

FINDINGS AND RECOMMENDATIONS  
FOR THE ISSUANCE OF A SECTION 10(a)(1)(B)  
INCIDENTAL TAKE PERMIT  
ASSOCIATED WITH THE  
HEADWATERS WIND FARM HABITAT CONSERVATION PLAN

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 27 years to Headwaters Wind Farm I, LLC (Permittee) for the Indiana bat (*Myotis sodalis*), a Federal and State listed endangered species, and northern long-eared bat (*Myotis septentrionalis*), a Federal listed threatened 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 Headwaters Wind Farm (WWF) (the Project) in Randolph County, Indiana.

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 for the Headwaters Wind Farm, Randolph County, Indiana” (HCP) (Headwaters 2018). The effects of the Service issuing the section 10(a)(1)(B) permit are analyzed in the Service’s Biological Opinion (USFWS 2018a). The Service’s Final Environmental Assessment (USFWS 2018b) 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 incidental take permit are not likely to jeopardize the continued existence of the Indiana bat and 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 and Project Area

The Headwaters Wind Farm (HWF) is an existing 200 megawatt (MW) wind energy facility located in east-central Indiana in Randolph County. The Project consists of 100 wind turbine generators and associated infrastructure.

The Project area includes lands leased by the Permittee for the operation of the HWF. The operation of the wind turbine generators constructed for the Project are the primary component that may cause take of the Indiana bat and northern long-eared bat; therefore, the project area includes the area in which all 100 turbines are located. In addition, the Project area includes land leased for other facilities associated with the HWF, such as the collection system, switchyard,

meteorological tower, and connector lines.

The total area under lease for the HWF is approximately 29,272 acres (ac) in size. The landcover/vegetation type in which the HWF was constructed is agricultural, primarily corn, soybean and wheat fields. All temporarily disturbed areas from construction and all area above underground facilities (e.g., collector lines) were restored to the original vegetation type, post-construction.

The proposed term of the ITP is 27 years. This 27-year ITP term provides for a minimum 25-year functional operational life of the turbines and 18 months for decommissioning the facility.

#### C. Covered Species

The Permittee is applying for an ITP 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 ESA (see USFWS 2012a, 2012b). The northern long-eared bat is currently listed as threatened under the ESA (see USFWS 2016a, 2016b). Currently no other listed species are known to occur within the project 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. Therefore, the Permittee is requesting the following activities be considered covered activities under the HCP:

1. operation of the 100 turbines over the 27-year operational life; and
2. mitigation and monitoring activities

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, protect summer and swarming habitat and

protect a hibernaculum. These measures include:

1. Feathering the turbine blades up to a cut-in wind speed of 3.5 meters per second (m/s) during the spring migration season (April 1 – May 15), 5.0 m/s at ten turbines with summer risk and 3.0 m/s at all other turbines between May 16 – July 31, and 5.0 m/s during the fall migration season, August 1 – October 15. Feathering involves changing the pitch of the turbine blades so that 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. Based on these data, it is estimated that feathering turbine blades below 3.5 m/s and 5.0 m/s wind speed will reduce bat fatalities by at least 35 and 50 percent from normal operation levels, respectively.
2. Permanently protecting summer habitat within the range of one or more extant maternity colonies of Indiana and northern long-eared bats within the state of Indiana.
3. Permanently protecting swarming habitat surrounding a Priority 1 Indiana bat hibernaculum within the state of Indiana.
4. Gating of Wind Cave, a Priority 2 Indiana bat hibernaculum located in Wayne County, Kentucky. The gate will protect approximately 3,000 vulnerable Indiana bats. Northern long-eared bats have been observed in the cave in the past.

#### 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 restoration at the summer mitigation site(s), and a notification process necessary for the Service to ensure HCP compliance. These requirements include:

1. Mortality monitoring and reporting of bat and bird carcasses found at search turbines during the spring, summer, and fall at the HWF over the operational life of the project (27 years);
2. Habitat suitability and colony presence monitoring and reporting of potential summer habitat mitigation areas in the year prior to acquiring the habitat;
3. Biennial monitoring and reporting of summer/swarming habitat mitigation areas to begin two years after implementing mitigation activities;
4. Notifying the Service within 24 hours if any eagles or federally threatened or endangered species carcasses are discovered during fall mortality monitoring;

