DICKINSON WRIGHT PLLC

150 E. GAY STREET, 24TH FLOOR
COLUMBUS, OH 43215-3192
TELEPHONE: (614) 591-5461
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CHRISTINE M.T. PIRIK
CPirik@dickinsonwright.com

September 17, 2021

Ms. Tanowa Troupe, Secretary
Ohio Power Siting Board
Docketing Division
180 East Broad Street, 11th Floor
Columbus, Ohio 43215-3797

Re: **Case No. 20-417-EL-BGN -**In the Matter of the Application of Grover Hill Wind, LLC for a Certificate of Environmental Compatibility and Public Need to Construct a Wind-Powered Electric Generation Facility in Paulding County, Ohio.

Second Supplemental Response to Third Data Request from Staff of the Ohio Power Siting Board

Dear Ms. Troupe:

Attached please find Grover Hill Wind, LLC's ("Applicant") Second Supplemental Response to Third Data Request from Staff of the Ohio Power Siting Board ("OPSB Staff"). The Applicant provided this response to OPSB Staff on September 17, 2021.

We are available, at your convenience, to answer any questions you may have.

Respectfully submitted,

/s/ *Christine M.T. Pirik*
Christine M.T. Pirik (0029759)
(Counsel of Record)
Terrence O'Donnell (0074213)
William V. Vorys (0093479)
Matthew C. McDonnell (0090164)
Dickinson Wright PLLC
150 East Gay Street, Suite 2400
Columbus, Ohio 43215
Phone: (614) 591-5461
cpirik@dickinsonwright.com
todonnell@dickinsonwright.com
wvorys@dickinsonwright.com
mmcdonnell@dickinsonwright.com
Attorneys for Grover Hill Wind Project, LLC

Cc: Jim O'Dell
Theresa White
Randall Schumacher
Jon Pawley

CERTIFICATE OF SERVICE

The Ohio Power Siting Board's e-filing system will electronically serve notice of the filing of this document on the parties referenced in the service list of the docket card who have electronically subscribed to these cases. In addition, the undersigned certifies that a copy of the foregoing document is also being served upon the persons below this 17th day of September, 2021.

/s/ Christine M.T. Pirik
Christine M.T. Pirik (0029759)

Counsel:

werner.margard@ohioattorneygeneral.gov

Administrative Law Judge:

greta.see@puco.ohio.gov
david.hicks@puco.ohio.gov

4818-8368-3067 v1 [73809-23]

BEFORE
THE OHIO POWER SITING BOARD

In the Matter of the Application of Grover Hill Wind, LLC for a Certificate of Environmental Compatibility and Public Need to Construct a Wind-Powered Electric Generation Facility in Paulding County, Ohio.	))))	Case No: 20-417-EL-BGN

GROVER HILL WIND, LLC 'S
SECOND SUPPLEMENTAL RESPONSE TO THE THIRD DATA REQUEST
FROM THE STAFF OF THE OHIO POWER SITING BOARD

On May 3, 2021, as supplemented on June 7, 2021, Grover Hill Wind, LLC ("Applicant") filed an application ("Application") with the Ohio Power Siting Board ("OPSB") proposing to construct a wind-powered electric generation facility in Paulding County, Ohio ("Project"). On June 29, 2021, the Staff of the OPSB ("OPSB Staff") provided the Applicant with OPSB Staff's Third Data Request. Now comes the Applicant providing the following Second Supplemental Response to the Third Data Request from the OPSB Staff regarding Question 8.

Ecological

8. In accordance with Rule 4906-4-09(D)(1), the Applicant should coordinate with the USFWS and provide the results of this coordination. This coordination is needed due to the potential operational impacts to federally and state listed species, migratory birds, and other protected species, including bald eagles and other raptors. Typically projects are coordinated with the USFWS Ohio Field Office to receive guidance on studies needed within the project area, as well as a review of and recommendations to minimize potential impacts. They can be reached at (614) 416-8993 or ohio@fws.gov.

Response: Attached please find the correspondence between the Applicant and the Ohio Department of Natural Resources and the United States Fish and Wildlife Service.

Respectfully submitted,

/s/ *Christine M.T. Pirik*
Christine M.T. Pirik (0029759)
(Counsel of Record)
Terrence O'Donnell (0074213)
William V. Vorys (0093479)
Matthew C. McDonnell (0090164)
Dickinson Wright PLLC
150 East Gay Street, Suite 2400
Columbus, Ohio 43215
Attorneys for Grover Hill Wind, LLC

4840-9879-7051 v1 [73809-23]

Attachment 1

Correspondence
Ohio Department of Natural Resources to
Grover Hill Wind
May 2018

Matthias Weigel

From: Erin.Hazelton@dnr.state.oh.us
Sent: Friday, May 11, 2018 10:54 AM
To: Brad Norling; Matthias Weigel
Cc: Seymour, Megan
Subject: RE: Northwest work plan notes

Hi everyone,
I spoke with Grant at the OPSB and let him know there would be some updates to the submitted work plan/BBCS. He recommended you all submit the updated documents to the OPSB docket (please forward to Megan and me for a quick review before you do that) and then DNR will respond with the official approval letter for the work plan.
Thanks,
Erin

Erin Hazelton
Wind Energy/Wildlife Administrator
ODNR Division of Wildlife
2045 Morse Road
Columbus, OH 43229
Phone: 614-265-6349
Email: Erin.Hazelton@dnr.state.oh.us

Good intentions can hurt, leave wildlife in the wild. Visit wildohio.gov/staywild to find out more.

From: Hazelton, Erin
Sent: Monday, May 07, 2018 4:15 PM
To: 'Brad Norling'; Matthias Weigel
Cc: Seymour, Megan
Subject: Northwest work plan notes

Hello Brad,
Many thanks to you and Matthias for meeting this morning and reviewing the work plan and BBCS drafts. As requested, here is a summary of the items that needed review/edits we discussed (in no particular order). Please let me know if you have any questions!

- Update work plan to follow ODNR recommendations for searcher efficiency and carcass persistence trials (seasons, locations/distribution, # of trials) (7.1.1.3 and 4)
- Search to 2.5m of transect instead of 3m (Section 7.1.1.1)
- Bird and bats killed at the facility can be used for trials in lieu of mice/game species if they are available (excepting any Myotis, unknown bats, or state or federal listed species).
- Please provide all raw data to ODNR with each interim report (Summer-Fall 2018, Spring Fall 2019, and Spring 2020 (TBD))
- Vegetation on cleared plots must be 4" or less per ODNR protocols (7.1.1.1., second paragraph). Consider clearing daily plots too—can reduce search area to the 3-day plot area if so.
- Searches should be complete by 1pm, according to ODNR protocols—let me know if this will not be feasible.
- Data forms need to include info in ODNR's protocol (fatality and searcher efficiency forms)
- All carcasses delivered to ODNR at the end of the year. Contact ODNR/USFWS within 24 hours if any federal or state listed species (endangered or threatened) is found.
- If any animals are found alive, they should be delivered to a licensed rehabilitator

- Huso estimator is preferred (but Shoenfeld can be provided, in addition)
- Include description of curtailment schedule in Work Plan

Erin Hazelton
Wind Energy/Wildlife Administrator
ODNR Division of Wildlife
2045 Morse Road
Columbus, OH 43229
Phone: 614-265-6349
Email: Erin.Hazelton@dnr.state.oh.us

Good intentions can hurt, leave wildlife in the wild. Visit wildohio.gov/staywild to find out more.

Attachment 2

Correspondence
Grover Hill Wind to Ohio Department of Natural Resources
September 4, 2018

Westwood

12701 Whitewater Drive, Suite 300
Minnetonka, MN 55343

Main (952) 937-5150
Fax (952) 937-5822

westwoodps.com
(888) 937-5150

September 4, 2018

Erin Hazelton
Ohio Department of Natural Resources
Division of Wildlife
2045 Morse Road, Building G
Columbus, Ohio 43229

Re: Northwest Ohio Starwood Wind Energy Project, Paulding County, Ohio
File: 0015695.00

Dear Mrs. Hazelton,

On behalf of Starwood Energy Group (Starwood), Westwood Professional Services is writing to request comments regarding the Applicant's plans to acquire a Certificate of Environmental Compatibility and Public Need (CECPN) from the Ohio Power Siting Board (OPSB) for a newly proposed wind energy project: the Northwest Ohio Starwood Wind Energy (Starwood Wind) Project located in Paulding County, Ohio (**Exhibit 1**). This Project will help to meet the goal of 12.5 percent or more of Ohio's energy being produced by renewable energy sources set forth in Senate Bill 221. Starwood anticipates submitting a CECPN for the proposed 150 megawatt (MW) nameplate capacity wind energy facility to the OPSB in September 2020.

The Project Area is located directly adjacent to the NW Ohio and Blue Creek wind projects. Most of the Project Area (88 percent) is comprised of farmland with the remaining 12 percent comprised of developed areas (8 percent) and forest (4 percent).

At this stage of planning the specific locations of turbines, access roads, collection lines, and other supporting infrastructure are unknown. A full-sized crane will be used to construct the tower and install rotors, nacelles, and blades. Some minor upgrading of public roadways and intersections may be required to allow for delivery of the towers, rotors, and nacelles to each turbine location. A temporary laydown yard will likely be constructed within agricultural lands to stage the turbine components prior to installation. A temporary crane path will also be required for installing the towers, rotors, and nacelles, which will be restored to pre-construction conditions following construction. Starwood would like to complete the work during the 2021 construction season, and construction is anticipated to take several months to complete.

We would appreciate hearing any comments you may have regarding the proposed wind energy project; comments received will be incorporated into the OPSB review process. Please respond as soon as possible or within 30 days of the date of this letter. If you have questions, I can be reached at (952) 697-5773 or via email at lucas.wandrie@westwoodps.com.

Westwood

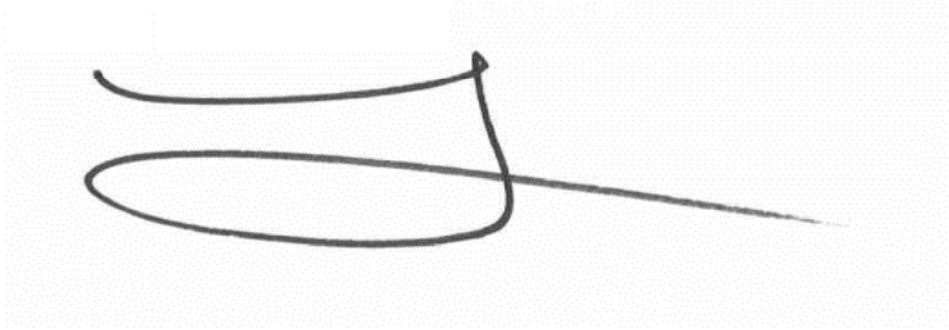
12701 Whitewater Drive, Suite 300
Minnetonka, MN 55343

Main (952) 937-5150
Fax (952) 937-5822

westwoodps.com
(888) 937-5150

Sincerely,

WESTWOOD PROFESSIONAL SERVICES



Lucas J. Wandrie
Environmental Scientist

Map Document: N:\0015695.00\GIS\Biogeo Exhibits\NWOS_Biogeo_Ex1_ProjectVicinityMap_180829.mxd 8/29/2018 5:54:59 PM radevito

© 2018 Westwood Professional Services, Inc.

Timber Road III Wind Farm

Timber Road I Wind Farm

Northwest Ohio Wind Project

Timber Road II Wind Farm

NW Ohio Starwood Wind Energy

Blue Creek Wind Farm

Williams County

Fulton County

DeKalb County

Noble County

Defiance County

Henry County

Paulding County

Allen County

Putnam County

Van Wert County

Adams County

Auglaize County

Mercer County

Wells County

Jay County

Shelby County

Indiana

Ohio

N

0 6 Miles

Data Source(s): Westwood (2018); ESRI WMS World Streets Basemap (Accessed 2018).

Legend

- Project Boundary
- Nearby Operational Wind Farm Boundary
- County Boundary
- State Boundary

NW Ohio Starwood Wind Energy

Paulding County, Ohio

Project Vicinity Map

EXHIBIT 1

Westwood
Toll Free (888) 937-5150 westwoodps.com
Westwood Professional Services, Inc.

Attachment 3

Correspondence
Grover Hill Wind to United States Fish and Wildlife Service
September 4, 2018

Westwood

12701 Whitewater Drive, Suite 300
Minnetonka, MN 55343

Main (952) 937-5150
Fax (952) 937-5822

westwoodps.com
(888) 937-5150

September 4, 2018

Keith Lott
U.S. Fish and Wildlife Service
Ohio Ecological Services Field Office
4625 Morse Road, Suite 104
Columbus, Ohio 43230

Re: Northwest Ohio Starwood Wind Energy Project, Paulding County, Ohio
File: 0015695.00

Dear Mr. Lott:

On behalf of Starwood Energy Group (Starwood), Westwood Professional Services is writing to request comments regarding the Applicant's plans to acquire a Certificate of Environmental Compatibility and Public Need (CECPN) from the Ohio Power Siting Board (OPSB) for the Northwest Ohio Starwood Wind Energy (Starwood Wind) Project located in Paulding County, Ohio (**Exhibit 1**). This Project will help to meet the goal of 12.5 percent or more of Ohio's energy being produced by renewable energy sources set forth in Senate Bill 221. Starwood anticipates submitting a CECPN for the proposed 150 megawatt (MW) nameplate capacity wind energy facility to the OPSB in September 2020.

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We would appreciate hearing any comments you may have regarding the proposed wind energy project; comments received will be incorporated into the OPSB review process. Please respond as soon as possible or within 30 days of the date of this letter. If you have questions, I can be reached at (952) 697-5773 or via email at lucas.wandrie@westwoodps.com.

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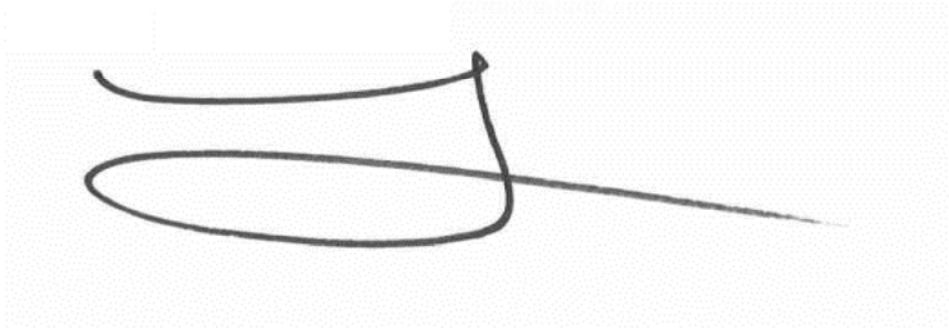
Sincerely,

WESTWOOD PROFESSIONAL SERVICES



Lucas J. Wandrie
Environmental Scientist

Map Document: N:\0015695.00\GIS\Biogeo Exhibits\NWOS_Biogeo_Ex1_ProjectVicinityMap_180829.mxd 8/29/2018 5:54:59 PM radevito

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Timber Road III Wind Farm

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0 6 Miles

Data Source(s): Westwood (2018); ESRI WMS World Streets Basemap (Accessed 2018).

Legend

- Project Boundary
- Nearby Operational Wind Farm Boundary
- County Boundary
- State Boundary

NW Ohio Starwood Wind Energy

Paulding County, Ohio

Project Vicinity Map

EXHIBIT 1

Westwood
Toll Free (888) 937-5150 westwoodps.com
Westwood Professional Services, Inc.

Attachment 4

Correspondence
Ohio Department of Natural Resources to Grover Hill Wind Project
November 2, 2018

Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR JAMES ZEHRINGER, DIRECTOR

Division of Wildlife
Michael R. Miller, Chief
2045 Morse Road, Bldg. G
Columbus, OH 43229-6693
Phone: (614) 265-6300

November 2, 2018

To all interested parties:

Based upon the project boundary received August 2018, the Ohio Department of Natural Resources, Division of Wildlife (DOW) has prepared initial survey recommendations for the proposed Starwood project located in Paulding County.

Currently portions of the project site fall within areas that DOW has identified as needing extensive monitoring efforts based on GIS analysis of the site. Migrating passerines and waterfowl are not expected to use the habitat consistently. Therefore, monitoring at the proposed facility is classified as "moderate" under the current protocols. If the developer decides to amend the current boundaries, the DOW will revise our survey recommendations.

State and federally-listed bat, amphibian, and reptile species and suitable habitat have been documented within the project area. To further minimize risk to wildlife, turbines should be sited away from natural areas (wildlife areas, parks, preserves, etc.). The attached table and maps summarize the types and level of survey effort recommended by DOW. Results from these studies will assess the potential impact the turbines may pose and will serve as a basis for our recommendations to the Ohio Power Siting Board. Mortality to federal or state-listed species attributed to operation of the facility will require implementation of mitigation measures.

State-listed plant species are regulated by the Division of Natural Areas and Preserves and occur in Paulding county. The list can be found here: http://wildlife.ohiodnr.gov/species-and-habitats/state-listed-species/state-listed-species-by-county#plants. Additional surveys may be warranted to determine presence of state-listed species if construction will impact aquatic, wetland, or grassland habitats. *Once the turbine, road, pad and other infrastructure locations have been determined, please consult with DOW to determine if such surveys are needed.*

Monitoring should follow those methods described within the "On-shore Bird and Bat Pre- and Post-Construction Monitoring Protocol for Commercial Wind Energy Facilities in Ohio." If you have any questions, please contact me at erin.hazelton@dnr.state.oh.us or 614.265.6349.

