

FINDINGS AND RECOMMENDATIONS  
FOR THE ISSUANCE OF A SECTION 10(a)(1)(B)  
INCIDENTAL TAKE PERMIT  
ASSOCIATED WITH THE  
INDIANA BAT AND NORTHERN LONG-EARED BAT HABITAT CONSERVATION  
PLAN, HOG CREEK WIND PROJECT, HARDIN COUNTY, OHIO

I. DESCRIPTION OF THE PROPOSED ACTION

A. Introduction

The U.S. Fish and Wildlife Service (Service) proposes to issue an Incidental Take Permit (Permit for 30 years to Hog Creek Wind Farm, LLC (Permittee) for the Indiana bat (*Myotis sodalis*), a Federal and State listed endangered species, and northern long-eared bat (*Myotis septentrionalis*), a Federal and State listed endangered species. The Service is authorized to complete this action under the authority of section 10(a)(1)(B) and section 10(a)(2) of the Endangered Species Act of 1973, as amended (Act). The purpose of the Permit is to authorize the incidental take of Indiana bats and northern long-eared bats associated with the operation of Hog Creek Wind Farm (the Project) in Hardin County, Ohio.

In support of their section 10(a)(1)(B) permit application, and as required by the Act, the applicant has submitted to the Service a habitat conservation plan entitled “Indiana Bat and Northern Long-eared Bat Habitat Conservation Plan Hog Creek Wind Project, Hardin County, Ohio” (HCP) (Hog Creek Wind Project, LLC 2020). The effects of the Service issuing the section 10(a)(1)(B) permit are analyzed in the Service’s Biological Opinion (Service 2020a). The Service’s Final Environmental Assessment (Service 2020b) for the Project was also used in preparation of this statement of findings. All of these documents are incorporated by reference as described in 40 CFR § 1508.13.

The Service has determined that activities conducted in compliance with the Permit are not likely to jeopardize the continued existence of the Indiana bat or the northern long-eared bat. This document presents the Service’s analysis and finding regarding whether the HCP meets the incidental take permit issuance criteria described in section 10(a)(2)(B) of the Act.

B. Project Description

The Project is an existing wind energy facility located in Hardin County, Ohio. The Project’s nameplate capacity is 66-megawatts (MW) and comprises 30 wind turbine generators, turbine pads, an operations and maintenance building, access roads, collector line system, one permanent un-guyed meteorological tower, and a substation. The Hog Creek Wind facility began commercial operations in December of 2017.

The lands covered by the HCP include the Permit Area (see HCP Figure 1.2) and the Plan Area (the state of Ohio, unless otherwise approved by the Service). The Permit Area is a subset of the Plan Area. The Permit Area, approximately 235.9 acres, includes the area that is leased by the

Applicant for the Project, and contains all Project turbines, and includes all areas within which take will occur. The Plan Area includes all areas that will be affected directly or indirectly by activities associated with Project operations and mitigation. Thus, the Plan Area is the Permit Area plus areas involved in off-site mitigation projects. Mitigation parcel selection is not yet complete, but based upon previous discussions with the Applicant will likely involve preservation of habitat within Indiana bat and northern long-eared bat summer maternity habitat.

The requested Permit term is 30 years. The functional operational life of the facility will continue for 30 years from the initial year of operation.

#### C. Covered Species

The Permittee is applying for a Permit for the Indiana bat and northern long-eared bat for the covered activities as described below. The Indiana bat is currently listed as endangered under the Act (see USFWS 2019a, 2019b). The northern long-eared bat is currently listed as threatened (see USFWS 2020c, 2016). Currently no other listed species are known to occur within the Permit Area.

#### D. Types of Activities Covered

The Permittee has determined which activities could potentially result in incidental take of Indiana bats and northern long-eared bats, that are reasonably certain to occur, and for which the applicant has control. Operation of Project turbines is the only “Covered Activity” for which take authorization is being sought. Take authorization under the Permit will also cover collection of any dead or injured Covered Species during post-construction monitoring for Permit compliance. The Permittee will implement conservation measures to minimize and mitigate potential take that may occur as a result of Project operations.

#### E. Conservation Strategy

The purpose of the HCP is to avoid, minimize, and mitigate effects to the Indiana bat and northern long-eared bat. The conservation strategy contains the following: (1) identification and implementation of incidental take avoidance, minimization, and mitigation measures to reduce impacts to the Indiana bat and northern long-eared bat; (2) monitoring, reporting and notification requirements; and (3) responses to changed circumstances.

