

**Figure A-9**  
**401 Water Quality Certification**  
 Pleasant Prairie Solar Project  
 Franklin County, Ohio

**Cardno**  
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Ecological Assessment  
Pleasant Prairie Solar Energy Project

APPENDIX

B

AGENCY COORDINATION



**From:** [Ohio, FW3](#)  
**To:** [Stephanie Healey](#)  
**Cc:** [Parsons, Kate](#); [nathan.reardon@dnr.state.oh.us](mailto:nathan.reardon@dnr.state.oh.us)  
**Subject:** Pleasant Prairie Solar Energy Project, Franklin County, Near Galloway OH  
**Date:** Friday, November 13, 2020 10:12:10 AM  
**Attachments:** [Outlook-5i3m4pgd.png](#)  
[Outlook-ilkwcdph.png](#)  
[Pleasant Prairie Solar - Ibat buffers.pdf](#)

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UNITED STATES DEPARTMENT OF THE INTERIOR  
U.S. Fish and Wildlife Service  
Ecological Services Office  
4625 Morse Road, Suite 104  
Columbus, Ohio 43230  
(614) 416-8993 / Fax (614) 416-8994



TAILS# 03E15000-2021-TA-0289

Dear Ms. Healey,

We have received your recent correspondence requesting information about the subject proposal. There are no federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area. The following comments and recommendations will assist you in fulfilling the requirements for consultation under section 7 of the Endangered Species Act of 1973, as amended (ESA).

The U.S. Fish and Wildlife Service (Service) recommends that proposed developments avoid and minimize water quality impacts and impacts to high quality fish and wildlife habitat (e.g., forests, streams, wetlands). Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. All disturbed areas should be mulched and revegetated with native plant species. Prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

**FEDERALLY LISTED SPECIES COMMENTS:** All projects in the State of Ohio lie within the range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (*Myotis septentrionalis*). In Ohio, presence of the Indiana bat and northern long-eared bat is assumed wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. 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  $\geq 3$  inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities), 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. 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. In the



winter, Indiana bats and northern long-eared bats hibernate in caves and abandoned mines.

The proposed project is in the vicinity of confirmed records of Indiana bats (*see attached pdf file*). Female Indiana bats exhibit strong site fidelity to summer roosting and foraging areas, meaning that they return to the same area, and often the same trees, to roost, year after year. Projects that result in a significant amount of localized forest clearing could result in adverse effects on Indiana bats, even if tree clearing is conducted during the winter season when Indiana bats are not present. Incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule (see <http://www.fws.gov/midwest/endangered/mammals/nleb/index.html>).

Additional information is needed on the extent of tree clearing proposed in order for the Service to evaluate the potential impact to Indiana bats, and to determine if seasonal clearing is sufficient to avoid take.

If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed. We recommend that the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence.

Due to the project type, size, and location, we do not anticipate adverse effects to any other federally endangered, threatened, proposed, or candidate species. Should the project design change, or during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the Service should be initiated to assess any potential impacts.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the ESA, and are consistent with the intent of the National Environmental Policy Act of 1969 and the Service's Mitigation Policy. This letter provides technical assistance only and does not serve as a completed section 7 consultation document. We recommend that the project be coordinated with the Ohio Department of Natural Resources due to the potential for the project to affect state listed species and/or state lands. Contact Mike Pettegrew, Acting Environmental Services Administrator, at (614) 265-6387 or at [mike.pettegrew@dnr.state.oh.us](mailto:mike.pettegrew@dnr.state.oh.us).

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or [ohio@fws.gov](mailto:ohio@fws.gov).

Sincerely,



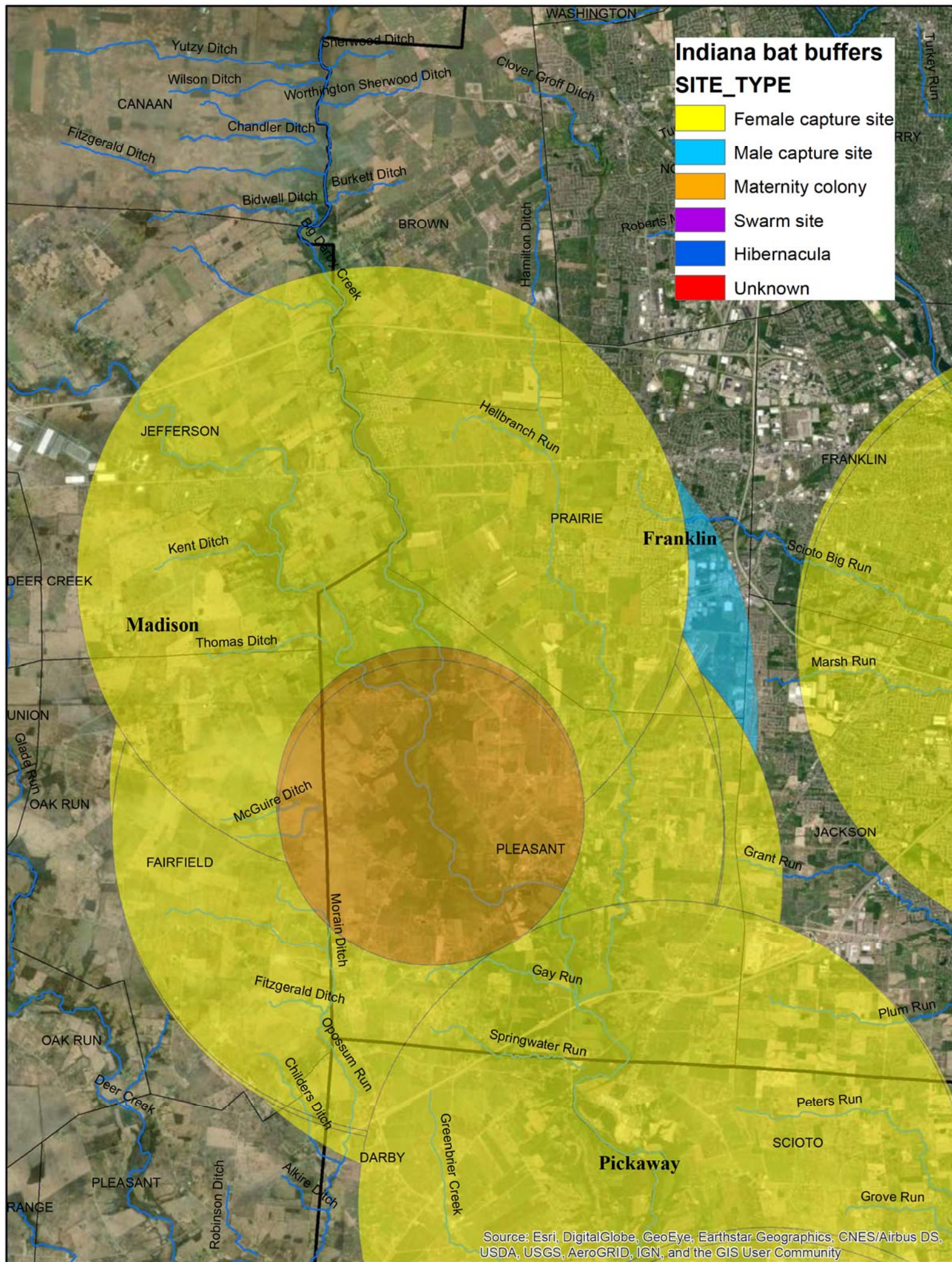
Patrice Ashfield



Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW  
Kate Parsons, ODNR-DOW









January 20, 2021

Mr. Jeromy Applegate  
Fish and Wildlife Biologist  
U.S. Fish and Wildlife Service  
4625 Morse Rd Suite 104  
Columbus, OH, 43230

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121 Continental Drive  
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**VIA EMAIL:** [jeromy\\_applegate@fws.gov](mailto:jeromy_applegate@fws.gov)

**Subject: Proposed Pleasant Prairie Solar Energy Project  
Franklin County, Ohio  
RE: Request for Environmental Review for TAILS# 03E15000-2021-TA-0289**

Dear Mr. Applegate:

Thank you for taking the time to discuss the proposed Pleasant Prairie Solar Energy Project (Project) and the anticipated impacts of the preliminary Project design. Pleasant Prairie Solar Energy LLC (Pleasant Prairie) recognizes the potential for the federally endangered Indiana bat (*Myotis sodalist*) and the federally threatened northern long-eared bat (*Myotis septentrionalis*) to occur within the vicinity of the Project, and as such the Project has been designed in a way to minimize impacts to potential bat habitat. Pleasant Prairie conservatively estimates the need to clear up to 7 acres of woody vegetation for the installation of solar panel arrays, access roads, and collection lines for the Project. The enclosed figure (Figure 1) uses aerial imagery to illustrate the impacts due to these installations. It is anticipated that windrows and isolated trees within the Project Area provide minimal habitat for bats. Pleasant Prairie is committed to minimizing tree clearing and observing seasonal tree clearing restrictions and only clear between October 1 and March 31, or as conditions specify.

Additionally, as the Project is sited directly adjacent to the Battelle Darby Creek preserve, Pleasant Prairie intends to utilize a mix of native grasses and pollinator species for ground cover, which will help to enhance the adjacent preserve and avoid the introduction of non-native species into the vegetative community.

We appreciate the opportunity to provide additional information on the Project and request that USFWS provide updated guidance on the potential for impacts to listed bats (or other species) from the construction of the Project. We look forward to your continued coordination on the Pleasant Prairie Solar Energy Project. Please reach out with any questions or if you require additional information to make your determination.

USFWS  
January 20, 2021

2



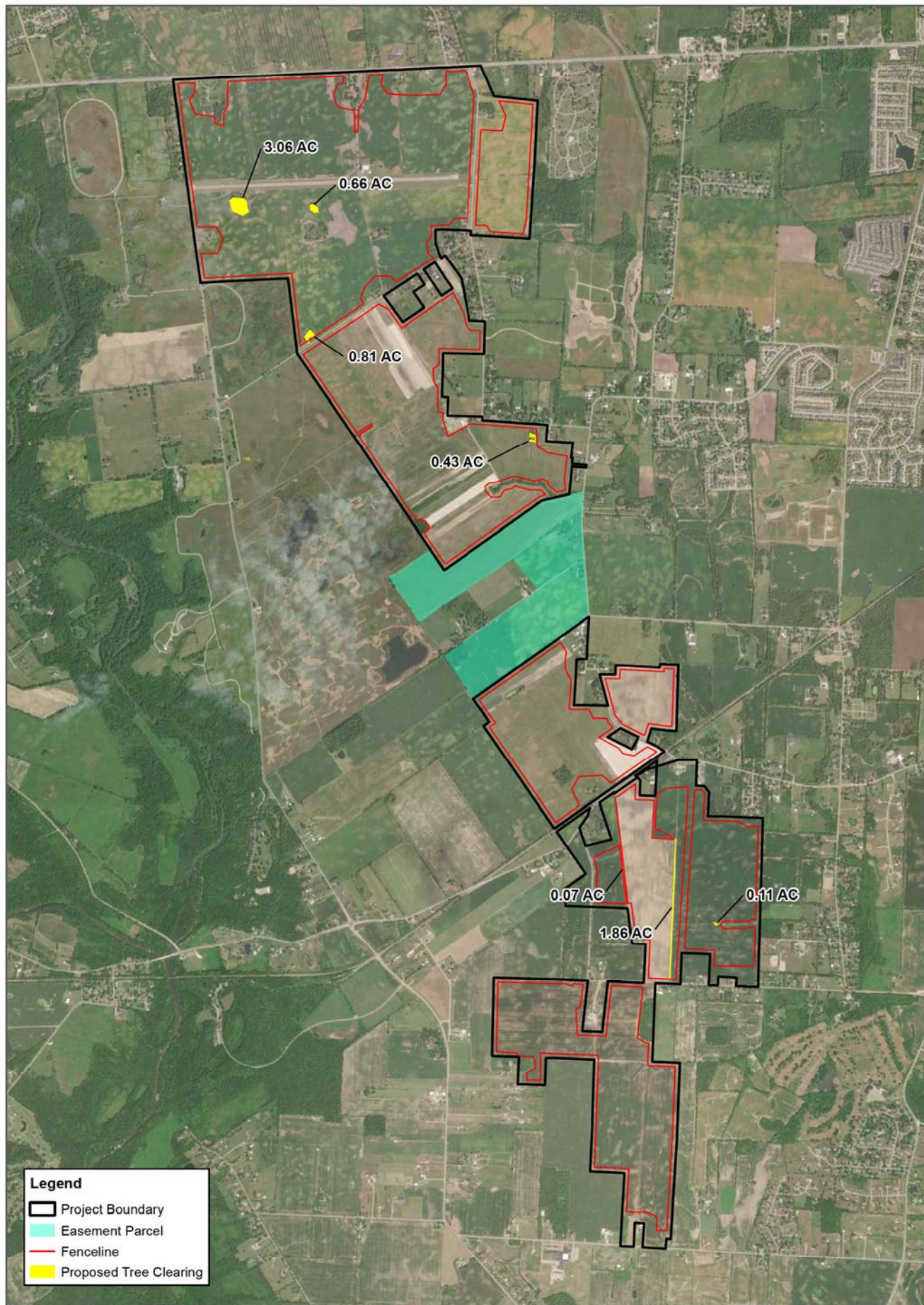
Thank you,

A handwritten signature in blue ink that reads 'Stephanie Healey'.