Erin Hazelton
Division of Wildlife
2045 Morse Road
Columbus, Ohio 43229

cc: Mr. Stuart Siegfried, Ohio Power Siting Board
Mr. Grant Zeto, Ohio Power Siting Board
Mr. Ashton Holderbaum, Ohio Power Siting Board
Ms. Megan Seymour, United States Fish and Wildlife Service
Ms. Kate Haley Parsons, DOW

Starwood Wind Project (November 2018)	
Survey type	
Breeding bird	Breeding bird surveys should be conducted at all sites. The number of survey points may be based on the amount of available habitat, or twice the maximum number of turbines proposed for the site. If turbines are placed in agricultural land, this requirement may be waived by DOW after reviewing the proposed turbine locations. *Additionally, please survey grassland habitat noted in Figure 2 for northern harriers.*
Raptor nest searches	Nest searches should occur on and within a 1-mile buffer of the proposed facility.
Raptor nest monitoring	Please consult with USFWS on bald eagle nests located within the search area. Nests should be monitored to assess daily bird activity. Should any additional nests of a protected species of raptor be located during nest searches, monitoring should commence as outlined within DOW's monitoring protocols.
Bat acoustic monitoring	To be conducted at all meteorological towers.
Passerine migration survey points	2
Diurnal bird/raptor migration survey points	1
Sandhill crane migration (same points as raptor migration)	Yes
Owl playback survey points	NS
Barn owl survey points	NS
Bat mist-netting survey points	**Indiana bats have been documented within three miles of the project area.** Mist net 3 suitable points.
Nocturnal marsh bird survey points	Survey points on Prairie Creek noted in Figure 2, as per protocols.
Waterfowl survey points	Survey points on Middle Creek and Prairie Creek, as per protocols.
Shorebird migration survey points	NS
Radar monitoring locations	NS
Aquatic species surveys	This requirement may be waived by DOW after reviewing the proposed turbine/infrastructure locations.
Wetland species surveys	This requirement may be waived by DOW after reviewing the proposed turbine/infrastructure locations.

NS = Not required based on the lack of suitable habitat

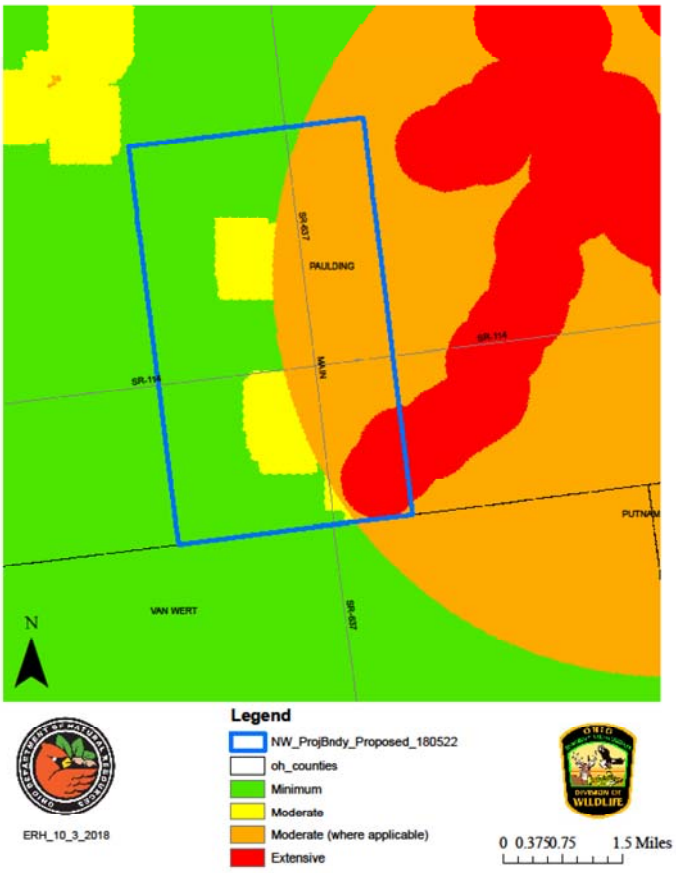

Figure 1: Survey effort map with the revised boundary for the proposed Starwood project (November 2018).

Figure 2: Areas with contiguous wetlands/marsh habitat (yellow) and grassland (red) for the proposed Starwood project

Attachment 5

Correspondence
Ohio Department of Natural Resources to Grover Hill Wind
November 6, 2018

April M. Popp

From: Erin.Hazelton@dnr.state.oh.us
Sent: Tuesday, November 6, 2018 12:58 PM
To: David Kuhlmann
Subject: Starwood survey effort letter
Attachments: Starwood Survey effort_Nov 2018.pdf

Hi David,
Here is the survey effort letter with recommendations for the Starwood project. Please let me know if you have any questions.
Thank you,
Erin

Erin Hazelton
Wind Energy/Wildlife Administrator
ODNR Division of Wildlife
2045 Morse Road
Columbus, OH 43229
Phone: 614-265-6349
Email: Erin.Hazelton@dnr.state.oh.us

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Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR JAMES ZEHRINGER, DIRECTOR

Division of Wildlife
Michael R. Miller, Chief
2045 Morse Road, Bldg. G
Columbus, OH 43229-6693
Phone: (614) 265-6300

November 2, 2018

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Monitoring should follow those methods described within the "On-shore Bird and Bat Pre- and Post-Construction Monitoring Protocol for Commercial Wind Energy Facilities in Ohio." If you have any questions, please contact me at erin.hazelton@dnr.state.oh.us or 614.265.6349.

Erin Hazelton
Division of Wildlife
2045 Morse Road
Columbus, Ohio 43229

cc: Mr. Stuart Siegfried, Ohio Power Siting Board
Mr. Grant Zeto, Ohio Power Siting Board
Mr. Ashton Holderbaum, Ohio Power Siting Board
Ms. Megan Seymour, United States Fish and Wildlife Service
Ms. Kate Haley Parsons, DOW

Starwood Wind Project (November 2018)	
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Aquatic species surveys	This requirement may be waived by DOW after reviewing the proposed turbine/infrastructure locations.
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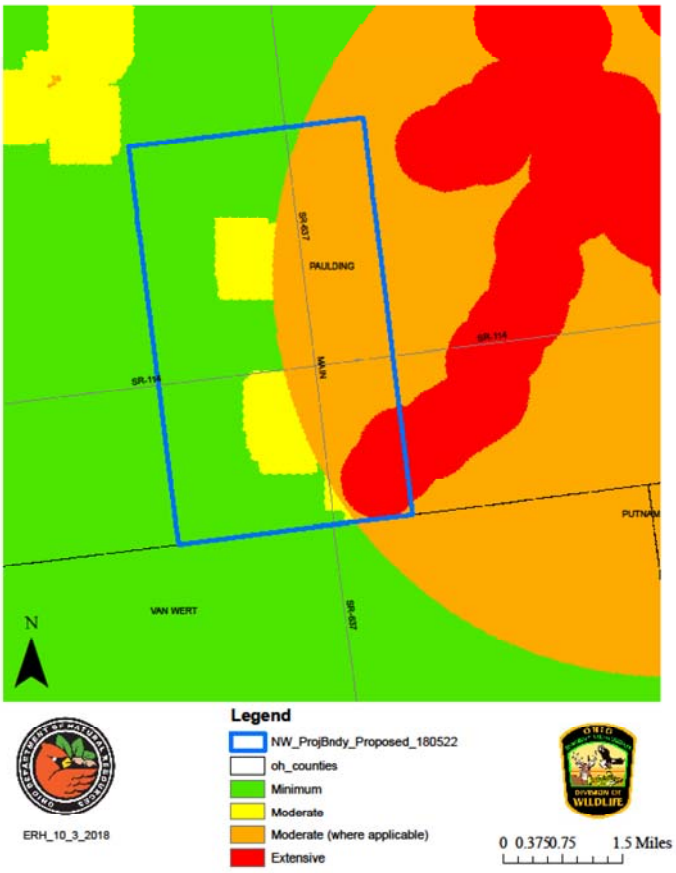

Figure 1: Survey effort map with the revised boundary for the proposed Starwood project (November 2018).

Figure 2: Areas with contiguous wetlands/marsh habitat (yellow) and grassland (red) for the proposed Starwood project

Attachment 6

Correspondence Revised Work Plan Between Grover Hill and Ohio Department of Natural Resources March 2019

April M. Popp

From: Katy Reagan
Sent: Friday, March 8, 2019 10:16 AM
To: Erin.Hazelton@dnr.state.oh.us; Seymour, Megan; jennifer_okajima@fws.gov
Cc: Eric Hansen; Will Ouyang; adaberko@starwood.com; matthias (matthias@mnwindconsultants.com)
Subject: Revised Grover Hill work plan
Attachments: 2019-03-07 Grover Hill Work Plan.pdf; Grover Hill Boundary March 2019.zip

Hi all. Thanks again for your time on Wed. Attached is a revised work plan based on our discussion and Erin's email below. Also attached is a shapefile of the project boundary.
Please let me know if I missed something, if you have additional comments/changes, or if you have questions. Thanks again!

Katy Reagan
SENIOR WILDLIFE BIOLOGIST
katy.reagan@westwoodps.com

Direct (720) 531-8368
Main (720) 531-8350
Cell (720) 427-0100

Westwood Multi-Disciplined Surveying & Engineering
10170 Church Ranch Way, Suite 100 | Westminster, CO 80021

westwoodps.com
(888) 937-5150

From: Erin.Hazelton@dnr.state.oh.us [mailto:Erin.Hazelton@dnr.state.oh.us]
Sent: Thursday, March 7, 2019 1:22 PM
To: Matthias Weigel <Matthias@mnwindconsultants.com>; Seymour, Megan <megan_seymour@fws.gov>; Katy Reagan <Katy.Reagan@westwoodps.com>
Cc: Eric Hansen <Eric.Hansen@westwoodps.com>; Will Ouyang <wouyang@starwood.com>; adaberko@starwood.com
Subject: RE: [EXTERNAL] Grover Hill Work Plan

Hi everyone,
ODNR approves the pre-construction monitoring plan with the following updates, as we discussed in the meeting:

- Diurnal bird/raptor surveys may be reduced from three times per week to once per week. ODNR recommends consulting Doppler radar or live migration maps, such as the Cornell Lab of Ornithology's "Birdcast" to attempt to coordinate survey days with approaching migratory pulses.
- Please include survey hours for marsh bird surveys, as outlined in ODNR protocol (2 hours centered on either sunrise or sunset).
- Include use of Kaleidoscope 5.1.0 software to analyze bat acoustics, as recommended by USFWS
- Placeholder language for mist net protocol until 2019 USFWS and ODNR joint recommendations for Ohio are released.

Please let me know if you have any questions.

Many thanks,
Erin

Erin Hazelton

Wind Energy/Wildlife Administrator
ODNR Division of Wildlife
2045 Morse Road
Columbus, OH 43229
Phone: 614-265-6349
Email: Erin.Hazelton@dnr.state.oh.us

Good intentions can hurt, leave wildlife in the wild. Visit wildohio.gov/staywild to find out more.

From: Matthias Weigel <Matthias@mnwindconsultants.com>
Sent: Thursday, March 07, 2019 11:27 AM
To: Seymour, Megan <megan_seymour@fws.gov>; Katy Reagan <Katy.Reagan@westwoodps.com>
Cc: Hazelton, Erin <Erin.Hazelton@dnr.state.oh.us>; Eric Hansen <Eric.Hansen@westwoodps.com>; Will Ouyang <wouyang@starwood.com>; adaberko@starwood.com
Subject: RE: [EXTERNAL] Grover Hill Work Plan

Megan,

Thanks for passing that along.

I did a quick double check on our MET tower configuration, and we do have temp sensors at 2 heights (3 and 56m) and a barometer at 2m height. Hope that will help with the bat study portion.

Best,

Matthias Weigel

From: Seymour, Megan <megan_seymour@fws.gov>
Sent: Wednesday, March 6, 2019 9:43 AM
To: Katy Reagan <Katy.Reagan@westwoodps.com>
Cc: Erin.Hazelton@dnr.state.oh.us; Eric Hansen <Eric.Hansen@westwoodps.com>; Will Ouyang <wouyang@starwood.com>; adaberko@starwood.com; Matthias Weigel <Matthias@mnwindconsultants.com>
Subject: Re: [EXTERNAL] Grover Hill Work Plan

The Kaleidoscope Pro software version that is approved for both Indiana and Northern long-eared bat is Version 5.1.0
For details, please see:
https://www.fws.gov/midwest/endangered/mammals/inba/surveys/inbaAcousticSoftware.html

On Mon, Mar 4, 2019 at 2:53 PM Katy Reagan <Katy.Reagan@westwoodps.com> wrote:

> Hi Erin and Megan. Attached is a working draft of the proposed work plan for pre-construction surveys at Grover Hill wind project. We'll use this document as a starting point for discussions on Wed, and work through it together to ensure that all survey methodologies have agency approval prior to field implementation. I look forward to meeting and working with you! Thanks!
>
> **Katy Reagan**
> **SENIOR WILDLIFE BIOLOGIST**
> katy.reagan@westwoodps.com
>
> Direct (720) 531-8368

Main (720) 531-8350
Cell (720) 427-0100

Westwood **Multi-Disciplined Surveying & Engineering**
10170 Church Ranch Way, Suite 100 | Westminster, CO 80021

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(888) 937-5150

--

Megan Seymour
Wildlife Biologist
U.S. Fish and Wildlife Service, 4625 Morse Rd., Suite 104, Columbus, OH 43230
(614) 416-8993 ext 16, (614) 416-8994 fax

WORK PLAN FOR PRE-CONSTRUCTION AVIAN AND BAT SURVEYS

Grover Hill Wind Project

March 7, 2019

Better People. Better results.

Prepared For:

STARWOOD ENERGY GROUP

Prepared By:

Westwood

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Scope of Biological Services

1. Introduction

Starwood Energy Group (Starwood) proposes to construct and operate the Grover Hill Wind Project (Project) in Paulding County, Ohio. The proposed Project area consists of approximately 9,600 acres (15 square miles) of predominately cultivated fields (89 percent) (Exhibit 1). The Project will be configured as a wind energy conversion facility with a total nameplate capacity of 150 megawatts (MW). The number and size of turbines is not yet determined. Additional facilities may include transmission line, access roads, electrical collection lines, an operations and maintenance facility, substation, and laydown area.

This Work Plan is intended as a working document that:

- Identifies biological surveys that will be conducted under an existing contract with Starwood,
- Identifies the scope of field surveys and methods that will be used to gather relevant data, and
- Provides a preliminary schedule of tasks that will meet the expectations of Starwood, USFWS, and ODNR.

This Work Plan reflects the current understanding of the proposed Project. The scope, methods, and schedule are subject to change as the Project proceeds or new information becomes available. On March 6, 2019, the methods presented in this Work Plan will be discussed with USFWS and ODNR biologists to ensure that all survey methodologies are approved and acceptable to the regulatory agencies prior to field implementation. This work plan was revised on March 8, 2019 to reflect input from ODNR and USFWS.

2. Pre-Construction Avian and Bat Surveys

The purpose of the pre-construction avian and bat field survey effort is to evaluate the proposed Project's potential to result in adverse impacts to biological resources, including passerine birds, raptors, bats, and natural communities. The anticipated specific investigations are outlined below, and include one year of multiple field surveys in accordance with the USFWS Land-Based Wind Energy Guidelines (USFWS 2012), USFWS Eagle Conservation Plan Guidance (USFWS 2013), and Ohio Department of Natural Resources (ODNR) On-Shore Bird and Bat Pre- and Post-Construction Monitoring Protocol for Commercial Wind Energy Facilities in Ohio, An Addendum to ODNR's Voluntary Cooperate Agreement (ODNR 2009).

Based on Westwood's previous biological survey work in the area and for the purposes of this Work Plan, it has been assumed the Project is USFWS Category 1 under the Tier Decision Point Outcomes (USFWS 2012). A Category 1 project consists of sites where the answer to one or more Tier 2 questions is inconclusive to address wildlife risk, either due to insufficient data to answer the question or because of uncertainty about what the answers indicate. Results from the Tier 2 investigation generally indicate an unknown probability of significant adverse impact to wildlife. This was based on the fact that several species of concern are likely to occur within the Project area and several critical areas of wildlife congregation, staging areas, nesting sites, migration stopovers or corridors, and other areas of seasonal importance are either known to occur nearby or occur within the Project site. It should be noted; however, that current information is inconclusive to address the risk to individual wildlife species in more detail. Pre-permitting surveys for a Category 1 project should last a minimum of one year to document how birds and bats use a site during spring, summer, fall, and winter.

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The ODNR assesses the level of biological surveying effort required for wind energy facilities (ODNR 2009). Based on the project boundary reviewed by ODNR Division of Wildlife (DOW), portions of the site are within the mapped "extensive" monitoring area, however, migrating passerines and waterfowl are not expected to use the habitat consistently. Therefore, DOW classified the site as moderate under current protocols (ODNR DOW 2018).

DOW recommended several biological surveys for the Project area including breeding bird, raptor nest, bat acoustic monitoring, passerine migration, Sandhill crane migration, bat mist-netting, nocturnal marsh bird, and waterfowl. Raptor nest monitoring will be conducted as needed. Aquatic species and wetland species surveys may be waived by DOW after further review of Project infrastructure locations. Based on the lack of suitable habitat, DOW determined owl playback surveys, barn owl surveys, shorebird migration surveys, and radar monitoring are not required (ODNR DOW 2018).

Westwood has conducted numerous biological surveys in the vicinity of the Project area in support of the Northwest Ohio Wind Energy Project, and is familiar with habitats and wildlife of the area. Based on habitats in the Project area and previous biological work conducted in the Project vicinity, Westwood proposes to conduct one year of avian point counts, raptor nest survey, bat acoustic monitoring, and bat mist-netting. The table below lists the biological survey, survey methods (ODNR 2009), initial DOW site evaluation (ODNR DOW 2018), and proposed survey and rationale for survey modification.

