Board of County Commissioners
Agenda Request

7A
Agenda Item #

Requested Meeting Date: 12/20/2016

Title of Item: Habitat Conservation Plan / MOU with Carlton County

☑ REGULAR AGENDA	**Action Requested:**	☐ Direction Requested
☐ CONSENT AGENDA	☑ Approve/Deny Motion	☐ Discussion Item
☐ INFORMATION ONLY	☐ Adopt Resolution (attach draft)	☐ Hold Public Hearing*
	**provide copy of hearing notice that was published*	

Submitted by:	**Department:**
Land Commissioner	Land Department

Presenter (Name and Title):	**Estimated Time Needed:**
Mark Jacobs	20-minutes

Summary of Issue:

Over the last couple of years I've discussed the likelihood of northern long-eared bat being elevated to an "endangered" status due to the spread of white nose syndrome; which is now established in MN. Now the USFWS has released its 7-year ESA plan (attached) which includes considering little brown bat for endangered status. If one or both are listed as endangered, it would have a major impact on our local timber industry.

Tree removal in summer is considered a "risk of take" because young flightless bats are in roost trees and are vulnerable and for the "threatened" NLEB it means that we need to follow some general rules (4d rule) to protect from "take". If listed as endangered – take is PROHIBITED... unless you have an "incidental take permit (ITP)" from USFWS. The only way to acquire an ITP is to develop a habitat conservation plan (HCP) and have it approved by USFWS. These plans can take years for development and approval – so if a bat is listed, there could be a lag time where things would be "shutdown".

We average harvesting about 2% of our forest annually, 18% of that in June-August (.36% of the forest impacted). While this is a very small amount of forest impacted, that 18% harvest = 27% of our average annual timber revenue.

I'm proposing a joint project with Carlton County do develop a HCP starting in January 2017; with estimated completion in mid-2018. Aitkin County manages 220,000 acres, Carlton County 71,000 acres. A MOU between Aitkin & Carlton County is attached and has been reviewed by the County Attorney; our share will be $72,412 (65%). I have budgeted for part of it in 2017.

Alternatives, Options, Effects on Others/Comments:

We can stop the process if the draft HCP does not meet our expectations and pay only the expenses incurred to that point.

Recommended Action/Motion:

Staff recommends approving the MOU and the HCP proposal from WEST Inc.; as a proactive approach to protect an important wildlife species and our local forest products industry.

Financial Impact:

Is there a cost associated with this request? ☑ *Yes* ☐ *No*

What is the total cost, with tax and shipping? $ $72,414

Is this budgeted? ☑ *Yes* ☐ *No* *Please Explain:*

Legally binding agreements must have County Attorney approval prior to submission.

MEMORANDUM OF UNDERSTANDING
BETWEEN
AITKIN COUNTY and CARLTON COUNTY
MINNESOTA

1. Authority: This Memorandum of Understanding (MOU) is made and entered into by and between the Aitkin County Board of Commissioners (represented by the Aitkin County Land Department) hereinafter referred to as ACLD, and the Carlton County Board of Commissioners (represented by the Carlton County Land Department) hereinafter referred to as CCLD, under the provisions of respective County Board Resolution.
2. Purpose: This MOU establishes a policy of cooperation and coordination between ACLD and CCLD to Contract with Western EcoSystem Technologies, Inc. (WEST), to create a Habitat Conservation Plan, hereinafter referred to as HCP, that allows ACLD and CCLD to qualify for Incidental Take Permit (ITP) under Section 10(a)(1)(b) of the Endangered Species Act (ESA) administered by the United States Fish and Wildlife Service (FWS) to authorize the take of Threatened or Endangered Forestland bats whilst in conjunction with lawful timber harvesting and forest vegetative management activities.
3. Introduction: ACLD and CCLD have contracted with WEST, Inc., beginning in 2015 to conduct forestland bat surveys on County Administered Tax Forfeited Lands. The survey included bat species, sex, maternity, age and exposure to White Nose Syndrome (WNS), a disease fatal to bats that hibernate across their US range. WEST, Inc., is Federally licensed to conduct bat netting, measuring, tagging and data collection. Both Aitkin and Carlton Counties have statutory responsibilities and interests in the management of Tax Forfeited and Fee lands for the benefit of the Taxing Districts, the local economies, the general public; for protecting the quality of water, wildlife and air; for research and for forest resilience through species diversity.

