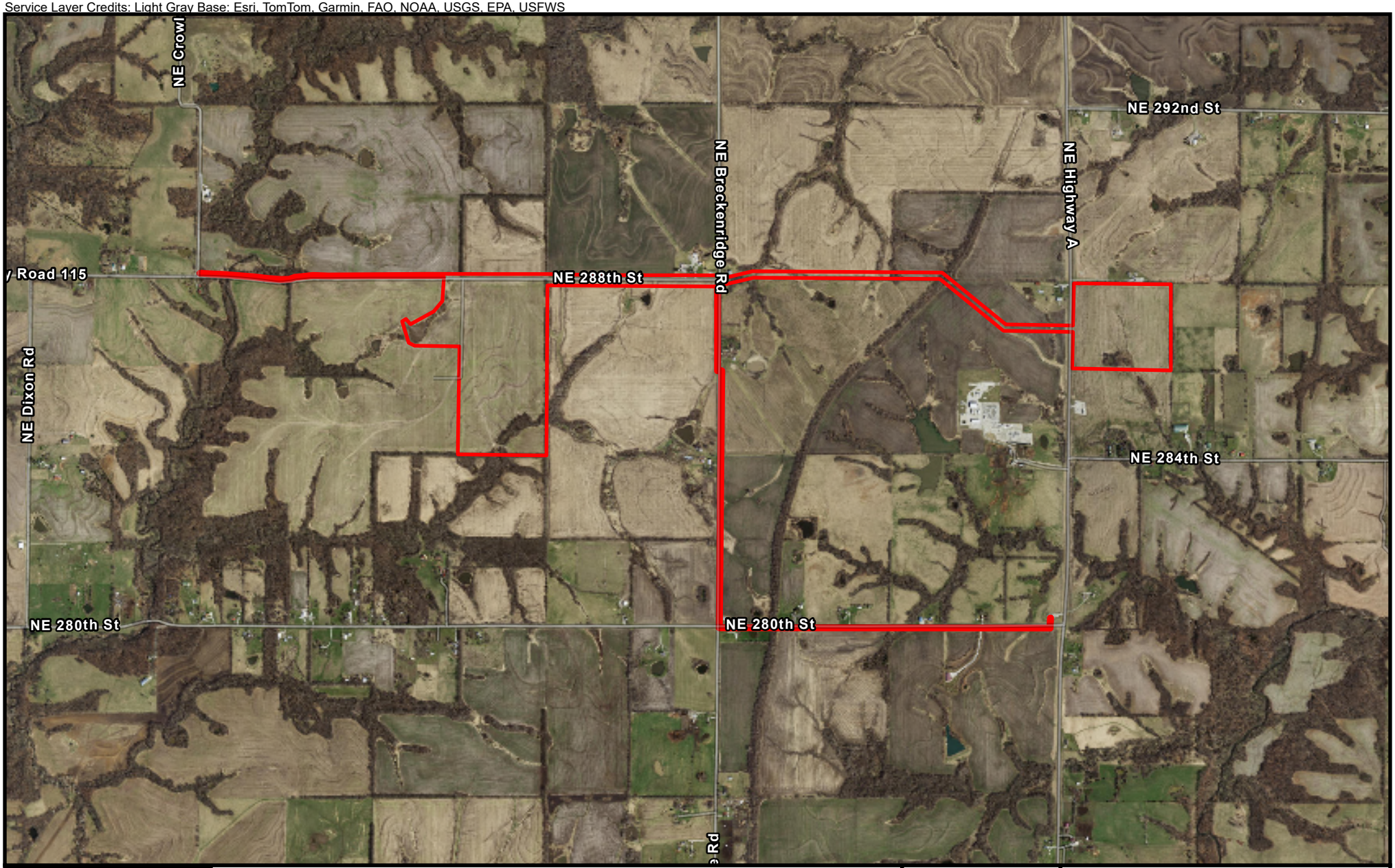
Cara Rogers
Biologist

Attachments:
Appendix A – Figures
Appendix B – Species Lists
Appendix C – Site Photographs

cc: Chris Howell, Burns & McDonnell

APPENDIX A – FIGURES

Service Layer Credits: Light Gray Base: Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS



Project Area

NORTH

1,500 750 0 1,500

Feet

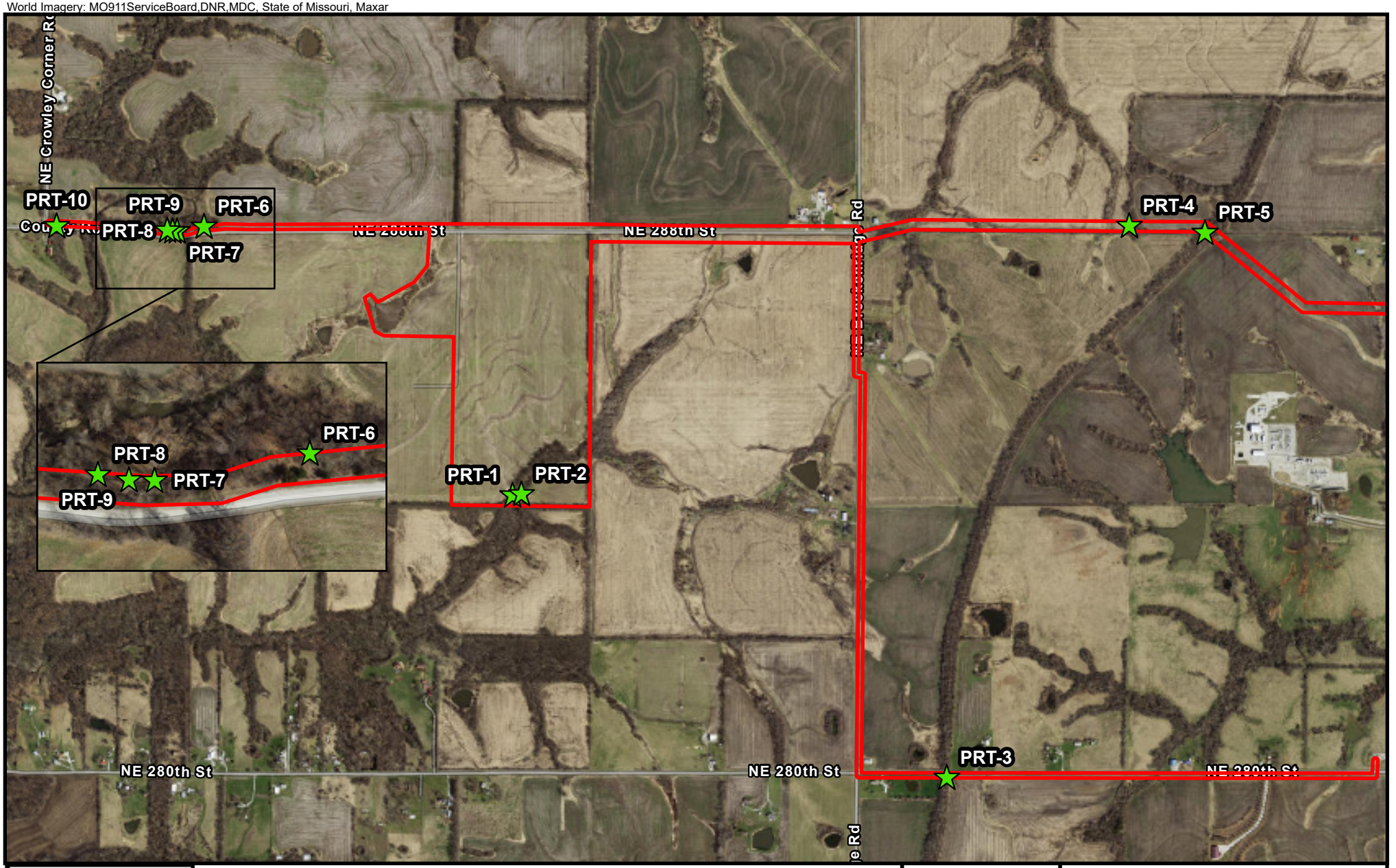
BURNS McDONNELL

Figure A-1
General Location
Turney Study Area
AECI
Clinton County, Missouri

Source: Esri, AECI, and Burns & McDonnell

Issued: 9/17/2024

Service Layer Credits: Light Gray Base: Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS
World Imagery: MO911ServiceBoard,DNR,MDC, State of Missouri, Maxar