5. Notifying the Service within 48 hours of any operational changes made as a result of adaptive management.

### 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 Covered Species' migration dates and/or summer risk, 2) white nose syndrome or other diseases, 3) listing of additional species, 4) new technology that improves monitoring, or estimating and/or minimizing mortality, and 5) changes in mitigation project viability. 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 that 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 (BO), 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 the only Indiana and northern long-eared bat use of the area is bats flying through the airspace above HWF. 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. 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 that there is no designated critical habitat for the Indiana bat in or near the Action Area. There is no potential for the Project to affect 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 Indiana. Note that 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 Headwaters Wind Farm, 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 believe that the seasonal turbine operational adjustments to be implemented under this HCP will meet or exceed a 50% reduction in bat fatality compared to fully operational turbines.
- We used a hierarchical framework to analyze the effects of the proposed project to Indiana bats, including the following steps: 1) effects to individuals, 2) effects to maternity colonies and hibernating populations, 3) effects to the Midwest Recovery Unit, and 4) effects to the rangewide population. We expect that a maximum of 258 Indiana bats will die as the result of interactions with wind turbines at HWF during the migration period over the 27-year life of the project. In step 2, we analyzed the impacts of the taking of 258 individuals 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 that it is unlikely that the proposed project will cause appreciable reductions in the likelihood of survival and recovery of Indiana bats within the Midwest Recovery Unit or the rangewide population.
- We used a hierarchical framework to analyze the effects of the proposed project to northern long-eared bats, including the following steps: 1) effects to individuals, 2) effects to populations in Indiana, 3) effects to the rangewide population. We expect that a maximum of 68 northern long-eared bats will die as the result of interactions with wind turbines at the Project during the migration period over the 27-year life of the project. In step 2, we analyzed the impacts of the taking of 68 individuals on the populations in the state of Indiana. 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 that 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 rangewide population.
- The mortality monitoring program that will be implemented as part of the HCP requires stringent monitoring protocols and utilizes the best science available to estimate bat fatalities at a wind facility. We are confident that the monitoring program will provide the data the Service needs to ensure 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 (NEPA) (42 U.S.C. §4321 et seq.).

On August 14, 2018, the Service published the Draft EA and Draft HCP in the Federal Register (83 FR 40325). Public comments were accepted during a 30-day period following publication of the Federal Register Notice of Availability. Eight comments from two organizations were received and were taken into account in assessing Project impacts. Responses to comments on the Draft EA and Draft HCP can be found in Appendix B 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 that 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, maintenance, and decommissioning of the Headwaters Wind Farm and mitigation and monitoring activities associated with the project. 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 Permittees will, to the maximum extent practicable, minimize and mitigate the impacts of taking of covered animal species and the effects to other Covered Species that may occur within the Permit Areas.

The Service finds that 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 a 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 in Section D and in Section 5.2 of the HCP;
- (b) Permanently protecting summer habitat within the range of extant Indiana and northern long-eared bat maternity colonies;
- (c) Permanently protecting swarming habitat surrounding a Priority 1 Indiana bat hibernaculum;
- (d) Permanently protecting a vulnerable population of Indiana bats at a Priority 2 hibernaculum;
- (e) The establishment of a monitoring and reporting plan to ensure the success of the mitigation 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 to include those actions that harass, harm or kill listed fish or wildlife. In effect, the conservation measures need to 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 for in the HCP compensates for the impacts of take of the Indiana and northern long-eared bat that will or could potentially occur under the plan. The primary form of take is direct mortality resulting from interactions with the wind turbine generators associated with the proposed action.

The Service further concludes that with respect to the bats the impacts of take will be effectively minimized and mitigated by four conservation actions. These conservation actions were 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 3.5 m/s during the spring migratory period, 5.0 m/s at 10 turbines and 3.0 m/s at 90 turbines during the summer, and 5.0 m/s during the fall migratory period. Second, known summer habitat within the range of extant Indiana and northern long-eared bat maternity colonies will be protected. Third, swarming habitat surrounding a Priority 1 Indiana bat hibernaculum will be protected. And finally, vulnerable Indiana bats, and potentially northern long-eared bats, that hibernate within a Priority 2 hibernaculum will be protected through gating of the cave entrance.

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.

One alternative was considered in the HCP to determine its practicability, the no action alternative. Under this 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 summer (10 turbines) and spring and fall migration seasons, or alternate operational measures under which 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 applicants. This alternative was rejected because it would not meet the purpose and need of the Project, as not being practicable or economically sustainable over the projected operating life of the Project.

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

The Permittee warrants 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. HWF will ensure that adequate funding for the HCP will be provided using two financing mechanisms: the Project's annual budget/operating revenue and a bond or guaranty from a Surety. The annual budget/operating revenue will be used to cover administrative costs and compliance monitoring. To assure funding of compliance monitoring, the Permittee will submit an official letter by March 1 of each monitoring year indicating that a contract has been executed with a qualified party to complete the monitoring. The bond or guaranty provides funding assurance to deal with changed circumstances that may occur over the permit term. In addition, the Permittee has executed contracts with the mitigation entities to complete the required mitigation.

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 proposed 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 BO, which is incorporated herein by reference, the Service has concluded that 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 that 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 BO. 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 that use the 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 Headwaters Wind Farm, and the cumulative effects, it is the Service's biological opinion that operation of HWF, 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 plan 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 BO.

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 Headwaters Wind Farm I 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 Headwaters Wind Farm, LLC for the incidental take of the Indiana bat and northern long-eared bat in accordance with the HCP.



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Scott Pruitt, Field Supervisor  
Indiana Ecological Services Field Office  
U.S. Fish & Wildlife Service

4/22/19  
\_\_\_\_\_  
Date

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