

FINAL

Scoping Report for the Midwest Wind Energy Multi-Species Habitat Conservation Plan Environmental Impact Statement

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September 2015



ICF International. 2015. *Scoping Report for the Midwest Wind Energy Multi-Species Habitat Conservation Plan Environmental Impact Statement*. Final. September. (ICF 00217.15.) Portland, OR. Prepared for U.S. Fish and Wildlife Service, Bloomington, MN.

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Acronyms and Abbreviations

CFR	Code of Federal Regulations
Eagle Act	Bald and Golden Eagle Protection Act
EIS	Environmental Impact Statement
ESA	Endangered Species Act of 1973, as amended
FAQ	Frequently Asked Questions
HCP	Habitat Conservation Plan
ICF	ICF International, consultant to the U.S. Fish and Wildlife Service
ITP	incidental take permits
MSHCP	Multi-Species Habitat Conservation Plan
NEPA	National Environmental Policy Act
NOI	Notice of Intent
Service	U.S. Fish and Wildlife Service
USC	United States Code
WNS	white-nose syndrome

1.1 Proposed Action Overview

The U.S. Fish and Wildlife Service (Service) is preparing an Environmental Impact Statement (EIS) to evaluate the potential impacts associated with issuance of incidental take permits (ITP) in compliance with the federal Endangered Species Act of 1973, as amended (ESA) under the proposed Midwest Wind Energy Multi-Species Habitat Conservation Plan (MSHCP). The MSHCP Plan Area encompasses all lands within the political boundary of Region 3 of the Service, which includes eight states: Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin. The planning partners working with the Service to prepare the MSHCP include the conservation agencies for seven of the eight states within the Plan Area¹, the American Wind Energy Association, a consortium of wind energy companies, and The Conservation Fund.

The geographic area where incidental take authorization would be allowed under the MSHCP, referred to as Covered Lands, are a subset of the Plan Area and specifically exclude lands that are within: (a) 20 miles of sensitive bat hibernacula identified by the Service and state wildlife agencies; (b) 3 miles of the shores of the Great Lakes; (c) 1 mile of the edges of rivers supporting bird and bat migration corridors and/or concentrations of wintering waterfowl; (d) floodplain areas along the Mississippi and Illinois Rivers; (e) high bat concentration areas in Indiana and Missouri; and (f) bird migratory areas in Illinois and around large lakes in Minnesota.

The activities covered under the MSHCP include the construction, operation, maintenance, and decommissioning of wind energy facilities within Covered Lands, as well as activities associated with the management of mitigation lands.

The planning partners have requested incidental take coverage for eight species, including six species that are federally listed, one species that is not federally listed but may become listed during the term of the MSHCP, and the bald eagle, which is protected under the Bald and Golden Eagle Protection Act (Eagle Act) (50 CFR22.11). The covered species are listed below.

- Kirtland's warbler
- Least tern – Interior population
- Piping plover – Great Lakes population
- Piping plover – Northern Great Plains population
- Indiana bat
- Northern long-eared bat
- Little brown bat

¹ The Ohio Department of Natural Resources is not participating as a planning partner in the MSHCP, although potential wind-related activities, mitigation, and monitoring activities within the state of Ohio are considered in the MSHCP.

- Bald eagle

The proposed term of the MSHCP is 45 years. During the first 5 years, existing commercial wind energy projects may apply for and receive take authorizations under the MSHCP; proposed commercial wind energy project may opt-in within the first 15 years of the MSHCP. Incidental take authorizations would be issued for a period of 30 years, up to the 45-year term of the MSHCP.

The MSHCP anticipates that 33,000 megawatts of new wind energy may be installed within Covered Lands over the term of the permit(s). New wind energy development would vary by state. The actual implemented build-out of new wind development projects may be less than the maximum anticipated build-out, depending on the number and generation capacity of wind energy projects that are issued take authorizations under the MSHCP. At the end of 2015 the Plan Area will have approximately 18,000 megawatts of installed wind energy. Existing commercial multi-turbine wind facilities would be able to “opt in” to the MSHCP if they meet all of its requirements for existing facilities and implement the MSHCP, including all required avoidance, minimization, monitoring, and mitigation measures. Repowering of existing commercial wind energy facilities would also be included. There would be no limit on the number of qualifying existing wind energy facilities that may opt in to the MSHCP.

The EIS will evaluate the environmental impacts of implementing the MSHCP and issuing ITPs, as well as reasonable alternatives to the proposed action.

1.2 Purpose of the Proposed Action

The purpose of the proposed federal action is to allow the Service to respond to applications for ITPs under the MSHCP which, if granted, would authorize the incidental take of Covered Species resulting from existing and future wind energy development within Covered Lands.