#### Incidental Take Avoidance, Minimization and Mitigation Measures

The proposed action describes a number of measures to avoid, minimize or mitigate the adverse effects to the Indiana bat and northern long-eared bat. Collectively these proposed actions reduce take of Indiana bats and northern long-eared bats, and permanently protect summer and/or swarming and/or hibernaculum habitat. These measures include:

1. Feathering the turbine blades up to a cut-in wind speed of 3.0 meters per second (m/s) during the spring migration season (April 1 – May 15) and 3.0 m/s during the summer

(May 16 – July 31), and 5.0 m/s during the fall migration season (August 1 – October 15). Feathering would occur from one half-hour before sunset until one half-hour after sunrise when ambient temperatures are above 50 degrees Fahrenheit (the temperature component is only applicable during spring and fall periods). Feathering involves changing the pitch of the turbine blades so they are parallel to the wind and, therefore, are rotating very slowly, if at all. Previous studies at other wind facilities have shown that feathering turbine blades below a higher cut-in speed significantly reduces the number of bat fatalities (Table 1). These studies suggest that feathering below 5.0 m/s, as proposed in fall, would reduce bat mortality by an average of 62 percent, with specific reductions shown between 47 to 87 percent.

Table 2-1. Summary of publicly available curtailment studies on bats conducted to-date in eastern North America<sup>1</sup>.

Project	Year	State/Province <sup>2</sup>	Cut-in Speed	Reduction	Average Reduction	Citation
Fowler Ridge	2011	Indiana	3.5	36%	36%	Good et al. 2012
Laurel Mountain	2011	West Virginia		35%		Stantec 2015
Summerview	2007	Alberta	4	57%	39%	Baerwald et al. 2009
Mount Storm	2010	West Virginia		22-47%		Young et al. 2011 <sup>3</sup>
Mount Storm	2011	West Virginia		12%		Young et al, 2012
Fowler Ridge	2011	Indiana	4.5	57%	62%	Good et al. 2012
Wolfe Island	2011	Ontario		48%		Stantec 2012
Anonymous 1	2010	USFWS Region 3		47%		Arnett et al. 2013 <sup>4</sup>
Laurel Mountain	2011	West Virginia		73%		Stantec 2015
Laurel Mountain	2012	West Virginia		71%		Stantec 2015
Raleigh Wind	Unk.	Ontario	77%	AWWI 2018		
Casselman	2008	Pennsylvania	5	87%	62%	Arnett et al. 2011
Casselman	2009	Pennsylvania		68%		Arnett et al. 2011
Fowler Ridge	2010	Indiana		50%		Good et al. 2011 <sup>5</sup>
Pinnacle	2012	West Virginia		47%		Hein et al. 2013 <sup>4</sup>
Pinnacle	2013	West Virginia		58%		Hein et al. 2014
Criterion	2012	Maryland		62%		Young et al. 2013
Summerview	2007	Alberta	5.5	60%	66%	Baerwald et al. 2009
Fowler Ridge	2011	Indiana		73%		Good et al. 2012
Wolfe Island	2011	Ontario		60%		Stantec 2012
Anonymous 1	2010	USFWS Region 3		72%		Arnett et al. 2013 <sup>4</sup>
Sheffield	2012	Vermont	6	63%	63%	Martin et al. 2013
Casselman	2008	Pennsylvania	6.5	74%	76%	Arnett et al. 2011
Casselman	2009	Pennsylvania		76%		Arnett et al. 2011
Fowler Ridge	2010	Indiana		78%		Good et al. 2011 <sup>5</sup>
Pinnacle	2013	West Virginia		75%		Hein et al. 2014
Beech Ridge	2012	West Virginia	6.9	73-89%	81%	Tidhar et al. 2013 <sup>6</sup>

Project	Year	State/Province <sup>2</sup>	Cut-in Speed	Reduction	Average Reduction	Citation
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<sup>1</sup>Studies conducted in USFWS Region 8 (California and Nevada) were excluded due to the high proportion of Brazilian free-tailed bats (*Tadarida brasiliensis*), a species known to be active in higher wind speeds compared to the typical suite of species in Ohio. Due to this, the reductions in bat fatalities are likely lower than what would be seen in Ohio.

<sup>2</sup>USFWS Region 3 includes Minnesota, Iowa, Missouri, Illinois, Wisconsin, Indiana, Michigan, and Ohio.