Survey	ODNR 2009	ODNR DOW 2018	Proposed Survey and Rationale for Survey Modification
Breeding bird survey	Point-counts should be conducted at all proposed turbine locations, with two points established for each turbine.	Breeding bird surveys should be conducted at all sites. The number of survey points may be based on the amount of available habitat, or twice the maximum number of turbines proposed for the site. If turbines are placed in agricultural land, this requirement may be waived by DOW after reviewing the proposed turbine locations. Additionally, please survey grassland habitat for northern harriers.	Avian Point Counts The Project area contains predominately agricultural crops and all turbines are expected to be located within agricultural areas. One avian point count location will be located in the southeastern portion of the Project area, in the DOW mapped breeding habitat for the Ohio state-listed endangered northern harrier (*Circus cyaneus*).
Passerine migration survey	Combined forest, shrub, and wooded wetland, one time per week, April 1 to May 31 and Aug 15 to Nov 15, dawn to 10AM	2 points	Avian Point Counts <5 surveys, ONDR may eliminate survey after field review; migrating passerines are not expected to use the habitat consistently (ODNR DOW 2018); Project area does not contain a 100 hectares of combined forest, shrub, and wooded wetland habitat (ODNR 2009).
Diurnal bird/ raptor	9AM to 4PM, three times per week, March 15 to May 1, Sept 1 to Oct 31	1 point	Avian Point Counts Weekly avian point count surveys will be conducted during migration timeframes.

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migration survey			
Sandhill crane migration survey	Extension of weekly diurnal bird/raptor migration survey methods to include Nov 1 to Dec 15	Yes	Avian Point Counts Bi-weekly avian point count surveys will be conducted during migration timeframes.
Nocturnal marsh bird survey	≥3 hectares of contiguous wetland, weekly May 20 to June 15, 2+/- hours either sunrise or sunset	Survey points on Prairie Creek	Avian Point Counts Weekly avian point count surveys will be conducted during appropriate timeframes. One avian point count location will be located in the near 3.7 ha wetland in northeast portion of Project area, and one avian point count location will be located along Prairie Creek. Avian point counts will be conducted at the wetland area, 2+/- hours around sunrise or sunset in May and June.
Waterfowl survey	≥3 hectares of contiguous wetland, static or driving surveys, twice monthly, Sept 1 to 1 April	Survey points on Middle Creek and Prairie Creek	Avian Point Counts Migrating waterfowl are not expected to use the habitat consistently (ODNR DOW 2018). Avian point count locations will be located along Prairie Creek and Middle Creek.

2.1. Avian Surveys

Westwood will conduct a single year of avian studies at the proposed Project site to determine species presence in the Project area (with an emphasis on federally or state-listed species or species of greatest conservation need) and to evaluate avian fatality risk. Proposed 2019 avian surveys include avian point counts and a raptor nest survey. The methods and results of the avian surveys will be documented in a 2019 Avian Summary Report.

2.1.1. Avian Point Counts

In order to determine avian use, species composition, and relative collision risk for avian species in the Project area, Westwood will conduct one year of avian point counts (Strickland et al. 2011). The avian point counts will be conducted in accordance with standard variable circular-plot point count survey methods (Reynolds et al. 1980, Ralph et al. 1995). Westwood proposes to use ten sampling point locations distributed throughout the existing road network and stratified by dominant land cover type, to sufficiently sample the Project area (Exhibit 2).

A total of 34 surveys will be conducted once each week over four seasons with seasons defined as spring (March 17 - June 1 [11 weekly point counts]), summer (June 2 – August 31 [6 bi-monthly point counts]), fall (September 1 – November 2 [9 weekly point counts]), and winter (November 3 – February 15 [8 bi-weekly point counts]). A single route consisting of ten avian

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point count locations will be surveyed over a one day period, unless weather conditions prohibit complete surveys. To the extent possible, Doppler radar or live migration maps will be reviewed prior to field work in an attempt to coordinate survey days with approaching migratory pulses (Cornell Lab of Ornithology 2019).

Surveys will begin around sunrise and continue until all stations are covered. The order in which stations are surveyed will be alternated between survey events so that all stations are surveyed equally during different times of day, to the extent feasible, to reduce temporal bias. Each individual point count station will be surveyed for a period of 20 minutes. All birds detected by sight or sound will be identified to species (where possible) and recorded on a data form at each of the ten sampling stations. Birds that fly too rapidly or are too distant to be accurately identified will be recorded at the genus level or by functional group where possible. Flight paths of all large birds observed flying or perched within the proposed Project area will be plotted on topographic maps. Birds detected while traveling between stations will be recorded as incidental observations, but will not be included in the estimate of bird use. Locations of any federally or state listed species, or species of concern observed incidentally, will be recorded using a global positioning system (GPS) unit.

Each bird or flock of birds will be given a unique observation number. Detailed notes will be recorded on each observed bird/flock at the time they are first observed, including the species; number of individuals; movement status/behavior (in flight or stationary); observation method (visual, auditory, or both); horizontal distance from observer and flight altitude. Flight altitude will be estimated and categorized into one of three flight height zones (1) 0-100 feet (below the rotor swept zone), (2) 101-500 feet (within the rotor swept zone), and (3) > 500 feet (above the rotor swept zone). If a bald or golden eagle is detected, Westwood will document the minutes and approximate altitude of eagle flights that occur within 800-meter radius plots (altitude categories for eagles are 200m or less and over 200m). The behavior of each bird observed and the vegetation type in which the bird occurred will be recorded based on the point of first observation. Where possible, sex and age class will also be recorded. The date, start/end times, and weather will also be recorded for each sampling station.

Avian point count data will be used to calculate a relative index to collision risk by species, relative abundance, species composition, spatial distribution, and avian habitat use of the Project area.

2.1.2. Raptor Nest Survey

To determine the presence of occupied and unoccupied raptor nests within the Project area, a ground-based raptor nest search will be conducted by vehicle in mid-March. The search will occur on and within a 1-mile buffer of the proposed facility (DOW 2018). If needed to document nest activity, additional raptor nest surveys will be conducted concurrent with other avian surveys in the Project area. Westwood will review the site for the presence of bald eagles in accordance with USFWS's Eagle Conservation Plan Guidance.

Raptor or other large bird nests will be recorded regardless of status. Identified nest locations will be recorded and given a unique nest identification number (Nest ID). Data collected for each nest will include nest status (i.e., occupied, unoccupied), nest condition (i.e., poor, fair, good, excellent), nest height, nest substrate (e.g., tree, tower, etc.), and nest aspect. Determination of nest status will be made using a combination of visual clues such as adult behavior, presence of eggs or young, presence or absence of whitewash (excrement), or other supplemental

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observational data from the ground- based surveys. A nest will be determined occupied if behaviors consistent with a nesting attempt such as nest building/repair, egg laying, incubation or presence of young are noted (Steenhoff and Newton 2007). A nest will be determined unoccupied if none of the above behaviors are noted. For areas not leased by Starwood and where access permission is not likely (due to other wind lease arrangements or feasibility), nests will be checked with spotting scopes and binoculars from public roads, and nest locations will be mapped on aerial photographs.

2.2. Bat Surveys

2.2.1. Bat Acoustic Survey

The objective of the bat acoustic survey is to determine general bat presence, relative activity levels, and species composition in the proposed Project area. Westwood proposes to conduct passive acoustic bat surveys using SM4BAT FS detectors (Wildlife Acoustics, Inc.) from the week of March 17 through November 15, 2019 (245 nights). Detectors will be deployed at the one meteorological tower located in the Project area (Exhibit 2).

Bat detector microphones will be elevated to heights of approximately 5 meters and 45 meters. Westwood will visit the detectors approximately every two weeks to download data, replace batteries, and check the condition of the detectors. Once installed, monitoring stations will remain fixed for the duration of the survey.

The detectors will record from approximately ½ hour before sunset until ½ hour after sunrise on a nightly basis throughout the survey period. Bat call files will be analyzed using Kaleidoscope software version 5.1.0, an USFWS approved automated acoustic bat identification program (USFWS 2019). Bat calls will be filtered and visually screened to remove files containing non-bat sounds (i.e., wind noise, insects). Files with suitable bat calls will be examined visually and classified to species and species groups based on comparison to libraries of known bat reference calls.

Bat calls will be identified into species or groups based on echolocation frequency. The number of call sequences by detector, detection rate overall and by detector, timing of activity, and species composition will be determined. The results of the acoustic bat surveys for the entire 34 week sampling period will be documented in a 2019 Acoustic Bat Survey Report. The report will describe methods and results of the bat acoustic monitoring survey from March to November 2019. Westwood will incorporate weather data from the Project met tower with acoustic findings to highlight seasonal use of the Project Area by bats.

2.2.2. Bat Mist-Netting Survey

As part of an evaluation of Indiana bat (*Myotis sodalis*) habitat on the site and an assessment of migrating individuals, Westwood will conduct bat mist-net surveys in accordance with USFWS Range-Wide Indiana Bat Survey Guidelines (USFWS 2018) and ODNR monitoring protocol (ODNR 2009). Mist netting will be coordinated through a subcontractor (Environmental Solutions & Innovations, Inc. (ESI)) that is licensed to perform such work with Federal permits in place to handle the species, and will be conducted between May 15 and August 15, 2019. ESI will develop a detailed proposal for bat mist netting at the site. Following collection of field data, a written report will be prepared presenting background information, field protocols, and results.

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After 2019 USFWS and ODNR joint recommendations for bat survey guidelines in Ohio are released, USFWS, ODNR, Starwood, Westwood, and ESI will further coordinate on exact timing of survey, number of mist net sites, and number of survey nights. If either an Indiana bat or northern long-eared bat (*Myotis septentrionalis*) are captured during mist netting, bats will be tracked using radio telemetry.

2.3. 2019 Avian and Bat Survey Schedule

Westwood proposes to conduct pre-construction avian and bat surveys at the Project area from the week of March 17, 2019 to February 15, 2020. Below is a tentative schedule of survey dates:

Survey Schedule	2019										2020	
Survey Type	March	April	May	June	July	August	September	October	November	December	January	February
Avian Point Counts												
Raptor Nest Survey												
Bat Acoustic Surveys												
Bat Mist-Netting Surveys												

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3. References

Cornell Lab of Ornithology. 2019. Bird Migration Forecasts in Real-Time. Birdcast.info

Ohio Department of Natural Resources (ODNR). 2009. On-Shore Bird and Bat Pre- and Post-Construction Monitoring Protocol for Commercial Wind Energy Facilities in Ohio, An Addendum to the Ohio Department of Natural Resource's Voluntary Cooperative Agreement. 40 pp. http://wildlife.ohiodnr.gov/portals/wildlife/pdfs/species%20and%20habitats/windwildlifemonitoringprotocol.pdf

ODNR Division of Wildlife (DOW). 2018. Letter from Erin Hazelton, DOW regarding initial survey recommendations for the proposed Starwood project in Paulding County. November 2.

Ralph, C.J., S. Droege, and J.R. Sauer. 1995. Managing and monitoring birds using point counts: standards and applications *in* C.J. Ralph, J.R. Sauer, and S. Droege, editors. Monitoring Bird Populations by Point Counts. PSW-GTR-149. Albany, Calif. Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture.

Reynolds, R.T., J.M. Scott, and R.A. Nussbaum. 1980. A Variable Circular-Plot Method for Estimating Bird Numbers. Condor 82(3): 309-313.

Steenhoff, K. and I. Newton. 2007. Assessing Nesting Success and Productivity. Pp. 181-193, *in*: D.M. Bird and K. L. Bildstein (editors). Raptor Research and Management Techniques. 464 pp.

Strickland, M.D., E.B. Arnett, W.P. Erickson, D.H. Johnson, G.D. Johnson, M.L., Morrison, J.A. Shaffer, and W. Warren-Hicks. 2011. Comprehensive Guide to Studying Wind Energy/Wildlife Interactions. Prepared for the National Wind Coordinating Collaborative, Washington, D.C., USA.

U.S. Fish and Wildlife Service (USFWS). 2013. Eagle Conservation Plan Guidance, Module 1 – Land-Based Wind Energy, Version 2. 71 pp. https://www.fws.gov/migratorybirds/pdf/management/eagleconservationplanguidance.pdf.

USFWS. 2012. Land-Based Wind Energy Guidelines: March 23, 2012. 71 pp. http://www.fws.gov/ecological-services/es-library/pdfs/WEG_final.pdf.

USFWS. 2018. Range-Wide Indiana Bat Survey Guidelines. April. 62 pp. https://www.fws.gov/midwest/endangered/mammals/inba/surveys/pdf/2018RangewideIBatSurveyGuidelines.pdf

USFWS. 2019. Indiana bat summer survey guidance, automated acoustic bat ID software programs, approved programs. Updated Feb 4. https://www.fws.gov/midwest/endangered/mammals/inba/surveys/inbaacousticsoftware.html Accessed: March 8, 2019

Appendices

1. Exhibit 1 – Land Cover Map
2. Exhibit 2 – Avian Point Count and Bat Monitoring Locations

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Exhibit 1:
Land Cover Map

Map Document: N:\0015695.00\GIS\Avian Exhibits\GH_Avian_Ex1_LandCoverMap_190222.mxd 2/21/2019 11:25:58 AM SLKilibarda

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Rd 131
Co Hwy 151
Rd 72
Town Hwy 72
Twp Hwy 72
Co Rd 60
Twp Hwy T-54
Twp Hwy T-54
Twp Hwy T-56
Rd 137
Twp Hwy T-48
Rd 48
Rd 48
Twp Hwy T-48
Town Hwy 137
State Rte 637
Rd 137
Main St
Wayne St
State Rte 114
Grover Hill
W Walnut St
N Tyler
S Jefferson St
S Main St
Twp Hwy T-30
Rd 30
Rd 24
Co Hwy C-24
Rd 155
Twp Hwy T-155
Twp Hwy T-18
Rd 18
Twp Hwy T-20
Paulding County
Van Wert County
Van-Wert-Paulding-Co-Line-Rd
State Rte 637
Slane Rd
Co Hwy 5
Hoaglin Center Rd
Twp Hwy 145
Walford Rd
Co Hwy 214
Elm Sugar Rd
N
0
Feet
2,500

Data Source(s): Westwood (2019); ESRI WMS World Imagery Basemap (Accessed 2018); Census Bureau (2017); U.S. Geological Survey (2011).

Legend

- Project Boundary
- County Boundary
- Cultivated Crops
- Deciduous Forest
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, High Intensity
- Developed, Open Space
- Emergent Herbaceuous Wetlands
- Evergreen Forest
- Herbaceuous
- Mixed Forest
- Open Water
- Woody Wetlands

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Westwood Professional Services, Inc.

Grover Hill Wind

Paulding County, Ohio

Land Cover Types

EXHIBIT 1

Exhibit 2:
Avian Point Count and Bat Monitoring Locations

Map Document: N:\0015695.00\GIS\Avian Exhibits\GH_Avian_Ex2_AvianPointBatMonitoring_190228.mxd 2/28/2019 9:32:51 AM SLKilibarda

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Broughton
Rd 125
Twp Hwy 125
Town Hwy 131
Co Rd 82
Town Hwy 82
Rd 82
Twp Rd 82
Twp Hwy T-159
Rd 159
Twp Rd 88
Twp Hwy 131
Rd 131
Rd 151
Co Hwy 151
Rd 78
Rd 72
Town Hwy 72
Twp Hwy 72
Twp Hwy 165
Co Hwy 60
Co Rd 123
Prairie Creek
Twp Hwy T-54
Rd 137
Twp Hwy T-56
Twp Hwy T-48
Rd 48
Town Hwy 137
State Rte 637
Twp Hwy T-40
Main St
Wayne St
State Rte 114
Grover Hill
N Tyler
1st St
Harrison St
S Main St
Twp Hwy T-28
Rd 30
Twp Hwy T-30
Middle Creek
Twp Rd 24
Co Hwy C-24
Rd 24
Twp Hwy T-24
Twp Hwy T-155
Co Rd 165
Twp Hwy T-18
Rd 18
Twp Hwy T-20
Rd 155
Paulding County
Van Wert County
Twp Hwy-12
Van-Wert-Paulding-Co-Line-Rd
State Rte 637
Twp Hwy 370
John Yoh Rd
Co Hwy 5
Twp Hwy 145
Slane Rd
Twp Hwy 236
Doner Rd
Middle Point Wetzel Rd
Co Hwy 214
Elm Sugar Rd
Twp Hwy 123
Hoaglin Center Rd
Walford Rd
Twp Hwy 175
Co Hwy 185
Harvey Rd
Twp Hwy 212

N
0
Feet
3,000

Data Source(s): Westwood (2019); ESRI WMS World Imagery Basemap (Accessed 2018); U.S. Census Bureau (2017).

Legend

- Project Boundary
- Raptor Nest Survey Area
- County Boundary
- 800-Meter Buffer
- NHD Flowline
- Proposed Avian Point Count Location
- Bat Acoustic Survey Location

Westwood
Toll Free (888) 937-5150 westwoodps.com
Westwood Professional Services, Inc.