Stephanie Healey  
Project Scientist  
for Cardno  
Direct Line +1 813 367 0985  
Email: [stephanie.healey@cardno.com](mailto:stephanie.healey@cardno.com)

Enclosed: Figure 1. Anticipated Tree Clearing Impacts for the Pleasant Prairie Solar Energy Project





Imager: 2019

This map and all data contained within are supplied as is with no warranty. Cardno Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Scale Created: 11/14/2021 Date Revised: 01/04/2022 File Path: S:\GIS\Energy\Pleasant Prairie Solar Project\GIS\Anticipated Tree Clearing.mxd  
GIS Analyst: Peter Marney

# Anticipated Tree Clearing

## Pleasant Prairie Solar Energy Project

### Franklin County, Ohio

0 1,000 2,000 3,000 4,000 5,000 Feet  
0 250 500 750 1,000 1,250 1,500 Meters



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**From:** [Ohio, FW3](#)  
**To:** [Ryan Rupprecht](#)  
**Cc:** [asasson@aol.com](#); [jeromy\\_applegate@fws.gov](#); [Stephanie Healey](#); [Wojcikiewicz, John](#)  
**Subject:** Pleasant Prairie Solar Energy Project, Franklin County, Ohio  
**Date:** Tuesday, January 26, 2021 10:10:13 AM  
**Attachments:** [pastedImagebase640.png](#)  
[pastedImagebase641.png](#)

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UNITED STATES DEPARTMENT OF THE INTERIOR  
U.S. Fish and Wildlife Service  
Ecological Services Office  
4625 Morse Road, Suite 104  
Columbus, Ohio 43230  
(614) 416-8993 / Fax (614) 416-8994



TAILS# 03E15000-2021-TA-0289

Dear Mr. Rupprecht,

We have received your recent correspondence regarding potential impacts to federally listed species in the vicinity of the above referenced project. There are no federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area. We recommend that proposed activities minimize water quality impacts, including fill in streams and wetlands. Best management practices should be utilized to minimize erosion and sedimentation.

**FEDERALLY LISTED, PROPOSED, AND CANDIDATE SPECIES COMMENTS:** Due to the project type, size, location, and the proposed implementation of seasonal tree cutting (clearing of trees  $\geq 3$  inches diameter at breast height between October 1 and March 31) to avoid impacts to the federally listed endangered Indiana bat (*Myotis sodalis*) and threatened northern long-eared bat (*Myotis septentrionalis*), we do not anticipate adverse effects to any federally endangered, threatened, proposed or candidate species. Should the project design change, or during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the U.S. Fish and Wildlife Service (Service) should be initiated to assess any potential impacts.

If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), no tree clearing should occur on any portion of the project area until consultation under section 7 of the Endangered Species Act (ESA), between the Service and the federal action agency, is completed. We recommend that the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), ESA, and are consistent with the intent of the National Environmental Policy Act of 1969 and the Service's Mitigation Policy. This letter provides technical assistance only and does not serve as a completed section 7 consultation document. We recommend that the project be coordinated with the Ohio Department of Natural Resources due to the potential for the project to affect state listed species and/or state lands. Contact Mike Pettegrew, Acting Environmental Services Administrator, at (614) 265-6387 or at [mike.pettegrew@dnr.state.oh.us](mailto:mike.pettegrew@dnr.state.oh.us).



If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or [ohio@fws.gov](mailto:ohio@fws.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read "Patrice M. Ashfield". The signature is fluid and cursive, with a large initial "P" and "A".

Patrice M. Ashfield  
Field Office Supervisor

cc: Anthony Sasson (Darby Creek Association)



# Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR

MARY MERTZ, DIRECTOR

## Office of Real Estate

*John Kessler, Chief*

2045 Morse Road – Bldg. E-2

Columbus, OH 43229

Phone: (614) 265-6621

Fax: (614) 267-4764

December 7, 2020

Stephanie Healey  
Cardno  
3905 Crescent Park Drive  
Riverview, Florida 33578

**Re:** 20-990; Pleasant Prairie Solar Energy Project

**Project:** The proposed project involves the construction of a 250-megawatt solar facility.

**Location:** The proposed project is located in Prairie and Pleasant Townships, Franklin County, Ohio.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

**Natural Heritage Database:** The Natural Heritage Database has the following records at or within a one-mile radius of the project area:

Prairie brome (*Bromus kalmii*), P  
Tall larkspur (*Delphinium exaltatum*), P  
Scaly blazing-star (*Liatris squarrosa*), P  
Showy goldenrod (*Solidago speciose*), T  
Purple wartyback (*Cyclonaias tuberculata*), SS  
Northern Riffleshell (*Epioblasma rangiana*), E, FE  
Snuffbox (*Epioblasma triquetra*), E, FE  
Wavy-rayed lampmussel (*Lampsilis fasciola*), SC  
Clubshell (*Pleurobema clava*), E, FE  
Kidneyshell (*Ptychobranhus fasciolaris*), SC  
Salamander mussel (*Simpsonaias ambigua*), SC  
Rabbitsfoot (*Theliderma cylindrica*), E, FT  
Fawnsfoot (*Truncilla donaciformis*), T  
Pondhorn (*Unio merus tetralasmus*), T  
Rayed bean (*Villosa fabalis*), E, FE  
Lake chubsucker (*Erimyzon sucetta*), T



Iowa darter (*Etheostoma exile*), E  
 Spotted darter (*Etheostoma maculatum*), E  
 Tippecanoe darter (*Etheostoma tippecanoe*), T  
 Blacknose shiner (*Notropis heterolepis*), X  
 Upland sandpiper (*Bartramia longicauda*), E  
 American bittern (*Botaurus lentiginosus*), E  
 Least bittern (*Ixobrychus exilis*), T  
 Indiana bat (*Myotis sodalis*), E, FE  
 Badger (*Taxidea taxus*), SC  
 Big Darby Creek State Scenic River  
 Little Darby Creek State Scenic River  
 Miller & Schmidt Scenic River Easements – ODNR Scenic Rivers Program  
 Battelle Darby Creek Metro Park – Columbus & Franklin Co. Metro Parks  
 Prairie Oaks Metro Park – Columbus & Franklin Co. Metro Parks  
 Big Darby Creek Preserve – The Nature Conservancy  
 Alton Road Parkland – Columbus Recreation & Parks  
 Blauser Clean Ohio Parkland – Columbus Recreation & Parks  
 Clover Parkland – Columbus Recreation & Parks

The review was performed on the project area specified in the request as well as an additional one-mile radius. Records searched date from 1980. This information is provided to inform you of features present within your project area and vicinity. Additional comments on some of the features may be found in pertinent sections below.

A Conservation Site is an area deemed by the Natural Heritage Database to be a high-quality natural area not currently under formal protection. It may, for example, harbor one or more rare species, be an outstanding example of a plant community or have geologically significant features, etc. These sites may be in private ownership and our listing of them does not imply permission for access.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Although all types of plant communities have been surveyed, we only maintain records on the highest quality areas.

Statuses are defined as: E = state endangered; T = state threatened; P = state potentially threatened; SC = state species of concern; SI = state special interest; A = species recently added to state inventory, status not yet determined; X = presumed extirpated in Ohio; FE = federal endangered, FT = federal threatened, FSC = federal species of concern, FC = federal candidate species.

**Fish and Wildlife:** The Division of Wildlife (DOW) has the following comments.

The DOW recommends that impacts to streams, wetlands and other water resources be avoided and minimized to the fullest extent possible, and that best management practices be utilized to minimize erosion and sedimentation.

The Division of Wildlife is working closely with our partners at Ohio Pollinator Habitat Initiative (OPHI) to create and enhance pollinator habitat at solar power installations. Attached for your

use is the Ohio Solar Site Pollinator Habitat Planning and Assessment Form. This form was developed by the OPHI Solar Pollinator Program Advisory Team. We recommend that the areas between and around the solar panels be planted with legumes and wildflowers (i.e. forbs) that are beneficial to pollinators and other wildlife and reduce use of non-native grass and gravel. The recommended legumes and forbs listed below are low-growing so as not to cast shadows on the solar panels and would only require one to two mowings a year for maintenance, which should minimize maintenance costs. For other areas of the installation where vegetation does not have to be low-growing, alternative pollinator mixes are available with a more diverse array of flowering plants. This perennial vegetation will provide beneficial foraging habitat to songbirds and pollinators while reducing storm water runoff, standing water, and erosion. Please contact the Ohio Pollinator Habitat Initiative <http://www.ophi.info/>, and specifically Mike Retterer [mretterer@pheasantsforever.org](mailto:mretterer@pheasantsforever.org) for further information on solar power facility pollinator plantings.

Recommended low-growing grasses and forbs may include:

Little Bluestem	<i>Schizachyrium scoparium</i>
Sidcoats Grama	<i>Bouteloua curtipendula</i>
Alfalfa	<i>Medicago spp.</i>
Alsike Clover	<i>Trifolium hybridum</i>
Brown-eyed Susan	<i>Rudbeckia triloba</i>
Butterfly Milkweed	<i>Asclepias tuberosa</i>
Lanceleaf Coreopsis	<i>Coreopsis lanceolata</i>
Partridge Pea	<i>Chamaecrista fasciculata</i>
Timothy	<i>Phleum pratense</i>
Orchardgrass	<i>Dactylis glomerata</i>
Crimson Clover	<i>Trifolium incarnatum</i>
Ladino or White Clover	<i>Trifolium repens</i>

The project is within the vicinity of records for the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened species, and the little brown bat (*Myotis lucifugus*), a state endangered species. Because presence of state endangered bat species has been established in the area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area. However, limited summer tree cutting inside this buffer may be acceptable after further consultation with DOW (contact Sarah Stankavich, [sarah.stankavich@dnr.state.oh.us](mailto:sarah.stankavich@dnr.state.oh.us)).

In addition, the entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these bat species predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. The DOW recommends tree cutting only occur from October 1 through March 31,



conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH  $\geq 20$  if possible.

The DOW also recommends that a desktop habitat assessment, followed by a field assessment if needed, is conducted to determine if there are potential hibernaculum(a) present within the project area. Information about how to conduct habitat assessments can be found in the current USFWS “Range-wide Indiana Bat Survey Guidelines.” If a habitat assessment finds that potential hibernacula are present within 0.25 miles of the project area, please send this information to Sarah Stankavich, [sarah.stankavich@dnr.state.oh.us](mailto:sarah.stankavich@dnr.state.oh.us) for project recommendations. If a potential or known hibernaculum is found, the DOW recommends a 0.25-mile tree cutting and subsurface disturbance buffer around the hibernaculum entrance, however, limited summer or winter tree cutting may be acceptable after consultation with DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact these species.

The project is within the range of the following listed mussel species.

Federally Endangered

purple cat’s paw (*Epioblasma o. obliquata*)  
clubshell (*Pleurobema clava*)  
northern riffleshell (*Epioblasma torulosa rangiana*)  
rayed bean (*Villosa fabalis*)  
snuffbox (*Epioblasma triquetra*)

Federally Threatened

rabbitsfoot (*Quadrula cylindrica cylindrica*)

State Endangered

long solid (*Fusconaia maculata maculate*)  
Ohio pigtoe (*Pleurobema cordatum*)  
pocketbook (*Lampsilis ovata*)  
washboard (*Megaloniaias nervosa*)  
elephant-ear (*Elliptio crassidens crassidens*)

State Threatened

black sandshell (*Ligumia recta*)  
threehorn wartyback (*Obliquaria reflexa*)  
pondhorn (*Unio merus tetralasmus*)  
fawnsfoot (*Truncilla donaciformis*)

This project must not have an impact on freshwater native mussels at the project site. This applies to both listed and non-listed species. Per the Ohio Mussel Survey Protocol (2020), all Group 2, 3, and 4 streams (Appendix A) require a mussel survey. Per the Ohio Mussel Survey Protocol, Group 1 streams (Appendix A) and unlisted streams with a watershed of 5 square miles or larger above the point of impact should be assessed using the Reconnaissance Survey for Unionid Mussels (Appendix B) to determine if mussels are present. Mussel surveys may be recommended for these streams as well. This is further explained within the Ohio Mussel Survey Protocol. Therefore, if in-water work is planned in any stream that meets any of the above criteria, the DOW recommends the applicant provide information to indicate no mussel impacts will occur. If this is not possible, the DOW recommends a professional malacologist conduct a mussel survey in the project area. If mussels that cannot be avoided are found in the project area,

as a last resort, the DOW recommends a professional malacologist collect and relocate the mussels to suitable and similar habitat upstream of the project site. Mussel surveys and any subsequent mussel relocation should be done in accordance with the Ohio Mussel Survey Protocol. The Ohio Mussel Survey Protocol (2020) can be found at:  
<http://wildlife.ohiodnr.gov/portals/wildlife/pdfs/licenses%20&%20permits/OH%20Mussel%20Survey%20Protocol.pdf>

The project is within the range of the following listed fish species.

Federally Endangered

Scioto madtom (*Noturus trautmani*)

State Endangered

goldeye (*Hiodon alosoides*)

Iowa darter (*Etheostoma exile*)

popeye shiner (*Notropis ariommus*)

northern brook lamprey (*Ichthyomyzon fossor*)

spotted darter (*Etheostoma maculatum*)

shortnose gar (*Lepisosteus platostomus*)

tonguetied minnow (*Exoglossum laurae*)

State Threatened

lake chubsucker (*Erimyzon sucetta*)

paddlefish (*Polyodon spathula*)

Tippecanoe darter (*Etheostoma tippecanoe*)

The DOW recommends no in-water work in perennial streams from April 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.

Breeding has been documented within the vicinity of the project area for the American bittern (*Botaurus lentiginosus*), a state endangered bird. Nesting bitterns prefer large undisturbed wetlands that have scattered small pools amongst dense vegetation. They occasionally occupy bogs, large wet meadows, and dense shrubby swamps. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 to July 31. If this type of habitat will not be impacted, the project is not likely to impact this species.