<sup>3</sup>This study looked at curtailment for the first half of the night (47% reduction) versus the second half of the night (22% reduction). It was assumed for this analysis that curtailing for the full night would result in at least a 47% reduction.

<sup>4</sup>These studies used modeled differences, not calculated reductions based on fatality estimates.

<sup>5</sup>These studies did not feather below cut-in speed.

<sup>6</sup>This study did not have control turbines, so this is the reduction from the West Virginia average (73%) and from the average in the Northeastern United States (83%).

- Mitigation projects must occur within the documented summer home range of a maternity colony or at a hibernaculum of one or both Covered Species (using the Resource Equivalency Analysis (REA) model to calculate mitigation acreage) or within the swarming buffer of a documented hibernaculum for one or both Covered Species (using the non-REA staging/swarming mitigation option). Mitigation projects may include gating of a hibernaculum, preservation of existing suitable forested habitat within the home range of a maternity colony or within the swarming buffer of a hibernaculum, or creation of suitable foraging and roosting habitat within a home range or swarming buffer. Restoration projects would entail planting native Ohio hardwood trees at a minimum of 436 trees per acre. In order to be selected as a mitigation site, the site(s) would need to have documented occupancy of the species for which mitigation is provided within 10 years prior to mitigation occurring. Mitigation sites would be managed for the benefit of Covered Species, protected in perpetuity and would be subject to a conservation easement, deed restriction, or other similar legal mechanism. Additional details about the mitigation program are found in HCP Section 5.3.2, and incorporated here by reference.

## Monitoring, Reporting, and Notification

The HCP proposes fatality monitoring at the wind farm site and biological monitoring at the mitigation sites. The monitoring, reporting, and notification requirements focus on the collection of fatality data at the wind farm, success of the proposed mitigation site(s), and a reporting process necessary for the Service to ensure HCP compliance. These requirements include:

- Intensive Monitoring for carcasses during the first three years of the Project and every sixth year thereafter, and Operations Monitoring for carcasses in all other years. Intensive Monitoring is designed to have an annual probability of detection (g value) of 0.25 (e.g., approximately 25 percent of all bat carcasses would be detected per year). Over the 30-year permit term, Intensive Monitoring at this level would detect approximately 5.91 percent of all bat carcasses;
- Mitigation Effectiveness Monitoring will ensure the mitigation project(s) is (are) meeting the Performance Criteria, the conditions in the legal protection instrument are being met, and the quantity of mitigation implemented to date is sufficient to fully offset, and stay ahead of, the impact of take that has been estimated to have occurred to date. A detailed

habitat management plan will be developed for each proposed mitigation project, and will be submitted to the Service for approval prior to being finalized. This plan will include habitat goals, monitoring protocol and frequency, adaptive management, and habitat management strategies, etc. Should a qualified conservation bank or in-lieu fee program, that meets the aforementioned conditions, be used as the mitigation option, a habitat management plan approved by the Service will already be in place.

3. Covered Species fatality will be reported to the Service and Ohio Department of Natural Resources by phone within 24 hours of positive species identification.

### Unforeseen and Changed Circumstances

HCP assurances ('No Surprises'), described in 63 FR 8859, provides a foundation for contingency planning in a HCP. The contingency planning is addressed by identifying potential unforeseen and changed circumstances and the appropriate response to these events. Unforeseen circumstances means changes in circumstances that could not be anticipated or planned for that result in a substantial and adverse change in the status of a covered species. Changed circumstances are those changes that can be reasonably anticipated or planned for. Should they occur, the process for responding to them in 50 CFR 17.32(a)(5) or 17.22(a)(5) will be followed.

The HCP identifies the following as foreseeable changed circumstances warranting planning consideration: 1) Change in the migration dates of the Covered Species; 2) Greater than anticipated impacts from white-nose syndrome on the Cover Species; 3) Listing of additional species, such as the little brown bat or tri-colored bat; 4) New technology or information that improves monitoring, estimating, and/or minimizing mortality; 5) Changes in mitigation project viability; and 6) Change in summer risk for the Covered Species. Each of these potential changed circumstances are addressed in the HCP, along with descriptions of triggers that will indicate the circumstances have occurred and responses that can be implemented and measured for effectiveness (see HCP Section 8.2).