Section 9 of ESA (16 United States Code [USC] 1531 et seq.) and its implementing regulations prohibit the take of animal species listed as endangered or threatened. The term *take* is defined in ESA as: “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in such conduct” (16 USC 1532(19)). *Harm* is further defined in the Service’s regulations as “an act which actually kills or injures listed wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, and sheltering” (50 Code of Federal Regulations [CFR] 17.3).

Under Section 10(a) of ESA, the Service may issue permits to authorize incidental take of listed animal species. *Incidental take* is defined by the ESA as take that is “...incidental to, and not the purpose of, the carrying out of an otherwise lawful activity” (50 CFR 17.3). Section 10(a)(1)(B) of ESA contains provisions for issuing ITPs to non-federal entities for the take of endangered and threatened species, provided the applicant prepares a conservation plan (ESA Section 10(a)(2)(A)) and satisfies the issuance criteria provided in ESA Section 10(a)(2)(B).

Eagles are protected under the Eagle Act, which prohibits take and disturbance of individuals and nests. Under 50 CFR § 22.11, Eagle Act take authorization may be extended to permittees authorized to take eagles by an ITP issued pursuant to Section 10(a)(1)(B) of the ESA. Take coverage for bald eagles provided through an ITP applies for the duration of the permit, or until the amount or level of take authorized has been met, provided the permittee complies with all terms and conditions

provided in the ITP and the requirements of the Eagle Act. The Service will consider the effects of take of bald eagle under the MSHCP through the ESA Section 10 ITP process. The need for this action is to provide for broader protection and conservation of Covered Species and their habitats, in compliance with the ESA and Eagle Act, while enabling long-term development and continued operation of existing and future wind energy facilities within Covered Lands. Historically, take of listed species that is incidental to otherwise lawful wind energy development activities has been evaluated and authorized through project-by-project consultations under either Section 7 of the ESA (if another federal agency is involved) or through a project-specific ITP issued by the Service in compliance with Section 10 of the ESA. Issuance of ITPs under the MSHCP, if authorized by the Service, would integrate wind energy activities with the conservation needs of Covered Species, reducing conflict between species protection and economic development as well as streamlining ESA compliance procedures for both the wind energy industry, States, and the Service.

1.3 NEPA Compliance

The National Environmental Policy Act (NEPA) states that any federal agency undertaking a “major federal action” likely to “significantly affect the quality of the human environment” must prepare an EIS (42 USC 4332(2)(C)). Significance is determined by evaluating the context and intensity of impacts, as defined in 40 CFR 1508.27. Based on these guidelines, the Service determined that issuance of ITPs under the proposed MSHCP may have significant effects on the human environment and requires preparation of an EIS before a decision to issue federal permits is made.

The EIS will consider the impacts of the proposed action—the issuance of ITPs—on the human environment. The EIS will also include analysis of a reasonable range of alternatives to the proposed action. Alternatives considered in the EIS may include, but are not limited to, variations in the permit term or permit structure; the level of take allowed; the level, location, or type of conservation, monitoring, or mitigation provided in the MSHCP; the scope of Covered Activities; the list of Covered Species; or a combination of these. Additionally, a No Action Alternative will be evaluated in the EIS. The No Action Alternative provides a baseline for comparing the effects of the proposed action and other action alternatives considered in the EIS.

The first formal step in the NEPA process is the scoping phase. The primary purpose of the scoping process is to provide the public, organizations, and agencies an opportunity to assist in developing the EIS by identifying important issues and alternatives related to the proposed action that should be considered in the NEPA document.

This report summarizes comments, feedback, and input received from the public, nongovernmental and other organizations, and agencies during the 60-day scoping period for the EIS. The scoping period for this effort began June 12, 2015 and closed on August 11, 2015.

2.1 Scoping Notification

The scoping period was announced through a Notice of Intent (NOI) published in the Federal Register, interested party letters, and a news release distributed to regional media. As noted above, the scoping period began June 12, 2015 and closed on August 11, 2015.

2.1.1 Notice of Intent

The Service published an NOI in the Federal Register on June 12, 2015 (80 FR 33537-33540). The NOI provides background information on the proposed action and MSHCP, ESA, and NEPA compliance processes, as well as information on how to participate in the EIS scoping process.

A copy of the NOI is provided in Appendix A.

2.1.2 News Release

A news release announcing the scoping phase of the EIS and the dates and locations of public scoping meetings was distributed to regional media on July 2, 2015.

A copy of the news release is provided in Appendix A.

2.1.3 Stakeholder Notification

A mailing list of interested parties was developed to support of the EIS scoping and public notice process. A total of 212 contacts representing state and federal agencies, nongovernmental organizations, wind energy industry contacts, and individuals were included on the mailing list when the scoping process was initiated. These interested parties were notified via an emailed letter of the preparation of the EIS and scoping period.