THEREFORE, in consideration of these joint interests, the parties agree to the following MUTUAL AGREEMENT:

1. ACLD and CCLD agree to obligate funds required to fulfill the HCP as outlined by WEST, Inc. The Obligation will be prorated as such: ACLD will pay 65% of the bill and CCLD will pay 35% of the bill as invoiced.
2. ACLD and CCLD agree to apportion Incidental Take Permits (ITP) based on the final HCP as developed by WEST Inc and approved by the United States Fish and Wildlife Service (USFWS).
3. This agreement does not restrict either ACLD nor CCLD from participating with other public or private agencies, organizations and individuals nor from accepting contributions or grants for the improvement and maintenance of County managed forestlands.
4. This agreement may be revised as necessary by mutual consent of both parties by the issuance of a written amendment, signed and dated by both parties.

5. Either party may terminate this agreement by providing a 30 day written notice. Unless terminated by written notice, this agreement will remain in force for 3 years or upon Federal acceptance of a suitable HCP. This agreement may be extended by ACLD and CCLD.
6. The Statutes of Minnesota, including Chapter 282, shall govern the liability of each participant.

EFFECTIVE DATES:

IN WITNESS WHEREOF, the parties hereto have executed this agreement as of the last written date below.

Aitkin County Board Chair	Carlton County Board Chair
Date	Date

Bats, Courthouses and People: Separating Facts from Fears

Bats are a common sight around Minnesota; however, many people view them with fear or as pests to be eliminated. These attitudes often do not accurately reflect the actual severity of risks bats pose to human health or property. MCIT has had few claims from injuries or negative health effects related to bats. Unfortunately, some common responses to bats may lead to problems greater than the bats themselves.

4 Protected, of Concern Species in Minnesota

Nationally and in Minnesota, many bat populations have been in decline. This has prompted federal and state agencies to declare some Minnesota bat species as threatened or of special concern. According to the Minnesota Department of Natural Resources, seven bat species are known to inhabit the state, and four of them are listed as threatened or of special concern on state or federal endangered species lists.

Penalties for killing a threatened species on the federal endangered species list could range from $1,000 to $25,000 and six months in prison, depending on the intent to kill. In addition to these criminal penalties, civil penalties of up to $12,000 may also apply. Such penalties would not be covered by MCIT.

Furthermore, killing a threatened or special concern species may damage an organization's reputation if environmental groups and advocates bring media attention to the situation. With these severe penalties and risks, it makes sense for members to make controlling bats without killing them a high priority.

Old Courthouses, Buildings Are Ideal Homes for Bats

Many county courthouses are ideal bat roosts or winter hibernation sites, as brick buildings with large attics are favored. Cracks or holes in eaves or masonry as small as a dime can allow bats to inhabit the space. Bats do not chew their way into buildings but use pre-existing cracks or openings. For this reason, members may want to inspect aging or historic buildings for cracks and holes and seal them.

Sealing holes in buildings can also have a positive effect on energy efficiency, help prevent water infiltration and inhibit birds and insects from building nests.

Careful Removal of Bats Is Key

There are several bat control methods. The best technique to use may depend on where the bats are relative to where people are in the building.

If bats are already in the building where people do not typically go, such as attics, belfries and steeples, members can try methods to exclude bats. Often members use a bat exclusion company to handle this.

Exclusion typically involves the installation of one-way gates that allow bats to leave but not re-enter the location. In addition to the gates, any other entry points are identified and patched.

When pursuing this option, it is important to consider the time of year and the bat lifecycle. In spring and summer, many bat species give birth, and the babies are unable to fly. Excluding bats in the spring or summer could inadvertently kill the young, as their parents would not be able to feed and care for them once leaving the roost.

In cases where a bat enters a space where employees or the public are present, the bat should be actively removed from the property. In these situations, the best approach would be to isolate the bat into a room and open a window to let it escape.

Another option is to capture the bat and either release it outside or submit the bat for testing (see below). When capturing a bat, always use leather or other thick protective gloves.

To best capture a bat, approach it slowly and place a container over the bat. Slide the lid or a piece of cardboard underneath the container and flip the container over, trapping the bat. Secure the lid with tape.

Ideally the bat should be held in a container with a lid, as bats can chew through fabric, such as towels, nets and blankets.

Rabies Responsibilities, Other Hazards Caused by Presence of Bats

Though extremely rare, bats may carry rabies. Rabies is a viral disease most often transmitted through the bite of a rabid animal that ultimately leads to death if not treated.

Only 3 percent to 4 percent of bats sent for testing are found to have rabies. In fact, according to the National Weather Service and Centers for Disease Control and Prevention the odds of being fatally struck by lightning are almost 10 times greater than dying from rabies contracted from any animal.