Project Area

Potential Roost Trees

NORTH

1,000 500 0 1,000

Scale in Feet

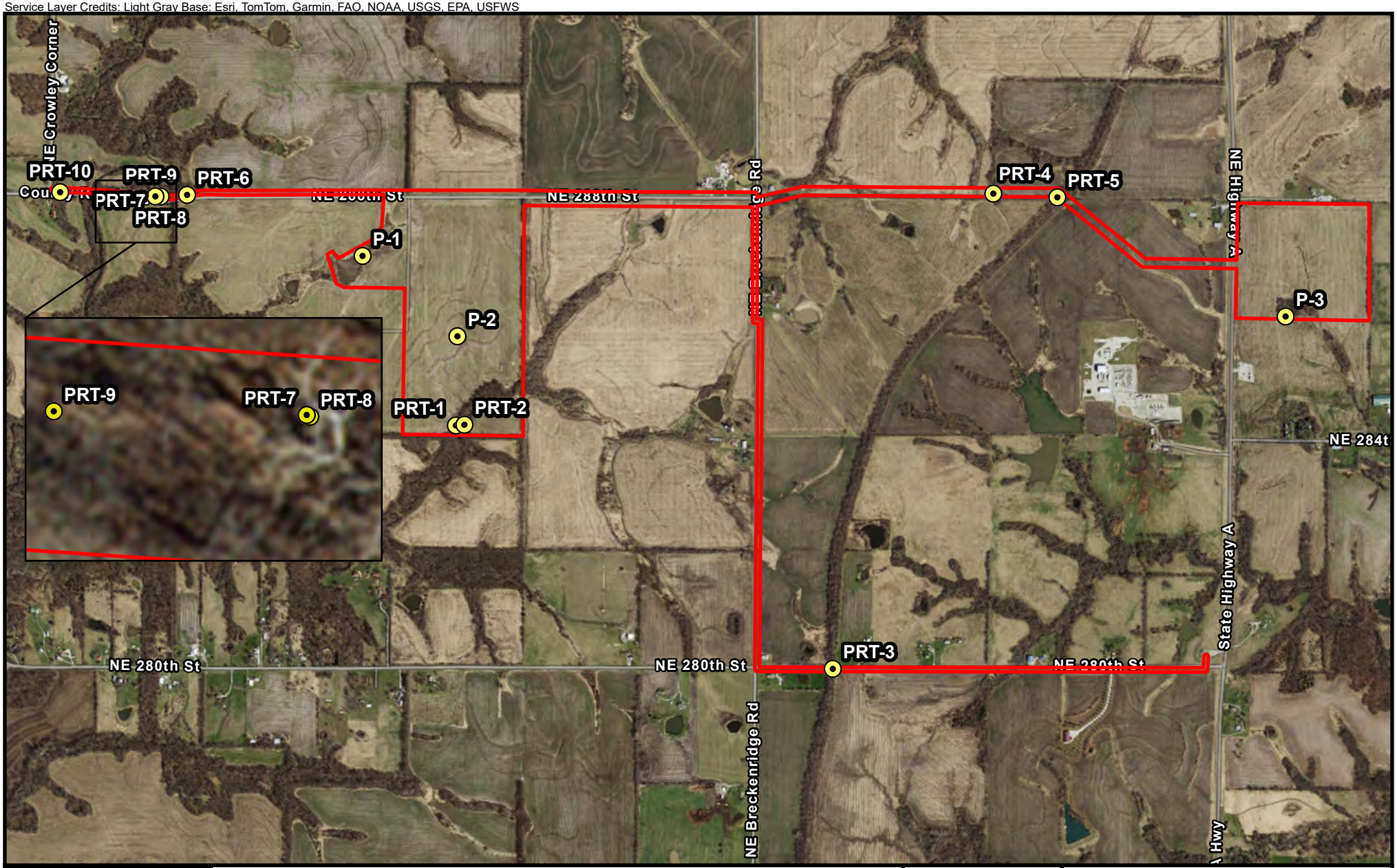
BURNS McDONNELL

Figure A-2
Potential Roost Trees
Turney Study Area
AECI
Clinton County, Missouri

Source: Esri, AECI, and Burns & McDonnell

Issued: 9/17/2024

Service Layer Credits: Light Gray Base: Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS



Project Area

Photo Points

NORTH

1,000 500 0 1,000

Scale in Feet

BURNS McDONNELL

Figure A-3
Photo Points
Turney Study Area
AECI
Clinton County, Missouri

Source: Esri, AECI, and Burns & McDonnell

Issued: 9/17/2024

APPENDIX B – SPECIES LISTS

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Clinton County, Missouri

Local office

Missouri Ecological Services Field Office

(573) 234-2132
(573) 234-2181

101 Park Deville Drive
Suite A
Columbia, MO 65203-0057

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Gray Bat Myotis grisescens Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6329	Endangered
Indiana Bat Myotis sodalis Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat Myotis septentrionalis Wherever found This species only needs to be considered if the following condition applies: • This species only needs to be considered if the project includes wind turbine operations. No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat Perimyotis subflavus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

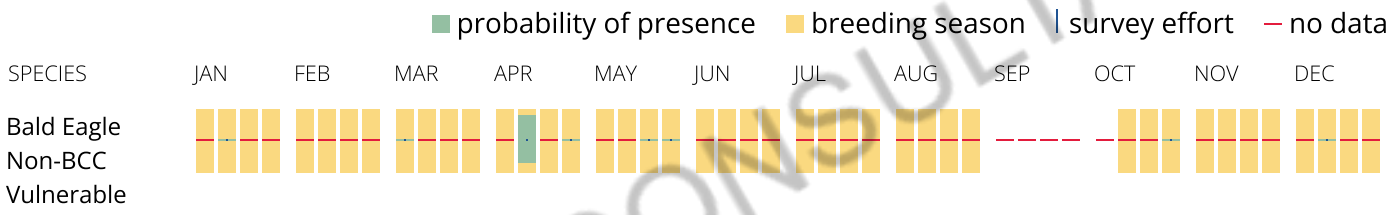
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your

list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Prairie Loggerhead Shrike Lanius ludovicianus excubitorides This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8833	Breeds Feb 1 to Jul 31
Red-headed Woodpecker Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

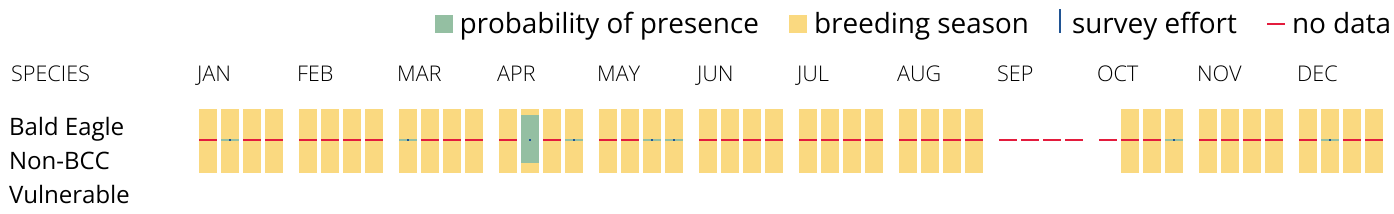
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

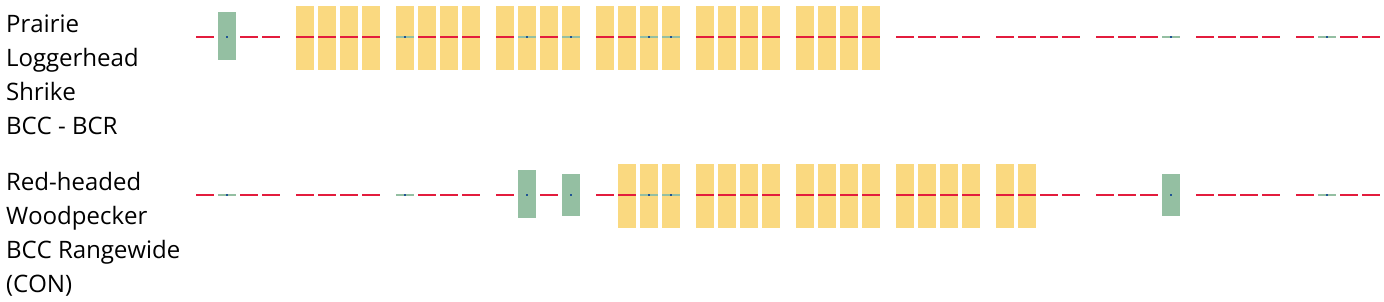
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of

presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Missouri Natural Heritage Program

Missouri Natural Heritage Review Website

Find information about species and natural communities of conservation concern, public lands, and sensitive reso

Go to Missouri Natural Heritage Review website

HISTORY

In 1972, the Missouri General Assembly passed an Act (Section 252.240 RSMo.) charging MDC with establishing a list of endangered species and providing protection for them. Section 4.111 of the Wildlife Code of Missouri regulates these species.

In 1981, the Nature Conservancy, Missouri Department of Natural Resources and Missouri Department of Conservation (MDC) created the Missouri Natural Heritage Program (MONHP) to identify species and natural communities of conservation concern in Missouri.

Since 1983, the MONHP has been part of MDC, where it continues its strong commitment to conserving rare and endangered plants and animals and high-quality natural communities.

SCOPE OF DATA

The MONHP receives biological data from the Missouri Natural Features Inventory, field biologists, universities, scientific literature, herbaria and other individuals and organizations. This information provides an understanding of the abundance, distribution, condition and conservation needs of these sensitive elements. There are currently more than 18,000 element occurrence records of more than 800 sensitive species and natural community types in Missouri.

Species and natural communities are evaluated and ranked on the basis of their global and statewide status. These ranks are revised as new information becomes available; changes in ranking can be the result of changes in species populations or in changes in our knowledge of the species.

SEARCH

The data is managed with Biotics, a geographic information system-based software from NatureServe. Through NatureServe, MONHP is part of an international network of biological and ecological databases.