A copy of the interested party list and letter distributed during the scoping period are included in Appendix A.

2.1.4 Tribal Notification

Notification announcing the preparation of the EIS and scoping period was made via email distributed to 35 Native American tribal representatives located throughout the Plan Area. A copy of the tribal notification list is included in Appendix A.

Tribal representatives received a copy of the new release (see Appendix A) and a Frequently Asked Questions document (see Appendix B).

2.1.5 Project Website

A project-specific website, <http://www.midwestwindenergyhcpeis.org/>, was developed by the Service as an additional means of communicating with the public and providing project updates as the EIS is developed. The project website includes an overview of the proposed action and the environmental review process, opportunities for public involvement, contact information and key links and documents available for review, such as the NOI and Frequently Asked Questions. The project website also includes information on both the in-person and online scoping meetings, discussed in Section 2.2, and how to submit scoping comments. The project website link was included in the NOI, news release, and notification letters.

2.2 Public Scoping Meetings

Eight public scoping meetings were held throughout the Plan Area in July 2015. The dates and locations of meetings are listed below.

<p>July 13, 2015 5:00 to 7:00 p.m. Elliot Recreation Center 1000 E 14th Street Minneapolis, MN 55404</p>	<p>July 14, 2015 5:00 to 7:00 p.m. Warner Park Community Recreation Center 1625 Northport Drive Madison, WI 53704</p>
<p>July 15, 2015 5:00 to 7:00 p.m. Iowa State University Memorial Union Campanile Room 2229 Lincoln Way Ames, IA 50011</p>	<p>July 16, 2015 5:00 to 7:00 p.m. Battle High School Commons 7575 East St. Charles Road Columbia, MO 65202</p>
<p>July 20, 2015 5:00 to 7:00 p.m. Letts Community Center Gymnasium 1220 W. Kalamazoo Street Lansing, MI 48915</p>	<p>July 21, 2015 5:00 to 7:00 p.m. Columbus Downtown High School Commons 364 South 4th Street Columbus, OH 43215</p>
<p>July 22, 2015 5:00 to 7:00 p.m. World Sports Park Ballroom 1313 South Post Road Indianapolis, IN 46239</p>	<p>July 23, 2015 5:00 to 7:00 p.m. Illinois Wesleyan University Memorial Center, Young Main Lounge 104 E. University Ave. Bloomington, IL 61701</p>

The primary purpose of the scoping meetings was to provide information to the public and to solicit suggestions and information on the scope of issues and alternatives for the Service to consider when

drafting the EIS. The meetings also provided an opportunity for the public to ask questions regarding the NEPA process and the proposed MSHCP.

Each meeting started and ended as an open house, with a brief presentation on the proposed MSHCP and NEPA process provided by representatives of the Service and ICF International about 1 hour into each scoping meeting. A series of display boards were provided at each meeting describing ESA and Eagle Act permit requirements; the proposed MSHCP, including the Plan Area and Covered Lands, Covered Activities, and Covered Species; the NEPA environmental review process; and opportunities for public participation, including submitting comments during the scoping period. Comment forms were available at each scoping meeting to aid attendees in providing comments on the proposed action. Attendees who registered at the meetings were also added to the project mailing list.

The scoping meetings were attended by a total of 46 participants including individuals, state and federal agency representatives, stakeholder organizations, and the media. The number of participants at each meeting is summarized below:

- Minneapolis, MN – 3
- Madison, WI – 6
- Ames, IA – 3
- Columbia, MO – 5
- Lansing, MI – 6
- Columbus, OH – 11
- Indianapolis, IN – 10 (including one media representative)
- Bloomington, IL - 2

Additionally, an online webinar was held on July 28, 2015 at 1:00 p.m. (Central Standard Time) to allow for maximum participation in the scoping process. Webinar participants were able to view and listen to a presentation as well as ask questions about the proposed action. The webinar was also available by conference call. A total of 30 individuals participated in the online webinar.

A copy of the presentation and meeting materials used during scoping are provided in Appendix B.

Chapter 3

Summary of Comments Received

During the scoping period, 16 written comments were received from the public, nongovernmental organizations, stakeholder groups, and state and federal agencies. Comments were received via comment card, letter, email, and online at Regulations.gov (Docket Number FWS-R3-ES-2015-0033). This section of the report provides a general summary of the written comments received, organized by topic.

Appendix C provides a list of commenters who submitted comments during the scoping period. Appendix D contains a copy of all written comments received during the scoping period.

3.1 MSHCP-Related Comments

3.1.1 Plan Area and Covered Lands

Several commenters had suggestions regarding areas to be included or excluded from the MSHCP.