Despite the rarity of rabies, a bat should be tested for rabies if it:

- bit someone.
- had physical contact with people prior to capture.
- was found on the ground or appears sick.
- was found with children or others who cannot reliably communicate.

If tests reveal that the bat carried rabies, a rabies post-exposure prophylaxis (PEP) should be administered. If the bat is not available for testing, a PEP should be given if physical contact occurred or may have occurred.

Another hazard can be created by significant accumulations of bat droppings, known as guano, in an attic, steeple or roost for example. When disturbed, bat droppings can cause fungal spores to become airborne, which if inhaled, has been linked to adverse respiratory conditions.

People removing droppings should be equipped with appropriate respirators and a written respiratory safety program instated to ensure proper fit, use and storage of the equipment. Members may want to hire an outside service to clean the guano given these requirements. Many bat exclusion companies also offer this service.

Safety and Risk Management Recommendations

Although many people view bats as pests, the reactions to bats are often disproportional to the risks they present. MCIT recommends the following when controlling risks associated with bats.

- As multiple bat species are protected by federal or state laws, members should protect the bat while controlling or removing it, not kill it.
- Members should seek to exclude bats from structures, following the measures discussed above.
- Health hazards from bats, such as rabies are rare but serious. These risks can be controlled with the use of personal protective equipment, testing and vaccines.

Further information about bats, including the protected species, and bat exclusion, removal and testing can be found at the websites for the Minnesota Department of Natural Resources (DNR.state.mn.us) and Minnesota Department of Health (Health.state.mn.us).

MCIT coverage for bat-related incidents is fact specfiic. Members can contact their risk management consultant with questions at 1.866.547.6516.

By following careful risk management and safety measures, bats and their associated hazards can be controlled in a safe and humane way.

Cyber-coverage to Expand ... Continued from Page 3

or forwarding of malware, or the abetting of a denial of service attack.

Added Services

HSB is a long-term partner of MCIT's. It has underwritten MCIT's equipment breakdown coverage for more than 15 years. It has been in the cyber space for more than five years and brings to the MCIT membership an experienced claims adjusting team. The team is familiar with these varied and specialized losses and will help direct and coach members through their claims. HSB has also assembled a panel of attorneys, forensic information technology and public relations professionals, which will be available to members in the event of a covered claim.

In 2017, MCIT in collaboration with HSB will be developing an information web portal that will provide members access to cyber-resources, including risk management tools, online training modules, incident response plans and a general cyber-news center.

Coverage Document Changes for 2017

The introduction of this cyber-coverage solution requires changes to the existing MCIT Coverage Document. All changes, including the new HSB coverage language, will be incorporated into the 2017 Coverage Document issued to members in mid-December.

This article provides only a brief summary of the coverage provided. Members should read the entire section related to cyber-coverage in the 2017 Coverage Document for a full explanation of the coverage and conditions and be alert for MCIT educational resources in early 2017 (see page 8 for Coverage Review webinar information).

PROPOSAL

Bat Habitat Conservation Plan for Timber Management and Forestry Practices, Aitkin and Carlton Counties, Minnesota

Prepared for:

Aitkin County Land Department
209 2nd St. NW Room # 206
Aitkin, MN 56431

Carlton County Land Department
1630 County Rd. 61
Carlton, MN 55718

Prepared by:

Western EcoSystems Technology, Inc.
2121 Midpoint Drive, Suite 201
Fort Collins, CO 80525
September 2, 2016 ***(revised November 3, 2016)***

WEST Inc.

ENVIRONMENTAL & STATISTICAL CONSULTANTS

2121 Midpoint Drive, Suite 201, Fort Collins, CO 80525
www.west-inc.com

September 2, 2016 *(revised November 3, 2016)*

Dear Mark Jacobs and Greg Bernu:

Western EcoSystems Technology, Inc. (WEST) is pleased to submit the enclosed proposal in response to the request for a Habitat Conservation Plan (HCP) to address conservation and compliance needs for bats in support of continued timber management and forestry in both counties. This proposal provides a revision to the HCP task described in our submittal dated May 20, 2016. We have brought current the May 20, 2016 scope of services and associated budget to reflect work authorized and completed to date in 2016. In addition, while we have omitted the Best Management Practices (BMP) Task and are no longer proposing a stand-alone BMP document, some of the work proposed under the BMP task has been brought into the revised HCP proposal, as this effort is needed to develop the impact assessment and conservation measures.