The project is within the range of the black-crowned night-heron (*Nycticorax nycticorax*), a state-threatened bird. Night-herons are so named because they are nocturnal, conducting most of their foraging in the evening hours or at night, and roost in trees near wetlands and waterbodies during the day. Night herons are migratory and are typically found in Ohio from April 1 through December 1 but can be found in more urbanized areas with reliable food sources year-round. Black-crowned night-herons primarily forage in wetlands and other shallow aquatic habitats, and roost in trees nearby. These night-herons nest in small trees, saplings, shrubs, or sometimes on the ground, near bodies of water and wetlands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 to July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the cattle egret (*Bubulcus ibis*), a state endangered bird. Cattle egrets are not strictly wetland birds. They often forage in dry pastures and fields. Egrets nest in



colonies and will build a nest out of sticks and other materials wherever it can be supported. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 15 to August 15. If no wetland habitat will be impacted, the project is not likely to impact this species.

The project is within the range of the lark sparrow (*Chondestes grammacus*), a state endangered bird. This sparrow nests in grassland habitats with scattered shrub layers, disturbed open areas, as well as patches of bare soil. In the Oak Openings area west of Toledo, lark sparrows occupy open grass and shrubby fields along sandy beach ridges. These summer residents normally migrate out of Ohio shortly after their young fledge or leave the nest. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 to June 30. If this habitat will not be impacted, this project is not likely to impact this species.

Breeding has been documented within the vicinity of the project area for the least bittern (*Ixobrychus exilis*), a state threatened bird. This secretive marsh species prefers dense emergent wetlands with thick stands of cattails, sedges, sawgrass or other semiaquatic vegetation interspersed with woody vegetation and open water. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 to July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

Breeding has been documented within the vicinity of the project area for the northern harrier (*Circus hudsonis*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 15 to August 1. If this habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the sandhill crane (*Grus canadensis*), a state threatened species. Sandhill cranes are primarily a wetland-dependent species. On their wintering grounds, they will utilize agricultural fields; however, they roost in shallow, standing water or moist bottomlands. On breeding grounds they require a rather large tract of wet meadow, shallow marsh, or bog for nesting. If grassland, prairie, or wetland habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 1 to September 1. If this habitat will not be impacted, this project is not likely to have an impact on this species.

Breeding has been documented within the vicinity of the project area for the upland sandpiper (*Bartramia longicauda*), a state endangered bird. Nesting upland sandpipers utilize dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and grasslands established through the Conservation Reserve Program (CRP). If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 to July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

Due to the potential of impacts to federally listed species, as well as to state listed species, we recommend that this project be coordinated with the U.S. Fish & Wildlife Service.

**Natural Areas:** The Ohio Scenic Rivers Program has the following comment.

The Ohio Scenic Rivers Program appreciates the opportunity to review the proposed Pleasant Prairie Solar Energy Project in Pleasant and Prairie townships, Franklin County, Ohio. The project is located within the watershed of the Big Darby Creek State and National Scenic River. Big Darby Creek is one of the most outstanding rivers in Ohio. Together with the Little Darby Creek, it provides habitat to the greatest diversity of freshwater mussels of any river of its size in the Midwest, including federally endangered species.

While the Ohio Scenic Rivers Program does not have regulatory authority regarding the Pleasant Prairie Solar Energy Project, we submit the following recommendations for your consideration as an enormous opportunity to enhance local ecology and hydrology for the benefit of the river and the surrounding communities. A broad coalition of private and public partners, including the Ohio Department of Natural Resources, have invested in the protection of this resource for over thirty years. Approximately \$120 million has been invested to date in habitat protection, and many millions of dollars more in land use planning, restoration and ongoing resource management. We hope you will join us as a partner in this important effort.

Should Invenergy choose to implement the recommendations below, they should be incorporated into the general notes of the project design and/or plan set. Construction best management practices (BMPs) should be implemented before earthwork commences and be adhered to for the duration of the project.

**Project Siting:** This project is located adjacent to large areas of prairie and wetland restoration within Battelle Darby Creek Metro Park that contribute to the protection and enhancement of Big Darby Creek and comprise a premiere central Ohio bird habitat and recreational amenity. The Hellbranch Meadows restoration project (completed by Franklin Soil and Water Conservation District) is also located nearby to the east. As such, special care should be taken to protect the water quality of the Big Darby Creek, improve habitat and connect recreational and habitat features:

- Conduct an environmental resources survey, including delineation of wetlands and streams, prior to PUCO approval.
- Avoid existing wetlands and provide a buffer of native vegetation to allow for hydraulic and habitat functions.
- Create habitat connections with native vegetation between existing wetlands on the project site and to wetlands on Metro Park property to provide for wildlife migration corridors.
- Preserve forested areas of three acres or more.
- Preserve existing streams (including ephemeral and intermittent streams and the perennial Hellbranch Run) and preserve / create vegetative buffers (see SWPPP development below).
- Provide for recreational trail connection to the Metro Park and Hellbranch Meadows areas.

**Native prairie flower and grass planting:** The Ohio Pollinator Habitat Initiative has developed a Solar Site Pollinator Habitat Planning and assessment form (<http://www.ophi.info/>). The Scenic



Rivers program recommends that Invenergy achieve a score of 85 or greater on this form. Establishing flowering plants on at least 50% of the site is a primary BMP listed to meet this goal. While beneficial to pollinators, the root systems of such plants will also enhance the infiltration of precipitation into the soil. Increased infiltration will reduce runoff, in-stream habitat disturbance and flooding, and will increase the recharge of groundwater that provides vital flow to Big Darby Creek and tributary streams during dry months.

In addition, we recommend that seed mixes be limited to native species, and that they incorporate native prairie grasses. The project site is located within an historic warm season prairie region known as the Darby Plains. Incorporating grasses and flowering plants native to this region will help protect and enhance Darby Plains restoration efforts already underway by conservation partners, including those immediately adjacent to the project site at Battelle Darby Creek Metro Park.

**Storm Water Pollution Prevention Plan (SWPPP):** A Notice of Intent (NOI) must be submitted to obtain coverage under the Ohio EPA General Stormwater Permit for Construction Projects. The NOI must be submitted 21 days prior to construction. Copies of NOI forms and Instructions can be found at <http://epa.ohio.gov/dsw/storm/stormform.asp>. A SWPPP must be developed specific for the project to address sediment and erosion controls in compliance with the permit. The SWPPP must be submitted for review to the attention of the appropriate district office's Ohio EPA Storm Water Coordinator prior to construction.

- A. **Erosion Controls:** A sediment and erosion control plan should be developed for the site and implemented before earthwork commences. Particular attention should be given to any drainage ways, ditches and streams that could convey sediment laden water directly to state scenic rivers. Properly installed (framed and entrenched) sediment fence should be utilized around the work site perimeter and storm water inlets. Appropriately designed rock-check dams and other erosion controls should be utilized in ditches and drainage ways. All controls should be properly maintained until final site stabilization is achieved. All sediment and erosion controls should be removed upon stabilization of the project area with vegetation. Straw bales should not be permitted as a form of erosion control. All denuded areas, including ditches, culverts and river/stream banks should be permanently seeded and mulched (or fiber mat) immediately upon completion of earthwork or temporarily seeded and mulched (or fiber mat) within 7 days if the area is to remain idle for more than 30 days.
- B. **Trench and Groundwater De-watering:** No wastewater of any kind should be directly discharged into any of drainage ways or ditches. Any water pumped from open trenches should be passed through a sediment impoundment structure that provides for complete settling of all suspended solids or pumped onto a vegetated area a sufficient distance from the stream so as to provide for complete infiltration. Adequate outlet protection must be provided for each impoundment. There should be no discharges of turbid water to State Scenic Rivers or their tributaries.
- C. **Runoff Infiltration:** Permits issued within the Big Darby Creek watershed contain requirements for runoff infiltration. The Scenic Rivers Program recommends that Invenergy meet or exceed these requirements through long-

chain treatment systems that include native prairie flower and grass plantings, bioswales, raingardens and infiltration trenches. Invenergy should also find and disable existing farm drain tiles throughout the site.

D. **Riparian setbacks:** The Scenic Rivers Program recommends that Invenergy adhere to the riparian setbacks required for projects in the Big Darby Creek watershed. The permit states that riparian setbacks shall be sized as the greater of the following:

- i. The regulatory 100-year floodplain based on FEMA mapping;
- ii. A minimum of 100 feet from the top of the streambank on each side; or
- iii. A distance calculated based on the width of the stream's meander pattern using the following equation:  $W = 133DA^{0.43}$

Where:

DA = drainage area (mi<sup>2</sup>)

W = total width of riparian setback (ft)

**Notification:** The Scenic Rivers Program would appreciate receiving additional planning information and construction dates for this project. Please contact the Central Ohio Regional Scenic Rivers Program Manager, Heather Doherty, at (740) 258-0567 or [heather.doherty@dnr.ohio.gov](mailto:heather.doherty@dnr.ohio.gov).

**Geological Survey:** The Division of Geological Survey has the following comment.

#### **Physiographic Region**

The proposed project area is in Pleasant and Prairie Townships, Franklin County. This area is in the Darby Plain physiographic region. This region is characterized by moderately low relief and few large streams. The region is primarily made up of broadly hummocky ground moraine and includes several indistinct recessional moraines. Loamy till that is Wisconsinan in age with a high lime concentration covers Silurian and Devonian-aged carbonate and shale bedrock (Ohio Department of Natural Resources, Division of Geological Survey, 1998).

#### **Surficial/Glacial Geology**

The project area lies within the glaciated margin of the state and includes several Wisconsinan-aged glacial features. The project area is covered by the relatively flat, gently undulating, continuous Darby Till of the Wisconsinan ground moraine. The southern portion of project area has a high concentration of surface boulders (Pavey et al, 1999). Glacial drift throughout most of the study area is between 57 and 250 feet thick. Drift is thinnest in the western portion of the study area and thickest along the eastern edge of the study area (Powers and Swinford, 2004).

#### **Bedrock Geology**

The uppermost bedrock unit in the project area is the Columbus Limestone. This unit is Devonian-aged and consists of bluish gray to brown fossiliferous limestone. The unit may be dolomitic in places and frequently contains solution features. This unit makes up much of the northern portion of the project area. Underlying the Columbus Limestone is the Silurian-aged Salina Undifferentiated. This unit is characterized by a gray to brown dolomite which contains argillaceous partings, brecciated intervals, algal laminations and anhydrite/gypsum zones. It should be noted that bedrock is not exposed at the surface within the boundaries of the project area due to significant glacial drift (Slucher et al, 2006).



### Oil, Gas and Mining

ODNR has record of two oil and gas wells within one mile of the proposed project area. These wells are listed as Plugged and abandoned (Ohio Department of Natural Resources, Division of Oil and Gas, *Ohio Oil and Gas Wells Locator*).

ODNR does not have record of any mining operations within the project area. The nearest mine is the remains of the released Madison Stone Quarry located 2.3 miles to the west of the project area (Ohio Department of Natural Resources, Division of Mineral Resources, *Mines of Ohio*).

### Seismic Activity

Few earthquakes have historically been recorded near the site. The three events closest to the site are listed in the chart below (Ohio Department of Natural Resources, Division of Geological Survey, *Ohio Earthquake Epicenters*):

Date	Magnitude	Distance to Site Boundary	County	Township
October 21, 2013	2.0	15.4 miles	Pickaway	Jackson
January 4, 1873	3.8	18.9 miles	Delaware	Orange
October 4, 1980	2.0	29.7 miles	Clark	Green

### Karst

Karst features usually form in areas that are covered by thin or no glacial drift and the bedrock is limestone or dolomite. There are no sinkholes within the bounds of the project area. Although the underlying Columbus Limestone, and Salina Formation are composed of carbonate bedrock which can be prone to the development of karst features, the thickness of drift makes sinkhole development unlikely. The nearest verified sinkhole is 0.5 miles to the west of the project area (Ohio Department of Natural Resources, Division of Geological Survey, *Ohio Karst*).

### Soils

According to the USDA Web Soil Survey, the project area consists primarily of soils derived from glacial till, outwash and alluvium. Kokomo, Lewisburg, and Crosby are the most common soil series found within the boundaries of the project area. Together these soils cover over 91% of the project area and have a silty clay loam soil texture (USDA Web Soil Survey).

There is a low to moderate risk of shrink-swell potential in these soils. Slope is variable within the hummocky ground moraine but seldom exceeds a 6% grade. (McLoda and Parkinson, 1980 and USDA Web Soil Survey).

### Groundwater

Groundwater resources are plentiful throughout the project area. Wells developed in bedrock are likely to yield more than 100 gallons per minute. Bedrock groundwater yields are exceptional throughout the project area (Schmidt, 1993 and Ohio Department of Natural Resources, Division of Water, *Bedrock Aquifer Map*, 2000). Wells developed in glacial material are likely to yield up to 25 gallons per minute. The lowest unconsolidated aquifer yields are in the western portion of the project area. Higher groundwater yields typically reflect larger diameter, properly developed and screened wells (Ohio Department of Natural Resources, Division of Water, *Statewide Unconsolidated Aquifer Map*, 2000).

ODNR has record of 1323 water wells drilled within one mile of the project area. These wells range in depth from 7.1 to 280 feet deep, with an average depth of 127 feet. The most common

aquifer is Limestone. Limestone, limestone and shale, rock or stone are listed as the primary aquifer on 688 water well records. The remaining records list clay and rock or sand and gravel as the aquifer. A sustainable yield of 4 to 150 gallons per minute is expected from wells drilled in this area based on well log records. The average sustainable yield from these records within one mile was 23 gallons per minute. This is based on records from 267 wells within one mile of the project area that contain sustainable yield data (Ohio Department of Natural Resources, Division of Water, *Ohio Water Wells*).

**Water Resources:** The Division of Water Resources has the following comment.

The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project. Your local floodplain administrator contact information can be found at the website below.