- The MSHCP should exclude from Covered Lands places currently inhabited by endangered or threatened species.
- All federally designated critical habitat in the Plan Area should be excluded from Covered Lands.
- To the extent possible, wind energy development under the MSHCP should be located in existing disturbed areas.
- The MSHCP should exclude from Covered Lands Kirtland's warbler (*Septophaga kirtlandii*) breeding habitat in Michigan (both Lower and Upper Peninsula) and Wisconsin, including identified Kirtland's Warbler Management Areas and habitat identified as suitable for possible population expansion in the future. These excluded areas should include a suitable buffer and be identified in collaboration with the U.S. Forest Service, Michigan Department of Natural Resources, and Wisconsin Department of Natural Resources.
- The Service should exclude from Covered Lands areas of general conservation importance that are sensitive to wind development. These areas should be identified in collaboration with state conservation agencies (with reference to ongoing efforts in Indiana, Ohio, Wisconsin, Minnesota, and Iowa).
- Grasslands that currently support the greater prairie chicken (*Tympanuchus cupido*), or that might support reintroduction sites in future, should be excluded from Covered Lands.
- Other areas of importance to bats, outside of known Indiana bat hibernacula sites, should be excluded from Covered Lands. Specifically, the Service should expand excluded areas to include known high-use areas (e.g., summer maternity areas, swarming sites) and migratory or commuting corridors for covered bat species.
- Bat hibernacula in Peninsula State Park in Door County, Wisconsin, should be excluded from Covered Lands.

- Indiana bat maternity colonies along the Bellefontain ridge in central Ohio should be excluded from Covered Lands.
- Wind development should be excluded from all areas that support important bat hibernacula, maternity colonies, and spring or fall swarming aggregations, as well as major migratory corridors from winter to summer habitat for bat species.²
- Bird exclusion areas along the northwest border of Indiana/Illinois should be extended/widened into Indiana to include important migratory bird routes within northwestern Indiana.
- The exclusion area around Lake Michigan should be expanded to adjacent waters since many birds migrate off-shore.
- The exclusion area around the Wabash Corridor should be expanded and widened.
- The Service should extend the exclusion areas around river corridors to include blocks of habitat for migratory birds, especially in high-concentration areas. The Jasper-Pulaski Fish and Wildlife Area, which was provided as a high-concentration staging area for whooping crane, should be considered.
- The migrant trap in northwest Indiana should be excluded from Covered Lands (map provided).
- The MSHCP should exclude from Covered Lands areas that pose elevated risks to birds due to the susceptibility to collision and/or displacement from nesting, foraging, and transit areas. The commenter suggested the American Bird Conservancy's "Wind Development Based Risk Map" be used to inform the extent of Covered Lands.
- Specific sensitive, essential, and exceptional areas, such as refuges, migratory routes, and large blocks of intact native landscape should be excluded from Covered Lands.³

3.1.2 Covered Species

Several commenters had suggestions regarding species to be included or excluded from the MSHCP, and/or methodologies that should be used to consider potential impacts on Covered Species in the MSHCP.

- Tri-colored bats (*Perimyotis subflavus*), which are experiencing similar impacts from wind energy as little brown bat, should also be included as Covered Species in the MSHCP.
- Migratory tree bats should be included as Covered Species in the MSHCP.
- All of the species originally considered in the 2009 planning grant for the MSHCP (i.e., 30 species including bat, birds, mollusks, and fish) should be included in the current draft of the MSHCP.
- The MSHCP should cover all federally listed and candidate species that currently use or that may occur within the Plan Area. Ozark big-eared bat (*Corynorhinus townsendii ingens*) and Sprague's

² This comment was provided during the 2009 scoping process for the MSHCP, and incorporated by reference into a subsequent comment during the current EIS scoping period. The Service notes that this recommendation was used to inform the current scope of Covered Lands in the MSHCP.

³ This comment was provided during the 2009 scoping process for the MSHCP, and incorporated by reference into a subsequent comment during the current EIS scoping period. The Service notes that this recommendation was used to inform the current scope of Covered Lands in the MSHCP.

pipit (*Anthus spragueii*) were specifically provided as species that should be covered in the MSHCP.