## II. ANALYSIS OF EFFECTS

The Service has determined the impacts likely to result to the Indiana bat and northern long-eared bat from the proposed action will be minimized and mitigated to the maximum extent practicable by measures described in the HCP and the associated Permit. The effects of the proposed action on the Indiana bat and northern long-eared bat are fully analyzed in the HCP and the Service's Biological Opinion, which are incorporated by reference, and a summary of the analysis is provided below.

For the proposed Project, effects were analyzed for Indiana and northern long-eared bats that migrate through the Action Area. We assumed that Indiana and northern long-eared bat use of this site would result from flying through the airspace above the Project during spring and fall migration. Effects of proposed mitigation, which have been incorporated into the project, were assessed.

For the Indiana bat, the Action Area and all proposed mitigation sites are within the Midwest

Recovery Unit (RU). All effects were evaluated as they pertain to the Indiana bat population within the Midwest RU and local populations (summering or wintering populations to which impacted bats belong) within that RU. Note there is no designated critical habitat for the Indiana bat in or near the Action Area, so there will be no effect to critical habitat.

Since there are no established recovery units for the northern long-eared bat, all effects were evaluated as they pertain to the northern long-eared bat population within the state of Ohio. Note there is no designated critical habitat for the northern long-eared bat.

After reviewing the current status of the Indiana and northern long-eared bats, the environmental baseline for the Action Area, the effects of the proposed actions at the Hog Creek Wind facility, the Service determined that the Project, as proposed, is not likely to jeopardize the continued existence of the Indiana bat or northern long-eared bat.

Briefly, the basis for this conclusion (as detailed in the Biological Opinion) is as follows:

- Based on research at other wind facilities, we have determined that the seasonal turbine operational adjustments to be implemented under this HCP will meet or exceed a 50 percent reduction in bat fatality compared to fully operational turbines.
- We used a hierarchal framework to analyze the effects of the proposed project to Indiana bats that included the following steps: 1) effects to individuals; 2) effects to maternity colonies and hibernating populations; 3) effects to the Midwest RU; and, 4) effects to the range-wide population. We expect that a maximum of 97 Indiana bats will die as the result of interactions with wind turbines at the Project during the migration period over the 30-year life of the project. In step 2, we analyzed the impacts of the taking of 97 adult females on the maternity colonies and hibernating populations to which those individuals belong. We concluded that take from the project does not cause an appreciable difference in the fitness of the maternity colonies or hibernating populations. Therefore, we concluded it is unlikely that the proposed project will cause appreciable reductions in the likelihood of survival and recovery of Indiana bats within the Midwest RU or the range-wide population.
- We used a hierarchal framework to analyze the effects of the proposed project to northern long-eared bats that included the following steps: 1) effects to individuals; 2) effects to populations in Ohio; and, 3) effects to the range-wide population. We expect a maximum of 30 northern long-eared bats will die as the result of interactions with wind turbines at the Project during the migration period over the 30-year life of the project. In step 2, we analyzed the impacts of the taking of 30 individuals on the populations in the state of Ohio. We concluded that take from the project does not cause an appreciable difference in the fitness of the state population of northern long-eared bats. Therefore, we concluded it is unlikely that the proposed project will cause appreciable reductions in the likelihood of survival and recovery of northern long-eared bats within the range-wide population.
- The mortality monitoring program that will be implemented as part of the HCP will estimate Covered Species fatalities using Evidence of Absence software (Dalthrop et al. 2017). The monitoring program proposed in the HCP will document 5.91 percent of all bat carcasses and is intended to show compliance with permitted take levels. Adaptive management has been incorporated into the HCP to provide flexibility to make

modifications, as needed, to the proposed minimization and mitigation measures if the measures have been ineffective or insufficient to meet permitted take levels or other HCP objectives.

### III. PUBLIC COMMENT

The Service determined that this Project warranted an Environmental Assessment (EA) under the National Environmental Policy Act (42 U.S.C. §4321 et seq.).

On June 4, 2020, the Service published the Draft EA and Draft HCP in the Federal Register (85 FR 12007). Public comments were accepted during a 30-day period following publication of the Federal Register Notice of Availability. Two comments from private parties, one set of comments from a Federal agency, and two sets of comments from a NGO were received and taken into account in assessing Project impacts. Responses to comments on the Draft EA and Draft HCP can be found in Appendix G of the Final EA and are incorporated herein by reference.