[http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List\\_8\\_16.pdf](http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List_8_16.pdf)

ODNR appreciates the opportunity to provide these comments. Please contact Sarah Tebbe, Environmental Specialist, at [Sarah.Tebbe@dnr.ohio.gov](mailto:Sarah.Tebbe@dnr.ohio.gov) if you have questions about these comments or need additional information.

Mike Pettegrew  
Environmental Services Administrator (Acting)



## References:

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- USDA Web Soil Survey, (Last modified 2019). Web Soil Survey Interactive Map, United States Department of Agriculture, National Resources Conservation Service, online interactive map, <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>.



## OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING JUNE 2020

### Agency Contacts:

**ODNR-DOW Permit Coordinator:** Wildlife.Permits@dnr.state.oh.us, (614) 265-6315

**ODNR-DOW Bat Survey Coordinator:** Sarah Stankavich, sarah.stankavich@dnr.state.oh.us, (614) 265-6764

Due to the evolving situation with COVID-19, we are temporarily suspending bat-handling activities until more is known about the risk to North American bats. This document has been updated with new state guidance for the 2020 field season only, or until bat-handling activities are reinstated. These guidelines replace previous guidelines released in March 2020.

*This guidance applies to state recommendations only. Contact the USFWS to determine if federal consultation is also necessary to comply with federal law.*

### Ohio Mist Net Surveys:

Mist-netting for presence/absence surveys, education events, or research activities will not be authorized for the 2020 season.

### Ohio Acoustic Surveys:

Acoustic bat surveys for presence/absence will be accepted by ODNR for the 2020 season. Surveys should follow guidelines laid out in the USFWS Range-wide Indiana Bat Survey Guidelines (March 2020) with the following exceptions:

- Ohio survey dates are June 1 – August 15, 2020
- After conducting automated analyses using one or more of the currently available ‘approved’ acoustic bat ID programs<sup>1</sup>, qualitative analysis (i.e., manual vetting) of any calls recorded from state-endangered species (*Myotis sodalis*, *M. septentrionalis*<sup>2</sup>, *M. lucifugus*<sup>2</sup>, and *Perimyotis subflavus*<sup>2</sup>) must be completed.
  - At a minimum, for each detector site/night a program considered presence of state-listed bats likely, review all files (including no IDs) from that site/night. If more than one acoustic bat ID program is used, qualitative analysis must also include a comparison of the results of each program by site and night.

### During Field Season:

- **Prior to initiation of field work (a minimum of two weeks in advance)**, permittees must provide proposed survey plans to ODNR-DOW via e-mail. **Plans must be reviewed and approved by ODNR-DOW before ANY surveys take place.** Study plans must specify objectives, location details, dates of proposed work, and all other relevant details.

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<sup>1</sup> <https://www.fws.gov/midwest/Endangered/mammals/inba/surveys/inbaAcousticSoftware.html>

<sup>2</sup> State listing as endangered effective July 1, 2020



**After Field Season:**

- By March 15, you must submit your final ODNR-DOW report(s) from the previous summer. You are not required to fill out the ODNR-DOW Wildlife Diversity Bat Excel Spreadsheet; instead, please forward your USFWS Midwestern US Spreadsheet (found here: <http://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html>) to the ODNR-DOW Bat Survey Coordinator and ODNR-DOW Permit Coordinator and include your state permit number along with an electronic copy of the project report. Electronic summaries emailed during the field season are NOT considered as full compliance of this reporting requirement.

## **Ohio Environmental Review Recommendations for projects involving disturbance near potential/known bat hibernacula (cliffs, caves, mines) or tree cutting:**

**Step 1:** Coordinate with Ohio Division of Wildlife (DOW) regarding existing records for state-listed endangered bat summer and/or winter occurrence information.

If project site contains a known bat hibernaculum(a) –

- For state-listed endangered species other than the Indiana bat, a recommendation of 0.25-mile tree cutting buffer around all known entrances to protect existing conditions at the hibernaculum(a). If the project involves subsurface disturbance, consultation with DOW is required.
- Limited summer and winter tree cutting may be permitted within the buffer following guidelines detailed below. Coordinate with DOW before cutting.

If a project site does not contain known bat hibernaculum(a)

- Conduct a habitat assessment (desktop or field-based, using methods detailed in current USFWS Range-wide Indiana Bat Guidelines) to determine if a potential hibernaculum(a) is present within the action area.

**Step 2:** When conducted, a presence/absence survey must follow current DOW guidelines.

**Step 3:** If a state-listed endangered bat is captured or recorded during the survey:

- Recommendation of no summer tree cutting, or limited cutting following guidelines detailed below, within 5 miles of the capture site if a roost is not located.
- Recommendation of no summer tree cutting, or limited cutting following guidelines detailed below, within 2.5 miles of a roost tree if located.

If no state-listed endangered bat is captured or recorded during the survey:

- Summer tree cutting may proceed for 5 years before a new survey is needed under state guidance.

**Limited summer tree cutting guidance for bats that are only state-listed endangered:** Limited tree cutting in summer may be permitted after consultation with DOW, but clearing trees with the following characteristics should be avoided unless they pose a hazard: dead or live trees of any size with loose, shaggy bark; crevices, holes, or cavities; live trees of any species with DBH  $\geq$  20.



## **FREQUENTLY ASKED QUESTIONS**

### **When does the Bat Survey protocol have to be used?**

This protocol should be used anytime Indiana bat, northern long-eared bat, little brown bat, or tricolored bat summer presence/probable absence surveys are conducted in the state of Ohio. For 2020 only, acoustic surveys will meet the ODNR-DOW requirements unless new guidance allowing for the handling of bats during presence/absence surveys is released from USFWS.

### **How many net surveys are required for presence/probably absence?**

As described in the current USFWS Range-wide Indiana Bat Guidelines: Linear projects: a minimum of 2 detector nights per km (0.6 miles) of suitable summer habitat

Non-linear projects: a minimum of 8 detector nights per 123 acres (0.5 km<sup>2</sup>) of suitable summer habitat. At least 2 detector locations per 123 acre "site" shall be sampled until at least 8 detector nights has been completed over the course of at least 2 calendar nights (may be consecutive). For example:

- 4 detectors for 2 nights each (can sample the same location or move within the site)
- 2 detectors for 4 nights each (can sample the same location or move within the site)
- 1 detector for 8 nights (must sample at least 2 locations and move within the site)

### **How long are the results of the surveys valid for an assessment of an area?**

Mist-net or acoustic surveys documenting probable absence of state-listed endangered bats are valid for five years.

### **When can acoustic surveys occur in Ohio?**

In Ohio, acoustic surveys may only be conducted from June 1 through August 15 unless indicated otherwise in your state permit. Any surveys outside of the June 1 - August 15 timeframe cannot be used in Ohio to assess the presence/probable absence of state-listed bats.

### **Can a presence/probable absence survey be conducted within a known Indiana bat and/or northern long-eared bat capture/detection buffer?**

Surveys generally cannot be used to document presence/probable absence of state-listed endangered bats where presence of the species has already been confirmed by prior surveys.

### **What if a project is proposing to clear trees between April 1 and September 30 when bats may be present but no bat records exist in the project area?**

Any Ohio project that is not within a known bat record buffer, and tree clearing between April 1 and September 31 is being proposed, may have a presence/absence survey conducted between June 1 and August 15 following the range-wide guidance. If a presence/absence survey is not performed, presence of listed bats is assumed.

### **How does take of northern long-eared bats differ from Indiana bats?**

Under Ohio law, there is no exemption for take of any listed bat species.

# Ohio Solar Site Pollinator Habitat Planning and Assessment Form

1. Percent of total site planted with native or beneficial introduced flowering plants.

- ☐ 25-50% 10 points  
☐ 51-75% 20 points  
☐ 76-100% 30 points

2. Flowering plant diversity in site perimeter & buffer area (species with more than 1% cover).

- ☐ 9-12 species 5 points  
☐ 13-16 species 10 points  
☐ 17-20 species 15 points  
☐ 20+ species 20 points  
☐ Site specific Milkweed included @2,000 pls/ac minimum 10 points

\* If no boxes were selected in questions 1 or 2 then your site does not meet criteria to be considered as an OPHI Solar Pollinator Habitat. However, OPHI can work with you on ways to increase the pollinator score of your site.

3. Flowering plant seed mixes and plantings to be used.

Native species local to the site are preferred; otherwise species native to Ohio are encouraged.

- ☐ Includes only native plant species 15 points  
☐ Includes native and beneficial introduced plant species 10 points  
☐ Includes only beneficial introduced plant species 5 points

4. Flowering plant diversity in rows & under solar array.

- ☐ 4-6 5 points  
☐ 7+ 10 points  
☐ Site specific Milkweed included @2,000 pls/ac minimum 10 points

5. Seasons with at least 3 blooming species. Check all that apply.

- ☐ Spring (April – May) 5 points  
☐ Summer (June – August) 5 points  
☐ Fall (September – October) 5 points

6. Available habitat components within ¼ mile of site.

Check all that apply.

- ☐ Native grasses 2 points  
☐ Trees and shrubs 2 points  
☐ Forest edge habitat 2 points  
☐ Cavity nesting sites 2 points  
☐ Clean perennial water sources 2 points

7. Planned vegetative buffers adjacent to the solar site. Check all that apply.

- ☐ Site has planned buffer adjacent to solar site 5 points  
☐ Buffer is at least 30 feet wide as measured from array fencing or edge of flower plantings 5 points  
☐ Buffer is at least 50 feet wide as measured from array fencing or edge of flower plantings 10 points  
☐ Buffer includes flowering Shrubs/trees and other shrubs/trees that provide food for wildlife 5 points

8. Habitat site preparation prior to implementation.

- ☐ Measures taken to control weeds and invasive species prior to seeding/planting. 10 points  
☐ Appropriate soil preparation done to reduce erosion And enhance germination/growth 5 points  
☐ None -10 points

9. Planned management practices for areas designated as part of the pollinator habitat site. Check all that apply.

- ☐ Detailed establishment and management plan developed for site 10 points  
☐ Mowing Follows OPHI mowing schedule for monarchs each year 5 points  
☐ Mowing is staggered over a 2 week period 5 points  
☐ Signage indicating site is wildlife & pollinator-friendly 5 points  
☐ Creation of habitat features (e.g. boxes, pass-through tunnels, bee hotels) 5 points  
☐ Long-term monitoring plan developed that includes re-certification as Solar Site Pollinator Habitat 10 points

10. Insecticide risk. Check if applicable.

Communication with adjacent landowners about the project and possible impacts of their insecticide use is critical

- ☐ Site is adjacent to land (within 120 ft.) where insecticides are used -20 points  
☐ Planned on-site insecticide use (including pre-treated seeds/plants) -40 points

Total Points: 0

Provides High Quality Pollinator Habitat > 85  
 Meets OPHI Solar Pollinator Habitat Standards 70-84

Site Owner/Operator:

Project Location:

Project Size (acres):

Planned Source of Seeds:

Planned Seeding Date:

Habitat & Vegetation Consultant:

Refer to [www.ophi.info](http://www.ophi.info) for more information regarding solar pollinator habitat development.

Version 1 - March 2018

Developed by the OPHI Solar Pollinator Program Advisory Team





Ecological Assessment  
Pleasant Prairie Solar Energy Project

APPENDIX

C

RARE, THREATENED, OR  
ENDANGERED INFORMATION



# OHIO'S LISTED SPECIES

**WILDLIFE THAT ARE CONSIDERED TO BE  
ENDANGERED, THREATENED, SPECIES OF CONCERN,  
SPECIAL INTEREST, EXTIRPATED, OR EXTINCT IN OHIO**



Blanding's turtle  
*Emydoidea blandingii*

photo by TIM DANIEL





## WILDLIFE THAT ARE CONSIDERED TO BE ENDANGERED, THREATENED, SPECIES OF CONCERN, SPECIAL INTEREST, EXTIRPATED, OR EXTINCT IN OHIO

The Division of Wildlife's mission is to conserve and improve the fish and wildlife resources and their habitats, and promote their use and appreciation by the public so that these resources continue to enhance the quality of life for all Ohioans. The Division has legal authority over Ohio's fish and wildlife, which includes about 56 species of mammals, 200 species of breeding birds, 84 species and subspecies of amphibians and reptiles, 170 species of fish, 100 species of mollusks, and 20 species of crustaceans. In addition, there are thousands of species of insects and other invertebrates which fall under the Division's jurisdiction. Furthermore, Ohio law grants authority to the chief of the Division to adopt rules restricting the taking or possession of native wildlife threatened with statewide extirpation and to develop and periodically update a list of endangered species (Ohio Revised Code 1531.25).

The status of native wildlife species is very important to the Division. While the listing process identifies individual wildlife species needing protection, it also serves as a powerful tool in the

Division's planning process. It provides direction for the allocation of personnel time and funds in Division programs and projects.

The first list of Ohio's endangered wildlife was adopted in 1974 and included 71 species. An extensive examination of the list is conducted every five years. The Division seeks input from our staff along with other noted professional and amateur wildlife experts across Ohio. In 2001, as part of our comprehensive management plan, the Division initiated a reevaluation of the endangered species list. During this process, the need for an additional state-list category was recognized and has been designated as "Special Interest." The name of the previous special interest category has been changed to "Species of Concern," but retains its original definition.

Therefore, in addition to endangered the Division uses five other categories: threatened, species of concern, special interest, extirpated, and extinct, to further define the status of selected wildlife. These categories and the species contained within them are dynamic and will be revised as our knowledge of the status of Ohio's wildlife evolves.