- The MSHCP should cover all bird species in the Plan Area that are identified by the American Bird Conservancy as “At Risk.” Yellow rail, black rail, buff-breasted sandpiper, and golden-winged warbler were provided as species in this category that should be covered under the MSHCP.
- One commenter supported not including gray bats (*M. grisceses*) as Covered Species in the MSHCP due to limited information available to inform a risk assessment.
- One commenter supported the inclusion of the proposed bat species as Covered Species in the MSHCP.
- One commenter supported inclusion of bald eagle as a Covered Species in the MSHCP.
- Fatality estimates in the MSHCP should account for detection bias (e.g., search efficiency, carcass persistency, unsearchable area).
- The MSHCP should disclose species-specific differences in bat fatalities, and assess the potential effectiveness of various impact-reduction strategies (e.g., siting, operational constraints) based on those species-specific estimates. Take estimates should also consider timing (e.g., season) and demographics (e.g., juvenile vs. breeding female).
- The Service should perform a thorough review of published and grey literature regarding proposed covered bat species, particularly related to differences in habitat use, roosting, hibernating patterns, and wind energy impacts among these species. These differences should be considered before applying blanket conservation measures.
- The Service should calculate the maximum sustainable yield for each Covered Species in take estimates provided in the MSHCP. The maximum sustainable yield could be used to identify a maximum removal level from the population and a needed replacement rate, and can be used to identify a level of take that may cause population decline.
- The Service should attempt to identify maternity areas for all proposed covered bat species and consider the indirect effects associated with wind energy development.

3.1.3 General Comments

Multiple commenters provided general comments about the proposed MSHCP, including the scope of Covered Activities, proposed conservation strategy and monitoring requirements, and how the MSHCP should apply to wind energy development within Covered Lands. A summary of these comments is provided below:

- The Service should clarify that participation in the MSHCP is voluntary and project proponents may pursue other options for incidental take coverage. If a wind energy facility is located within Covered Lands and does not opt into the MSHCP, the facility should not be precluded from otherwise applying for an ITP and HCP—for single or multiple facilities covering single or multiple species—under the ESA or Eagle Act.
- The Service should clarify that development and implementation of the MSHCP will neither limit its authority and discretion to issue individual permits under the ESA or Eagle Act, individually or programmatically, on Covered Lands, nor will it limit the amount of new wind energy

development that may occur within Covered Lands, even if the amount of new development exceeds that predicted over the permit term.

- The Service should clarify that ITPs issued to wind energy developers outside of the MSHCP process may include terms and conditions different than those provided in the MSHCP. For example, the Service has the option of tailoring avoidance, minimization, and mitigation measures to a specific project to address site-specific conditions, which may or may not be consistent with the measures provided in the MSHCP.
- The Service should disclose in the MSHCP if wind energy developments permitted under the plan will be allowed a maximum number of turbines, or if turbines will be required to be aligned in a specific navigation direction to reduce or manage for bird and bat impacts.
- The Service should disclose if they will set density limits for wind developments authorized under the MSHCP, including the number of sites allowed in a specific watershed or airshed, or if there will be a maximum number of power structures and substations allowed within each wind energy development site under an ITP.
- The Service should clarify what monitoring and reporting requirements are required under the MSHCP and if pre- and post-construction monitoring and reporting guidance will be developed.
- The Service should elaborate on the requirements for management of compensatory mitigation lands in the MSHCP.
- The Service's Land-Based Wind Energy Guidelines should be made a mandatory component of ITPs issued under the MSHCP.
- Issuance of an ITP from the Service under the MSHCP should be contingent upon receipt of a take permit from the state, where a permitting process is in place for take of state-listed endangered or threatened species.
- The MSHCP conservation strategy should require that certain standard operation protocols (e.g., cut-in speeds, curtailment) be applied uniformly where a Covered Species is known to occur. In particular, this standard should be applied where a developer elects to disperse wind development across a wide geographic area, and where variability in operating protocols could inadvertently encourage habitat fragmentation.

3.2 NEPA-Related Comments

Comments specific to the NEPA environmental analysis were provided on the range of alternatives to be considered in the EIS, including alternate mitigation, adaptive management, and monitoring strategies; the approach to completing the EIS analysis; and specific resource topics that should be addressed in the EIS.

3.3 Alternatives

As described in the NOI, the EIS will consider a reasonable range of alternatives to the proposed action. Multiple commenters provided suggestions regarding the range of alternatives to be analyzed in the EIS. As summarized below, these comments generally included suggestions for reduced permit terms or a smaller Plan Area.

- The EIS should consider an alternative with a shorter permit term (e.g., 10, 15, 20, and 30 years).
- The Service should consider a smaller Plan Area to account for environmental effects and management techniques that may vary with geographic location.

In addition to broad suggestions on alternatives to the proposed action, several commenters suggested alternate mitigation measures, adaptive management strategies, or monitoring protocols for consideration in the EIS. These comments are summarized in the following subsections.