Grover Hill Wind

Paulding County, Ohio

Avian Point Count & Bat Acoustic Monitoring Locations

EXHIBIT 2

Attachment 7

Correspondence
United States Fish and Wildlife Service to Grover Hill
March 1, 2019

April M. Popp

From: Seymour, Megan <megan_seymour@fws.gov>
Sent: Friday, March 1, 2019 8:12 AM
To: Erin.Hazelton@dnr.state.oh.us
Cc: Katy Reagan; Matthias Weigel; Will Ouyang; Matthias Weigel
Subject: Re: [EXTERNAL] RE: Starwood Energy Group [0743392]

Good morning,
Just a quick check-in--I had this meeting originally on my calendar at 10 am. The meeting invite indicates 11 am. Could you please clarify?
Thanks,
Megan

On Thu, Feb 21, 2019 at 10:10 AM Erin.Hazelton@dnr.state.oh.us <Erin.Hazelton@dnr.state.oh.us> wrote:

> Hi Katy,
>
> We'll be meeting in the third floor conference room of Building G. Please check in with the receptionist on the first floor and they will show you upstairs. The room does have a conference phone and public internet (but no guarantees you'll have access to all platforms). Please let me know if you'll need anything else.
>
> Erin
>
> Erin Hazelton
>
> Wind Energy/Wildlife Administrator
>
> ODNR Division of Wildlife
>
> 2045 Morse Road
>
> Columbus, OH 43229
>
> Phone: 614-265-6349
>
> Email: Erin.Hazelton@dnr.state.oh.us
>
> *Good intentions can hurt, leave wildlife in the wild. Visit wildohio.gov/staywild to find out more.*
>
> -----Original Appointment-----
> **From:** Katy Reagan <Katy.Reagan@westwoodps.com>
> **Sent:** Tuesday, February 19, 2019 1:10 PM
> **To:** Katy Reagan; Matthias Weigel; Hazelton, Erin; Megan_Seymour@fws.gov
> **Cc:** Will Ouyang; Matthias Weigel
> **Subject:** Starwood Energy Group [0743392]
> **When:** Wednesday, March 06, 2019 10:00 AM-11:00 AM (UTC-06:00) Central Time (US & Canada).
> **Where:** ODNR

Our discussion will focus on Starwood's Grover Hill Wind Project in Paulding County. Meeting materials will be sent in a separate email. Call-in information below. Please forward this invite as needed. Thank you!

ODNR

2045 Morse Road

Columbus, OH 43229

~~~~~~~~~~~~~~~~~~~~

A ShoreTel conference call has been created for this meeting.

Use either of the following to join the call:

Call 5798 (Extension)

+1 (952) 697-5798 (Local dial in)

and enter the access code below followed by the # key.

Participant code: 0743392

Or, click the link below:

Participant: https://meet.westwoodps.com/conference/0743392

Test link: https://meet.westwoodps.com/test

Mobile Auto Dial:

VoIP: voip://+19526975798;0743392#

iOS devices: +1 (952) 697-5798,0743392 and press #

Other devices: +1 (952) 697-5798x0743392#

~~~~~~~~~~~~~~~~~~~~

--
Megan Seymour
Wildlife Biologist
U.S. Fish and Wildlife Service, 4625 Morse Rd., Suite 104, Columbus, OH 43230
(614) 416-8993 ext 16, (614) 416-8994 fax

Attachment 8

Correspondence
United States Fish and Wildlife Service to Grover Hill
March 6, 2019

April M. Popp

From: Seymour, Megan <megan_seymour@fws.gov>
Sent: Wednesday, March 6, 2019 7:37 AM
To: Katy Reagan
Cc: Erin.Hazelton@dnr.state.oh.us; adaberko@starwood.com; matthias (matthias@mnwindconsultants.com); Will Ouyang; Jennifer Okajima
Subject: Re: [EXTERNAL] Starwood Energy Group Grover Hill Wind Project

Hi All,
Also attending the meeting in person will be Jennifer Okajima. Jennifer recently transferred to our office from the Bloomington, IN office of FWS where she worked on various aspects of wind projects for several years. Erin, we were thinking this would be a good opportunity for Jennifer to get up to speed on Division of Wildlife's monitoring protocols.
Talk to you soon,
Megan

On Mon, Mar 4, 2019 at 11:27 AM Katy Reagan <Katy.Reagan@westwoodps.com> wrote:

> See below for call in information.
> Thank you Erin for setting up the conference room.
> We'll be meeting in the third floor conference room of Building G. Please check in with the receptionist on the first floor and they will show you upstairs. The room does have a conference phone and public internet (but no guarantees you'll have access to all platforms). Please let me know if you'll need anything else.
> Erin
> Erin Hazelton
> Wind Energy/Wildlife Administrator
> ODNR Division of Wildlife
> 2045 Morse Road
> Columbus, OH 43229
> Phone: 614-265-6349
> Email: Erin.Hazelton@dnr.state.oh.us <mailto:Erin.Hazelton@dnr.state.oh.us>
> ~~~~~~~~~~~~~~~~~~~~
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> Call 5798 (Extension)
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> and enter the access code below followed by the # key.
> Participant code: 6654351
> Or, click the link below:
> Participant: https://meet.westwoodps.com/conference/6654351
> Test link: https://meet.westwoodps.com/test
> Mobile Auto Dial:
> VoIP: voip://+19526975798;6654351#
> iOS devices: +1 (952) 697-5798,6654351 and press #
> Other devices: +1 (952) 697-5798x6654351#
> ~~~~~~~~~~~~~~~~~~~~

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Megan Seymour
Wildlife Biologist
U.S. Fish and Wildlife Service, 4625 Morse Rd., Suite 104, Columbus, OH 43230
(614) 416-8993 ext 16, (614) 416-8994 fax

Attachment 9

Correspondence
United States Fish and Wildlife Service to Grover Hill
March 6, 2019

April M. Popp

From: Seymour, Megan <megan_seymour@fws.gov>
Sent: Wednesday, March 6, 2019 10:43 AM
To: Katy Reagan
Cc: Erin.Hazelton@dnr.state.oh.us; Eric Hansen; Will Ouyang; adaberko@starwood.com; matthias (matthias@mnwindconsultants.com)
Subject: Re: [EXTERNAL] Grover Hill Work Plan

The Kaleidoscope Pro software version that is approved for both Indiana and Northern long-eared bat is Version 5.1.0
For details, please see:
https://www.fws.gov/midwest/endangered/mammals/inba/surveys/inbaAcousticSoftware.html

On Mon, Mar 4, 2019 at 2:53 PM Katy Reagan <Katy.Reagan@westwoodps.com> wrote:

> Hi Erin and Megan. Attached is a working draft of the proposed work plan for pre-construction surveys at Grover Hill wind project. We'll use this document as a starting point for discussions on Wed, and work through it together to ensure that all survey methodologies have agency approval prior to field implementation. I look forward to meeting and working with you! Thanks!
>
> **Katy Reagan**
> **SENIOR WILDLIFE BIOLOGIST**
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--
Megan Seymour
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(614) 416-8993 ext 16, (614) 416-8994 fax

Attachment 10

Grover Hill Wind Project Work Plan for Pre-Construction Avian and Bat Surveys
March 7, 2019

WORK PLAN FOR PRE-CONSTRUCTION AVIAN AND BAT SURVEYS

Grover Hill Wind Project

March 7, 2019

Better People. Better results.

Prepared For:

STARWOOD ENERGY GROUP

Prepared By:

Westwood

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Scope of Biological Services

1. Introduction

Starwood Energy Group (Starwood) proposes to construct and operate the Grover Hill Wind Project (Project) in Paulding County, Ohio. The proposed Project area consists of approximately 9,600 acres (15 square miles) of predominately cultivated fields (89 percent) (Exhibit 1). The Project will be configured as a wind energy conversion facility with a total nameplate capacity of 150 megawatts (MW). The number and size of turbines is not yet determined. Additional facilities may include transmission line, access roads, electrical collection lines, an operations and maintenance facility, substation, and laydown area.

This Work Plan is intended as a working document that:

- Identifies biological surveys that will be conducted under an existing contract with Starwood,
- Identifies the scope of field surveys and methods that will be used to gather relevant data, and
- Provides a preliminary schedule of tasks that will meet the expectations of Starwood, USFWS, and ODNR.

This Work Plan reflects the current understanding of the proposed Project. The scope, methods, and schedule are subject to change as the Project proceeds or new information becomes available. On March 6, 2019, the methods presented in this Work Plan will be discussed with USFWS and ODNR biologists to ensure that all survey methodologies are approved and acceptable to the regulatory agencies prior to field implementation. This work plan was revised on March 8, 2019 to reflect input from ODNR and USFWS.

2. Pre-Construction Avian and Bat Surveys

The purpose of the pre-construction avian and bat field survey effort is to evaluate the proposed Project's potential to result in adverse impacts to biological resources, including passerine birds, raptors, bats, and natural communities. The anticipated specific investigations are outlined below, and include one year of multiple field surveys in accordance with the USFWS Land-Based Wind Energy Guidelines (USFWS 2012), USFWS Eagle Conservation Plan Guidance (USFWS 2013), and Ohio Department of Natural Resources (ODNR) On-Shore Bird and Bat Pre- and Post-Construction Monitoring Protocol for Commercial Wind Energy Facilities in Ohio, An Addendum to ODNR's Voluntary Cooperate Agreement (ODNR 2009).

Based on Westwood's previous biological survey work in the area and for the purposes of this Work Plan, it has been assumed the Project is USFWS Category 1 under the Tier Decision Point Outcomes (USFWS 2012). A Category 1 project consists of sites where the answer to one or more Tier 2 questions is inconclusive to address wildlife risk, either due to insufficient data to answer the question or because of uncertainty about what the answers indicate. Results from the Tier 2 investigation generally indicate an unknown probability of significant adverse impact to wildlife. This was based on the fact that several species of concern are likely to occur within the Project area and several critical areas of wildlife congregation, staging areas, nesting sites, migration stopovers or corridors, and other areas of seasonal importance are either known to occur nearby or occur within the Project site. It should be noted; however, that current information is inconclusive to address the risk to individual wildlife species in more detail. Pre-permitting surveys for a Category 1 project should last a minimum of one year to document how birds and bats use a site during spring, summer, fall, and winter.

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The ODNR assesses the level of biological surveying effort required for wind energy facilities (ODNR 2009). Based on the project boundary reviewed by ODNR Division of Wildlife (DOW), portions of the site are within the mapped "extensive" monitoring area, however, migrating passerines and waterfowl are not expected to use the habitat consistently. Therefore, DOW classified the site as moderate under current protocols (ODNR DOW 2018).

DOW recommended several biological surveys for the Project area including breeding bird, raptor nest, bat acoustic monitoring, passerine migration, Sandhill crane migration, bat mist-netting, nocturnal marsh bird, and waterfowl. Raptor nest monitoring will be conducted as needed. Aquatic species and wetland species surveys may be waived by DOW after further review of Project infrastructure locations. Based on the lack of suitable habitat, DOW determined owl playback surveys, barn owl surveys, shorebird migration surveys, and radar monitoring are not required (ODNR DOW 2018).

Westwood has conducted numerous biological surveys in the vicinity of the Project area in support of the Northwest Ohio Wind Energy Project, and is familiar with habitats and wildlife of the area. Based on habitats in the Project area and previous biological work conducted in the Project vicinity, Westwood proposes to conduct one year of avian point counts, raptor nest survey, bat acoustic monitoring, and bat mist-netting. The table below lists the biological survey, survey methods (ODNR 2009), initial DOW site evaluation (ODNR DOW 2018), and proposed survey and rationale for survey modification.

Survey	ODNR 2009	ODNR DOW 2018	Proposed Survey and Rationale for Survey Modification
Breeding bird survey	Point-counts should be conducted at all proposed turbine locations, with two points established for each turbine.	Breeding bird surveys should be conducted at all sites. The number of survey points may be based on the amount of available habitat, or twice the maximum number of turbines proposed for the site. If turbines are placed in agricultural land, this requirement may be waived by DOW after reviewing the proposed turbine locations. Additionally, please survey grassland habitat for northern harriers.	Avian Point Counts The Project area contains predominately agricultural crops and all turbines are expected to be located within agricultural areas. One avian point count location will be located in the southeastern portion of the Project area, in the DOW mapped breeding habitat for the Ohio state-listed endangered northern harrier (*Circus cyaneus*).
Passerine migration survey	Combined forest, shrub, and wooded wetland, one time per week, April 1 to May 31 and Aug 15 to Nov 15, dawn to 10AM	2 points	Avian Point Counts <5 surveys, ONDR may eliminate survey after field review; migrating passerines are not expected to use the habitat consistently (ODNR DOW 2018); Project area does not contain a 100 hectares of combined forest, shrub, and wooded wetland habitat (ODNR 2009).
Diurnal bird/ raptor	9AM to 4PM, three times per week, March 15 to May 1, Sept 1 to Oct 31	1 point	Avian Point Counts Weekly avian point count surveys will be conducted during migration timeframes.

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migration survey			
Sandhill crane migration survey	Extension of weekly diurnal bird/raptor migration survey methods to include Nov 1 to Dec 15	Yes	Avian Point Counts Bi-weekly avian point count surveys will be conducted during migration timeframes.
Nocturnal marsh bird survey	≥3 hectares of contiguous wetland, weekly May 20 to June 15, 2+/- hours either sunrise or sunset	Survey points on Prairie Creek	Avian Point Counts Weekly avian point count surveys will be conducted during appropriate timeframes. One avian point count location will be located in the near 3.7 ha wetland in northeast portion of Project area, and one avian point count location will be located along Prairie Creek. Avian point counts will be conducted at the wetland area, 2+/- hours around sunrise or sunset in May and June.
Waterfowl survey	≥3 hectares of contiguous wetland, static or driving surveys, twice monthly, Sept 1 to 1 April	Survey points on Middle Creek and Prairie Creek	Avian Point Counts Migrating waterfowl are not expected to use the habitat consistently (ODNR DOW 2018). Avian point count locations will be located along Prairie Creek and Middle Creek.

2.1. Avian Surveys

Westwood will conduct a single year of avian studies at the proposed Project site to determine species presence in the Project area (with an emphasis on federally or state-listed species or species of greatest conservation need) and to evaluate avian fatality risk. Proposed 2019 avian surveys include avian point counts and a raptor nest survey. The methods and results of the avian surveys will be documented in a 2019 Avian Summary Report.

2.1.1. Avian Point Counts

In order to determine avian use, species composition, and relative collision risk for avian species in the Project area, Westwood will conduct one year of avian point counts (Strickland et al. 2011). The avian point counts will be conducted in accordance with standard variable circular-plot point count survey methods (Reynolds et al. 1980, Ralph et al. 1995). Westwood proposes to use ten sampling point locations distributed throughout the existing road network and stratified by dominant land cover type, to sufficiently sample the Project area (Exhibit 2).

A total of 34 surveys will be conducted once each week over four seasons with seasons defined as spring (March 17 - June 1 [11 weekly point counts]), summer (June 2 – August 31 [6 bi-monthly point counts]), fall (September 1 – November 2 [9 weekly point counts]), and winter (November 3 – February 15 [8 bi-weekly point counts]). A single route consisting of ten avian

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point count locations will be surveyed over a one day period, unless weather conditions prohibit complete surveys. To the extent possible, Doppler radar or live migration maps will be reviewed prior to field work in an attempt to coordinate survey days with approaching migratory pulses (Cornell Lab of Ornithology 2019).

Surveys will begin around sunrise and continue until all stations are covered. The order in which stations are surveyed will be alternated between survey events so that all stations are surveyed equally during different times of day, to the extent feasible, to reduce temporal bias. Each individual point count station will be surveyed for a period of 20 minutes. All birds detected by sight or sound will be identified to species (where possible) and recorded on a data form at each of the ten sampling stations. Birds that fly too rapidly or are too distant to be accurately identified will be recorded at the genus level or by functional group where possible. Flight paths of all large birds observed flying or perched within the proposed Project area will be plotted on topographic maps. Birds detected while traveling between stations will be recorded as incidental observations, but will not be included in the estimate of bird use. Locations of any federally or state listed species, or species of concern observed incidentally, will be recorded using a global positioning system (GPS) unit.

Each bird or flock of birds will be given a unique observation number. Detailed notes will be recorded on each observed bird/flock at the time they are first observed, including the species; number of individuals; movement status/behavior (in flight or stationary); observation method (visual, auditory, or both); horizontal distance from observer and flight altitude. Flight altitude will be estimated and categorized into one of three flight height zones (1) 0-100 feet (below the rotor swept zone), (2) 101-500 feet (within the rotor swept zone), and (3) > 500 feet (above the rotor swept zone). If a bald or golden eagle is detected, Westwood will document the minutes and approximate altitude of eagle flights that occur within 800-meter radius plots (altitude categories for eagles are 200m or less and over 200m). The behavior of each bird observed and the vegetation type in which the bird occurred will be recorded based on the point of first observation. Where possible, sex and age class will also be recorded. The date, start/end times, and weather will also be recorded for each sampling station.

Avian point count data will be used to calculate a relative index to collision risk by species, relative abundance, species composition, spatial distribution, and avian habitat use of the Project area.

2.1.2. Raptor Nest Survey

To determine the presence of occupied and unoccupied raptor nests within the Project area, a ground-based raptor nest search will be conducted by vehicle in mid-March. The search will occur on and within a 1-mile buffer of the proposed facility (DOW 2018). If needed to document nest activity, additional raptor nest surveys will be conducted concurrent with other avian surveys in the Project area. Westwood will review the site for the presence of bald eagles in accordance with USFWS's Eagle Conservation Plan Guidance.

Raptor or other large bird nests will be recorded regardless of status. Identified nest locations will be recorded and given a unique nest identification number (Nest ID). Data collected for each nest will include nest status (i.e., occupied, unoccupied), nest condition (i.e., poor, fair, good, excellent), nest height, nest substrate (e.g., tree, tower, etc.), and nest aspect. Determination of nest status will be made using a combination of visual clues such as adult behavior, presence of eggs or young, presence or absence of whitewash (excrement), or other supplemental

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observational data from the ground- based surveys. A nest will be determined occupied if behaviors consistent with a nesting attempt such as nest building/repair, egg laying, incubation or presence of young are noted (Steenhoff and Newton 2007). A nest will be determined unoccupied if none of the above behaviors are noted. For areas not leased by Starwood and where access permission is not likely (due to other wind lease arrangements or feasibility), nests will be checked with spotting scopes and binoculars from public roads, and nest locations will be mapped on aerial photographs.

2.2. Bat Surveys

2.2.1. Bat Acoustic Survey

The objective of the bat acoustic survey is to determine general bat presence, relative activity levels, and species composition in the proposed Project area. Westwood proposes to conduct passive acoustic bat surveys using SM4BAT FS detectors (Wildlife Acoustics, Inc.) from the week of March 17 through November 15, 2019 (245 nights). Detectors will be deployed at the one meteorological tower located in the Project area (Exhibit 2).