### IV. INCIDENTAL TAKE PERMIT CRITERIA - ANALYSIS AND FINDINGS

Section 10(a)(2)(A) of the Act requires that no permit may be issued by the Service authorizing any taking unless the applicant submits a conservation plan that specifies the following: the impact that will likely result from such taking; what steps the applicant will take to minimize and mitigate such impacts and the funding that will be available to implement such steps; what alternative actions to such taking the applicant considered and the reasons why such alternatives are not being utilized; and such other measures as the Service may require as being necessary or appropriate for the purposes of the plan. Section 10(a)(2)(B) of the Act mandates that the Service issue a permit if the taking will be incidental; the impacts of such taking are minimized and mitigated to the maximum extent practicable; the applicant assures adequate funding for the plan; and if the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

With regard to this specific project, permit actions, and section 10(a)(2)(B) requirements, the Service makes the following findings:

1. The taking will be incidental.

The Service finds the taking of Indiana bats and northern long-eared bats under the HCP will be incidental to otherwise lawful activities. The activities for which incidental take coverage are sought under the Permit is the operation of turbines at the Hog Creek Wind Farm. Any take of Indiana or northern long-eared bats associated with these covered activities will be incidental to, and not the purpose of, this lawful activity.

2. The applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking.

The Service finds the Permittee will minimize and mitigate the impacts of take of Indiana and northern long-eared bats to the maximum extent practicable. They have developed an HCP, pursuant to the incidental take permit requirements codified at 50 CFR 17.22(b)(1) and 50 CFR 17.32(b)(1), which require measures to minimize and mitigate the effects of issuing the Permit. Under the provisions of the HCP, the impacts of take will be minimized, mitigated, and monitored through the following measures:

- (a) Identification and implementation of incidental take avoidance and minimization measures to reduce impacts to the Indiana bat and northern long-eared bat, as described above and in Section 5.2.1 and 5.2.2 of the HCP;
- (b) Permanently protecting habitat within the range of extant Indiana and northern long-eared bat maternity colonies, swarming buffers, and/or hibernacula, as in Section 5.3 of the HCP;
- (c) The establishment of a monitoring and reporting plan to document take limit compliance, the success of the mitigation site(s), and notification to the Service.

To make the finding that the conservation measures included in the HCP avoid, minimize and mitigate the impacts of take to the maximum extent practicable, the Service must first evaluate whether the conservation measures are rationally related to the level of take anticipated under the plan. Take is defined under the Act as, "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." In effect, the conservation measures must address the biological needs of the Indiana and northern long-eared bat in a manner that is commensurate with the impacts to the species allowed under the HCP. The Service believes the level of avoidance, minimization, and/or mitigation provided in the HCP compensates for the take of Indiana and northern long-eared bats that will occur pursuant to the HCP. The take will be direct mortality resulting from interactions with the wind turbines associated with the proposed action.

The Service further concludes, with respect to the bats, the impacts of take will be effectively minimized and mitigated by conservation actions developed in consultation with the Service and follows established Service guidance for calculating impact of take and mitigation requirements. First, the project will reduce take by at least 50% by feathering turbines up to a cut-in wind speed of 3.0 m/s during the spring migratory period, 3.0 m/s in summer, and 5.0 m/s during the fall migratory period. Second, mitigation projects must occur within the documented summer home range of a maternity colony or at a hibernaculum of one or both Covered Species (using the REA model to calculate mitigation acreage) or within the swarming buffer of a documented hibernaculum for one or both Covered Species (using the non-REA staging/swarming mitigation option). Mitigation projects may include gating of a hibernaculum, preservation of existing suitable forested habitat within the home range of a maternity colony or within the swarming buffer of a hibernaculum, or creation of suitable foraging and roosting habitat within a home range or swarming buffer. Mitigation sites would be managed for the benefit of Covered Species, protected in perpetuity and would be subject to a conservation easement, deed restriction, or other similar legal mechanism.

To make a finding that the HCP minimizes and mitigates the impacts of take to the maximum extent practicable, the Service first must find that the minimization and mitigation measures provided under the plan are rationally related to the level of take anticipated under the plan. As explained above, the Service believes the HCP prescriptions effectively compensate for the impact of take anticipated to occur.

Two alternatives were considered in the HCP to determine practicability, the Avoidance Alternative and the More Restrictive Alternative example. Under the Avoidance Alternative, take of Indiana and northern long-eared bats would be avoided by feathering the turbines up to 6.9 m/s at night during the spring and fall migration seasons, such that take of Indiana and northern long-eared bats is not likely to occur. As a result, no section 10(a)(1)(B) permit would be issued and no HCP would be implemented by the applicant. This alternative was rejected because it fails to meet the Project's purpose and need because it would result in a financially unviable Project.