3.3.1 Mitigation Measures

- The Service should require operational measures (e.g., curtailment, reduced cut-in speeds) be implemented to reduce mortality at installed turbines. A minimum cut-in speed of 6.5 meters per second should be considered to maximize avoidance of bat fatalities.
- Siting restrictions (e.g., avoidance of known locations of Covered Species or other sensitive locations, limits on tower heights) should be used to avoid mortality of bat and bird populations.
- The Service should identify characteristics in the MSHCP for potential mitigation sites (e.g., elevation, contours, and habitat type) that are optimal or more environmentally beneficial for Covered Species, and that would ensure a reasonable reduction in impacts.
- The Service should require installation of motion-detection lights in turbine nacelles that shut off automatically after a pre-determined amount of time when no human movement is detected (to avoid inadvertently attracting birds to lighted areas at night).
- The Service should require all meteorological towers be outfitted with white strobing devices to reduce avian mortality.
- Project substations should be outfitted with downward-facing shields on all lights to reduce avian mortality.
- The Service should require wind energy developers to adhere to current Avian Power Line Interaction Committee guidelines on siting transmission and other power lines.
- All wind-related power lines should be marked to reduce avian mortality from collision, consistent with Avian Power Line Interaction Committee guidelines.
- The Service should consider tree removal outside of the maternity season to minimize direct impacts to bats during the construction season.
- Bird and bat detection radar should be used to minimize mortality at wind turbines.
- The Service should assign a punitive dollar value to migratory birds, endangered species, and eagles killed or maimed by wind turbine operations as compensatory mitigation.
- Compensatory mitigation under the MSHCP should be structured to ensure it is effective and timely in offsetting impacts to Covered Species. Compensatory mitigation measures should only be used after avoidance and minimization measures have been considered.
- Avoidance strategies are better at conserving Covered Species, and potentially less costly, than impact-reduction strategies implemented after construction.

- Conservation funding under the MSHCP should be directed to research related to white-nose syndrome (WNS) and bats, assessing general bat habitat requirements, and evaluating the effects of various management activities on bats and other species affected by WNS.
- The MSHCP should include protective measures for migratory birds not covered in the MSHCP (e.g., Service-designated Birds of Conservation Concern), and that are particularly vulnerable to habitat loss and collision with turbines. Suggested protective measures included avoiding important breeding and nesting grounds or curtailing/feathering turbines if a particular species is observed in the area.
- The Service should incorporate protective measures for golden eagles into the MSHCP, particularly since the current eagle permitting structure in the eastern U.S. does not allow for legal programmatic take of golden eagle.
- The Service should require a secondary habitat assessment prior to issuance of ITPs to verify species presence and habitat use, and to identify species-specific avoidance, minimization, and mitigation measures at a specific project site.⁴

3.3.2 Adaptive Management Strategies

- The Service should clearly identify and define adaptive management triggers, the methodology to determine when those triggers have been reached, and the management actions that occur based on those triggers.
- The MSHCP should require implementation of adaptive management strategies at 5-year intervals in consideration of the long-duration (45 years) of the proposed MSHCP.
- The MSHCP should include a schedule on when it will be updated and revised, and informed by monitoring data collected under the plan. Updates and revisions could occur as often as every 5 years or when important new data is obtained on Covered Species.
- Curtailment should be considered as an adaptive management strategy in the MSHCP. Curtailment should be considered at night, during the months that the majority of bat kills occur, and where bat fatalities meet or exceed anticipated take levels for a given year.
- The MSHCP should include an adaptive management measure to address species that may be listed in the future, but that are not currently covered under the MSHCP (e.g., red bat, hoary bat, and eastern small-footed bat).
- The Service should require that any permittee that opts into the MSHCP during the first 15 years of the ITP should be required to adhere to changes to the ITP/MSHCP resulting from acquisition of new or additional information, findings, or new protocols implemented after their permit is issued. These might include changes in monitoring protocols, revised monitoring or avoidance measures, or new or alternative management techniques to avoid impacts to Covered Species. The metrics should be included as adaptive management measures in the MSHCP.
- The Service should consider how turbine height and blade width, and adaptations to turbine design (and subsequent impacts due to those changes), will be studied during the permit term to adaptively manage for new information.

⁴ This comment was provided during the 2009 scoping process for the MSHCP, and incorporated by reference into a subsequent comment during the current EIS scoping period. The Service notes that this recommendation was used to inform current conservation strategy in the MSHCP.