The Missouri Natural Heritage Program (MONHP) identifies species and natural communities of conservation concern in each Missouri county. You can use this database to get accurate and current information for conservation planning, environmental review, scientific research, land acquisition and planning for economic development.

Heritage Search

County

Clinton Apply Reset

Name	State Rank	Global Rank	State Status	Federal Status
Eastern Tiger Salamander *Ambystoma tigrinum* More Eastern Tiger Salamander information	Vulnerable Code: S3	Secure Code: G5		
Central Plains - Warmwater - Creek	Unranked Code: S?	Not ranked Code: GNR		
Central Plains - Warmwater - Small river	Unranked Code: S?	Not ranked Code: GNR		
Dry-mesic loess/glacial till woodland	Vulnerable Code: S3	Not ranked Code: GNR		
Northern Plains Killifish *Fundulus kansae* More Northern Plains Killifish information	Imperiled Code: S2	Secure Code: G5		

Name	State Rank	Global Rank	State Status	Federal Status
Bald Eagle *Haliaeetus leucocephalus* More Bald Eagle information	Vulnerable Code: S3	Secure Code: G5		
Loggerhead Shrike *Lanius ludovicianus* More Loggerhead Shrike information	Imperiled Code: S2	Apparently secure Code: G4		
Mesic loess/glacial till prairie	Critically imperiled Code: S1	Not ranked Code: GNR		
Least Weasel *Mustela nivalis* More Least Weasel information	Vulnerable Code: S3	Secure Code: G5		
Indiana Myotis *Myotis sodalis* More Indiana Myotis information	Critically imperiled Code: S1	Imperiled Code: G2	Endangered Code: E	Endangered Code: E
Prairie swale	Critically imperiled Code: S1	Not ranked Code: GNR		
Regal Fritillary *Speyeria idalia*	Vulnerable Code: S3	Vulnerable Inexact numeric rank Code: G3?		
American Badger *Taxidea taxus* More American Badger information	Vulnerable Code: S3	Secure Code: G5		
A Grass *Tridens flavus var. chapmanii*	Imperiled Code: S2	Secure Taxonomic subdivision: Vulnerable Code: G5T3		

Name	State Rank	Global Rank	State Status	Federal Status
Rock Elm *Ulmus thomasii*	Imperiled Code: S2	Secure Code: G5		

HERITAGE PROGRAM TERMS AND DEFINITIONS

Federal Status

State Status

Global Rank

State Rank

IN THIS SECTION

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Constructing With Care

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AskMDC Videos

Nature's Calling Videos

Fish Story Videos

MISSION & VISION

We protect and manage the fish, forest, and wildlife of the state. We facilitate and provide opportunity for all citizens to use, enjoy, and learn about these resources.

APPENDIX C – SITE PHOTOGRAPHS

Photograph C-1: View of potential roost tree (PRT)-1, facing west. Large snag with notable habitat for *Myotis sodalis* and *Myotis septentrionalis*.

Photograph C-2: View of PRT-2, facing east. Large snag with notable habitat for *M. sodalis* and *M. septentrionalis*.

Photograph C-3: View of PRT-3, facing southeast. Large snag with notable habitat for *M. sodalis* and *M. septentrionalis*.

Photograph C-4: View of PRT-4, facing north. Large snag with notable habitat for *M. sodalis* and *M. septentrionalis*.

Photograph C-5: View of PRT-5, facing east. Large snag with notable habitat for *M. sodalis* and *M. septentrionalis*.

Photograph C-6: View of PRT-6, facing north. Large snag with notable habitat for *M. sodalis* and *M. septentrionalis.*

Photograph C-7: View of PRT-7, facing south. Large snag with notable habitat for *M. sodalis* and *M. septentrionalis.*

Photograph C-8: View of PRT-8, facing northeast. Large snag with notable habitat for *M. sodalis* and *M. septentrionalis.*

Photograph C-9: View of PRT-9, facing north. Large snag with notable habitat for *M. sodalis* and *M. septentrionalis.*

Photograph C-10: View of PRT-10, facing northwest. Large snag with notable habitat for *M. sodalis* and *M. septentrionalis.*

Photograph C-11: P-1, facing southwest. Large pond and associated wetland within the Study Area.

Photograph C-12: P-2, facing north. Agricultural fields of row crops are an example of the land that largely covers the Study Area.

Photograph C-13: P-3, facing north. Small pond surrounded by forest within the Study Area.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Missouri Ecological Services Field Office
101 Park Deville Drive
Suite A
Columbia, MO 65203-0057
Phone: (573) 234-2132 Fax: (573) 234-2181

In Reply Refer To: 01/29/2025 14:58:33 UTC
Project Code: 2024-0145147
Project Name: Turney Energy Center

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Threatened and Endangered Species

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and may be affected by your proposed project. The species list fulfills the requirement for obtaining a Technical Assistance Letter from the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).
New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. **Note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days.** The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

Consultation Technical Assistance

Refer to the Midwest Region S7 Technical Assistance website for step-by-step instructions for making species determinations and for specific guidance on the following types of projects:

projects in developed areas, HUD, pipelines, buried utilities, telecommunications, and requests for a Conditional Letter of Map Revision (CLOMR) from FEMA.

Federally Listed Bat Species

Indiana bats, gray bats, and northern long-eared bats occur throughout Missouri and the information below may help in determining if your project may affect these species.

Gray bats - Gray bats roost in caves or mines year-round and use water features and forested riparian corridors for foraging and travel. If your project will impact caves, mines, associated riparian areas, or will involve tree removal around these features – particularly within stream corridors, riparian areas, or associated upland woodlots –gray bats could be affected.
Indiana and northern long-eared bats - These species hibernate in caves or mines only during the winter. In Missouri the hibernation season is considered to be November 1 to March 31. During the active season in Missouri (April 1 to October 31) they roost in forest and woodland habitats. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥5 inches diameter at breast height (dbh) for Indiana bat, and ≥3 inches dbh for northern long-eared bat, that have exfoliating bark, cracks, crevices, and/or hollows), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Tree species often include, but are not limited to, shellbark or shagbark hickory, white oak, cottonwood, and maple. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat and evaluated for use by bats. If your project will impact caves or mines or will involve clearing forest or woodland habitat containing suitable roosting habitat, Indiana bats or northern long-eared bats could be affected.
Examples of unsuitable habitat include:

- Individual trees that are greater than 1,000 feet from forested or wooded areas;
- Trees found in highly-developed urban areas (e.g., street trees, downtown areas);
- A pure stand of less than 3-inch dbh trees that are not mixed with larger trees; and
- A stand of eastern red cedar shrubby vegetation with no potential roost trees.

Using the IPaC Official Species List to Make No Effect and May Affect Determinations for Listed Species

1. If IPaC returns a result of “There are no listed species found within the vicinity of the project,” then project proponents can conclude the proposed activities will have **no effect** on any federally listed species under Service jurisdiction. Concurrence from the Service is not required for **No Effect** determinations. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records. An example "No Effect" document also can be found on the S7 Technical Assistance website.

2. If IPaC returns one or more federally listed, proposed, or candidate species as potentially present in the action area of the proposed project – other than bats (see #3 below) – then project proponents can conclude the proposed activities **may affect** those species. For assistance in determining if suitable habitat for listed, candidate, or proposed species occurs within your project area or if species may be affected by project activities, you can obtain Life History Information for Listed and Candidate Species through the Species website.
3. If IPac returns a result that one or more federally listed bat species (Indiana bat, northern long-eared bat, or gray bat) are potentially present in the action area of the proposed project, project proponents can conclude the proposed activities **may affect** these bat species **IF** one or more of the following activities are proposed:
    a. Clearing or disturbing suitable roosting habitat, as defined above, at any time of year;
    b. Any activity in or near the entrance to a cave or mine;
    c. Mining, deep excavation, or underground work within 0.25 miles of a cave or mine;
    d. Construction of one or more wind turbines; or
    e. Demolition or reconstruction of human-made structures that are known to be used by bats based on observations of roosting bats, bats emerging at dusk, or guano deposits or stains.

If none of the above activities are proposed, project proponents can conclude the proposed activities will have **no effect** on listed bat species. Concurrence from the Service is not required for **No Effect** determinations. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records. An example "No Effect" document also can be found on the S7 Technical Assistance website.
If any of the above activities are proposed in areas where one or more bat species may be present, project proponents can conclude the proposed activities **may affect** one or more bat species. We recommend coordinating with the Service as early as possible during project planning. If your project will involve removal of over 5 acres of suitable forest or woodland habitat, we recommend you complete a Summer Habitat Assessment prior to contacting our office to expedite the consultation process. The Summer Habitat Assessment Form is available in Appendix A of the most recent version of the Range-wide Indiana Bat Summer Survey Guidelines.

Other Trust Resources and Activities

Bald and Golden Eagles - Although the bald eagle has been removed from the endangered species list, this species and the golden eagle are protected by the Bald and Golden Eagle Act and the Migratory Bird Treaty Act. Should bald or golden eagles occur within or near the project area please contact our office for further coordination. For communication and wind energy projects, please refer to additional guidelines below.