Definitions of these categories, a summary of the numbers of species and subspecies in each category, and the list of species and subspecies in each category follow:

- **ENDANGERED** - A native species or subspecies threatened with extirpation from the state. The danger may result from one or more causes, such as habitat loss, pollution, predation, interspecific competition, or disease.
- **THREATENED** - A species or subspecies whose survival in Ohio is not in immediate jeopardy, but to which a threat exists. Continued or increased stress will result in its becoming endangered.
- **SPECIES OF CONCERN** - A species or subspecies which might become threatened in Ohio under continued or increased stress. Also, a species or subspecies for which there is some concern but for which information is insufficient to permit an adequate status evaluation. This category may contain species designated as a furbearer or game species but whose statewide population is dependent on the quality and/or quantity of habitat and is not adversely impacted by regulated harvest.
- **SPECIAL INTEREST** - A species that occurs periodically and is capable of breeding in Ohio. It is at the edge of a larger, contiguous range with viable population(s) within the core of its range. These species have no federal endangered or threatened status, are at low breeding densities in the state, and have not been recently released to enhance Ohio's wildlife diversity. With the exception of efforts to conserve occupied areas, minimal management efforts will be directed for these species because it is unlikely to result in significant increases in their populations within the state.
- **EXTIRPATED** - A species or subspecies that occurred in Ohio at the time of European settlement and that has since disappeared from the state.
- **EXTINCT** - A species or subspecies that occurred in Ohio at the time of European settlement and that has since disappeared from its entire range.

**Number of Species in Major Taxa Classified as  
Endangered, Threatened, Species of Concern, Special Interest,  
Extirpated, or Extinct in Ohio**

Taxon	Endangered	Threatened	Species of Concern	Special Interest	Extirpated	Extinct
Amphibians	5	1	2	0	0	0
Bees	1	0	0	0	0	0
Beetles	3	2	7	0	0	1
Birds	12	6	20	38	5	2
Butterflies	8	1	2	1	1	0
Caddisflies	3	6	3	0	0	0
Crayfishes	0	2	3	0	0	0
Crickets	0	0	1	0	0	0
Damselflies	3	3	0	0	0	0
Dragonflies	13	3	1	0	0	0
Fishes	22	11	8	0	9	2
Isopods	2	1	0	0	0	0
Mammals	6	1	18	2	9	0
Mayflies	2	0	1	0	0	0
Midges	1	3	1	0	0	0
Mollusks	24	4	8	0	11	6
Moths	14	4	22	11	0	0
Pseudoscorpions	1	0	0	0	0	0
Reptiles	5	4	11	0	0	0
<b>Total</b>	<b>125</b>	<b>52</b>	<b>108</b>	<b>52</b>	<b>35</b>	<b>11</b>

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# OHIO'S ENDANGERED SPECIES

NOTE: \*E & \*T denote federal (U.S. Fish and Wildlife Service)  
listed endangered and threatened species respectively.

## AMPHIBIANS **ENDANGERED**

Blue-spotted salamander	<i>Ambystoma laterale</i>
Cave salamander	<i>Eurycea lucifuga</i>
Eastern hellbender	<i>Cryptobranchus alleganiensis alleganiensis</i>
Eastern spadefoot	<i>Scaphiopus holbrookii</i>
Green salamander	<i>Aneides aeneus</i>

## BEES **ENDANGERED**

Rusty patched bumblebee *E	<i>Bombus affinis</i>
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## BEETLES **ENDANGERED**

American burying beetle *E	<i>Nicrophorus americanus</i>
Ohio cave beetle	<i>Pseudanophthalmus ohioensis</i>
Water penny beetle	<i>Dicranopselaphus variegatus</i>

## BIRDS **ENDANGERED**

American bittern	<i>Botaurus lentiginosus</i>
Black tern	<i>Chlidonias niger</i>
Cattle egret	<i>Bubulcus ibis</i>
Common tern	<i>Sterna hirundo</i>
King rail	<i>Rallus elegans</i>
Kirtland's warbler *E	<i>Setophaga kirtlandii</i>
Lark sparrow	<i>Chondestes grammacus</i>
Loggerhead shrike	<i>Lanius ludovicianus</i>
Northern harrier	<i>Circus hudsonius</i>
Piping plover *E	<i>Charadrius melodus</i>
Snowy egret	<i>Egretta thula</i>
Upland sandpiper	<i>Bartramia longicauda</i>

## BUTTERFLIES **ENDANGERED**

Frosted elfin	<i>Callophrys irus</i>
Grizzled skipper	<i>Pyrgus centaureae wyandot</i>
Karner blue *E	<i>Lycaeides melissa samuelis</i>
Mitchell's satyr *E	<i>Neonympha mitchellii</i>
Persius dusky wing	<i>Erynnis persius</i>
Purplish copper	<i>Lycaena helloides</i>
Regal fritillary	<i>Speyeria idalia</i>
Swamp metalmark	<i>Calephelis muticum</i>

## CADDISFLIES **ENDANGERED**

–	<i>Brachycentrus nigrosoma</i>
–	<i>Chimarra socia</i>
–	<i>Oecetis eddlestoni</i>

## DAMSELFLIES **ENDANGERED**

Lilypad forktail	<i>Ischnura kellicotti</i>
River jewelwing	<i>Calopteryx aequabilis</i>
Seepage dancer	<i>Argia bipunctulata</i>

## DRAGONFLIES **ENDANGERED**

American emerald	<i>Cordulia shurtleffi</i>
Blue corporal	<i>Ladona deplanata</i>
Brush-tipped emerald	<i>Somatochlora walshii</i>
Canada darner	<i>Aeshna canadensis</i>
Chalk-fronted corporal	<i>Ladona julia</i>
Elfin skimmer	<i>Nannothemis bella</i>
Frosted whiteface	<i>Leucorrhinia frigida</i>
Hine's emerald *E	<i>Somatochlora hineana</i>
Mottled darner	<i>Aeshna clepsydra</i>
Plains clubtail	<i>Gomphus externus</i>
Racket-tailed emerald	<i>Dorocordulia libera</i>
Uhler's sun dragon	<i>Helocordulia uhleri</i>
Yellow-sided skimmer	<i>Libellula flavida</i>

## FISHES **ENDANGERED**

Bigeye shiner	<i>Notropis boops</i>
Cisco (or Lake herring)	<i>Coregonus artedii</i>
Gilt darter	<i>Percina evides</i>
Goldeye	<i>Hiodon alosoides</i>
Iowa darter	<i>Etheostoma exile</i>
Lake sturgeon	<i>Acipenser fulvescens</i>
Longnose sucker	<i>Catostomus catostomus</i>
Mountain brook lamprey	<i>Ichthyomyzon greeleyi</i>
Northern brook lamprey	<i>Ichthyomyzon fossor</i>
Northern madtom	<i>Noturus stigmosus</i>
Ohio lamprey	<i>Ichthyomyzon bdellium</i>
Pirate perch	<i>Aphredoderus sayanus</i>
Popeye shiner	<i>Notropis ariommus</i>

**FISHES (CONT.) ENDANGERED**

Pugnose minnow	<i>Opsopoeodus emiliae</i>
Scioto madtom *E	<i>Noturus trautmani</i>
Shoal chub	<i>Macrhybopsis hyostoma</i>
Shortnose gar	<i>Lepisosteus platostomus</i>
Shovelnose sturgeon	<i>Scaphirhynchus platyrhynchus</i>
Spotted darter	<i>Etheostoma maculatum</i>
Spotted gar	<i>Lepisosteus oculatus</i>
Tonguetied minnow	<i>Exoglossum laurae</i>
Western banded killifish	<i>Fundulus diaphanus menona</i>

**ISOPODS ENDANGERED**

Fern cave isopod	<i>Caecidotea filicispeluncae</i>
Kindt's cave isopod	<i>Caecidotea insula</i>

**MAMMALS ENDANGERED**

Allegheny woodrat	<i>Neotoma magister</i>
Black bear	<i>Ursus americanus</i>
Indiana myotis *E	<i>Myotis sodalis</i>
Little brown bat	<i>Myotis lucifugus</i>
Northern long-eared bat *T	<i>Myotis septentrionalis</i>
Tri-colored bat	<i>Perimyotis subflavus</i>

**MAYFLIES ENDANGERED**

—	<i>Rhithrogena pellucida</i>
—	<i>Litobrantha recurvata</i>

**MIDGES ENDANGERED**

—	<i>Rheopelopia acra</i>
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**MOLLUSKS ENDANGERED**

Butterfly	<i>Ellipsaria lineolata</i>
Clubshell *E	<i>Pleurobema clava</i>
Eastern pondmussel	<i>Ligumia nasuta</i>
Ebonyshell	<i>Reginaia ebanas</i>
Elephantear	<i>Elliptio crassidens crassidens</i>
Fanshell *E	<i>Cyprogenia stegaria</i>
Little spectaclecase	<i>Villosa lienosa</i>
Long-solid	<i>Fusconaia subrotunda</i>
Monkeyface	<i>Theliderma metanevra</i>
Northern riffleshell *E	<i>Epioblasma rangiana</i>
Ohio pigtoe	<i>Pleurobema cordatum</i>
Pink mucket *E	<i>Lampsilis abrupta</i>
Pocketbook	<i>Lampsilis ovata</i>
Purple catpaw *E	<i>Epioblasma obliquata</i>

**MOLLUSKS (CONT.) ENDANGERED**

Purple lilliput	<i>Toxolasma lividum</i>
Pyramid pigtoe	<i>Pleurobema rubrum</i>
Rabbitsfoot *T	<i>Theliderma cylindrica</i>
Rayed bean *E	<i>Villosa fabalis</i>
Sheepnose *E	<i>Plethobasus cyphus</i>
Snuffbox *E	<i>Epioblasma triquetra</i>
Wartyback	<i>Cyclonaias nodulata</i>
Washboard	<i>Megaloniais nervosa</i>
White catpaw *E	<i>Epioblasma perobliqua</i>
Yellow sandshell	<i>Lampsilis teres</i>

**MOTHS ENDANGERED**

Graceful underwing	<i>Catocala gracilis</i>
Hairy artesa moth	<i>Sideridis artesta</i>
Hebard's noctuid moth	<i>Erythroecia hebardii</i>
Pointed sawfly	<i>Epiglaea apiata</i>
Unexpected cynia	<i>Cynia inopinatus</i>
—	<i>Hypocoena enervata</i>
—	<i>Lithophane semiusta</i>
—	<i>Melanchra assimilis</i>
—	<i>Papaipema beeriana</i>
—	<i>Papaipema silphii</i>
—	<i>Spartiniphaga inops</i>
—	<i>Tricholita notata</i>
—	<i>Ufeus plicatus</i>
—	<i>Ufeus satyricus</i>

**PSEUDOSCORPIONS ENDANGERED**

Buckskin cave pseudoscorpion	<i>Apochthonius hobbsi</i>
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**REPTILES ENDANGERED**

Copperbelly watersnake *T	<i>Nerodia erythrogaster neglecta</i>
Massasauga *T	<i>Sistrurus catenatus</i>
Plains gartersnake	<i>Thamnophis radix</i>
Smooth greensnake	<i>Opheodrys vernalis</i>
Timber rattlesnake	<i>Crotalus horridus</i>



# OHIO's THREATENED SPECIES

NOTE: \*E & \*T denote federal (U.S. Fish and Wildlife Service)  
listed endangered and threatened species respectively.

## AMPHIBIANS THREATENED

Midland mud salamander	<i>Pseudotriton montanus diastictus</i>
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## BEETLES THREATENED

Cobblestone tiger beetle	<i>Cicindela marginipennis</i>
—	<i>Cicindela hirticollis</i>

## BIRDS THREATENED

Barn owl	<i>Tyto alba</i>
Black-crowned night-heron	<i>Nycticorax nycticorax</i>
Least bittern	<i>Ixobrychus exilis</i>
Rufa red knot *T	<i>Calidris canutus rufa</i>
Sandhill crane	<i>Antigone canadensis</i>
Trumpeter swan	<i>Cygnus buccinator</i>

## BUTTERFLIES THREATENED

Silver-bordered fritillary	<i>Boloria selene</i>
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## CADDISFLIES THREATENED

—	<i>Hydroptila albicornis</i>
—	<i>Hydroptila artesa</i>
—	<i>Hydroptila koryaki</i>
—	<i>Hydroptila talledaga</i>
—	<i>Hydroptila valhalla</i>
—	<i>Psilotreta indecisa</i>

## CRAYFISHES THREATENED

Cavespring crayfish	<i>Cambarus tenebrosus</i>
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## DAMSELFLIES THREATENED

Boreal bluet	<i>Enallagma boreale</i>
Marsh bluet	<i>Enallagma ebrium</i>
Northern bluet	<i>Enallagma cyathigerum</i>

## DRAGONFLIES THREATENED

Green-faced clubtail	<i>Gomphus viridifrons</i>
Harlequin darner	<i>Gomphaeschna furcillata</i>
Riffle snaketail	<i>Ophiogomphus carolus</i>

## FISHES THREATENED

American eel	<i>Anguilla rostrata</i>
Bigmouth shiner	<i>Notropis dorsalis</i>
Blue sucker	<i>Cycleptus elongatus</i>
Brook trout	<i>Salvelinus fontinalis</i>
Channel darter	<i>Percina copelandi</i>
Greater redhorse	<i>Moxostoma valenciennesi</i>
Lake chubsucker	<i>Erimyzon sucetta</i>
Mountain madtom	<i>Noturus eleutherus</i>
Paddlefish *M	<i>Polyodon spathula</i>
River darter	<i>Percina shumardi</i>
Tippecanoe darter	<i>Etheostoma tippecanoe</i>

## ISOPODS THREATENED

Frost cave isopod	<i>Caecidotea rotunda</i>
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## MAMMALS THREATENED

Eastern harvest mouse	<i>Reithrodontomys humulis</i>
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## MIDGES THREATENED

—	<i>Apsectrotanypus johnsoni</i>
—	<i>Bethbilbeckia floridensis</i>
—	<i>Radotanypus florens</i>

## MOLLUSKS THREATENED

Black sandshell	<i>Ligumia recta</i>
Fawnsfoot	<i>Truncilla donaciformis</i>
Pondhorn	<i>Unimetus tetralasmus</i>
Threehorn wartyback	<i>Obliquaria reflexa</i>

## MOTHS THREATENED

The pink-streak	<i>Faronta rubripennis</i>
Wayward nymph	<i>Catocala antinympha</i>
—	<i>Fagitana littera</i>
—	<i>Spartiniphaga panatela</i>

## REPTILES THREATENED

Blanding's turtle	<i>Emydoidea blandingii</i>
Kirtland's snake	<i>Clonophis kirtlandii</i>
Lake Erie watersnake	<i>Nerodia sipedon insularum</i>
Spotted turtle	<i>Clemmys guttata</i>

# OHIO's SPECIES of CONCERN

NOTE: \*E & \*T denote federal (U.S. Fish and Wildlife Service)  
listed endangered and threatened species respectively.