Under the More Restrictive Alternative example, the Applicant would implement an HCP but raise its cut-in speeds for all turbines to 6.0 m/s during the fall migratory periods rather than 5.0 m/s. Based on publicly available data from other wind energy facilities, increasing cut-in speed to 6.0 m/s could reduce the potential for all-bat mortality, including Covered Species. However as noted in Chapter 4.2.3 there is a substantial overlap in the mean percent reduction, thus the take of Covered Species may not be significantly different than that of the Alternative 2. Therefore, since take maybe be comparable, the costs of mitigation and monitoring would likely be similar, but the Permittee has determined the cut-in speed was not viable.

3. The applicant will ensure that adequate funding for the conservation plan and procedures to deal with unforeseen circumstances will be provided.

The Permittee stipulates that it has, and will expend, the funds identified in Chapter 6 of the HCP, as such funds may be necessary to fulfill its obligations under the HCP. The Applicant will ensure that adequate funding for the HCP will be provided using a variety of financing mechanisms: the Project's annual Operation and Maintenance budget for monitoring; provision of a contract with a third party for monitoring and/or mitigation; and/or a security (such as an irrevocable letter of credit, corporate guarantee, or performance bond) for mitigation, changed circumstances, adaptive management and contingency.

4. The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

The Service finds that the taking to be authorized under the Permit will not appreciably reduce the likelihood of the survival and recovery of the Indiana bat and northern long-eared bat in the wild. The Act's legislative history establishes the intent of Congress that this issuance criterion be identical to a finding of "no jeopardy" pursuant to section 7(a)(2) of the Act and the implementing regulations pertaining thereto (50 CFR 402.02). As a result, the Service has reviewed the HCP under section 7 of the Act. In the Biological Opinion, which is incorporated herein by reference, the Service has concluded the issuance of the proposed Permit is not likely to jeopardize the continued existence of the Indiana bat and northern long-eared bat. Our

conclusion is based on the results of the effects analysis that indicate the project does not cause an appreciable difference in the fitness of the maternity colonies or hibernating populations. Therefore, we conclude that it is unlikely the proposed project will cause appreciable reductions in the likelihood of survival and recovery of the Indiana bat or northern long-eared bat.

In addition to the Effects from the proposed action, the implementing regulations require the Service to evaluate the effects of the action taken together with cumulative effects. Cumulative effects include the effects of future state, tribal, local or private actions that are reasonably certain to occur in the Action Area considered in the Biological Opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. The Service is unaware of any future state, tribal, local or private actions, other than the proposed project, which would impose significant cumulative effects on the Indiana and northern long-eared bats within the Action Area.

Similarly, there is no designated critical habitat for the Indiana or northern long-eared bat in or near the Action Area. Thus, cumulative effects to critical habitat, from the proposed action in concert with any future state, tribal, local or private actions in the Action Area, are not anticipated.

After reviewing the current status of the Indiana bat and northern long-eared bat, the environmental baseline for the Action Area, the effects of the proposed actions at Hog Creek Wind Farm, and the cumulative effects, it is the Service's biological opinion that operation of the Project, as proposed, is not likely to jeopardize the continued existence of the Indiana bat and northern long-eared bat.

5. Other measures, as required by the Director of the Fish and Wildlife Service, as necessary or appropriate for purposes of the HCP will be met.

The Service finds that all additional measures required by the Service as necessary or appropriate for the HCP are included in the HCP, the Permit, and by extension the Biological Opinion.

6. The Service has received the necessary assurances that the plan will be implemented.

The Service finds that the HCP provides the necessary assurances that the plan will be carried out by Hog Creek Wind Project LLC or future permittees.

## V. GENERAL CRITERIA AND DISQUALIFYING FACTORS -- FINDINGS

The Service has no evidence that the Permit application should be denied on the basis of the criteria and conditions set forth in 50 CFR 13.21(b) - (c).

## VI. RECOMMENDATION ON PERMIT ISSUANCE

Based on the foregoing findings with respect to the proposed action, I recommend approval of a permit to Hog Creek Wind Project LLC for the incidental take of the Indiana bat and northern long-eared bat in accordance with the HCP.

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Patrice Ashfield, Field Supervisor  
Ohio Ecological Services Field Office  
U.S. Fish & Wildlife Service

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Date

## References

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