Migratory Birds - The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Service. The Service has the responsibility under the MBTA

to proactively prevent the mortality of migratory birds whenever possible and we encourage implementation of recommendations that minimize potential impacts to migratory birds. Such measures include clearing forested habitat outside the nesting season (generally March 1 to August 31) or conducting nest surveys prior to clearing to avoid injury to eggs or nestlings.

Communication Towers - Construction of new communications towers (including radio, television, cellular, and microwave) creates a potentially significant impact on migratory birds, especially some 350 species of night-migrating birds. However, the Service has developed voluntary guidelines for minimizing impacts.

Transmission Lines - Migratory birds, especially large species with long wingspans, heavy bodies, and poor maneuverability can also collide with power lines. In addition, mortality can occur when birds, particularly hawks, eagles, kites, falcons, and owls, attempt to perch on uninsulated or unguarded power poles. To minimize these risks, please refer to guidelines developed by the Avian Power Line Interaction Committee and the Service. Implementation of these measures is especially important along sections of lines adjacent to wetlands or other areas that support large numbers of raptors and migratory birds.

Wind Energy - To minimize impacts to migratory birds and bats, wind energy projects should follow the Service's Wind Energy Guidelines. In addition, please refer to the Service's Eagle Conservation Plan Guidance, which provides guidance for conserving bald and golden eagles in the course of siting, constructing, and operating wind energy facilities.

Next Steps

Should you determine that project activities **may affect** any federally listed species or trust resources described herein, please contact our office for further coordination. Letters with requests for consultation or correspondence about your project should include the Consultation Tracking Number in the header. Electronic submission is preferred.

If you have not already done so, please contact the Missouri Department of Conservation (Policy Coordination, P. O. Box 180, Jefferson City, MO 65102) for information concerning Missouri Natural Communities and Species of Conservation Concern.
We appreciate your concern for threatened and endangered species. Please feel free to contact our office with questions or for additional information.

John Weber

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

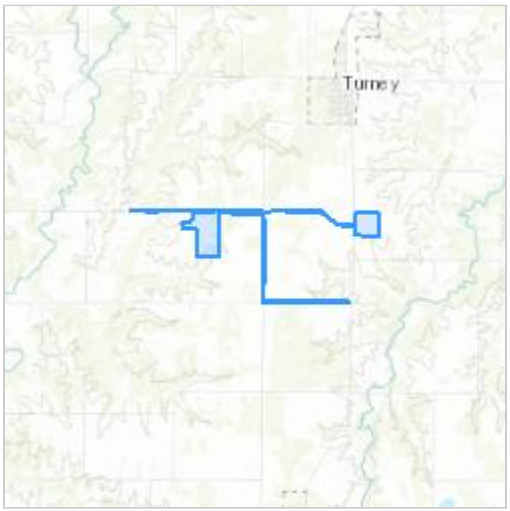
This species list is provided by:

Missouri Ecological Services Field Office
101 Park Deville Drive
Suite A
Columbia, MO 65203-0057
(573) 234-2132

PROJECT SUMMARY

Project Code: 2024-0145147
Project Name: Turney Energy Center
Project Type: Power Gen - Other
Project Description: Potential simple-cycle combustion turbine site.
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.6081676,-94.34916449393126,14z



Counties: Clinton County, Missouri

ENDANGERED SPECIES ACT SPECIES

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Gray Bat *Myotis grisescens* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6329	Endangered
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949 General project design guidelines: https://ipac.ecosphere.fws.gov/project/HZ6TADRFNZHJTE3EYG62SDOLSM/documents/generated/7280.pdf	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened
Western Regal Fritillary *Argynnis idalia occidentalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/12017	Proposed Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Cara Rogers
Address: 9450 Ward Parkway
City: Kansas City
State: MO
Zip: 64114
Email crogers@burnsmcd.com
Phone: 9808751271

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Rural Utilities Service

July 9, 2024

Kathryn Bulliner
Fish & Wildlife Biologist
U.S. Fish & Wildlife Service
101 Park Deville Drive, Suite A
Columbia, MO 65203

Re: Bat Mist-net Survey Report for the Turney Energy Center Project in Clinton County, Missouri
Burns & McDonnell Project Number: 141827

Dear Ms. Bulliner:

Burns & McDonnell was retained by Associated Electric Cooperative, Inc. (AECI) to provide protected species services for the proposed Turney Energy Center Project (Project) in Clinton County, Missouri (Figure 1 in Appendix A). The initial review of protected species information for the Project indicated that potential habitat for Indiana bat (*Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), little brown bat (*Myotis lucifugus*), and tricolored bat (*Perimyotis subflavus*) may occur in the Project area. Therefore, bat presence/absence surveys were conducted using mist-net survey methods.

Project Description

AECI is considering constructing a simple-cycle combustion turbine in Clinton County, Missouri. The Project will also include an associated transmission line, gas pipeline, and substation. The Project is located approximately 1.5 miles south of Turney, Missouri (Figure 1).

Methods

The following methods were included in a survey plan submitted to the Missouri field office of the U.S. Fish & Wildlife Service (USFWS) on May 10, 2024, and approved on May 17, 2024. The survey protocol followed the 2024 USFWS *Rangewide Indiana Bat and Northern Long-eared Bat Survey Guidelines* (Guidelines). Burns & McDonnell bat biologists Josiah Maine and Cara Rogers (USFWS permit numbers PER0003355 and PER0037840, respectively) conducted the mist-net survey within the survey area.

The Project contains multiple linear and non-linear components. Due to the minimal amount of habitat within the nonlinear areas, the high degree of habitat fragmentation, and the proximity of proposed linear features, Burns & McDonnell applied the linear portion of the survey guidelines to determine the appropriate level of survey effort for the entirety of the project. The level of effort specified in the

Guidelines on linear projects is four net-nights per linear kilometer of suitable habitat. Four linear kilometers were sufficient to cover suitable habitat throughout the Project area. Burns & McDonnell deployed two net sets at four sites for two nights to meet the required level of effort.

Mist-nets were deployed at sunset and were monitored for five hours each night. Weather and temperature data were monitored during the survey period to confirm compliance with the weather conditions outlined in the Guidelines. Biologists were prepared to stop surveying and repeat a night of netting if adverse weather prevented a full five hours of netting. Nets were checked every 10 minutes for bats.

Radio transmitters were available to attach to captured Indiana bats and northern long-eared bats. The biologists were prepared to conduct radio-telemetry and emergence counts according to the methods in the Guidelines.

Results

Mist-net surveys were conducted during the nights of May 20 to May 23, 2024. Nets were placed across streams, field edges, and forested wetlands (Figure 2, Figure 3 in Appendix A). Common tree species in the vicinity included silver maple (*Acer saccharinum*), common hackberry (*Celtis occidentalis*), black willow (*Salix nigra*), slippery elm (*Ulmus rubra*), American sycamore (*Platanus occidentalis*), honey locust (*Gleditsia triacanthos*), eastern cottonwood (*Populus deltoides*), and Osage orange (*Maclura pomifera*). Photos are provided in Appendix B.

Table 0-1: Mist-net Survey Sites

Site	Latitude	Longitude	Nights	Total Net-Nights
KM-01	39.60852	-94.3491	May 22 - 23, 2024	4
KM-02	39.61770	-94.3285	May 20 – 21, 2024	4
KM-03	39.6002	-94.3288	May 22 – 23, 2024	4
KM-04	39.6152	-94.3243	May 20 – 21, 2024	4

No bats were captured during the surveys. Weather conditions during the surveys were within the acceptable limits based on the USFWS Guidelines. Temperatures during the surveys ranged from 55.2 °F to 75.2 °F, with no precipitation or high winds (Appendix C).

Conclusion

Mist-net surveys were conducted at four sites for the Project, and each site was netted for two nights. No bats were captured throughout the 16 net-nights. No federally or state threatened or endangered species were captured, and no radio-telemetry studies or emergence counts were conducted. Therefore, Indiana bat, northern long-eared bat, little brown bat, and tricolored bat are considered likely absent for the Project area.

If you have any questions or comments regarding this report, please contact me by phone at 816-448-7519 or by email at jjmaine@burnsmcd.com.

Sincerely,

Josiah Maine
Senior Environmental Scientist
Burns & McDonnell Engineering Company, Inc.