## AMPHIBIANS SPECIES OF CONCERN

Blanchard's cricket frog	<i>Acris blanchardi</i>
Four-toed salamander	<i>Hemidactylium scutatum</i>

## BEETLES SPECIES OF CONCERN

Six-banded longhorn beetle	<i>Dryobius sexnotatus</i>
Whirligig beetle	<i>Gyrinus sinuatus</i>
—	<i>Cicindela ancocisconensis</i>
—	<i>Cicindela cuprascens</i>
—	<i>Cicindela cursitans</i>
—	<i>Cicindela macra</i>
—	<i>Cicindela splendida</i>

## BIRDS SPECIES OF CONCERN

American coot	<i>Fulica americana</i>
Black-billed cuckoo	<i>Coccyzus erythrophthalmus</i>
Bobolink	<i>Dolichonyx oryzivorus</i>
Cerulean warbler	<i>Setophaga cerulea</i>
Common gallinule	<i>Gallinula galeata</i>
Common nighthawk	<i>Chordeiles minor</i>
Eastern whip-poor-will	<i>Antrostomus vociferous</i>
Grasshopper sparrow	<i>Ammodramus savannarum</i>
Great egret	<i>Ardea alba</i>
Marsh wren	<i>Cistothorus palustris</i>
Henslow's sparrow	<i>Centronyx henslowii</i>
Northern bobwhite	<i>Colinus virginianus</i>
Prothonotary warbler	<i>Protonotaria citrea</i>
Red-headed woodpecker	<i>Melanerpes erythrocephalus</i>
Ruffed grouse	<i>Bonasa umbellus</i>
Sedge wren	<i>Cistothorus platensis</i>
Sharp-shinned hawk	<i>Accipiter striatus</i>
Sora	<i>Porzana carolina</i>
Vesper sparrow	<i>Poocetes gramineus</i>
Virginia rail	<i>Rallus limicola</i>

## BUTTERFLIES SPECIES OF CONCERN

Dusted skipper	<i>Atrytonopsis hianna</i>
Two-spotted skipper	<i>Euphyes bimacula</i>

## CADDISFLIES SPECIES OF CONCERN

—	<i>Asynarchus montanus</i>
—	<i>Hydroptila chattanooga</i>
—	<i>Nemotaulius hostilis</i>

## CRAYFISHES SPECIES OF CONCERN

Allegheny crayfish	<i>Orconectes obscurus</i>
Great Lakes crayfish	<i>Orconectes propinquus</i>
Northern crayfish	<i>Orconectes virilis</i>

## CRICKETS SPECIES OF CONCERN

Laricis tree cricket	<i>Oecanthus laricis</i>
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## DRAGONFLIES SPECIES OF CONCERN

Tiger spiketail	<i>Cordulegaster erronea</i>
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## FISHES SPECIES OF CONCERN

Blue catfish	<i>Ictalurus furcatus</i>
Burbot	<i>Lota lota</i>
Lake trout	<i>Salvelinus namaycush</i>
Lake whitefish	<i>Coregonus clupeaformis</i>
Least darter	<i>Etheostoma microperca</i>
Longnose dace	<i>Rhinichthys cataractae</i>
Muskellunge	<i>Esox masquinongy</i>
Western creek chubsucker	<i>Erimyzon claviformis</i>

## MAMMALS SPECIES OF CONCERN

Badger	<i>Taxidea taxus</i>
Big brown bat	<i>Eptesicus fuscus</i>
Deer mouse	<i>Peromyscus maniculatus</i>
Eastern small-footed bat	<i>Myotis leibii</i>
Ermine	<i>Mustela erminea</i>
Gray Fox	<i>Urocyon cinereoargenteus</i>
Hoary bat	<i>Lasiurus cinereus</i>
Prairie vole	<i>Microtus ochrogaster</i>
Pygmy shrew	<i>Sorex hoyi</i>
Rafinesque's big-eared bat	<i>Corynorhinus rafinesquii</i>
Red bat	<i>Lasiurus borealis</i>
Silver-haired bat	<i>Lasionycteris noctivagans</i>



**MAMMALS (CONT.) SPECIES OF CONCERN**

Smoky shrew	<i>Sorex fumeus</i>
Snowshoe hare	<i>Lepus americanus</i>
Southern bog lemming	<i>Synaptomys cooperi</i>
Star-nosed mole	<i>Condylura cristata</i>
Woodland jumping mouse	<i>Napaeozapus insignis</i>
Woodland vole	<i>Microtus pinetorum</i>

**MAYFLIES SPECIES OF CONCERN**

–	<i>Maccaffertium ithaca</i>
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**MIDGES SPECIES OF CONCERN**

–	<i>Cantopelopia gesta</i>
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**MOLLUSKS SPECIES OF CONCERN**

Creek heelsplitter	<i>Lasmigona compressa</i>
Deertoe	<i>Truncilla truncata</i>
Elktoe	<i>Alasmidonta marginata</i>
Kidneyshell	<i>Ptychobranchus fasciolaris</i>
Purple wartyback	<i>Cyclonaias tuberculata</i>
Round pigtoe	<i>Pleurobema sintoxia</i>
Salamander mussel	<i>Simpsonaias ambigua</i>
Wavyrayed lampmussel	<i>Lampsilis fasciola</i>

**MOTHS SPECIES OF CONCERN**

Bracken borer moth	<i>Papaipema pterisii</i>
Buck moth	<i>Hemileuca maia</i>
Columbine borer	<i>Papaipema leucostigma</i>
Curved halter moth	<i>Capis curvata</i>
Goat sawfly	<i>Homoglaea hircina</i>
Milnei's looper moth	<i>Euchlaena milnei</i>
One-eyed sphinx	<i>Smerinthus cerisyi</i>
Osmunda borer moth	<i>Papaipema speciosissima</i>
Prairie bird-dropping moth	<i>Ponomotia binocula</i>
Precious underwing	<i>Catocala pretiosa</i>
Purple arches	<i>Polia purpurissata</i>
Scurfy quaker	<i>Homorthodes furfurata</i>
–	<i>Agonopterix pteleae</i>
–	<i>Amolita roseola</i>
–	<i>Apamea lutosa</i>
–	<i>Brachylomia algens</i>
–	<i>Chytonix sensilis</i>

**MOTHS (CONT.) SPECIES OF CONCERN**

–	<i>Feltia manifesta</i>
–	<i>Macrochilo bivittata</i>
–	<i>Melanapamea mixta</i>
–	<i>Paectes abrostoloides</i>
–	<i>Phalaenostola hanhami</i>

**REPTILES SPECIES OF CONCERN**

Eastern black kingsnake	<i>Lampropeltis nigra</i>
Eastern foxsnake	<i>Pantherophis vulpinus</i>
Eastern gartersnake (melanistic)	<i>Thamnophis sirtalis sirtalis</i>
Eastern hognose snake	<i>Heterodon platirhinos</i>
Eastern smooth earthsnake	<i>Virginia valeriae valeriae</i>
Little brown skink	<i>Scincella lateralis</i>
Northern rough greensnake	<i>Opheodrys aestivus</i>
Ouachita map turtle	<i>Graptemys ouachitensis</i>
Queensnake	<i>Regina septemvittata</i>
Short-headed gartersnake	<i>Thamnophis brachystoma</i>
Woodland box turtle	<i>Terrapene carolina carolina</i>

# OHIO's SPECIAL INTEREST

NOTE: \*E & \*T denote federal (U.S. Fish and Wildlife Service)  
listed endangered and threatened species respectively.

## BIRDS SPECIAL INTEREST

American black duck	<i>Anas rubripes</i>
Bell's vireo	<i>Vireo bellii</i>
Blackburnian warbler	<i>Setophaga fusca</i>
Black-throated blue warbler	<i>Setophaga caerulescens</i>
Blue-headed vireo	<i>Vireo solitarius</i>
Brown creeper	<i>Certhia americana</i>
Canada warbler	<i>Cardellina canadensis</i>
Chuck-will's-widow	<i>Antrostomus carolinensis</i>
Common merganser	<i>Mergus merganser</i>
Common raven	<i>Corvus corax</i>
Dark-eyed junco	<i>Junco hyemalis</i>
Gadwall	<i>Mareca strepera</i>
Golden-crowned kinglet	<i>Regulus satrapa</i>
Golden-winged warbler	Golden-winged warbler
Green-winged teal	<i>Anas crecca</i>
Hermit thrush	<i>Catharus guttatus</i>
Least flycatcher	<i>Empidonax minimus</i>
Long-eared owl	<i>Asio otus</i>
Magnolia warbler	<i>Setophaga magnolia</i>
Mourning warbler	<i>Geothlypis philadelphia</i>
Nashville warbler	<i>Leiothlypis ruficapilla</i>
Northern pintail	<i>Anas acuta</i>
Northern saw-whet owl	<i>Aegolius acadicus</i>
Northern shoveler	<i>Spatula clypeata</i>
Northern waterthrush	<i>Parkesia noveboracensis</i>
Pine siskin	<i>Spinus pinus</i>
Purple finch	<i>Haemorhous purpureus</i>
Red-breasted nuthatch	<i>Sitta canadensis</i>
Redhead	<i>Aythya americana</i>
Ruddy duck	<i>Oxyura jamaicensis</i>
Short-eared owl	<i>Asio flammeus</i>
Veery	<i>Catharus fuscescens</i>
Western meadowlark	<i>Sturnella neglecta</i>
Wilson's phalarope	<i>Phalaropus tricolor</i>
Wilson's snipe	<i>Gallinago delicata</i>
Winter wren	<i>Troglodytes hiemalis</i>
Yellow-crowned night-heron	<i>Nyctanassa violacea</i>
Yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>

## BUTTERFLIES SPECIAL INTEREST

Olympia marble	<i>Euchloe olympia</i>
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## MAMMALS SPECIAL INTEREST

Evening bat	<i>Nycticeius humeralis</i>
Fisher	<i>Pekania pennanti</i>

## MOTHS SPECIAL INTEREST

Banded Quaker	<i>Protorthodes incincta</i>
Clemen's sphinx	<i>Sphinx luscitiosa</i>
Heterodox wainscot	<i>Leucania insueta</i>
Marbled underwing	<i>Catocala marmorata</i>
Sad underwing	<i>Catocala maestosa</i>
Slender clearwing	<i>Hemaris gracilis</i>
Subflava sedge borer moth	<i>Archana subflava</i>
Toadflax brocade	<i>Calophasia lunula</i>
Variegated orange moth	<i>Epelis truncataria</i>
—	<i>Caradrina meralis</i>
—	<i>Tathorhynchus exsiccatus</i>



# OHIO's EXTIRPATED SPECIES

NOTE: \*E & \*T denote federal (U.S. Fish and Wildlife Service)  
listed endangered and threatened species respectively.

## BIRDS EXTIRPATED

Bachman's sparrow	<i>Peucaea aestivalis</i>
Bewick's wren	<i>Thryomanes bewickii</i>
Greater prairie-chicken	<i>Tympanuchus cupido</i>
Ivory-billed woodpecker	<i>Campephilus principalis</i>
Swallow-tailed kite	<i>Elanoides forficatus</i>

## BUTTERFLIES EXTIRPATED

Mustard white	<i>Pieris napi</i>
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## FISHES EXTIRPATED

Alligator gar	<i>Lepisosteus spatula</i>
Blackchin shiner	<i>Notropis heterodon</i>
Blacknose shiner	<i>Notropis heterolepis</i>
Diamond darter	<i>Crystallaria cincotta</i>
Great Lakes mottled sculpin	<i>Cottus bairdii kumlieni</i>
Longhead darter	<i>Percina macrocephala</i>
Mississippi silvery minnow	<i>Hybognathus nuchalis</i>
Pugnose shiner	<i>Notropis anogenus</i>
Spoonhead sculpin	<i>Cottus ricei</i>

## MAMMALS EXTIRPATED

Bison	<i>Bison bison</i>
Canada lynx *T	<i>Lynx canadensis</i>
Gray wolf *E	<i>Canis lupus</i>
Marten	<i>Martes americana</i>
Mountain lion	<i>Puma concolor</i>
Porcupine	<i>Erethizon dorsatum</i>
Rice rat	<i>Oryzomys palustris</i>
Southern red-backed vole	<i>Myodes gapperi</i>
Wapiti (Elk)	<i>Cervus elaphus</i>

## MOLLUSKS EXTIRPATED

Cracking pearly mussel *E	<i>Hemistena lata</i>
Fat pocketbook *E	<i>Potamilus capax</i>
Hickorynut	<i>Obovaria olivaria</i>
Mucket	<i>Actinonaias ligamentina</i>
Orangefoot pimpleback *E	<i>Plethobasus cooperianus</i>
Ring pink	<i>Obovaria retusa</i>
Rough pigtoe *E	<i>Pleurobema plenum</i>
Scale shell	<i>Leptodea leptodon</i>
Spectaclecase	<i>Margaritifera monodonta</i>
White wartyback	<i>Plethobasus cicatricosus</i>
Winged mapleleaf *E	<i>Quadrula fragosa</i>

# OHIO's EXTINCT SPECIES

NOTE: \*E & \*T denote federal (U.S. Fish and Wildlife Service)  
listed endangered and threatened species respectively.