3.3.3 Monitoring

- Monitoring should be comprehensive, frequent, and aggressive with practices being demonstrated to be effective. Monitoring should be most rigorous during preconstruction and post construction phases.
- Monitoring required under the MSHCP should be informed both by on-site surveys and modeling. Failure to locate carcasses should not be construed as evidence that wildlife are not being killed by turbines, but rather that a likely gap exists in the frequency or areas selected for monitoring.
- Required monitoring under the MSHCP should follow an established protocol that is consistently applied throughout the Plan Area. Monitoring should also account for difficulties in detecting fatalities.
- The “Evidence of Absence” method and software developed by the U.S. Geological Survey should be used to estimate bird and bat fatalities at wind farms, and to design Service-approved search protocols under the MSHCP.
- One commenter provided reference to a monitoring protocol used in Pennsylvania to collect pre- and post-construction monitoring data on birds and bats.
- The Draft EIS and MSHCP should discuss existing state protocols for monitoring and how they have, or have not, been utilized in the Service’s monitoring recommendations and requirements. The commenter specifically cited the State of Ohio’s on-shore wind energy facility monitoring protocols.
- Project applicants should be responsible for all monitoring and reporting requirements under the MSHCP, using Service-approved protocols.
- Monitoring under the MSHCP should be required at every site and supervised by the Service.
- Monitoring should be completed by independent third-party contractors not employed by the wind industry.

3.4 NEPA Approach Considerations

Several commenters provided input on the approach used to complete the EIS analysis.

- The EIS must describe existing conditions within the Plan Area. Existing conditions should be the baseline for comparing alternatives and completing the effects analysis.
- The EIS should analyze the impacts associated with the current (and potential future) range of turbine sizes and designs, considering differences in total heights and blade lengths.
- The EIS should disclose if all existing types of different wind turbines (e.g., heights, blade widths, etc.) have been field tested to known potential wildlife impacts.
- If the proposed locations of individual wind projects covered under the MSHCP are not analyzed in the EIS, a “second tier” more detailed assessment of impacts should be completed before a project is approved by the Service. This “second-tier” NEPA analysis must provide an opportunity for the public to comment on the site-specific proposal.

3.5 Resource Areas of Concern

The EIS will describe the direct, indirect, and cumulative impacts of all alternatives on a variety of resource areas. As suggested by several commenters, the EIS will also include a summary description of the existing regulatory framework specific to each resource area, including any required permits from federal, state, and local jurisdictions prior to Covered Activities being implemented.

Comments received during scoping were primarily focused on potential impacts to biological resources, as summarized below.

3.5.1 Biological Resources

- The Service should analyze the direct, indirect, and cumulative impacts of the proposed action on endangered, threatened, and Covered Species, and their communities or habitats.
- The EIS should disclose impacts to state-listed endangered and threatened species.
- The EIS should consider the impact wind turbines have on bird and bat populations, including direct mortality and barotrauma.
- The EIS should consider the effects of habitat loss and fragmentation on Covered Species and other wildlife, including potential impacts to reproductive output from habitat changes. The analysis of habitat fragmentation and loss should address other land use practices in the Plan Area, such as agriculture and urban development, which could contribute to cumulatively significant habitat impacts.
- The Service should obtain and analyze the latest information on wind turbine related fatalities across the entire range of covered bat species, or at least the ranges of high genetic connectivity, to assess cumulative impacts.
- The cumulative effects analysis of impacts to Covered Species should consider impacts from all possible development sources within the range of each species, including forestry, oil, gas, residential and urban development, transportation, and energy transmission.
- The EIS should consider the combined effect on bats from wind energy development (both within and outside the Plan Area) and WNS.
- The EIS analysis should incorporate the latest data on WNS and current population trends for all Covered Species.
- The EIS should evaluate impacts to bat species at a meaningful biological scale that extends beyond the Plan Area boundary, where warranted. For little brown bat, the analysis should encompass the range of the species (or the Great Plains-Rocky Mountain transition area). For Indiana bat, the analysis should likewise be the range of the species or, at minimum, the recovery unit level. For northern long-eared bat, the analysis should also be completed throughout the species range unless data are available suggesting differing genetic connectivity across this species range.
- The EIS should consider the effects of wind energy development on whooping cranes, including the potential for collisions with turbines and/or project transmission lines during the spring and fall migration periods, or during stopover periods when cranes fly between foraging and roosting sites at sunset and sunrise under low-light conditions and during inclement weather.

- The EIS should consider the impacts of climate change on Covered Species.

3.5.2 Other Resource Topics

- The EIS should consider impacts on agriculture from reductions in bat populations, including potential economic effects associated with replacing pest control services.
- The EIS should disclose current renewable energy standards and goals for each of the eight states within the Plan Area.
- The EIS should disclose impacts associated with shadow flicker, and describe best management practices to minimize those impacts.
- One commenter provided a suggested methodology on how to estimate the economic impact of increased cut-in speeds.

3.6 Statements of Opposition or Support

Several commenters expressed opposition or support for the proposed action.