Attachments:

- Appendix A – Figures
- Appendix B – Site Photographs
- Appendix C - Datasheets

cc: Shelly Colatskie, Missouri Department of Conservation
Rob LeForce, AECI

APPENDIX A – FIGURES

Service Layer Credits: Light Gray Base: Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS

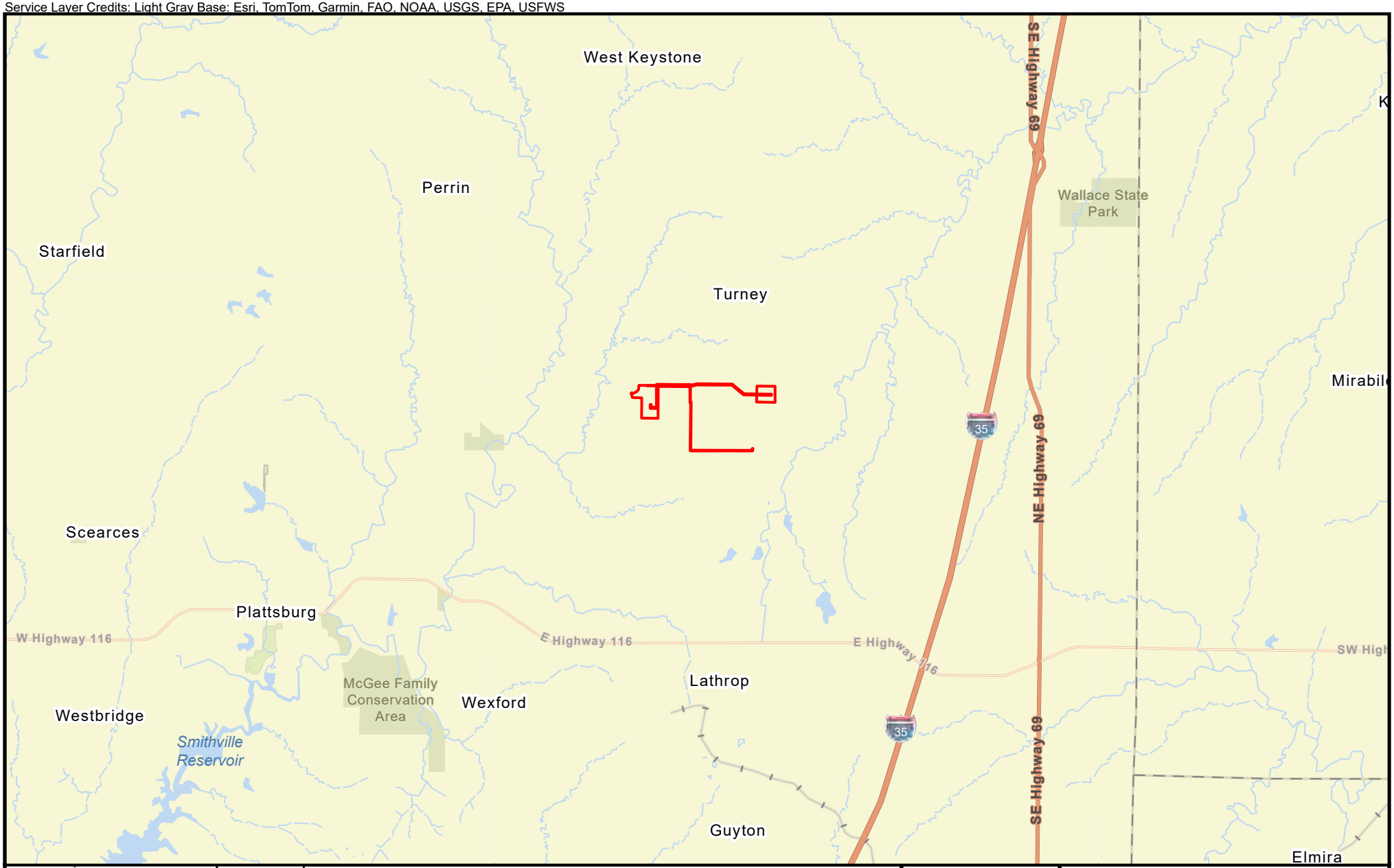


Figure 1 - Site Location Map
Turney Energy Center
Associated Electric Cooperation, Inc.
Clinton County, Missouri

Source: Esri, Associated Electric Cooperation, Inc., and Burns & McDonnell

Issued: 6/26/2024

Service Layer Credits: Light Gray Base: Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS

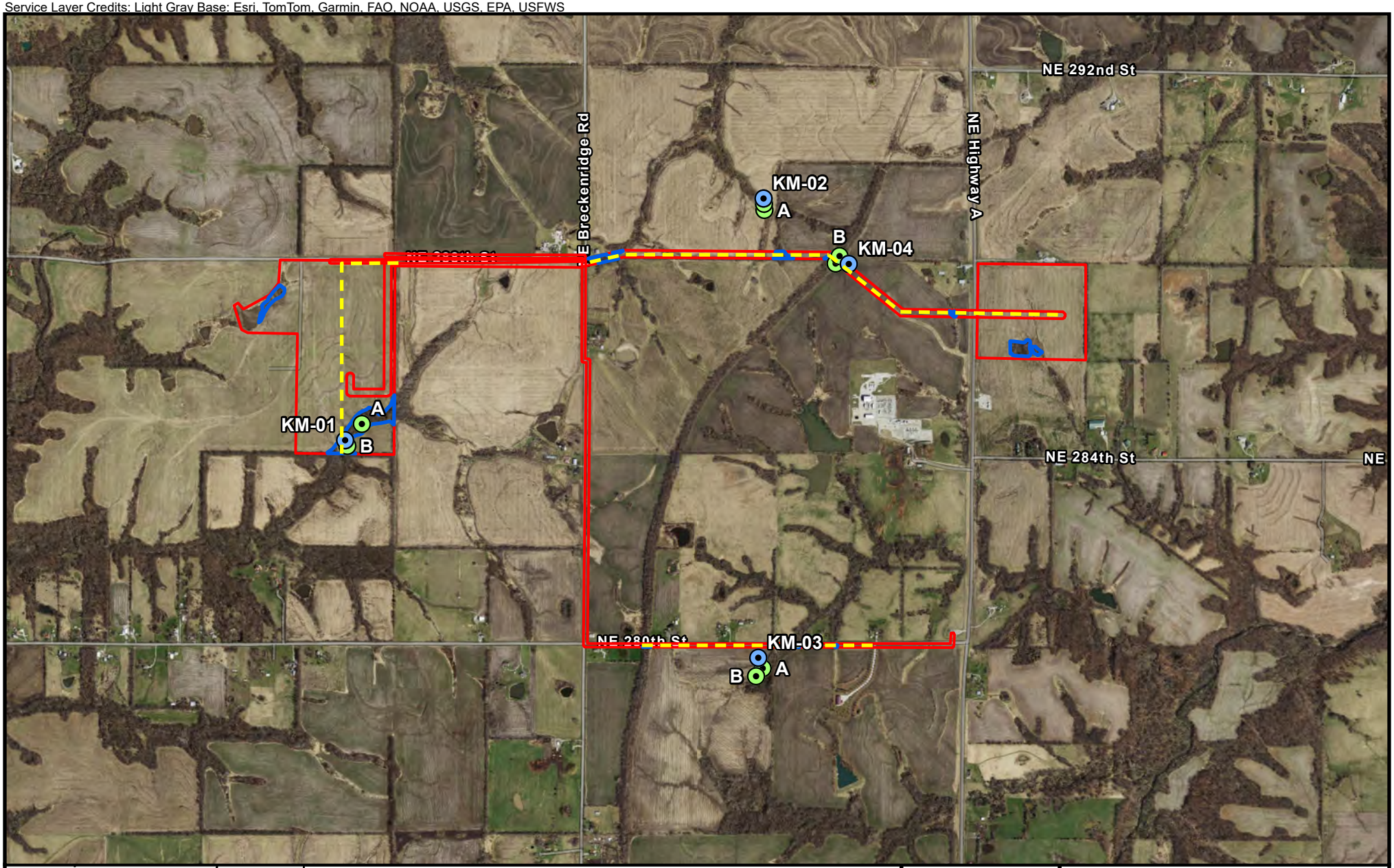
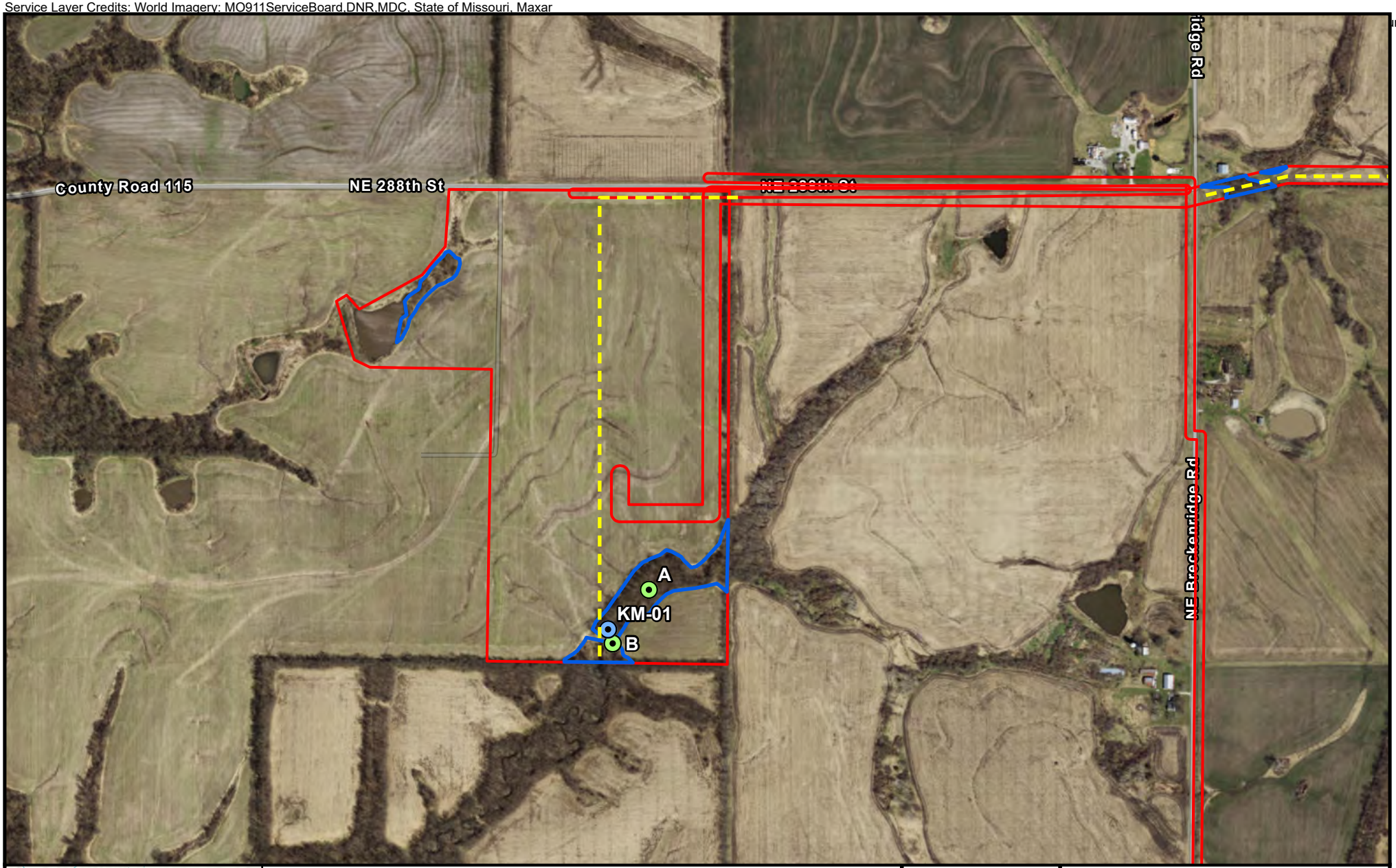