## BEETLES EXTINCT

Kramer's cave beetle	<i>Pseudanophthalmus krameri</i>
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## BIRDS EXTINCT

Carolina parakeet	<i>Conuropsis carolinensis</i>
Passenger pigeon	<i>Ectopistes migratorius</i>

## FISHES EXTINCT

Harelip sucker	<i>Lagochila lacera</i>
Blue pike	<i>Sander vitreus glaucus</i>

## MOLLUSKS EXTINCT

Leafshell	<i>Epioblasma flexuosa</i>
Forkshell	<i>Epioblasma lewisi</i>
Round snuffbox	<i>Epioblasma personata</i>
Cincinnati riffleshell	<i>Epioblasma phillipsi</i>
Scioto pigtoe	<i>Pleurobema bourmianum</i>
Tubercled blossom	<i>Epioblasma torulosa torulosa</i>

# Franklin County State Listed Animal Species

Common Name	Scientific Name	Group	State Status	Federal Status
Upland Sandpiper	<i>Bartramia longicauda</i>	Bird	Endangered	
American Bittern	<i>Botaurus lentiginosus</i>	Bird	Endangered	
Cattle Egret	<i>Bubulcus ibis</i>	Bird	Endangered	
Lark Sparrow	<i>Chondestes grammacus</i>	Bird	Endangered	
Northern Harrier	<i>Circus hudsonius</i>	Bird	Endangered	
none	<i>Chimarra socia</i>	Caddisfly	Endangered	
Iowa Darter	<i>Etheostoma exile</i>	Fish	Endangered	
Spotted Darter	<i>Etheostoma maculatum</i>	Fish	Endangered	
Tonguetied Minnow	<i>Exoglossum laurae</i>	Fish	Endangered	
Goldeye	<i>Hiodon alosoides</i>	Fish	Endangered	
Northern Brook Lamprey	<i>Ichthyomyzon fossor</i>	Fish	Endangered	
Shortnose Gar	<i>Lepisosteus platostomus</i>	Fish	Endangered	
Popeye Shiner	<i>Notropis ariommus</i>	Fish	Endangered	
Indiana Myotis	<i>Myotis sodalis</i>	Mammal	Endangered	Endangered
Black Bear	<i>Ursus americanus</i>	Mammal	Endangered	
Butterfly	<i>Ellipsaria lineolata</i>	Mollusk	Endangered	
Elephant-ear	<i>Elliptio crassidens</i>	Mollusk	Endangered	
Purple Cat's Paw	<i>Epioblasma obliquata</i>	Mollusk	Endangered	Endangered
Snuffbox	<i>Epioblasma triquetra</i>	Mollusk	Endangered	Endangered
Longsolid	<i>Fusconaia subrotunda</i>	Mollusk	Endangered	





Common Name	Scientific Name	Group	State Status	Federal Status
Pink Mucket	Lampsilis abrupta	Mollusk	Endangered	Endangered
Pocketbook	Lampsilis ovata	Mollusk	Endangered	
Washboard	Megalania nervosa	Mollusk	Endangered	
Clubshell	Pleurobema clava	Mollusk	Endangered	Endangered
Ohio Pigtoe	Pleurobema cordatum	Mollusk	Endangered	
Rabbitsfoot	Theliderma cylindrica	Mollusk	Endangered	Threatened
Rayed Bean	Villosa fabalis	Mollusk	Endangered	Endangered
Smooth Greensnake	Opheodrys vernalis	Reptile	Endangered	
Sandhill Crane	Grus canadensis	Bird	Threatened	
Least Bittern	Ixobrychus exilis	Bird	Threatened	
Black-crowned Night-Heron	Nycticorax nycticorax	Bird	Threatened	
Barn Owl	Tyto alba	Bird	Threatened	
Lake Chubsucker	Erimyzon sucetta	Fish	Threatened	
Tippecanoe Darter	Etheostoma tippecanoe	Fish	Threatened	
Paddlefish	Polyodon spathula	Fish	Threatened	
Northern Long-eared Bat	Myotis septentrionalis	Mammal	Threatened	Threatened
Black Sandshell	Ligumia recta	Mollusk	Threatened	
Threehorn Wartyback	Obliquaria reflexa	Mollusk	Threatened	
Fawnsfoot	Truncilla donaciformis	Mollusk	Threatened	
Pondhorn	Uniomorus tetralasmus	Mollusk	Threatened	
Eastern Cricket Frog	Acris crepitans crepitans	Amphibian	Species of Concern	
Four-toed Salamander	Hemidactylium scutatum	Amphibian	Species of Concern	



Common Name	Scientific Name	Group	State Status	Federal Status
Sharp-shinned Hawk	Accipiter striatus	Bird	Species of Concern	
Henslow's Sparrow	Ammodramus henslowii	Bird	Species of Concern	
Grasshopper Sparrow	Ammodramus savannarum	Bird	Species of Concern	
Great Egret	Ardea alba	Bird	Species of Concern	
Common Nighthawk	Chordeiles minor	Bird	Species of Concern	
Sedge Wren	Cistothorus platensis	Bird	Species of Concern	
Black-billed Cuckoo	Coccyzus erythrophthalmus	Bird	Species of Concern	
Northern Bobwhite	Colinus virginianus	Bird	Species of Concern	
Bobolink	Dolichonyx oryzivorus	Bird	Species of Concern	
American Coot	Fulica americana	Bird	Species of Concern	
Common Gallinule	Gallinula galeata	Bird	Species of Concern	
Red-headed Woodpecker	Melanerpes erythrocephalus	Bird	Species of Concern	
Vesper Sparrow	Poocetes gramineus	Bird	Species of Concern	
Sora Rail	Porzana carolina	Bird	Species of Concern	
Prothonotary Warbler	Protonotaria citrea	Bird	Species of Concern	
Virginia Rail	Rallus limicola	Bird	Species of Concern	
Cerulean Warbler	Setophaga cerulea	Bird	Species of Concern	
Two-spotted Skipper	Euphyes bimacula	Butterfly	Species of Concern	
Muskellunge	Esox masquinongy	Fish	Species of Concern	
Blue Catfish	Ictalurus furcatus	Fish	Species of Concern	
Star-nosed Mole	Condylura cristata	Mammal	Species of Concern	
Big Brown Bat	Eptesicus fuscus	Mammal	Species of Concern	





Common Name	Scientific Name	Group	State Status	Federal Status
Red Bat	Lasiurus borealis	Mammal	Species of Concern	
Hoary Bat	Lasiurus cinereus	Mammal	Species of Concern	
Snowshoe Hare	Lepus americanus	Mammal	Species of Concern	
Woodland Vole	Microtus pinetorum	Mammal	Species of Concern	
Ermine	Mustela erminea	Mammal	Species of Concern	
Little Brown Bat	Myotis lucifugus	Mammal	Species of Concern	
Tri-colored Bat	Perimyotis subflavus	Mammal	Species of Concern	
Deer Mouse	Peromyscus maniculatus	Mammal	Species of Concern	
Smoky Shrew	Sorex fumeus	Mammal	Species of Concern	
Southern Bog Lemming	Synaptomys cooperi	Mammal	Species of Concern	
Badger	Taxidea taxus	Mammal	Species of Concern	
Common Gray Fox	Urocyon cinereoargenteus	Mammal	Species of Concern	
Elktoe	Alasmidonta marginata	Mollusk	Species of Concern	
Purple Wartyback	Cyclonaias tuberculata	Mollusk	Species of Concern	
Wavy-rayed Lampmussel	Lampsilis fasciola	Mollusk	Species of Concern	
Creek Heelsplitter	Lasmigona compressa	Mollusk	Species of Concern	
Round Pigtoe	Pleurobema sintoxia	Mollusk	Species of Concern	
Kidneyshell	Ptychobranthus fasciolaris	Mollusk	Species of Concern	
Deertoe	Truncilla truncata	Mollusk	Species of Concern	
none	Agroperina lutosa	Moth	Species of Concern	
Precious Underwing	Catocala pretiosa	Moth	Species of Concern	
Northern Shoveler	Anas clypeata	Bird	Special Interest	



Common Name	Scientific Name	Group	State Status	Federal Status
Green-winged Teal	Anas crecca	Bird	Special Interest	
American Black Duck	Anas rubripes	Bird	Special Interest	
Veery	Catharus fuscescens	Bird	Special Interest	
Hermit Thrush	Catharus guttatus	Bird	Special Interest	
Brown Creeper	Certhia americana	Bird	Special Interest	
Least Flycatcher	Empidonax minimus	Bird	Special Interest	
Wilson's Snipe	Gallinago delicata	Bird	Special Interest	
Dark-eyed Junco	Junco hyemalis	Bird	Special Interest	
Yellow-crowned Night-heron	Nyctanassa violacea	Bird	Special Interest	
Nashville Warbler	Oreothlypis ruficapilla	Bird	Special Interest	
Northern Waterthrush	Parkesia noveboracensis	Bird	Special Interest	
Golden-crowned Kinglet	Regulus satrapa	Bird	Special Interest	
Blackburnian Warbler	Setophaga fusca	Bird	Special Interest	
Magnolia Warbler	Setophaga magnolia	Bird	Special Interest	
Red-breasted Nuthatch	Sitta canadensis	Bird	Special Interest	
Yellow-bellied Sapsucker	Sphyrapicus varius	Bird	Special Interest	
Winter Wren	Troglodytes hiemalis	Bird	Special Interest	
Golden-winged Warbler	Vermivora chrysoptera	Bird	Special Interest	
Bell's Vireo	Vireo bellii	Bird	Special Interest	
Evening Bat	Nycticeius humeralis	Mammal	Special Interest	
Slender Clearwing	Hemaris gracilis	Moth	Special Interest	
Blacknose Shiner	Notropis heterolepis	Fish	Extirpated	
Longhead Darter	Percina macrocephata	Fish	Extirpated	









## Franklin County

Scientific Name	Common Name	Last Observed	State Status	Federal Status
<i>Acorus americanus</i>	American Sweet-flag	1989-06-06	P	
<i>Agalinis gattingeri</i>	Gattinger's-foxglove	2001-09-05	T	
<i>Arabis patens</i>	Spreading Rock Cress	2012-05	E	
<i>Baptisia lactea</i>	Prairie False Indigo	2001-08-06	P	
<i>Bromus kalmii</i>	Prairie Brome	2008-07-17	P	
<i>Carex decomposita</i>	Cypress-knee Sedge	2006-06-06	E	
<i>Cyperus acuminatus</i>	Pale Umbrella-sedge	2005-10-05	P	
<i>Delphinium exaltatum</i>	Tall Larkspur	2008-07-17	P	
<i>Juncus secundus</i>	One-sided Rush	2012-06-03	P	
<i>Liatris squarrosa</i>	Scaly Blazing-star	2012-06-03	P	
<i>Poa saltuensis</i> ssp. <i>languida</i>	Weak Spear Grass	1982-06-24	P	
<i>Thuja occidentalis</i>	Arbor Vitae	2001-07-28	P	
<i>Triphora trianthophora</i>	Three-birds Orchid	1981-08-17	P	
<i>Ulmus thomasii</i>	Rock Elm	2010-09-10	P	



Ohio Division of Wildlife  
Ohio Natural Heritage Database  
Date Accessed: March 6, 2015  
Status based on 2014-15 Rare Plant List.

### Status:

X = Extirpated

E = Endangered

T = Threatened

P = Potentially Threatened





## Franklin County

Scientific Name	Common Name	Last Observed	State Status	Federal Status
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List Created: July 2016

[ECOS](#) / [Species Reports](#) / Species County Report

## Listed species believed to or known to occur in Franklin, Ohio

The following report contains Species that are known to or are believed to occur in this county. Species with range unrefined past the state level are now excluded from this report. If you are looking for the Section 7 range (for Section 7 Consultations), please visit the [IPaC](#) application.

[CSV](#)Search: 

15 Species Listings

Group	Name	Population	Status	Lead Office	Recovery Plan	Recovery Plan Action Status
Flowering Plants	Eastern prairie fringed orchid ( <a href="#">Platanthera leucophaea</a> )	Wherever found	Threatened	3	<a href="#">Eastern Prairie Fringed Orchid</a>	<a href="#">Implementation Progress</a>
Clams	Round hickorynut ( <a href="#">Obovaria subrotunda</a> )	Wherever found	Proposed Threatened	4		
Clams	Rayed Bean ( <a href="#">Villosa fabalis</a> )	Wherever found	Endangered	3		
Flowering Plants	Running buffalo clover ( <a href="#">Trifolium stoloniferum</a> )		Endangered	3	<a href="#">Revised Final Recovery Plan for the Running Buffalo Clover (<a href="#">Trifolium stoloniferum</a>)</a>	<a href="#">Implementation Progress</a>
Mammals	Northern Long-Eared Bat ( <a href="#">Myotis septentrionalis</a> )	Wherever found	Threatened	3		
Birds	Bald eagle ( <a href="#">Haliaeetus leucocephalus</a> )	U.S.A., conterminous (lower 48) States.	Recovery	3		
Clams	Northern riffleshell ( <a href="#">Epioblasma torulosa rangiana</a> )	Wherever found	Endangered	5	<a href="#">Clubshell/Northern Riffleshell (2 spp.)</a>	<a href="#">Implementation Progress</a>
Mammals	Indiana bat ( <a href="#">Myotis sodalis</a> )	Wherever found	Endangered	3	<a href="#">Indiana Bat (<a href="#">Myotis sodalis</a>) Draft Recovery Plan: First Revision</a>	<a href="#">Implementation Progress</a>
Mammals	Tricolored bat ( <a href="#">Perimyotis subflavus</a> )	Wherever found	Under Review	5		
Clams	Rabbitsfoot ( <a href="#">Quadrula cylindrica cylindrica</a> )	Wherever found	Threatened	4		

Showing 1 to 10 of 15 entries

[Previous](#)[1](#)[2](#)[Next](#)



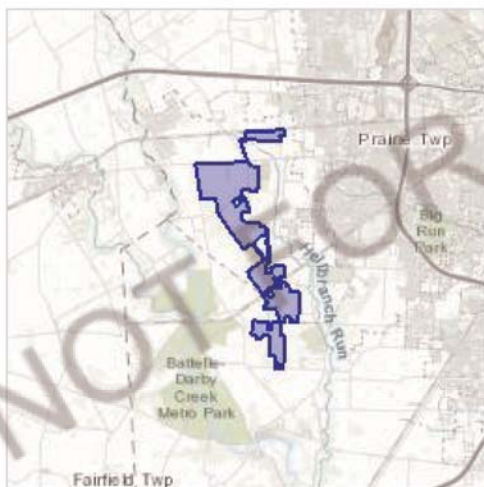
# IPaC resource list

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

Franklin County, Ohio



## Local office

Ohio Ecological Services Field Office

☎ (614) 416-8993

📠 (614) 416-8994

4625 Morse Road, Suite 104  
Columbus, OH 43230-8355

# 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<sup>1</sup> 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<sup>2</sup>).