Bat detector microphones will be elevated to heights of approximately 5 meters and 45 meters. Westwood will visit the detectors approximately every two weeks to download data, replace batteries, and check the condition of the detectors. Once installed, monitoring stations will remain fixed for the duration of the survey.

The detectors will record from approximately ½ hour before sunset until ½ hour after sunrise on a nightly basis throughout the survey period. Bat call files will be analyzed using Kaleidoscope software version 5.1.0, an USFWS approved automated acoustic bat identification program (USFWS 2019). Bat calls will be filtered and visually screened to remove files containing non-bat sounds (i.e., wind noise, insects). Files with suitable bat calls will be examined visually and classified to species and species groups based on comparison to libraries of known bat reference calls.

Bat calls will be identified into species or groups based on echolocation frequency. The number of call sequences by detector, detection rate overall and by detector, timing of activity, and species composition will be determined. The results of the acoustic bat surveys for the entire 34 week sampling period will be documented in a 2019 Acoustic Bat Survey Report. The report will describe methods and results of the bat acoustic monitoring survey from March to November 2019. Westwood will incorporate weather data from the Project met tower with acoustic findings to highlight seasonal use of the Project Area by bats.

2.2.2. Bat Mist-Netting Survey

As part of an evaluation of Indiana bat (*Myotis sodalis*) habitat on the site and an assessment of migrating individuals, Westwood will conduct bat mist-net surveys in accordance with USFWS Range-Wide Indiana Bat Survey Guidelines (USFWS 2018) and ODNR monitoring protocol (ODNR 2009). Mist netting will be coordinated through a subcontractor (Environmental Solutions & Innovations, Inc. (ESI)) that is licensed to perform such work with Federal permits in place to handle the species, and will be conducted between May 15 and August 15, 2019. ESI will develop a detailed proposal for bat mist netting at the site. Following collection of field data, a written report will be prepared presenting background information, field protocols, and results.

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After 2019 USFWS and ODNR joint recommendations for bat survey guidelines in Ohio are released, USFWS, ODNR, Starwood, Westwood, and ESI will further coordinate on exact timing of survey, number of mist net sites, and number of survey nights. If either an Indiana bat or northern long-eared bat (*Myotis septentrionalis*) are captured during mist netting, bats will be tracked using radio telemetry.

2.3. 2019 Avian and Bat Survey Schedule

Westwood proposes to conduct pre-construction avian and bat surveys at the Project area from the week of March 17, 2019 to February 15, 2020. Below is a tentative schedule of survey dates:

Survey Schedule	2019										2020	
Survey Type	March	April	May	June	July	August	September	October	November	December	January	February
Avian Point Counts												
Raptor Nest Survey												
Bat Acoustic Surveys												
Bat Mist-Netting Surveys												

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3. References

Cornell Lab of Ornithology. 2019. Bird Migration Forecasts in Real-Time. Birdcast.info

Ohio Department of Natural Resources (ODNR). 2009. On-Shore Bird and Bat Pre- and Post-Construction Monitoring Protocol for Commercial Wind Energy Facilities in Ohio, An Addendum to the Ohio Department of Natural Resource's Voluntary Cooperative Agreement. 40 pp. http://wildlife.ohiodnr.gov/portals/wildlife/pdfs/species%20and%20habitats/windwildlifemonitoringprotocol.pdf

ODNR Division of Wildlife (DOW). 2018. Letter from Erin Hazelton, DOW regarding initial survey recommendations for the proposed Starwood project in Paulding County. November 2.

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Reynolds, R.T., J.M. Scott, and R.A. Nussbaum. 1980. A Variable Circular-Plot Method for Estimating Bird Numbers. Condor 82(3): 309-313.

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USFWS. 2019. Indiana bat summer survey guidance, automated acoustic bat ID software programs, approved programs. Updated Feb 4. https://www.fws.gov/midwest/endangered/mammals/inba/surveys/inbaacousticsoftware.html Accessed: March 8, 2019

Appendices

1. Exhibit 1 – Land Cover Map
2. Exhibit 2 – Avian Point Count and Bat Monitoring Locations

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Exhibit 1:
Land Cover Map

Map Document: N:\0015695.00\GIS\Avian Exhibits\GH_Avian_Ex1_LandCoverMap_190222.mxd 2/21/2019 11:25:58 AM SLKilibarda

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Rd 131
Co Hwy 151
Rd 72
Town Hwy 72
Twp Hwy 72
Co Rd 60
Twp Hwy T-54
Twp Hwy T-54
Twp Hwy T-56
Rd 137
Twp Hwy T-48
Rd 48
Rd 48
Twp Hwy T-48
Town Hwy 137
State Rte 637
Rd 137
Main St
Wayne St
State Rte 114
Grover Hill
W Walnut St
N Tyler
S Jefferson St
S Main St
Twp Hwy T-30
Rd 30
Rd 24
Co Hwy C-24
Rd 155
Twp Hwy T-155
Twp Hwy T-18
Rd 18
Twp Hwy T-20
Paulding County
Van Wert County
Van-Wert-Paulding-Co-Line-Rd
State Rte 637
Slane Rd
Co Hwy 5
Hoaglin Center Rd
Twp Hwy 145
Walford Rd
Co Hwy 214
Elm Sugar Rd
N
0
Feet
2,500

Data Source(s): Westwood (2019); ESRI WMS World Imagery Basemap (Accessed 2018); Census Bureau (2017); U.S. Geological Survey (2011).

Legend

- Project Boundary
- County Boundary
- Cultivated Crops
- Deciduous Forest
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, High Intensity
- Developed, Open Space
- Emergent Herbaceuous Wetlands
- Evergreen Forest
- Herbaceuous
- Mixed Forest
- Open Water
- Woody Wetlands

Westwood
Toll Free (888) 937-5150 westwoodps.com
Westwood Professional Services, Inc.

Grover Hill Wind

Paulding County, Ohio

Land Cover Types

EXHIBIT 1

Exhibit 2:
Avian Point Count and Bat Monitoring Locations

Map Document: N:\0015695.00\GIS\Avian Exhibits\GH_Avian_Ex2_AvianPointBatMonitoring_190228.mxd 2/28/2019 9:32:51 AM SLKilibarda

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Broughton
Rd 125
Twp Hwy 125
Town Hwy 131
Co Rd 82
Town Hwy 82
Rd 82
Twp Rd 82
Twp Hwy T-159
Rd 159
Twp Rd 88
Twp Hwy 131
Rd 131
Rd 151
Co Hwy 151
Rd 78
Rd 72
Town Hwy 72
Twp Hwy 72
Twp Hwy 165
Co Hwy 60
Co Rd 123
Prairie Creek
Twp Hwy T-54
Rd 137
Twp Hwy T-56
Twp Hwy T-48
Rd 48
Town Hwy 137
State Rte 637
Twp Hwy T-40
Main St
Wayne St
State Rte 114
Grover Hill
N Tyler
1st St
Harrison St
S Main St
Twp Hwy T-28
Rd 30
Twp Hwy T-30
Middle Creek
Twp Rd 24
Co Hwy C-24
Rd 24
Twp Hwy T-24
Twp Hwy T-155
Co Rd 165
Twp Hwy T-18
Rd 18
Twp Hwy T-20
Rd 155
Paulding County
Van Wert County
Twp Hwy-12
Van-Wert-Paulding-Co-Line-Rd
State Rte 637
Twp Hwy 370
John Yoh Rd
Co Hwy 5
Twp Hwy 145
Slane Rd
Twp Hwy 236
Doner Rd
Middle Point Wetzel Rd
Co Hwy 214
Elm Sugar Rd
Twp Hwy 123
Hoaglin Center Rd
Walford Rd
Twp Hwy 175
Co Hwy 185
Harvey Rd
Twp Hwy 212

N
0
Feet
3,000

Data Source(s): Westwood (2019); ESRI WMS World Imagery Basemap (Accessed 2018); U.S. Census Bureau (2017).

Legend

- Project Boundary
- Raptor Nest Survey Area
- County Boundary
- 800-Meter Buffer
- NHD Flowline
- Proposed Avian Point Count Location
- Bat Acoustic Survey Location

Westwood
Toll Free (888) 937-5150 westwoodps.com
Westwood Professional Services, Inc.

Grover Hill Wind

Paulding County, Ohio

Avian Point Count & Bat Acoustic Monitoring Locations

EXHIBIT 2

Attachment 11

Correspondence Work Plan Approval
Ohio Department of Natural Resources to Grover Hill Wind Project
March 7, 2019

Matthias Weigel

From: Erin.Hazelton@dnr.state.oh.us
Sent: Thursday, March 7, 2019 2:22 PM
To: Matthias Weigel; Seymour, Megan; Katy Reagan
Cc: Eric Hansen; Will Ouyang; adaberko@starwood.com
Subject: RE: [EXTERNAL] Grover Hill Work Plan

Hi everyone,
ODNR approves the pre-construction monitoring plan with the following updates, as we discussed in the meeting:

- Diurnal bird/raptor surveys may be reduced from three times per week to once per week. ODNR recommends consulting Doppler radar or live migration maps, such as the Cornell Lab of Ornithology's "Birdcast" to attempt to coordinate survey days with approaching migratory pulses.
- Please include survey hours for marsh bird surveys, as outlined in ODNR protocol (2 hours centered on either sunrise or sunset).
- Include use of Kaleidoscope 5.1.0 software to analyze bat acoustics, as recommended by USFWS
- Placeholder language for mist net protocol until 2019 USFWS and ODNR joint recommendations for Ohio are released.

Please let me know if you have any questions.

Many thanks,
Erin

Erin Hazelton
Wind Energy/Wildlife Administrator
ODNR Division of Wildlife
2045 Morse Road
Columbus, OH 43229
Phone: 614-265-6349
Email: Erin.Hazelton@dnr.state.oh.us

Good intentions can hurt, leave wildlife in the wild. Visit wildohio.gov/staywild to find out more.

From: Matthias Weigel <Matthias@mnwindconsultants.com>
Sent: Thursday, March 07, 2019 11:27 AM
To: Seymour, Megan <megan_seymour@fws.gov>; Katy Reagan <Katy.Reagan@westwoodps.com>
Cc: Hazelton, Erin <Erin.Hazelton@dnr.state.oh.us>; Eric Hansen <Eric.Hansen@westwoodps.com>; Will Ouyang <wouyang@starwood.com>; adaberko@starwood.com
Subject: RE: [EXTERNAL] Grover Hill Work Plan

Megan,

Thanks for passing that along.

I did a quick double check on our MET tower configuration, and we do have temp sensors at 2 heights (3 and 56m) and a barometer at 2m height. Hope that will help with the bat study portion.

Best,

Matthias Weigel

From: Seymour, Megan <megan_seymour@fws.gov>
Sent: Wednesday, March 6, 2019 9:43 AM
To: Katy Reagan <Katy.Reagan@westwoodps.com>
Cc: Erin.Hazelton@dnr.state.oh.us; Eric Hansen <Eric.Hansen@westwoodps.com>; Will Ouyang <wouyang@starwood.com>; adaberko@starwood.com; Matthias Weigel <Matthias@mnwindconsultants.com>
Subject: Re: [EXTERNAL] Grover Hill Work Plan

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https://www.fws.gov/midwest/endangered/mammals/inba/surveys/inbaAcousticSoftware.html

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> **Katy Reagan**
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(614) 416-8993 ext 16, (614) 416-8994 fax

Attachment 12

Correspondence
United States Fish and Wildlife Service to Grover Hill
April 3, 2019

April M. Popp

From: Seymour, Megan <megan_seymour@fws.gov>
Sent: Wednesday, April 3, 2019 9:31 AM
To: Matthias Weigel
Cc: Katy Reagan; Erin.Hazelton@dnr.state.oh.us; jennifer_okajima@fws.gov; Eric Hansen; Will Ouyang; adaberko@starwood.com
Subject: Re: [EXTERNAL] RE: Revised Grover Hill work plan
Attachments: Grover Hill.pdf

Thank you for providing the shapefile and revised Work Plan.

Attached please find a pdf showing the partial overlap of the Indiana bat record with the project boundary. The record is from 1976, and was for a pregnant female, indicating the presence of a maternity colony. We do not have roost tree data for this bat, thus a 5 mile radius buffer was applied to the capture location to indicate potential homerange of the colony. No additional surveys or data were collected on this colony. While the record is relatively old, we have data showing that colonies are philopatric to their homeranges and can persist in areas over decades. Thus, we assume this colony is still extant. However, because the project area falls within the outer tier of the capture buffer (from 2.5-5.0 miles from the capture buffer), consistent with the Range-wide Indiana bat Survey Guidance, summer surveys can still be conducted to document presence/likely absence at this location. Please be sure to coordinate the proposed survey protocol with my office prior to implementation, and we strongly recommend focusing survey effort in the six large wooded patches in the project area, and stratifying effort throughout the project area.

Relative to the proposed Work Plan, section 2.2.2, the bat mist net survey protocol is designed to document whether or not Indiana bats or northern long-eared bats are present within the project area **during the summer maternity season**. There is no approved survey protocol to document presence/absence during the spring or fall migration periods. The U.S. Fish and Wildlife Service assumes that these species are present within the project area during migration based on post-construction mortality data from nearby wind projects which have documented mortality of Indiana bats during both spring and fall. Thus, the project should implement measures to avoid mortality of listed bats (such as implementing a 6.9 m/s cut-in speed at night during spring and fall migration periods), or should develop a Habitat Conservation Plan and obtain an Incidental Take Permit that would authorize take of listed bats. I will provide additional information on these options to you in the near future.

Sincerely,
Megan

On Thu, Mar 14, 2019 at 10:55 AM Matthias Weigel <Matthias@mnwindconsultants.com> wrote:

> All,
>
> Just wanted to follow-up with you to see if we can get confirmation from ODNR and USFWS that the updated work plan is acceptable.
>
> Our biologist is scheduled to begin monitoring next week.
>
> Megan and Jennifer,

Let us know if the shape file provided is sufficient for you at this point. If that is the case could you provide the roost location we discussed in our meeting?

Thanks again everyone for your time and effort to get this in place!

Best,

Matthias Weigel

From: Katy Reagan <Katy.Reagan@westwoodps.com>
Sent: Friday, March 8, 2019 9:16 AM
To: Erin.Hazelton@dnr.state.oh.us; Seymour, Megan <megan_seymour@fws.gov>; jennifer_okajima@fws.gov
Cc: Eric Hansen <Eric.Hansen@westwoodps.com>; Will Ouyang <wouyang@starwood.com>; adaberko@starwood.com; Matthias Weigel <Matthias@mnwindconsultants.com>
Subject: Revised Grover Hill work plan

Hi all. Thanks again for your time on Wed. Attached is a revised work plan based on our discussion and Erin's email below. Also attached is a shapefile of the project boundary.

Please let me know if I missed something, if you have additional comments/changes, or if you have questions. Thanks again!

Katy Reagan
SENIOR WILDLIFE BIOLOGIST
katy.reagan@westwoodps.com

Direct (720) 531-8368
Main (720) 531-8350
Cell (720) 427-0100

Westwood Multi-Disciplined Surveying & Engineering
10170 Church Ranch Way, Suite 100 | Westminster, CO 80021

westwoodps.com
(888) 937-5150

From: Erin.Hazelton@dnr.state.oh.us [mailto:Erin.Hazelton@dnr.state.oh.us]
Sent: Thursday, March 7, 2019 1:22 PM
To: Matthias Weigel <Matthias@mnwindconsultants.com>; Seymour, Megan <megan_seymour@fws.gov>; Katy Reagan <Katy.Reagan@westwoodps.com>
Cc: Eric Hansen <Eric.Hansen@westwoodps.com>; Will Ouyang <wouyang@starwood.com>; adaberko@starwood.com
Subject: RE: [EXTERNAL] Grover Hill Work Plan

Hi everyone,

ODNR approves the pre-construction monitoring plan with the following updates, as we discussed in the meeting:

- Diurnal bird/raptor surveys may be reduced from three times per week to once per week. ODNR recommends consulting Doppler radar or live migration maps, such as the Cornell Lab of Ornithology's "Birdcast" to attempt to coordinate survey days with approaching migratory pulses.
- Please include survey hours for marsh bird surveys, as outlined in ODNR protocol (2 hours centered on either sunrise or sunset).
- Include use of Kaleidoscope 5.1.0 software to analyze bat acoustics, as recommended by USFWS
- Placeholder language for mist net protocol until 2019 USFWS and ODNR joint recommendations for Ohio are released.

Please let me know if you have any questions.

Many thanks,

Erin

Erin Hazelton

Wind Energy/Wildlife Administrator

ODNR Division of Wildlife

2045 Morse Road

Columbus, OH 43229

Phone: 614-265-6349

Email: Erin.Hazelton@dnr.state.oh.us

Good intentions can hurt, leave wildlife in the wild. Visit wildohio.gov/staywild to find out more.

From: Matthias Weigel <Matthias@mnwindconsultants.com>
Sent: Thursday, March 07, 2019 11:27 AM
To: Seymour, Megan <megan_seymour@fws.gov>; Katy Reagan <Katy.Reagan@westwoodps.com>
Cc: Hazelton, Erin <Erin.Hazelton@dnr.state.oh.us>; Eric Hansen <Eric.Hansen@westwoodps.com>; Will Ouyang <wouyang@starwood.com>; adaberko@starwood.com
Subject: RE: [EXTERNAL] Grover Hill Work Plan

Megan,

Thanks for passing that along.

I did a quick double check on our MET tower configuration, and we do have temp sensors at 2 heights (3 and 56m) and a barometer at 2m height. Hope that will help with the bat study portion.