Figure 2 - Net Locations Overview
Turney Energy Center
Associated Electric Cooperation, Inc.
Clinton County, Missouri

Source: Esri, Associated Electric Cooperative, Inc., and Burns & McDonnell

Issued: 6/26/2024

Service Layer Credits: World Imagery: MO911ServiceBoard,DNR,MDC, State of Missouri, Maxar



Survey Area
Potential Tree Clearing
1KM Segments
Net Site Locations
Net Locations

NORTH

500 250 0 500

Scale in Feet

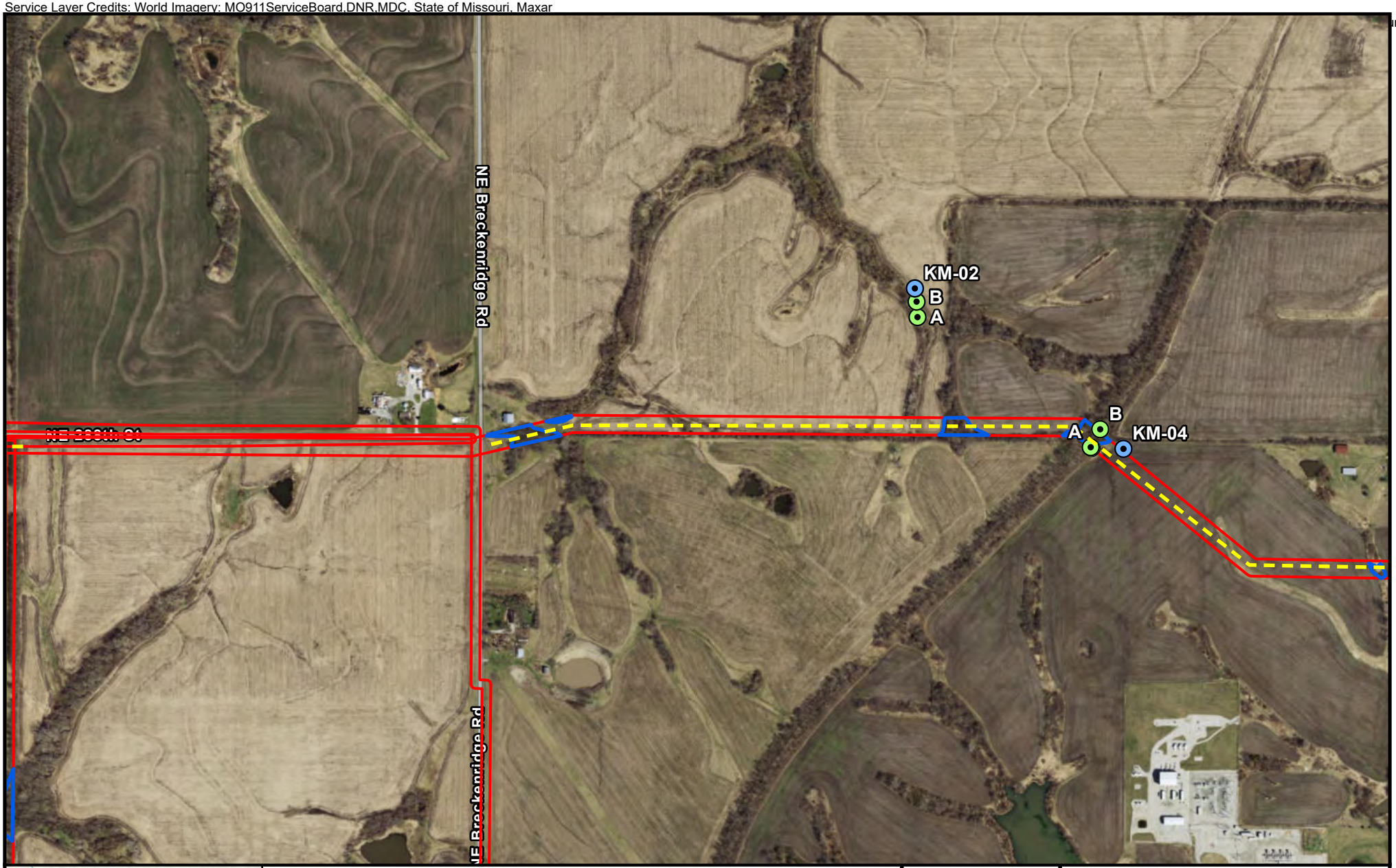
BURNS McDONNELL

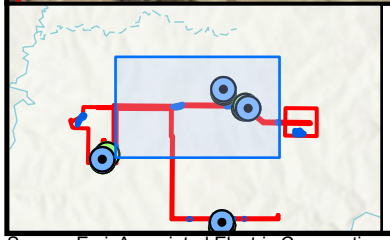
Figure 3 - Net Site Locations
Turney Energy Center
Associated Electric Cooperative, Inc.
Clinton County, Missouri
Page 1 of 4

Source: Esri, Associated Electric Cooperative, Inc., and Burns & McDonnell

Issued: 6/14/2024

Service Layer Credits: World Imagery: MO911ServiceBoard,DNR,MDC, State of Missouri, Maxar





Survey Area
Potential Tree Clearing
1KM Segments
Net Site Locations
Net Locations

NORTH

500 250 0 500

Scale in Feet

BURNS McDONNELL

Figure 3 - Net Site Locations
Turney Energy Center
Associated Electric Cooperative, Inc.
Clinton County, Missouri
Page 2 of 4

Source: Esri, Associated Electric Cooperative, Inc., and Burns & McDonnell

Issued: 6/14/2024

Service Layer Credits: World Imagery: MO911ServiceBoard,DNR,MDC, State of Missouri, Maxar

Survey Area
Potential Tree Clearing
1KM Segments
Net Site Locations
Net Locations