- Several commenters welcomed the Service's collaborative and regional approach to the development of the MSHCP, in addition to providing permitting efficiencies in the region.
- Several commenters stated that issuance of ITPs by the Service is in conflict with their mandate to protect species under the ESA and Eagle Act.
- Several commenters suggested the Service should not consider issuing permits for ongoing take associated with wind energy operations.

3.7 Public Involvement

Several commenters provided specific suggestions on opportunities for the public to participate in the NEPA or ESA processes.

- One commenter requested a hard copy of the Draft EIS when it is available.
- One commenter stated that there should have been more than one scoping meeting per state.
- One commenter recommended the Service coordinate with public utility commissions during the development of the Draft EIS and MSHCP to inform siting of future turbines.
- One commenter suggested the Service should coordinate with the Western Area Power Authority.
- One commenter suggested the EIS should discuss coordination efforts undertaken thus far with other federal agencies, state agencies, non-profit entities, private industry, and other planning partners.

3.8 Out-of-Scope Comments

Several commenters provided comments not specific to the NEPA process or scope of the MSHCP. These comments, and a brief explanation for why they are considered outside the scope of the proposed action, are provided below.

- One commenter suggested the EIS should examine potential increases in pesticide usage if bat populations continue to decline. Potential changes in how pesticides are used in the Plan Area over time are beyond the scope of the proposed action considered in the EIS.
- One commenter suggested the Service undertake a status assessment (population viability assessment) for all tree bat species to assess cumulative impacts due to wind energy development and other impacts to tree bats. Population-wide status assessments are typically completed by the Service in conjunction with a formal petition to list a species under the ESA. That type of assessment is outside the scope of the proposed action considered in this EIS.
- One commenter suggested the Service should study areas where marking power lines would reduce adverse effects to whooping cranes from collisions. Although the EIS will generally describe the potential effects of Covered Activities on whooping cranes—including the potential for collisions with power lines—an in-depth study of where and how to mark power lines to reduce impacts to that species is beyond the scope of the proposed action.
- One commenter suggested the EIS describe the percentage of annual revenue generated by wind farms that is returned to local county conservation boards to support bat and bird habitat restoration and conservation. The EIS analysis will consider the anticipated benefits of the conservation strategy provided in the MSHCP on Covered Species; however, a detailed analysis of the type suggested is outside the scope of the proposed action.
- One commenter expressed concerns about the efficiency and economics of wind energy (including tax concerns). Several commenters provided comments, studies, or links to studies in opposition to wind energy development. The proposed action being considered by the Service is issuance of ITPs under the MSHCP. Although the proposed action may facilitate wind energy development, it would not expressly approve it. Concerns over the use of wind energy development in general are outside the scope of the proposed action considered in the EIS.
- One commenter expressed concerns that the wind technology is not viable as a means to address climate change. Although the EIS will consider, in general terms, how renewable energies may displace the need for fossil fuels and reduce contributions of greenhouse gases to the atmosphere, it is not intended to advocate for one energy source over another. Therefore, the viability of wind energy as a means to address climate change, wholly, is outside of the scope of this proposed action considered in the EIS.
- One commenter stated that all wind developers should consult with the Service prior to making siting decisions. With respect to the proposed action, wind developers who request incidental take coverage under the proposed MSHCP would be required to consult with the Service before the proposed development is implemented and, depending on project-specific conditions, may be subject to siting restrictions or constraints. In more general terms, applicants for wind energy developments that may result in take of federally listed species or eagles are required to obtain permit(s) from the Service before implementing their project. Broad consideration of the application of the ESA or Eagle Act to all wind development in the U.S. is beyond the scope of the proposed action.

- One commenter requested that a ban be placed on the killing and importing of game animals as trophies. The proposed action does not contemplate any hunting or importing activities of game or other wildlife species.

Chapter 4

Next Steps in Planning Process

The Service will determine if and how the proposed action should be modified and which alternatives to the proposed action should be carried forward for full analysis in the EIS. For each of the reasonable alternatives carried forward for full analysis, the EIS will identify potentially affected resources and assess potential impacts on each of those resources. If needed, measures to mitigate resource impacts will be included.

Following completion of the environmental review process, the Service will publish a Notice of Availability and a request for comments on the Draft EIS. The Draft MSHCP will be released for public review and comment concurrent with the Draft EIS. A comment period of no less than 45 days will follow the publication of the Draft EIS and may include meetings to accommodate public participation. The Service will consider all comments on the Draft EIS in the preparation of the Final EIS, which will include responses to all substantive comments received. Following the comment period, the Draft EIS may be modified based on the comments received. Substantive comments on the EIS will be considered in developing the Final EIS.

When complete, the Final EIS and responses to substantive comments will be made available to the public for a minimum 30-day review period. A Record of Decision will be issued by the Service following the review period of the Final EIS.