Best,

Matthias Weigel

From: Seymour, Megan <megan_seymour@fws.gov>
Sent: Wednesday, March 6, 2019 9:43 AM

To: Katy Reagan <Katy.Reagan@westwoodps.com>
Cc: Erin.Hazelton@dnr.state.oh.us; Eric Hansen <Eric.Hansen@westwoodps.com>; Will Ouyang <wouyang@starwood.com>; adaberko@starwood.com; Matthias Weigel <Matthias@mnwindconsultants.com>
Subject: Re: [EXTERNAL] Grover Hill Work Plan

The Kaleidoscope Pro software version that is approved for both Indiana and Northern long-eared bat is Version 5.1.0

For details, please see:

https://www.fws.gov/midwest/endangered/mammals/inba/surveys/inbaAcousticSoftware.html

On Mon, Mar 4, 2019 at 2:53 PM Katy Reagan <Katy.Reagan@westwoodps.com> wrote:

> Hi Erin and Megan. Attached is a working draft of the proposed work plan for pre-construction surveys at Grover Hill wind project. We'll use this document as a starting point for discussions on Wed, and work through it together to ensure that all survey methodologies have agency approval prior to field implementation. I look forward to meeting and working with you! Thanks!
>
> **Katy Reagan**
> **SENIOR WILDLIFE BIOLOGIST**
> katy.reagan@westwoodps.com
>
> Direct (720) 531-8368
> Main (720) 531-8350
> Cell (720) 427-0100
>
> **Westwood Multi-Disciplined Surveying & Engineering**
> 10170 Church Ranch Way, Suite 100 | Westminster, CO 80021
>
> **westwoodps.com**
> (888) 937-5150

--

Megan Seymour

Wildlife Biologist

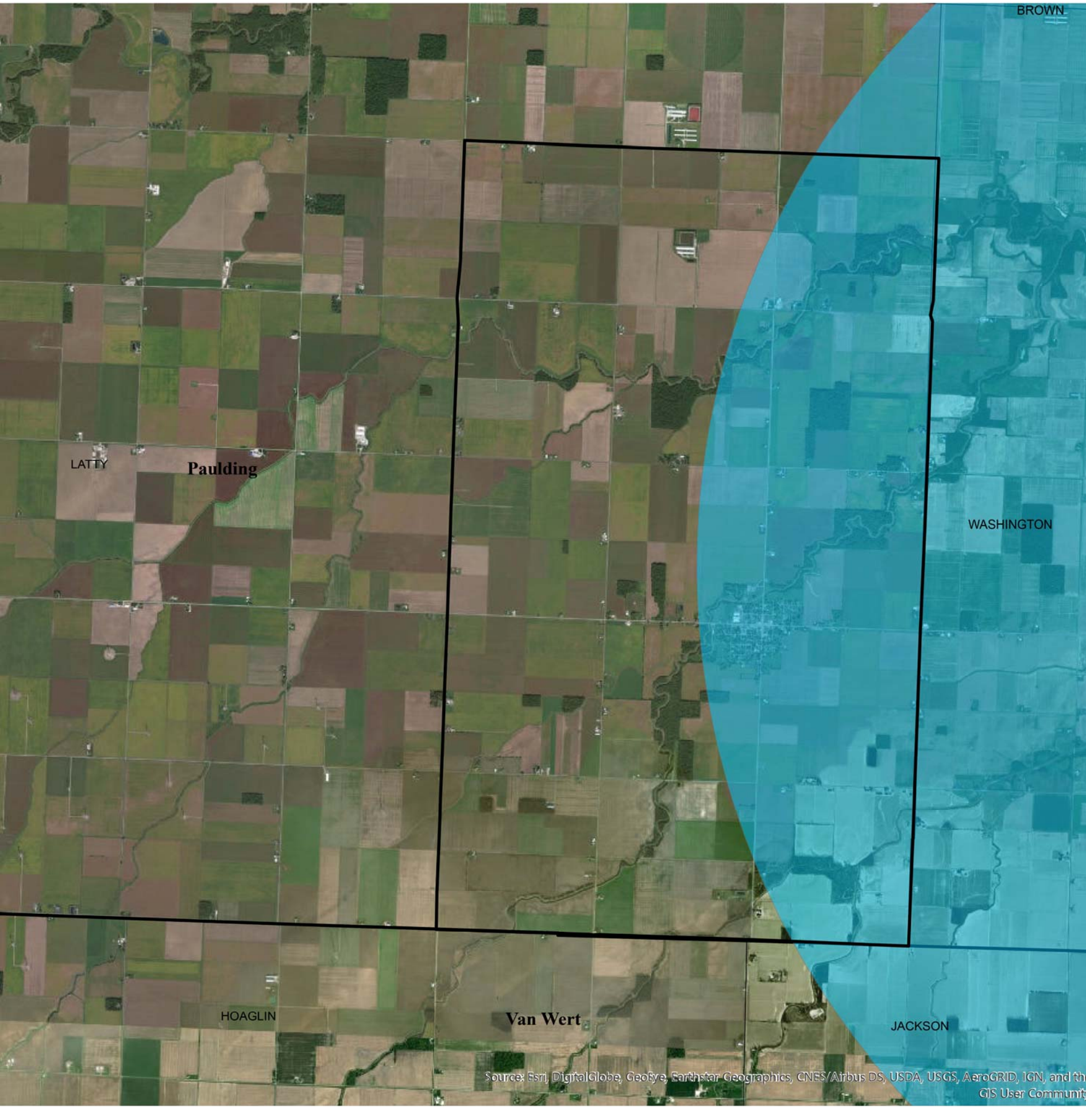
U.S. Fish and Wildlife Service, 4625 Morse Rd., Suite 104, Columbus, OH 43230

(614) 416-8993 ext 16, (614) 416-8994 fax

--

Megan Seymour

Wildlife Biologist
U.S. Fish and Wildlife Service, 4625 Morse Rd., Suite 104, Columbus, OH 43230
(614) 416-8993 ext 16, (614) 416-8994 fax


BROWN
LATTY
Paulding
WASHINGTON
HOAGLIN
Van Wert
JACKSON
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and th
GIS User Community

Attachment 13

Correspondence
Ohio Department of Natural Resources to Grover Hill Wind
May 7, 2019

April M. Popp

From: Erin.Hazelton@dnr.state.oh.us
Sent: Thursday, March 7, 2019 3:22 PM
To: Matthias Weigel; Seymour, Megan; Katy Reagan
Cc: Eric Hansen; Will Ouyang; adaberko@starwood.com
Subject: RE: [EXTERNAL] Grover Hill Work Plan

Hi everyone,
ODNR approves the pre-construction monitoring plan with the following updates, as we discussed in the meeting:

- Diurnal bird/raptor surveys may be reduced from three times per week to once per week. ODNR recommends consulting Doppler radar or live migration maps, such as the Cornell Lab of Ornithology's "Birdcast" to attempt to coordinate survey days with approaching migratory pulses.
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- Include use of Kaleidoscope 5.1.0 software to analyze bat acoustics, as recommended by USFWS
- Placeholder language for mist net protocol until 2019 USFWS and ODNR joint recommendations for Ohio are released.

Please let me know if you have any questions.

Many thanks,
Erin

Erin Hazelton
Wind Energy/Wildlife Administrator
ODNR Division of Wildlife
2045 Morse Road
Columbus, OH 43229
Phone: 614-265-6349
Email: Erin.Hazelton@dnr.state.oh.us

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Sent: Thursday, March 07, 2019 11:27 AM
To: Seymour, Megan <megan_seymour@fws.gov>; Katy Reagan <Katy.Reagan@westwoodps.com>
Cc: Hazelton, Erin <Erin.Hazelton@dnr.state.oh.us>; Eric Hansen <Eric.Hansen@westwoodps.com>; Will Ouyang <wouyang@starwood.com>; adaberko@starwood.com
Subject: RE: [EXTERNAL] Grover Hill Work Plan

Megan,

Thanks for passing that along.

I did a quick double check on our MET tower configuration, and we do have temp sensors at 2 heights (3 and 56m) and a barometer at 2m height. Hope that will help with the bat study portion.

Best,

Matthias Weigel

From: Seymour, Megan <megan_seymour@fws.gov>
Sent: Wednesday, March 6, 2019 9:43 AM
To: Katy Reagan <Katy.Reagan@westwoodps.com>
Cc: Erin.Hazelton@dnr.state.oh.us; Eric Hansen <Eric.Hansen@westwoodps.com>; Will Ouyang <wouyang@starwood.com>; adaberko@starwood.com; Matthias Weigel <Matthias@mnwindconsultants.com>
Subject: Re: [EXTERNAL] Grover Hill Work Plan

The Kaleidoscope Pro software version that is approved for both Indiana and Northern long-eared bat is Version 5.1.0 For details, please see:
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> Hi Erin and Megan. Attached is a working draft of the proposed work plan for pre-construction surveys at Grover Hill wind project. We'll use this document as a starting point for discussions on Wed, and work through it together to ensure that all survey methodologies have agency approval prior to field implementation. I look forward to meeting and working with you! Thanks!
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> (888) 937-5150

--
Megan Seymour
Wildlife Biologist
U.S. Fish and Wildlife Service, 4625 Morse Rd., Suite 104, Columbus, OH 43230
(614) 416-8993 ext 16, (614) 416-8994 fax

Attachment 14

Correspondence Species List
United States Fish and Wildlife Service to Grover Hill
December 31, 2019

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ohio Ecological Services Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230-8355
Phone: (614) 416-8993 Fax: (614) 416-8994

In Reply Refer To:
Consultation Code: 03E15000-2020-SLI-0488
Event Code: 03E15000-2020-E-00706
Project Name: Grover Hill

December 31, 2019

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

To Whom It May Concern:

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

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see http://www.fws.gov/migratorybirds/RegulationsandPolicies.html.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/BirdHazards.html.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit http://www.fws.gov/migratorybirds/AboutUS.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

Ohio Ecological Services Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230-8355
(614) 416-8993

Project Summary

Consultation Code: 03E15000-2020-SLI-0488

Event Code: 03E15000-2020-E-00706

Project Name: Grover Hill

Project Type: POWER GENERATION

Project Description: Wind Project, Paulding County, Ohio, final project layout has not been confirmed by our client

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/41.026433699999856N84.486118828W

Counties: Paulding, OH | Van Wert, OH

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

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

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

---

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

Mammals

NAME	STATUS
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ 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 Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

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

Attachment 15

Correspondence Natural Heritage Data Request
Grover Hill to Ohio Department of Natural Resources
January 2, 2020

April M. Popp

From: Shelby Kilibarda
Sent: Thursday, January 2, 2020 9:41 AM
To: NHDRequest@dnr.state.oh.us
Subject: Natural Heritage Data Request - Grover Hill Wind Project
Attachments: GH_ProjectSiteMap_191231.pdf; Grover Hill Project Boundary.zip; GroverHill_NHI data request form_Signed_200102.pdf

Hello,

I have attached a Natural Heritage Data Request form, map and shapefile for a proposed wind project in Paulding County, Ohio.

Please let me now if you have any questions or comments!

Thanks,

Shelby Kilibarda
ENVIRONMENTAL SCIENTIST
shelby.kilibarda@westwoodps.com

Direct (952) 906-7440
Main (952) 937-5150
Cell (651) 206-6123

Westwood
Multi-Disciplined Surveying & Engineering
12701 Whitewater Drive, Suite 300 | Minnetonka, MN 55343

westwoodps.com
(888) 937-5150

Ohio Department of Natural Resources
DIVISION OF WILDLIFE

DNR 5203 (R1017)

NATURAL HERITAGE DATA REQUEST FORM

ODNR Division of Wildlife
Ohio Natural Heritage Program
2045 Morse Rd., Bldg. G-3
Columbus, OH 43229-6693
Email: NHDRequest@dnr.state.oh.us
Phone: 614-265-6818

WHAT KIND OF REVIEW DO I NEED?

ODNR provides two kinds of project reviews, an Ohio Natural Heritage Database (ONHD) data request and an Environmental Review (ER). ONHD data requests will be processed for projects that meet one of the following four criteria:

consultant prepared reports for ODOT projects
completion of OEPA's Ohio Rapid Assessment Method for wetlands
academic research projects
other non-development or non-construction projects

As applicable to your project, the ONHD will provide records for state and federally listed plants and animals, high quality plant communities, geologic features, breeding animal concentrations, scenic rivers, protected natural areas (managed areas), and significant unprotected natural areas (conservation sites). A one mile radius around the project site will automatically be searched. Because the ONHD contains sensitive information, it is our policy to provide only the data needed to complete your specific project.

If your project does not meet one of these criteria, you will need to submit it for an ER. An ER includes comments on potential impacts to the species and their habitats, and therefore constitutes coordination with ODNR under NEPA, the Fish & Wildlife Coordination Act, the Federal Water Pollution Control Act, and other laws. If your project requires ODNR coordination, please go to http://realestate.ohiodnr.gov/environmental-review for additional information including appropriate contacts. An ONHD search is included as part of the environmental review process.

INSTRUCTIONS:

Please complete all the information on both sides of this form, sign (required) and email it to NHDRequest@dnr.state.oh.us. Please provide a description of the work to be performed at the project site, and a map detailing your project site boundaries. If you request a GIS response, please also submit a shapefile of your project site (unbuffered). Data requests will be completed within approximately 30 days. There is currently no charge to process requests.

Date: 12/31/2019 **Company name:** Westwood Professional Services

Name of person response letter should be addressed to:

Mr. ☐ **Ms.** ☐ Shelby Kilibarda

Address: 12701 Whitewater Drive, Suite 300

City/State/Zip: Minnetonka, Minnesota 55343

Phone: (952) 906-7440

E-mail address: shelby.kilibarda@westwoodps.com

Project Name: Grover Hill Wind Project

Project Site Address: N/A

Project County: Paulding County

Project City or Township: Grover Hill

Project site is located on the following USGS 7.5 minute topographic quad(s):

Latty Quadrangle

Project latitude and longitude: 41.0187, -84.4765

Description of work to be performed at the project site:

A proposed 150-megawatt (MW) wind energy project located in Paulding County, Ohio. Our client wants to approach this project responsibly to guide post-construction operations with respect to wildlife conservation

How do you want your data reported? Both formats provide the same data. The manual search is most appropriate for small scale projects or for those without GIS capabilities. With this option we will send you a letter with a list of records and a map showing their location. If you request a GIS shapefile, we will send you a letter and shapefile of data layers. You will then need to make your own map and list of data for your report. You must have GIS capabilities. If you do not make a selection or if you choose both options, a manual search will be performed (Please choose only one option).

☐ **Printed list and map (manual search)** **OR** ☑ **GIS shapefile (computer search)**

The standard data we search includes state and federally listed plants and animals, high quality plant communities, geologic features, breeding animal concentrations, scenic rivers, managed areas, and conservation sites, including a one mile radius around your project area. List any information in addition to this that you require:

How will the information be used?

This information will be used in constraints mapping and in various technical reports such as Bird and Bat Conservation Strategy report and Biogeographical Assessment

The chief of the Division of Wildlife has determined that the release of the ONHD data you have requested could be detrimental to the conservation of a species or unique natural feature. Pursuant to section 1531.04 of the Ohio Revised Code, this information is not subject to section 149.43 of the Revised Code. By signing below, you certify that the data provided will not be disclosed, published, or distributed beyond the scope of your project.

Signature Shelley Kitchen **Date:** 1/02/2020

DNR 5203 (R0917)

Map Document: N:\0015695.00\GIS\Sent\200102_NHIS Request\GH_ProjectSiteMap_191231.mxd 1/2/2020 8:26:39 AM SLKilibarda

© 2020 Westwood Professional Services, Inc.

Broughton
Rd 125
Twp Hwy 125
Town Hwy 131
Twp Hwy 131
Rd 131
Co Rd 82
Town Hwy 82
Rd 82
Twp Rd 82
Rd 159
Twp Hwy T-159
Twp Rd 88
Rd 151
Co Hwy 151
Rd 78
Rd 72
Town Hwy 72
Twp Hwy 72
Twp Hwy 165
Co Rd 60
Twp Rd 137
Twp Hwy T-54
Co Rd 123
Rd 123
Twp Hwy T-48
Rd 48
Rd 137
Town Hwy 137
State Rte 637
Twp Hwy T-56
Twp Hwy T-40
Main St
Wayne St
State Rte 114
Grover Hill
N Tyler
1st St
Harrison St
S Main St
Twp Hwy T-28
Rd 30
Twp Hwy T-30
Twp Rd 24
Co Hwy C-24
Rd 24
Twp Hwy T-24
Twp Hwy T-155
Rd 155
Co Rd 165
Twp Hwy T-18
Rd 18
Twp Hwy T-20
Paulding County
Van Wert County
Twp Hwy 12
Van Wert Paulding Co Line Rd
Twp Hwy 370
John Yoh Rd
Co Hwy 5
Hoaglin Center Rd
Twp Hwy 145
Slane Rd
Walford Rd
Twp Hwy 236
Doner Rd
Co Hwy 214
Elm Sugar Rd
Twp Hwy 175
Co Hwy 185
Middle Point Wetzel Rd
Harvey Rd
Twp Hwy 212

N
0
Feet
3,000

Data Source(s): Westwood (2020); ESRI WMS World Imagery Basemap (Accessed 2018); Census Bureau (2017).

Legend

- Project Boundary
- County Boundary
- City/Civil Municipal Boundaries
- Road

Westwood
Toll Free (888) 937-5150 westwoodps.com
Westwood Professional Services, Inc.

Grover Hill Wind

Paulding County, Ohio

Project Site Map

EXHIBIT 1

Attachment 16

Coordination Letter
Ohio Department of Natural Resources to Grover Hill Wind Project
February 19, 2020

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

February 19, 2020

Shelby Kilibarda
Westwood Professional Services
12701 Whitewater Drive, Suite 300
Minnetonka, Minnesota 55343

Re: 20-082: Grover Hill Wind Project

Project: The proposed project invovles the construction of a 150-megawatt (MW) wind energy project.