NORTH

500 250 0 500

Scale in Feet

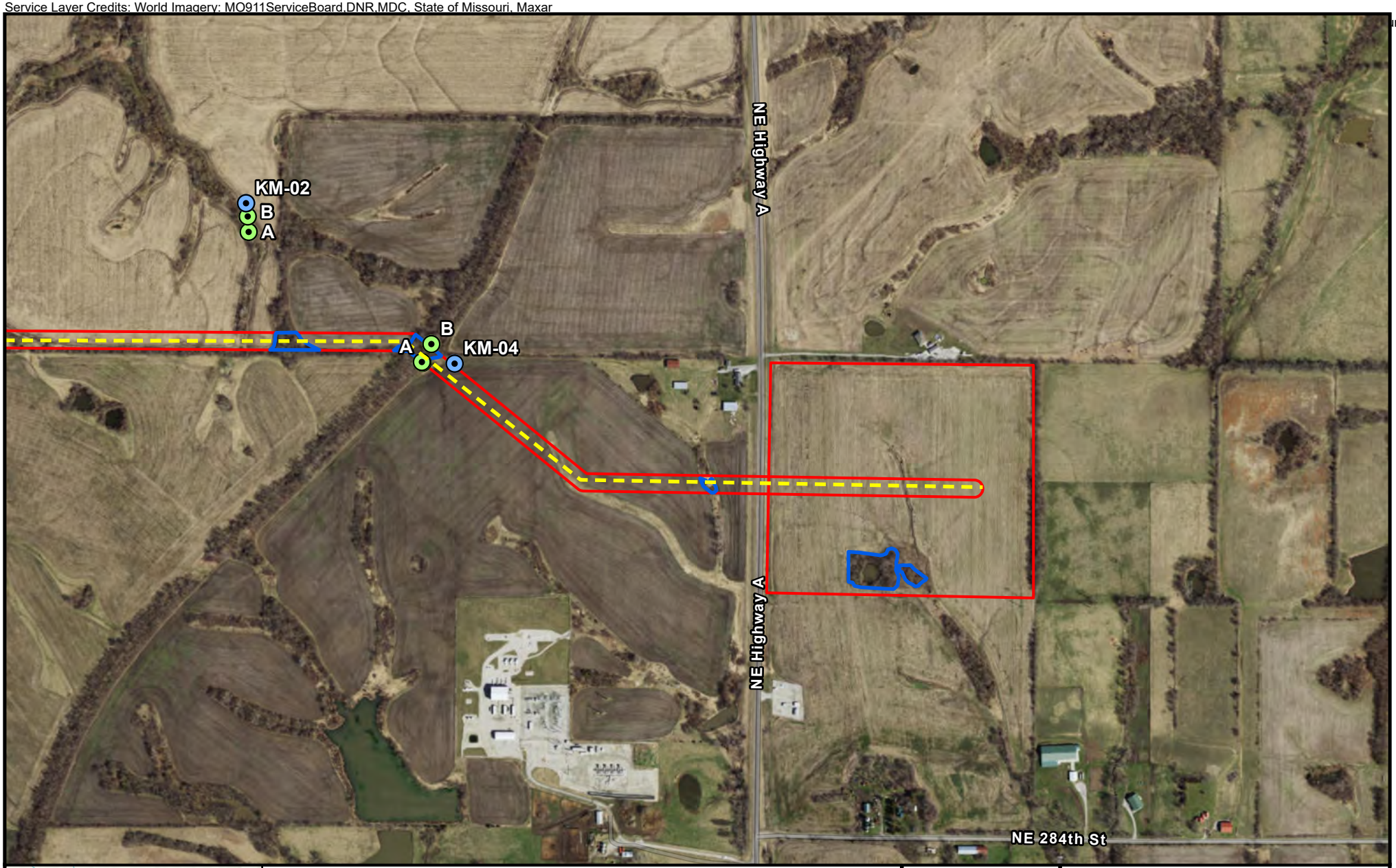
BURNS McDONNELL

Figure 3 - Net Site Locations
Turney Energy Center
Associated Electric Cooperative, Inc.
Clinton County, Missouri
Page 3 of 4

Source: Esri, Associated Electric Cooperative, Inc., and Burns & McDonnell

Issued: 6/14/2024

Service Layer Credits: World Imagery: MO911ServiceBoard,DNR,MDC, State of Missouri, Maxar



Survey Area
Potential Tree Clearing
1KM Segments
Net Site Locations
Net Locations

NORTH

500 250 0 500

Scale in Feet

BURNS McDONNELL

Figure 3 - Net Site Locations
Turney Energy Center
Associated Electric Cooperative, Inc.
Clinton County, Missouri
Page 4 of 4

Source: Esri, Associated Electric Cooperative, Inc., and Burns & McDonnell

Issued: 6/14/2024

APPENDIX B – SITE PHOTOGRAPHS

Photograph B-1: View of net set A at site KM-01.

Photograph B-2: View of net set B at site KM-01.

Photograph B-3: View of net set A at Site KM-02.

Photograph B-4: View of net set B at site KM-02.

Photograph B-5: View net set A at site KM-03.

Photograph B-6: View of net set B at site KM-03.

Photograph B-7: View of net set A at site KM-04.

Photograph B-8: View of net set B at site KM-04.

APPENDIX C - DATASHEETS

Table C-1: Net Site Data

Site ID	Lead Biologist	Night	Net Sets	Net A Habitat	Net B Habitat	Total Net Area (M^2)	Survey Start Time	Survey End Time	Dominant Vegetation	Latitude	Longitude
KM-01	Josiah Maine	5/22/2024	2	Stream	Corridor	124.8	20:30	01:30	Honey locust, eastern cottonwood, Osage orange	39.608524	-94.3491465
KM-01	Josiah Maine	5/23/2024	2	Stream	Corridor	124.8	20:33	01:33	Honey locust, eastern cottonwood, Osage orange	39.608524	-94.3491465
KM-02	Josiah Maine	5/20/2024	2	Stream	Corridor	109.2	20:30	01:30	Silver maple, common hackberry, black willow	39.61771	-94.3285081
KM-02	Josiah Maine	5/21/2024	2	Stream	Corridor	109.2	20:30	01:30	Silver maple, common hackberry, black willow	39.61771	-94.3285081
KM-03	Cara Rogers	5/22/2024	2	Corridor	Corridor	163.8	20:33	01:35	Mulberry, Osage orange, poison ivy	39.600197	-94.3288061
KM-03	Cara Rogers	5/23/2024	2	Corridor	Corridor	163.8	20:35	01:35	Mulberry, Osage orange, poison ivy	39.600197	-94.3288061
KM-04	Cara Rogers	5/20/2024	2	Pond	Pond	109.2	20:45	01:45	Slippery elm, sycamore, reed canary grass, poison ivy	39.615198	-94.3243042
KM-04	Cara Rogers	5/21/2024	2	Pond	Pond	109.2	20:30	01:31	Slippery elm, sycamore, reed canary grass, poison ivy	39.615198	-94.3243042

Table C-2: Net Set Data

Site ID	Net Letter	Stacked Nets	Net Width (M)	Net Area (M^2)	Habitat	Latitude	Longitude
KM-01	A	2	6	31.2	Stream	39.609141	-94.348321
KM-01	B	3	12	93.6	Corridor	39.608304	-94.349054
KM-02	A	1	6	15.6	Stream	39.617261	-94.328456
KM-02	B	3	12	93.6	Corridor	39.617503	-94.328474
KM-03	A	3	9	70.2	Corridor	39.599792	-94.328586
KM-03	B	3	12	93.6	Corridor	39.599494	-94.32892
KM-04	A	2	9	46.8	Pond	39.615214	-94.324949
KM-04	B	2	12	62.4	Pond	39.615504	-94.324773

Table C-3: Weather Data

Site	Night	Time	Temperature (°F)	Sky Code	Wind Code	Number of Bats
KM-01	5/22/2024	21:00	65.5	0	0	0
KM-01	5/22/2024	22:04	58.1	0	0	0
KM-01	5/22/2024	23:02	56.3	0	0	0
KM-01	5/22/2024	0:03	55.4	0	0	0
KM-01	5/22/2024	0:53	55.2	0	0	0
KM-01	5/23/2024	20:50	75.2	0	1	0
KM-01	5/23/2024	21:46	73.2	1	1	0
KM-01	5/23/2024	23:13	73.3	3	1	0
KM-01	5/23/2024	0:03	74.1	3	1	0
KM-01	5/23/2024	1:03	55.2	3	1	0
KM-02	5/20/2024	21:50	74.9	1	1	0
KM-02	5/20/2024	22:29	73.8	1	1	0
KM-02	5/20/2024	23:30	73.9	3	2	0
KM-02	5/20/2024	0:33	72.8	2	2	0
KM-02	5/20/2024	1:21	73.3	2	2	0
KM-02	5/21/2024	20:45	66	3	2	0
KM-02	5/21/2024	21:28	62.5	2	2	0
KM-02	5/21/2024	22:23	61	1	2	0
KM-02	5/21/2024	23:33	58.4	1	1	0
KM-02	5/21/2024	0:31	58.5	1	1	0
KM-03	5/22/2024	20:29	66	0	1	0
KM-03	5/22/2024	21:36	64	0	1	0
KM-03	5/22/2024	22:22	62	0	1	0
KM-03	5/22/2024	23:33	60	0	1	0
KM-03	5/22/2024	0:22	59	0	1	0
KM-03	5/22/2024	1:17	58	0	1	0
KM-03	5/23/2024	20:29	73	1	1	0
KM-03	5/23/2024	23:01	71	1	2	0
KM-04	5/21/2024	20:25	66	1	2	0
KM-04	5/21/2024	22:16	62	1	2	0
KM-04	5/21/2024	23:18	61	0	1	0
KM-04	5/21/2024	0:55	59	0	1	0
KM-04	5/21/2024	1:26	59	0	1	0
KM-04	5/22/2024	21:16	73	0	1	0
KM-04	5/22/2024	22:38	71	3	1	0
KM-04	5/22/2024	23:42	71	2	2	0
KM-04	5/22/2024	1:02	71	2	2	0

September 12, 2024

Ms. Kathryn Bulliner
Energy Coordinator
U.S. Fish & Wildlife Service
101 Park Deville Drive, Suite A
Columbia, Missouri 65203

Re: Acoustic Bat Survey Report for the Turney Waterline Addition in Clinton County, Missouri

Dear Ms. Bulliner:

Burns & McDonnell (Burns & McDonnell) has been retained by Associated Electric Cooperation, Inc. (AECI) to conduct environmental surveys for the Turney Energy Center Project (Project). AECI is considering constructing a simple-cycle combustion turbine in Clinton County, Missouri. The Project will include a waterline that will connect to the main turbine facility. The Project is located approximately 1.5 miles south of Turney, Missouri (Figure 1). The initial review of protected species information for the Project indicated that potential habitat for Indiana bat (*Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), and tricolored bat (*Perimyotis subflavus*) may be impacted by the tree clearing activities.