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](#).

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.
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

Indiana Bat *Myotis sodalis*

Endangered

There is **final** critical habitat for this species. Your location is outside the critical habitat.

<https://ecos.fws.gov/ecp/species/5949>

Northern Long-eared Bat *Myotis septentrionalis*

Threatened

This species only needs to be considered if the following condition applies:

- Incidental take of the northern long-eared bat is not prohibited at this location. Federal action agencies may conclude consultation using the streamlined process described at <https://www.fws.gov/midwest/endangered/mammals/nleb/s7.html>

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9045>

## Fishes

NAME

STATUS

Scioto Madtom *Noturus trautmani*

Endangered

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/5395>

## Flowering Plants

NAME

STATUS

Running Buffalo Clover *Trifolium stoloniferum*

Endangered

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/2529>

## 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.

## Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).



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:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

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, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A  
BREEDING SEASON IS INDICATED  
FOR A BIRD ON YOUR LIST, THE  
BIRD MAY BREED IN YOUR  
PROJECT AREA SOMETIME WITHIN  
THE TIMEFRAME SPECIFIED,  
WHICH IS A VERY LIBERAL  
ESTIMATE OF THE DATES INSIDE  
WHICH THE BIRD BREEDS  
ACROSS ITS ENTIRE RANGE.  
"BREEDS ELSEWHERE" INDICATES  
THAT THE BIRD DOES NOT LIKELY  
BREED IN YOUR PROJECT AREA.)

American Bittern *Botaurus lentiginosus*

Breeds Apr 1 to Aug 31

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/6582>

**American Golden-plover** *Pluvialis dominica*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

**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

**Black-billed Cuckoo** *Coccyzus erythrophthalmus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9399>

Breeds May 15 to Oct 10

**Bobolink** *Dolichonyx oryzivorus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 20 to Jul 31

**Buff-breasted Sandpiper** *Calidris subruficollis*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9488>

Breeds elsewhere

**Dunlin** *Calidris alpina arctica*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Breeds elsewhere

**Eastern Whip-poor-will** *Antrostomus vociferus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 1 to Aug 20

**Henslow's Sparrow** *Ammodramus henslowii*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3941>

Breeds May 1 to Aug 31

**Hudsonian Godwit** *Limosa haemastica*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

**Kentucky Warbler** *Oporornis formosus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Apr 20 to Aug 20

**Least Bittern** *Ixobrychus exilis*

Breeds Aug 16 to Oct 31

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/6175>

**Lesser Yellowlegs** *Tringa flavipes*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9679>

**Prothonotary Warbler** *Protonotaria citrea*

Breeds Apr 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

**Red-headed Woodpecker** *Melanerpes erythrocephalus*

Breeds May 10 to Sep 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

**Ruddy Turnstone** *Arenaria interpres morinella*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

**Rusty Blackbird** *Euphagus carolinus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

**Semipalmated Sandpiper** *Calidris pusilla*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

**Short-billed Dowitcher** *Limnodromus griseus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9480>

**Wood Thrush** *Hylocichla mustelina*

Breeds May 10 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

## 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 and understand the FAQ "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.

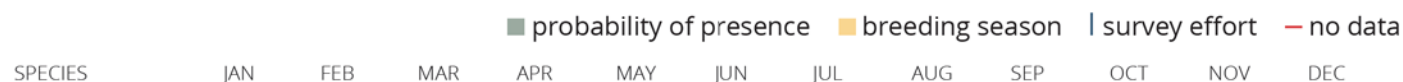
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

## No Data (—)

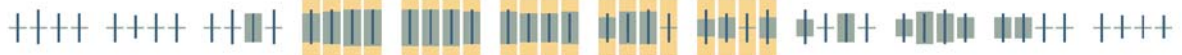
A week is marked as having no data if there were no survey events for that week.

## Survey Timeframe

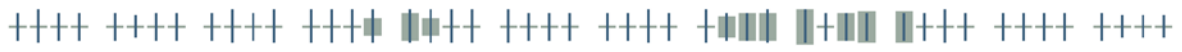
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



American Bittern  
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



American Golden-plover  
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Bald Eagle  
Non-BCC Vulnerable (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.)



Black-billed Cuckoo  
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Bobolink  
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

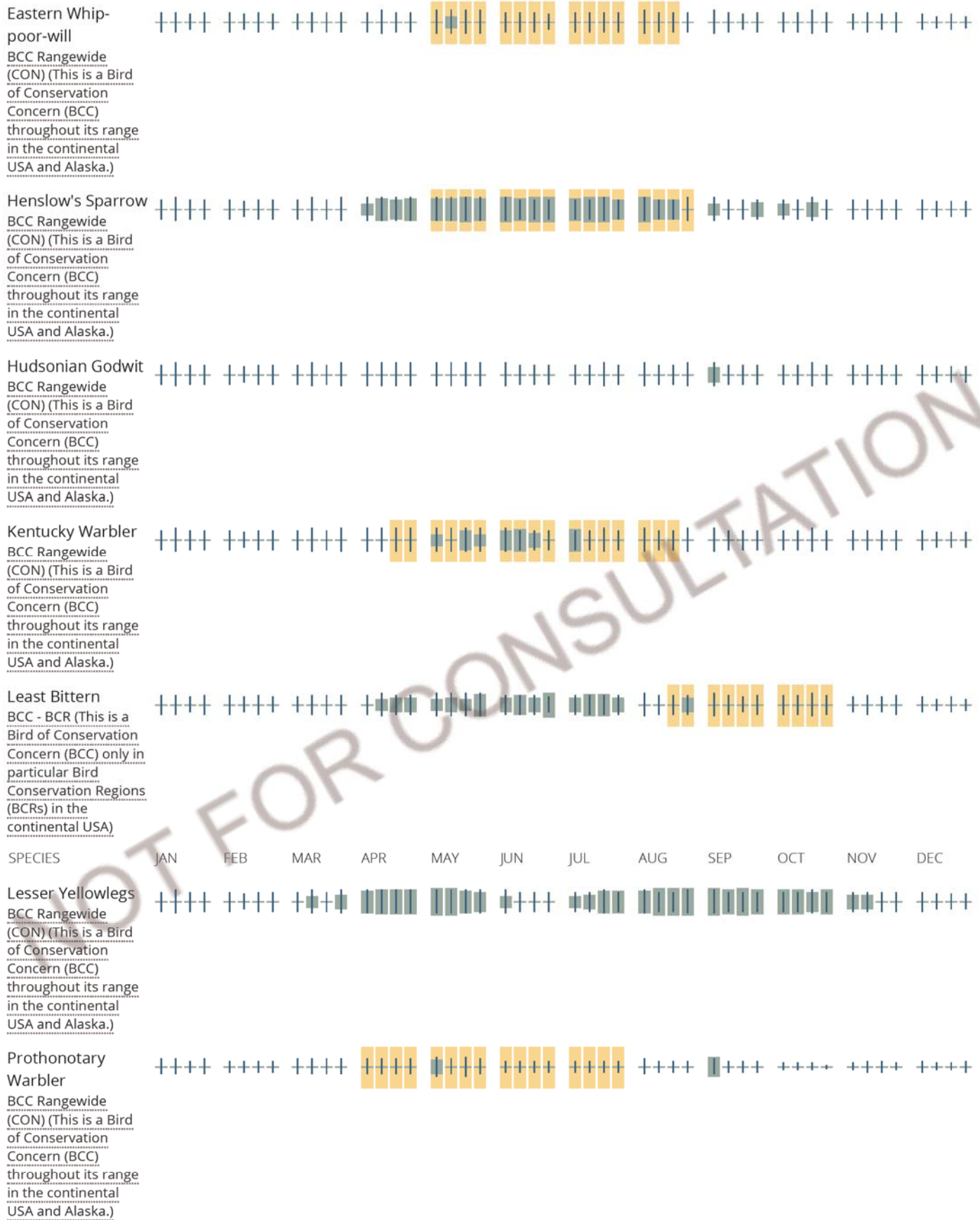


Buff-breasted Sandpiper  
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

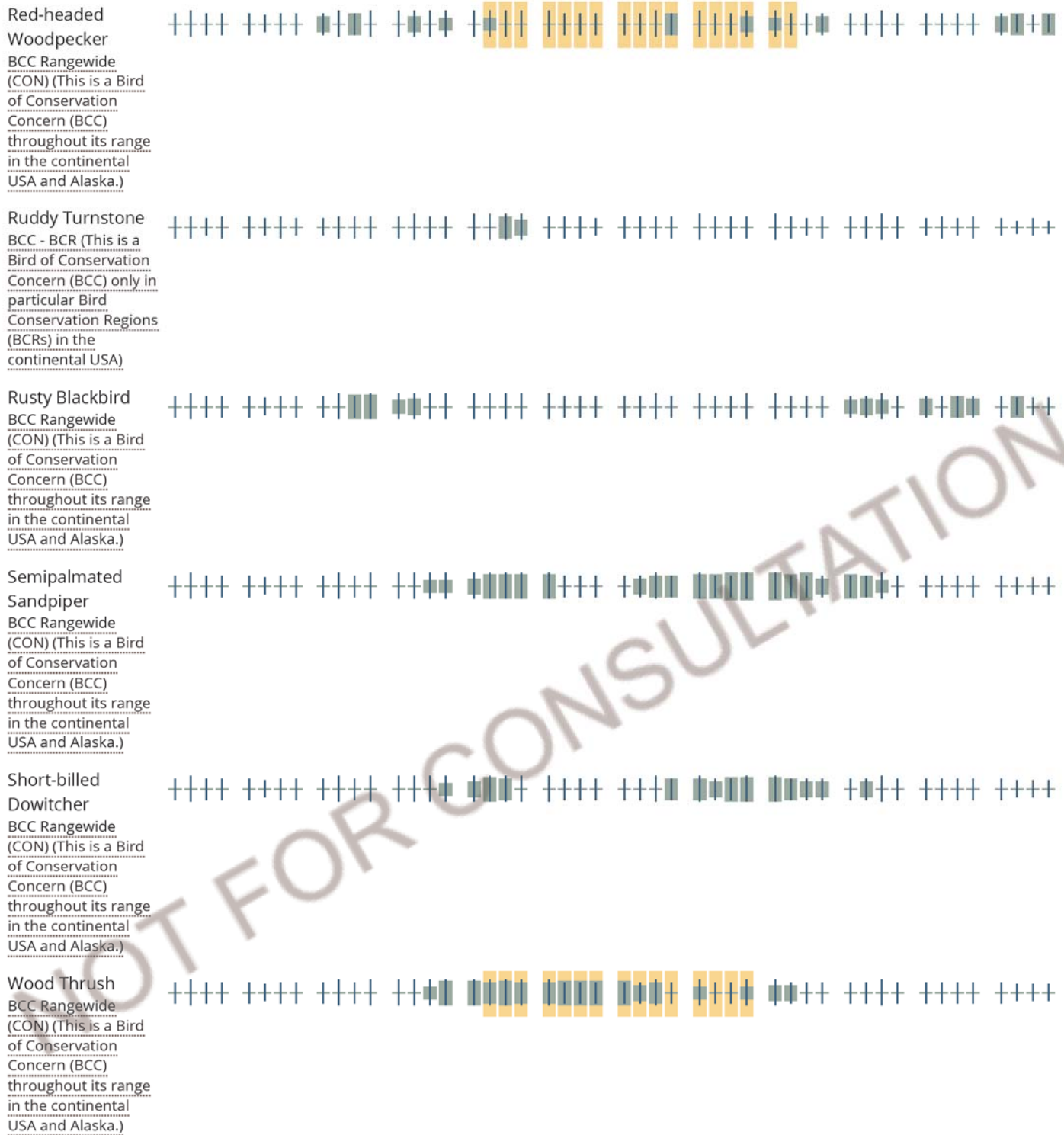


Dunlin  
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)









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](#) and/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 migratory birds potentially occurring 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 [AKN Phenology 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 to 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, migrating or present year-round in my project 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 refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). 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.

**This foregoing document was electronically filed with the Public Utilities**

**Commission of Ohio Docketing Information System on**

**2/19/2021 1:04:39 PM**

**in**

**Case No(s). 20-1679-EL-BGN**

Summary: Application - 23 of 25 (Exhibit R – Part 2 of 4 - Ecological Impact and Directional Drilling  
Return Plan Report)  
electronically filed by Christine M.T. Pirik on behalf of Pleasant Prairie Solar Energy LLC