Location: The proposed project is located in Grover Hill, Paulding 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 no records at or within a one-mile radius of the project area.

A review of the Ohio Natural Heritage Database indicates there are no other records of state endangered or threatened plants or animals within the project area. There are also no records of state potentially threatened plants, special interest or species of concern animals, or any federally listed species. In addition, we are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, state nature preserves, state or national parks, state or national forests, national wildlife refuges, or other protected natural areas within the project area. The review was performed on the project area you specified in your request as well as an additional one-mile radius. Records searched date from 1980.

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.

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

State and federally listed species have been documented within the vicinity of the Grover Hill Wind Project area. These species include the Indiana bat (*Myotis sodalis*), a state and federally endangered species, the red bat (*Lasiurus borealis*), a state species of concern, the big brown bat (*Eptesicus fuscus*), a state species of concern, the hoary bat (*Lasiurus cinereus*), a state species of concern, and the silver-haired bat (*Lasionycteris noctivagans*), a state species of concern. These and other species have the potential to be impacted by construction and/or operational activities associated with the project. Because construction and operational activities have the potential to impact species differently, these comments have been separated between construction, and operation of the project.

Recommendations for construction phase

The eastern half of the project is within the vicinity of records for the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species. Presence of the Indiana bat has been established in the area, and therefore additional summer surveys would not constitute presence/absence in the area. The following species of trees have relatively high value as potential Indiana bat roost trees to include: shagbark hickory (*Carya ovata*), shellbark hickory (*Carya laciniosa*), bitternut hickory (*Carya cordiformis*), black ash (*Fraxinus nigra*), green ash (*Fraxinus pennsylvanica*), white ash (*Fraxinus americana*), shingle oak (*Quercus imbricaria*), northern red oak (*Quercus rubra*), slippery elm (*Ulmus rubra*), American elm (*Ulmus americana*), eastern cottonwood (*Populus deltoides*), silver maple (*Acer saccharinum*), sassafras (*Sassafras albidum*), post oak (*Quercus stellata*), and white oak (*Quercus alba*). Indiana bat roost trees consists of trees that include dead and dying trees with exfoliating bark, crevices, or cavities in upland areas or riparian corridors and living trees with exfoliating bark, cavities, or hollow areas formed from broken branches or tops. However, Indiana bats are also dependent on the forest structure surrounding roost trees. If suitable habitat occurs within the project area, the DOW recommends trees be conserved. If suitable habitat occurs within the project area and trees must be cut, the DOW recommends cutting occur between October 1 and March 31.

The remainder of the project is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species. If suitable habitat occurs within the project area and trees must be cut, the DOW recommends cutting occur between October 1 and March 31. If suitable trees must be cut during the summer months, the DOW recommends a net survey be conducted between June 30 and August 15, prior to any cutting. Net surveys should incorporate either nine net nights per square 0.5 kilometer of project area, or four net nights per kilometer for linear projects.

The project is within the range of the club shell (*Pleurobema clava*), a state endangered and federally endangered mussel, and the pondhorn *(Uniomerus tetralasmus*), a state threatened mussel. 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 (2018), 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 10 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 (2018) 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 greater redhorse (*Moxostoma valenciennesi*), a state threatened fish. The DOW recommends no in-water work in perennial streams from April 15 to 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.

The project is within the range of the Blanding's turtle (*Emydoidea blandingii*), a state threatened species. This species inhabits marshes, ponds, lakes, streams, wet meadows, and swampy forests. Although essentially aquatic, the Blanding's turtle will travel over land as it moves from one wetland to the next. Due to the location, the type of habitat at the project site and within the vicinity of the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the Kirtland's snake (*Clonophis kirtlandii*), a state threatened species. This secretive species prefers wet meadows and other wetlands. Due to the location, the type of habitat present at the project site and within the vicinity of the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the northern harrier (Circus cyaneus), 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 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.

Recommendations for operational phase

To reduce impacts to migratory birds and bats, the DOW recommends curtailment at night during migratory seasons at and below wind speeds of 6.9 m/s. The DOW also recommends a curtailment regime at night during the summer residency period to reduce risk to state and federally endangered Indiana bats. Additional curtailment regimes or other avoidance measures may be recommended should this project result in significant adverse impact to wild animals, post-construction. The DOW further recommends development of a mitigation plan, in conjunction with DOW and OPSB staff, should this occur.

Please refer to the survey effort letter dated November 2, 2018 for breeding bird habitat survey direction, including the northern harrier.

Due to the potential operational impacts to federally and state listed species, migratory birds, and other protected species, including bald eagles and other raptors, we recommend that this project be coordinated with the US Fish & Wildlife Service.

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

ODNR appreciates the opportunity to provide these comments. Please contact Sarah Tebbe, Environmental Specialist, at (614) 265-6397 or Sarah.Tebbe@dnr.state.oh.us if you have questions about these comments or need additional information.

Mike Pettegrew
Environmental Services Administrator (Acting)

Attachment 17

Correspondence IPaC
United States Fish and Wildlife Service to Grover Hill
February 24, 2021

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ohio Ecological Services Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230-8355
Phone: (614) 416-8993 Fax: (614) 416-8994

In Reply Refer To:
Consultation Code: 03E15000-2021-SLI-0864
Event Code: 03E15000-2021-E-01199
Project Name: Grover Hill Wind Project

February 24, 2021

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

To Whom It May Concern:

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

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see http://www.fws.gov/migratorybirds/RegulationsandPolicies.html.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/BirdHazards.html.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit http://www.fws.gov/migratorybirds/AboutUS.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

Ohio Ecological Services Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230-8355
(614) 416-8993

Project Summary

Consultation Code: 03E15000-2021-SLI-0864
Event Code: 03E15000-2021-E-01199
Project Name: Grover Hill Wind Project
Project Type: POWER GENERATION
Project Description: Paulding County, Ohio
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@41.02647425,-84.48608954029132,14z

Counties: Paulding and Van Wert counties, Ohio

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

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

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

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

Mammals

NAME	STATUS
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ 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 Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

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

Attachment 18

Correspondence
Grover Hill to Ohio Department of Natural Resources
February 26, 2021

April M. Popp

From: Shelby Kilibarda
Sent: Friday, February 26, 2021 9:46 AM
To: environmentalreviewrequest@dnr.state.oh.us
Subject: Environmental Review Request - Grover Hill Wind Project
Attachments: 20-082; Westwood PS- Grover Hill Wind Project Comments.pdf; GH_Habitat_Ex2_ProjectSiteMap_191219.pdf; GH_Habitat_Ex3_Topography&DrainageFeatures_191218.pdf; GH_Habitat_Ex4_WetlandsMap_191219.pdf; GH_Habitat_Ex5_WindsFarms_191219.pdf; GH_Habitat_Ex6_LandCoverMap_191219.pdf; GH_Habitat_Ex1_ProjectVicinityMap_191220.pdf; GH_ProjectBoundary_200915.zip

To whom it may concern,

Westwood Professional Services is requesting an updated Environmental Review for the Grover Hill Wind Project in Paulding County, Ohio.

Starwood Energy Group Global, LLC (Starwood) proposes to construct and operate the Grover Hill Wind Project (Project) in Paulding County, Ohio (Exhibit 1). The Project Area consists of approximately 9,685 acres (15 square miles) located in southern Paulding County, Ohio, approximately 3 miles east of the town of Haviland and 6 miles to the southeast of the town of Paulding. The town of Grover Hill is located within the central portion of the Project Area (Exhibit 2). The Project will be configured as a wind energy conversion facility with a potential total nameplate capacity of 150 megawatts (MW). Starwood continues to assess its turbine options, and is currently evaluating wind turbine generators (WTGs) with rated power outputs between 3.0 to 6.0 MW each, which could result in the installation of 25 wind turbines, depending upon the model(s) selected and the final output of the Project. Additional facilities may include transmission line, access roads, electrical collection lines, an operations and maintenance facility, substation, and laydown area.

Topography is relatively flat; no buttes, rolling hills, or draws exist (Exhibit 3). Portions of eight named waterways are located within the Project Area including Town Creek, Maddox Creek, Middle Creek, Hoaglin Creek, West Branch Creek, Prairie Creek, Dog Run, and Hog Run (Exhibit 4). Surface ownership in the Project Area is exclusively private. Several operating, utility-scale wind farms are located in the Project Area vicinity including the Northwest Ohio Wind Farm (NOW) (100MW), located directly west of the Project Area, Timber Road Wind Farm (100 MW), located west of NOW, and Blue Creek Wind Farm (304 MW), located to the south (Exhibit 5).

A total of seven principal land cover types are recognized and mapped within the Project Area. These include cultivated crops, developed areas, forest, herbaceous, woody wetlands, open water, and emergent herbaceous wetlands (Exhibit 6).

Please let me know if you have any questions.

Thank you,

Shelby Kilibarda
Environmental Scientist
shelby.kilibarda@westwoodps.com

direct (952) 906-7440
main (952) 937-5150
cell (651) 206-6123

Westwood
12701 Whitewater Drive, Suite 300
Minnetonka, MN 55343

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

February 19, 2020

Shelby Kilibarda
Westwood Professional Services
12701 Whitewater Drive, Suite 300
Minnetonka, Minnesota 55343

Re: 20-082: Grover Hill Wind Project

Project: The proposed project invovles the construction of a 150-megawatt (MW) wind energy project.

Location: The proposed project is located in Grover Hill, Paulding 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 no records at or within a one-mile radius of the project area.

A review of the Ohio Natural Heritage Database indicates there are no other records of state endangered or threatened plants or animals within the project area. There are also no records of state potentially threatened plants, special interest or species of concern animals, or any federally listed species. In addition, we are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, state nature preserves, state or national parks, state or national forests, national wildlife refuges, or other protected natural areas within the project area. The review was performed on the project area you specified in your request as well as an additional one-mile radius. Records searched date from 1980.

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.

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

State and federally listed species have been documented within the vicinity of the Grover Hill Wind Project area. These species include the Indiana bat (*Myotis sodalis*), a state and federally endangered species, the red bat (*Lasiurus borealis*), a state species of concern, the big brown bat (*Eptesicus fuscus*), a state species of concern, the hoary bat (*Lasiurus cinereus*), a state species of concern, and the silver-haired bat (*Lasionycteris noctivagans*), a state species of concern. These and other species have the potential to be impacted by construction and/or operational activities associated with the project. Because construction and operational activities have the potential to impact species differently, these comments have been separated between construction, and operation of the project.

Recommendations for construction phase

The eastern half of the project is within the vicinity of records for the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species. Presence of the Indiana bat has been established in the area, and therefore additional summer surveys would not constitute presence/absence in the area. The following species of trees have relatively high value as potential Indiana bat roost trees to include: shagbark hickory (*Carya ovata*), shellbark hickory (*Carya laciniosa*), bitternut hickory (*Carya cordiformis*), black ash (*Fraxinus nigra*), green ash (*Fraxinus pennsylvanica*), white ash (*Fraxinus americana*), shingle oak (*Quercus imbricaria*), northern red oak (*Quercus rubra*), slippery elm (*Ulmus rubra*), American elm (*Ulmus americana*), eastern cottonwood (*Populus deltoides*), silver maple (*Acer saccharinum*), sassafras (*Sassafras albidum*), post oak (*Quercus stellata*), and white oak (*Quercus alba*). Indiana bat roost trees consists of trees that include dead and dying trees with exfoliating bark, crevices, or cavities in upland areas or riparian corridors and living trees with exfoliating bark, cavities, or hollow areas formed from broken branches or tops. However, Indiana bats are also dependent on the forest structure surrounding roost trees. If suitable habitat occurs within the project area, the DOW recommends trees be conserved. If suitable habitat occurs within the project area and trees must be cut, the DOW recommends cutting occur between October 1 and March 31.

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Due to the potential operational impacts to federally and state listed species, migratory birds, and other protected species, including bald eagles and other raptors, we recommend that this project be coordinated with the US Fish & Wildlife Service.

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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

ODNR appreciates the opportunity to provide these comments. Please contact Sarah Tebbe, Environmental Specialist, at (614) 265-6397 or Sarah.Tebbe@dnr.state.oh.us if you have questions about these comments or need additional information.

Mike Pettegrew
Environmental Services Administrator (Acting)

Map Document: N:\0015695.00\GIS\Habitat Assessment Exhibits\GH_Habitat_Ex1_ProjectVicinityMap_191220.mxd 12/19/2019 7:36:27 AM SLKilibarda

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Defiance County

Paulding County

Van Wert County

Putnam County

Allen County

Noble Twp
Delaware Twp
Defiance Twp
Defiance
Richland Twp
Ayersville
Emerald Twp
Highland Twp
Auglaize Twp
Antwerp
Carryall Twp
Crane Twp
Paulding
Paulding Twp
Jackson Twp
Harrison Twp
Payne
Benton Twp
Latty
Broughton
Melrose
Oakwood
Brown Twp
Continental
Blue Creek Twp
Haviland
Latty Twp
Grover Hill
Washington Twp
Cloverdale
Perry Twp
Union Twp
Tully Twp
Convoy
Hoaglin Twp
Jackson Twp
Ottoville
Monterey Twp
Jennings Twp
Fort Jennings
Pleasant Twp
Van Wert
Middle Point
Ridge Twp
Washington Twp
Delphos
Liberty Twp
York Twp
Venedocia
Ohio City
Marion Twp
Elida
Elgin
Jennings Twp
Amanda Twp
Spencerville

N
0 3 Miles

Data Source(s): Westwood (2019); ESRI WMS World Streets Basemap (Accessed 2018).

Legend

- Project Boundary
- County Boundary
- State Boundary

Westwood
Toll Free (888) 937-5150 westwoodps.com
Westwood Professional Services, Inc.

Grover Hill Wind

Paulding County, Ohio

Project Vicinity Map

EXHIBIT 1

Map Document: N:\0015695.00\GIS\Habitat Assessment Exhibits\GH_Habitat_Ex2_ProjectSiteMap_191219.mxd 12/19/2019 7:17:48 AM SLKilibarda

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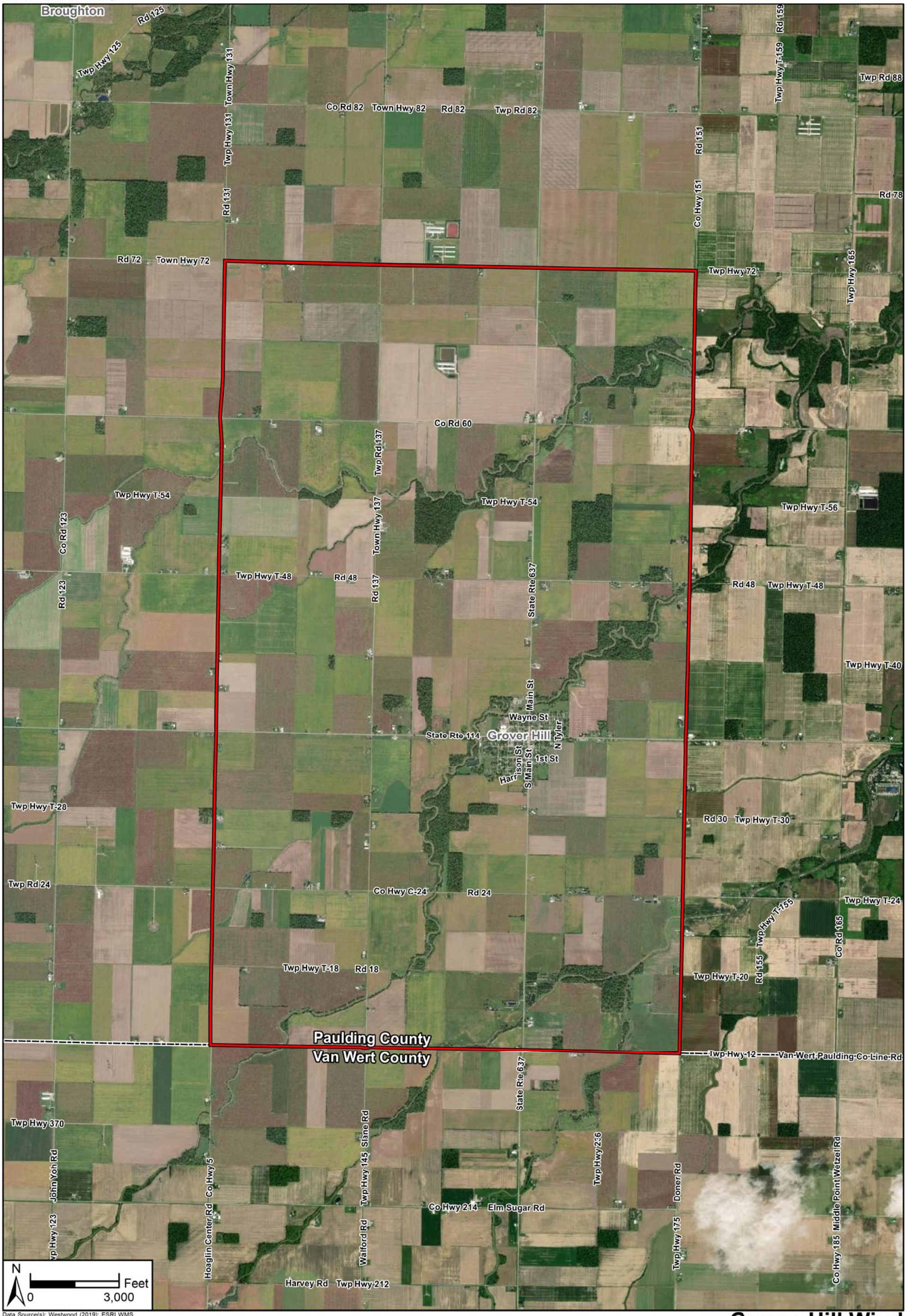

Data Source(s): Westwood (2019); ESRI WMS World Imagery Basemap (Accessed 2018); Census Bureau (2017).