A mist-net survey was conducted along the Project transmission line route, gas pipeline route, generation site, and substation site in May 2024, with the results submitted to your office. No Indiana bats, northern long-eared bats, or tricolored bats were documented during the mist-net survey. In July 2024, an additional component was added to the Project for a water line. Accordingly, Burns & McDonnell conducted presence/probable absence surveys for Indiana bat, northern long-eared bat, and tricolored bat along the waterline using acoustic methods.

Methods

The following methods were included in a survey plan submitted to the Missouri field office of the U.S. Fish & Wildlife Service (USFWS) on August 4, 2024, and approved on August 5, 2024. The survey protocol followed the 2024 USFWS *Rangewide Indiana Bat and Northern Long-eared Bat Survey Guidelines* (Guidelines).

The level of effort specified in the Guidelines on linear projects is four detector-nights per kilometer of suitable habitat. One one-kilometer segment of suitable habitat occurs along the Project route. Burns & McDonnell biologists deployed a detector at one location for four nights. The location of the deployed detector was determined in

the field and based on site conditions. The detector location is shown in Figure 1 in Attachment 1.

The detector model used was a Wildlife Acoustics SM Mini Bat unit with the integrated omnidirectional microphone. Site 1 was located at a forest edge near a river (Table 1; photographs in Attachment 2). The microphone was elevated 2-3 meters above ground level, at least 3 meters from obstructions and with minimal clutter within 10 meters. The detector was set to record from 30 minutes before sunset to 30 minutes after sunrise. The detector was placed on August 5, 2024, and was retrieved on August 9, 2024, recording 4 nights of data.

Recordings were made in full spectrum, with settings optimized for detection of Indiana bat, northern long-eared bat, little brown bat, and tricolored bat (Table 2). Settings were carefully assessed in the field to determine that the detectors would be operating properly. Log files and acoustic data were also reviewed following data retrieval to confirm that the detectors were operating as planned.

Table 1: Acoustic survey site coordinates and habitat

Site	Lat	Long	Microphone Orientation	Habitat
1	39.61607	-94.36251	West	Forest Edge

Table 2: Key settings for the acoustic detectors used for acoustic bat surveys

Setting Type	Setting[1]
Detector model	Wildlife Acoustics SM Mini Bat
Nightly recording time	0.5-hour before sunset to 0.5-hour after sunrise
Recording format	Full-spectrum .wav
Sample frequency	256 kHz
Minimum trigger frequency	16 kHz
Trigger level	12 dB

[1] All other settings were default values for recording bats.

Bat calls were classified to species using Kaleidoscope Pro version 5.6.6 with the Bats of North America classifier version 5.4.0 with a -1 (more sensitive) setting. If Kaleidoscope indicated likely presence ($p < 0.05$) of Indiana bat, northern long-eared bat, or tricolored bat, all bat calls from that site and night would be reviewed

manually by Cara Rogers and Josiah Maine. Call characteristics would be compared to known representative calls and known call parameters to determine species.

Weather data such as temperature and wind speed were collected from the online resource Weather Underground at weather station KEZZ located at approximately 39.72° N, -94.28° W.

Results

Weather during the survey period included temperatures ranging from 58.3 degrees Fahrenheit to 94.1 degrees Fahrenheit, and wind speeds of 0 to 17 miles per hour (www.mesowest.com). Temperatures did not drop below 50 degrees Fahrenheit during the survey period. Winds did not exceed 9 miles per hour for more than 30 minutes. No rain occurred throughout the sampling period.

At the site, five species were determined to be potentially present by the Kaleidoscope Pro classifier: big brown bat (*Eptesicus fuscus*), eastern red bat (*Lasiurus borealis*), hoary bat (*Lasiurus cinereus*), silver-haired bat (*Lasionycteris noctivagans*), and little brown bat (*Myotis lucifugus*). The classifier did not indicate likely presence of Indiana bat, northern long-eared bat, or tricolored bat for any night. Therefore, qualitative analysis (manual review) was not needed.

Data tables with detailed analysis results for each site and night are included in Attachment 3.

Table 3: Presence/probable absence results for the acoustic sites

Common Name	Scientific Name	Site 1[a]
Big brown bat	*Eptesicus fuscus*	P
Eastern red bat	*Lasiurus borealis*	P
Hoary bat	*Lasiurus cinereus*	P
Silver-haired bat	*Lasionycteris noctivagans*	P
Little brown bat	*Myotis lucifugus*	P
Northern long-eared bat	*Myotis septentrionalis*	A
Indiana bat	*Myotis sodalis*	A
Evening bat	*Nycticeius humeralis*	A
Tricolored bat	*Permyotis subflavus*	A

[a]: Presence; A: Probable Absence
Presence determined by Kaleidoscope Pro, as indicated by MLE less than 0.05, or by manual review as applicable.

Conclusion

Acoustic surveys were conducted at one site for the Project, in accordance with USFWS Guidelines. Indiana bat, northern long-eared bat, and tricolored bat were determined to be likely absent based on automated identification results.

If you have any questions or comments regarding this report, please contact me by phone at 980-875-1271 or by email at crogers@burnsmcd.com.

Sincerely,

Cara Rogers

Cara Rogers, PER0037840
Biologist
Burns & McDonnell

Josiah Maine, PER0003355
Senior Environmental Scientist
Burns & McDonnell

Attachments:

- Attachment 1 – Figures
- Attachment 2 - Photographs
- Attachment 3 – Data Tables

cc: Rob LeForce, AECI
Keslie Inman, AECI
Chris Howell, Burns & McDonnell

ATTACHMENT 1 – FIGURES

Service Layer Credits: Light Gray Base: Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS

Acoustic Detector Location

Project Area

NORTH

1,000 500 0 1,000

Scale in Feet

BURNS McDONNELL

Figure 1
General Location
Turney Energy Center Project
AECI
Clinton County, Missouri

Source: Esri, Associated Electric Cooperative, Inc., and Burns & McDonnell

Issued: 8/28/2024

ATTACHMENT 2 - PHOTOGRAPHS

Photograph 1: View of acoustic detector at Site 1, facing west.

Photograph 2: View of acoustic detector at Site 1, facing west.

Turney Energy Center AECI	BURNS McDONNELL	Bat Acoustic Survey Photographs August 5, 2024 Randolph County, Missouri

ATTACHMENT 3 – DATA TABLES

Table 3-1: Automated Classification Results Of Acoustic Bat Data Collected At Site 1 The Nights Of August 5 through August 8, 2024.

Species[a]	Night 1		Night 2		Night 3		Night 4	
	Files	MLE[b]	Files	MLE[b]	Files	MLE[b]	Files	MLE[b]
EPFU	24	<0.01	11	<0.01	3	0.54	7	<0.01
LABO	48	<0.01	21	<0.01	36	<0.01	32	<0.01
LACI	11	<0.01	1	1	10	<0.01	14	<0.01
LANO	6	1	5	0.53	6	0.29	1	1
MYLU	285	<0.01	71	<0.01	364	<0.01	29	<0.01
MYSE	2	1	2	1	5	1	2	1
MYSO	15	1	8	1	9	1	4	1
NYHU	24	1	7	1	8	1	14	1
PESU	3	1	2	1	6	1	3	1
UNKN	9		3		12		1	
Noise	87		112		88		20	
Total Bat Files[c]	427		131		459		107	

[a]EPFU: Big brown bat (*Eptesicus fuscus*); LABO: Eastern red bat (*Lasiurus borealis*); LACI: Hoary bat (*Lasiurus cinereus*); LANO: Silver-haired bat (*Lasionycteris noctivagans*); MYLU: Little brown bat (*Myotis lucifugus*); MYSE: Northern long-eared bat (*Myotis septentrionalis*); MYSO: Indiana bat (*Myotis sodalis*); NYHU: Evening bat (*Nycticeius humeralis*); PESU: Tricolored bat (*Perimyotis subflavus*); UNKN: Unknown bat.

[b]Maximum Likelihood Estimator: values less than 0.05 indicate “likely presence” as determined by Kaleidoscope Pro. Final determination of presence/absence may differ due to manual vetting.

[c]Does not include the Noise category in the Total.

Table 3-7: Weather Conditions During The First 5 Hours Of Sampling Each Night.

Night	Low Temperature (°F)	Wind Speed > 9 MPH for > 30 Minutes	Precipitation for > 30 Minutes
8/5/2024	77.7	No	No
8/6/2024	66.9	No	No
8/7/2024	66.7	No	No
8/8/2024	59.7	No	No

Source: Weather data for Cameron, Missouri (Weather Station KEZZ), retrieved from MesoWest (https://mesowest.utah.edu/).