Legend

- Project Boundary
- County Boundary

Westwood
Toll Free (888) 937-5150 westwoodps.com
Westwood Professional Services, Inc.

Grover Hill Wind

Paulding County, Ohio

Project Site Map

EXHIBIT 2

Map Document: N:\0015695.00\GIS\Habitat Assessment Exhibits\GH_Habitat_Ex3_Topography&DrainageFeatures_191218.mxd 12/19/2019 7:54:42 AM SLKilibarda

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Horse Run

Prairie Creek

Hagerman Creek

Dog Run

West Branch Prairie Creek

Hog Run

Hoaglin Creek

Maddox Creek

Town Creek

Middle Creek

Big Run

Grover Hill

Zion Ch

Bethel Ch

Welcome

Paulding County
Van Wert County

T T Y

L A T T Y

PAULDING CO

VAN WERT CO

N

0 Feet 2,500

Data Source(s): Westwood (2019); ESRI WMS USGS Topo Basemap (Accessed 2018); Census Bureau (2017).

Legend

- Project Boundary
- County Boundary
- Major Drainage Feature

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Grover Hill Wind

Paulding County, Ohio

Topography & Major Drainage Features

EXHIBIT 3

Map Document: N:\0015695.00\GIS\Habitat Assessment Exhibits\GH_Habitat_Ex4_WetlandsMap_191219.mxd 12/19/2019 7:38:21 AM SLKilibarda

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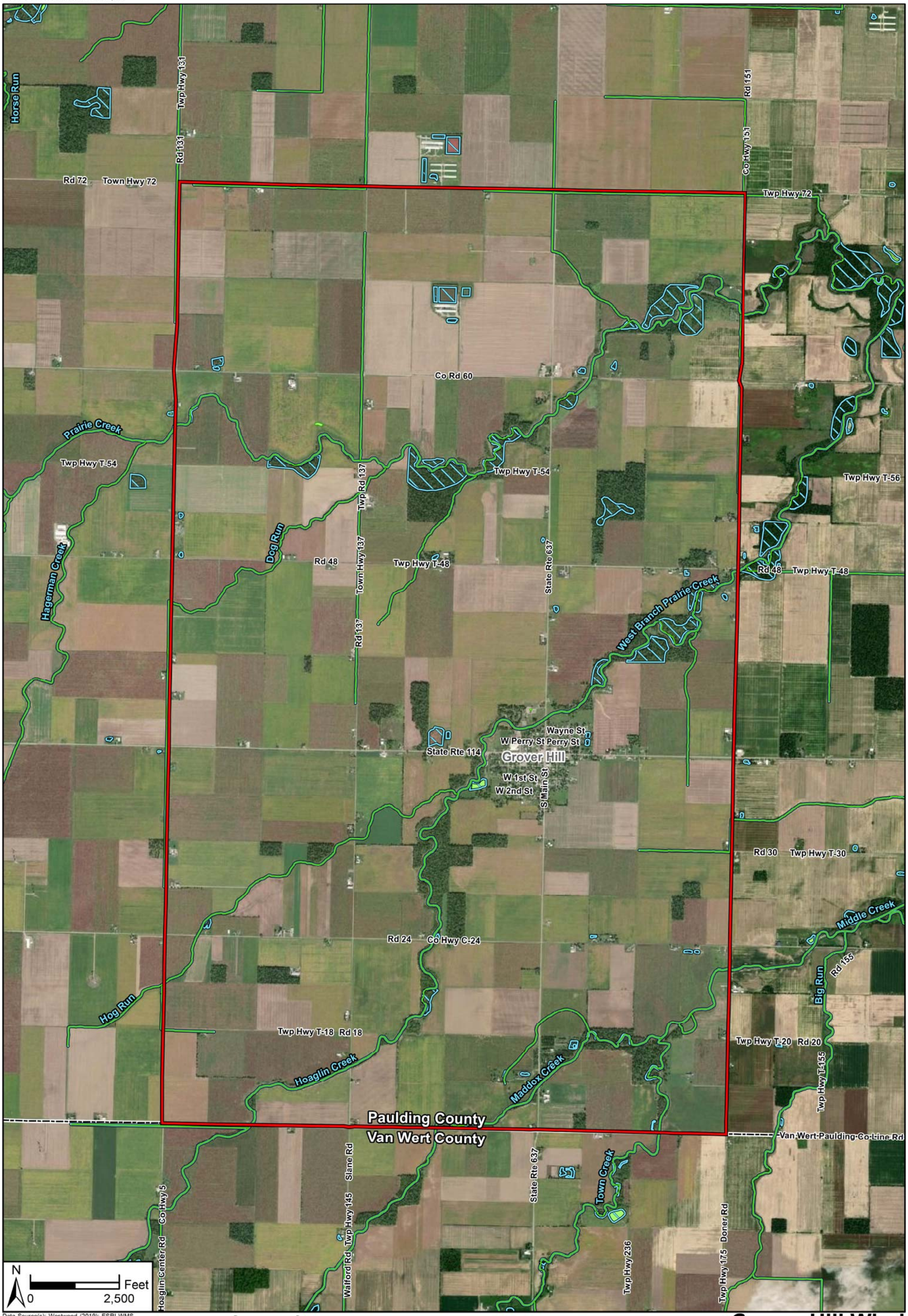

Data Source(s): Westwood (2019); ESRI WMS World Imagery Basemap (Accessed 2018); Census Bureau (2017); U.S. Fish and Wildlife Service (2018); Ducks Unlimited (2018).

Legend

- Project Boundary
- County Boundary
- NWI Wetland
- NHD Flowline
- NHD Waterbody

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Grover Hill Wind

Paulding County, Ohio

Surface Waters & Wetlands

EXHIBIT 4

Map Document: N:\0015695.00\GIS\Habitat Assessment Exhibits\GH_Habitat_Ex5_WindsFarms_191219.mxd 12/19/2019 7:42:26 AM SLKilibarda

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Defiance County

Paulding County

Van Wert County

Indiana

Ohio

Timber Road I Wind Farm

Timber Road III Wind Farm

Timber Road II Wind Farm

Northwest Ohio Wind Project

NW Ohio Starwood Wind Energy

Blue Creek Wind Farm

N

0 3 Miles

Data Source(s): Westwood (2019); ESRI WMS World Streets Basemap (Accessed 2018).

Legend

- Project Boundary
- Nearby Operational Wind Farm Boundary
- County Boundary
- State Boundary

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Westwood Professional Services, Inc.

Grover Hill Wind

Paulding County, Ohio

Operational Wind Farms

EXHIBIT 5

Map Document: N:\0015695.00\GIS\Habitat Assessment Exhibits\GH_Habitat_Ex6_LandCoverMap_191219.mxd 12/19/2019 7:32:57 AM SLKilibarda

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Broughton
Rd 125
Twp Hwy 125
Town Hwy 131
Twp Hwy 131
Rd 131
Co Rd 82
Town Hwy 82
Rd 82
Twp Rd 82
Rd 159
Twp Hwy T-159
Twp Rd 88
Rd 151
Co Hwy 151
Rd 78
Rd 72
Town Hwy 72
Twp Hwy 72
Twp Hwy 165
Co Rd 60
Twp Rd 137
Twp Hwy T-54
Co Rd 123
Rd 123
Twp Hwy T-48
Rd 48
Rd 137
Town Hwy 137
State Rte 637
Main St
Wayne St
State Rte 114
Grover Hill
N Tyler
1st St
S Main St
Twp Hwy T-28
Twp Rd 24
Co Hwy C-24
Rd 24
Twp Hwy T-18
Rd 18
Paulding County
Van Wert County
Twp Hwy T-56
Rd 48
Twp Hwy T-40
Rd 30
Twp Hwy T-30
Twp Hwy T-24
Twp Hwy T-155
Rd 155
Co Rd 165
Twp Hwy T-20
Twp Hwy 12
Van Wert Paulding Co Line Rd
Twp Hwy 370
John Yoh Rd
Co Hwy 5
Hoaglin Center Rd
Twp Hwy 145
Slane Rd
Walford Rd
Harvey Rd
Twp Hwy 212
Co Hwy 214
Elm Sugar Rd
Twp Hwy 236
Doner Rd
Twp Hwy 175
Middle Point Wetzel Rd
Co Hwy 185

N
0
Feet
3,000

Data Source(s): Westwood (2019); ESRI WMS World Imagery Basemap (Accessed 2018); Census Bureau (2017); U.S. Geological Survey (2011).

Legend

- Project Boundary
- County Boundary
- Cultivated Crops
- Deciduous Forest
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, High Intensity
- Developed, Open Space
- Emergent Herbaceuous Wetlands
- Evergreen Forest
- Herbaceuous
- Mixed Forest
- Open Water
- Woody Wetlands

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Westwood Professional Services, Inc.

Grover Hill Wind

Paulding County, Ohio

Land Cover Types

EXHIBIT 6

Attachment 19

Correspondence IPaC
United States Fish and Wildlife Service to Grover Hill
April 24, 2021

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ohio Ecological Services Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230-8355
Phone: (614) 416-8993 Fax: (614) 416-8994

In Reply Refer To:
Consultation Code: 03E15000-2020-SLI-1296
Event Code: 03E15000-2020-E-01834
Project Name: Grover Hill Wind Farm

April 24, 2020

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

To Whom It May Concern:

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

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see http://www.fws.gov/migratorybirds/RegulationsandPolicies.html.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/BirdHazards.html.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit http://www.fws.gov/migratorybirds/AboutUS.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

Ohio Ecological Services Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230-8355
(614) 416-8993

Project Summary

Consultation Code: 03E15000-2020-SLI-1296

Event Code: 03E15000-2020-E-01834

Project Name: Grover Hill Wind Farm

Project Type: POWER GENERATION

Project Description: Utility-scale wind farm

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/41.026433699999856N84.486118828W

Counties: Paulding, OH | Van Wert, OH

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

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

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

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

Mammals

NAME	STATUS
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ 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 Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

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

Attachment 20

Coordination Letter
Ohio Department of Natural Resources to Grover Hill Wind Project
May 7, 2021

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

May 7, 2021

Shelby Kilibarda
Westwood Professional Services
12701 Whitewater Drive, Suite 300
Minnetonka, Minnesota 55343

Re: 21-0254: Grover Hill Wind Project

Project: The proposed project involves installation of 25 wind turbines, depending upon the model(s) selected and the final output of the Project. Additional facilities may include transmission line, access roads, electrical collection lines etc.

Location: The proposed project is located in Grover Hill, Paulding 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 no records at or within a one-mile radius of the project area.

A review of the Ohio Natural Heritage Database indicates there are no other records of state endangered or threatened plants or animals within the project area. There are also no records of state potentially threatened plants, special interest or species of concern animals, or any federally listed species. In addition, we are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, state nature preserves, state or national parks, state or national forests, national wildlife refuges, or other protected natural areas within the project area. The review was performed on the project area you specified in your request as well as an additional one-mile radius. Records searched date from 1980.

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.

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.

State and federally listed species have been documented within the vicinity of the Grover Hill Wind Project area. These species include the Indiana bat (*Myotis sodalis*), a state and federally endangered species, the red bat (*Lasiurus borealis*), a state species of concern, the big brown bat (*Eptesicus fuscus*), a state species of concern, the hoary bat (*Lasiurus cinereus*), a state species of concern, and the silver-haired bat (*Lasionycteris noctivagans*), a state species of concern. These and other species have the potential to be impacted by construction and/or operational activities associated with the project. Because construction and operational activities have the potential to impact species differently, these comments have been separated between construction, and operation of the project.

Recommendations for construction phase

The eastern half of the project is within the vicinity of records for the Indiana bat (*Myotis sodalis*), a state endangered and federally 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).

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 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 club shell (*Pleurobema clava*), a state endangered and federally endangered mussel, and the pondhorn *(Uniomerus tetralasmus*), a state threatened mussel. 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 greater redhorse (*Moxostoma valenciennesi*), a state threatened fish. The DOW recommends no in-water work in perennial streams from March 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 this or other aquatic species.

The project is within the range of the Blanding's turtle (*Emydoidea blandingii*), a state threatened species. This species inhabits marshes, ponds, lakes, streams, wet meadows, and swampy forests. Although essentially aquatic, the Blanding's turtle will travel over land as it moves from one wetland to the next. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the Kirtland's snake (*Clonophis kirtlandii*), a state threatened species. This secretive species prefers wet meadows and other wetlands. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of 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 through 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 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 April 15 through July 31. If this habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of 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 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

Recommendations for operational phase

To reduce impacts to migratory birds and bats, the DOW recommends curtailment at night during migratory seasons at and below wind speeds of 6.9 m/s. Because mortality rates have been shown to increase in Ohio in August and September, even under 6.9m/s curtailment, additional curtailment regimes or other avoidance measures may be recommended post-construction. The DOW also recommends a curtailment regime at night during the summer residency period to reduce risk to the state and federally endangered Indiana bat and the state-endangered tricolored bat which have been documented in project vicinity. The DOW further recommends development of a bird and bat mitigation plan, in conjunction with DOW and OPSB staff.

Please refer to the survey effort letter dated November 2, 2018 for breeding bird habitat survey direction, including the northern harrier.

Due to the potential operational impacts to federally and state listed species, migratory birds, and other protected species, including bald eagles and other raptors, we recommend that this project be coordinated with the US.. Fish & Wildlife Service.

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

Physiographic Region
The proposed project area is in Latty Township, Paulding County. The project area lies within the Paulding Clay Basin physiographic region. This region is characterized by a nearly flat lacustrine plain. Low gradient, highly meandering streams are common. Soils are easily ponded. Pleistocene-age lacustrine clay covers clay till. Silurian-age dolomite underlies the site. The southern portion of this project area lies with the Maumee Lake Plains subregion. This area is characterized by a flat-lying Ice-Age lake basin. Beach ridges, bars, dunes, deltas and clay flats can all be found in this region. This area was once covered by the Great Black Swamp but is now dissected by modern streams. Pleistocene-age silt, clay and wave-planed clayey till cover Silurian and Devonian-age 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-age glacial features. The northern portion of the project area is covered by lacustrine clay. This clay was deposited in a calm glacial lake environment. It is mostly laminated and covered in places with thin organic deposits. The southern portion of the project area is covered by lake-planed moraine. This area is made up of clayey till. Terrain is very flat and small patches of sand, silt, or clay may be present on the surface. Small patches of thin sand may indicate localized beach deposits (Pavey et al, 1999). Glacial drift throughout most of the study area is between 13 and 49 feet thick. Drift is highest in uplands and thinnest along drainages (Powers and Swinford, 2004).

Bedrock Geology
The uppermost bedrock unit in the project area is the Salina Undifferentiated. This unit is Silurian-age and consists of a gray to brown dolomite which contains argillaceous partings,

brecciated intervals, algal laminations and anhydrite/gypsum zones. This unit underlies the entire project area. Underlying the Salina Undifferentiated is the Silurian-age Tymochtee and Greenfield Formations Undivided. This unit is characterized by olive gray to yellowish brown dolomite with brownish black to gray shale laminae. Underlying the Tymochtee and Greenfield Formations Undivided is the Silurian-age Lockport Dolomite. This unit is characterized by bluish gray to gray dolomite with minor interbedding of limestone, chert and shale. Fossils and planar to irregular bedding are common. These two units are not the uppermost unit anywhere within the project area but may be used as an aquifer in area wells. It should be noted that bedrock is not exposed at the surface within the boundaries of the project area due to glacial drift (Slucher et al, 2006).

Oil, Gas and Mining

ODNR has record of five oil and gas wells within one mile of the proposed project area. Most of these wells are listed as dry holes in final restoration. One well record is an expired permit for a well that was never drilled (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 to the project area is the Scott Quarry mine operated by Stoneco, Inc. This mine is a limestone quarry and is located approximately 7.1 miles from the site boundary (Ohio Department of Natural Resources, Division of Mineral Resources, Mines of Ohio).

Seismic Activity

Several small earthquakes have historically been recorded in the region. 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
06/12/2015	2.6	12.5	Van Wert	Tully
03/13/2005	2.2	21.9	Mercer	Dublin
01/30/2004	2.4	22.8	Mercer	Dublin

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 known sinkholes in this area, however it should be noted that the underlying carbonate bedrock units are known for their tendency to include karst features in other areas of the state (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, alluvium and glaciolacustrine deposits. Paulding, Latty and Nappanee are the most common soil series found within the boundaries of the project area. Together these soils make up over 85% of the project area (USDA Web Soil Survey).

There is a moderate to high risk of shrink-swell potential in these soils. Other limiting factors include ponding and seasonal saturation. Slope remains relatively flat, with slope seldom exceeding a 6% grade. (USDA Web Soil Survey).

Groundwater

Groundwater resources are plentiful throughout the project area. Wells developed in bedrock are likely to yield 5 to 100 gallons per minute. Wells developed in the Salina Undifferentiated have an expected yield of 5 to 25 gallons per minute however wells that are developed in deeper

carbonate units such as the Tymochtee and Greenfield Formations Undivided or the Lockport Dolomite have an expected yield of up to 100 gallons per minute or more (Raab, 1986 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 majority of the project area overlies the Lake Maumee Lacustrine Aquifer which has a yield of 5 gallons per minute or less. Portions of the project area that intersect the Auglaize River Alluvial Aquifer have an expected yield of 5 to 25 gallons per minute. 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).

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

ODNR appreciates the opportunity to provide these comments. Please contact Sarah Tebbe, Environmental Specialist, at (614) 265-6397 or Sarah.Tebbe@dnr.state.oh.us if you have questions about these comments or need additional information.

Mike Pettegrew
Environmental Services Administrator (Acting)

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Summary: Response - Second Supplemental Response to Third Data Request from Staff of the Ohio Power Siting Board electronically filed by Christine M.T. Pirik on behalf of Grover Hill Wind, LLC