WEST provides its clients with a unique combination of ecological, statistical, and regulatory compliance expertise to help solve on-going and contemporary natural resource challenges to projects throughout the United States. WEST has established a team of highly-qualified professionals to complete an HCP for the Aitkin County Land Department (ACLD) and Carlton County Land Department (CCLD) timber management and forestry practices. This group of Key Personnel will guide the HCP process and the development of HCP documentation and are backed by WEST staff resources, including species specialists, biometricians and ecological modelers, and data managers and technical editors.

Local Experience: Relevant to the proposed scope of work is WEST's previous experience working with Aitkin and Carlton Counties in performing bat surveys during 2014, 2015, and 2016. Acoustic, mist-netting, and radiotelemetry studies conducted during this time documented the presence of northern long-eared and little brown bats at each of the sites surveyed, suggesting these species are not rare in the region and can benefit from impact assessments related to their use of resources in the area, as well as management practices aimed at conserving bats and identifying measures to protect bats and their important habitat resources. WEST will build upon results of these studies to expand the understanding which Aitkin and Carlton Counties has of these issues, and to incorporate field survey results to support a Habitat Conservation Plan and address future compliance needs.

HCP Experience: WEST is the leader in the field of Section 10 Endangered Species Act (ESA) consultations for bats. WEST was the lead biological consultant on three Incidental Take Permits (ITPs) issued to date for Indiana bats. WEST is currently working on over 15 individual HCPs focused on northern long-eared bats in the states of Ohio, Iowa, Indiana, Michigan, New York, Pennsylvania, and West Virginia. Other examples of WEST's leadership in the arena of HCP preparation is our role as the lead contractor for the biological components of the three multi-species, regional HCP efforts underway for the energy industry, two of which focus on multiple species of bats and cover the northern long-eared bat. This extensive HCP experience

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has allowed WEST to develop a collaborative and streamlined process for working with applicants, the U.S. Fish and Wildlife Service, and other stakeholders to develop credible and defensible HCPs that meet the criteria for ITP issuance.

Cost Effectiveness and Efficiency: WEST prides itself in providing cost effective solutions. Through our strong technical approach, our team will focus on addressing the specific issues at hand as efficiently as possible. This approach benefits our clients by saving time, effort, and ultimately money. WEST's in-depth knowledge of the Section 10 process, expertise in bat biology, experience and understanding of bat use in the ACLD and CCLD region, and extensive in-house modeling and statistical expertise provide ACLD and CCLD with a dedicated team capable of helping successfully navigate the HCP process as efficiently and cost-effectively as possible. Building from these qualifications, WEST has the breadth and the background to provide ACLD and CCLD with a professional, high quality, and scientifically defensible HCP and ITP.

We believe that an undertaking of this type offers many opportunities for WEST to leverage its experience with the local resources, agencies, and the issues specific to regulatory compliance to develop an extremely cost effective and efficient solution to the challenges facing timber management operations in the region. Whether it is through gaining more information about local bat resources, building management practices which can be integrated into on-going plans and/or developing a regulatory permitting approach, WEST is excited about this opportunity to continue our support to both the Aitkin County Land Department and the Carlton County Land Department. Please do not hesitate to contact us with any questions or for further details.

Sincerely,

Timothy J. Sichmeller, M.S.
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INTRODUCTION TO THE PROPOSED HABITAT CONSERVATION PLAN

Bat surveys have been completed on forested lands managed by Aitkin County Land Department ("ACLD") and Carlton County Land Department ("CCLD"), demonstrating summer occupancy by federally threatened northern long-eared bats *(Myotis septentrionalis)* and little brown bats *(M. lucifugus)*. Therefore, potential impacts to these species may occur during the summer maternity and migration periods. To address this potential, ACLD and CCLD plan to develop a Habitat Conservation Plan and apply to the U.S. Fish and Wildlife Service (USFWS) for an Incidental Take Permit (ITP) under Section 10 (a)(1)(B) of the Endangered Species Act (ESA) that will authorize take of Covered Species, to include the northern long-eared bat and potentially include the little brown bat, which may potentially be impacted by forestry and related timber management practices within the counties.

This proposal describes the anticipated tasks required by Western EcoSystems Technology, Inc. (WEST) to prepare a Habitat Conservation Plan (HCP) and assist ACLD and CCLD in the pursuit of an ITP for the potential take of Covered Species from forestry and timber management and harvest operations.

SCOPE OF WORK

WEST proposes to assist ACLD and CCLD with the following services that are required to obtain an ITP for northern long-eared bats and little brown bats on lands managed for timber in the counties: (1) preparation of the draft and final HCP documents; (2) coordination with the USFWS and other necessary stakeholders; (3) technical assistance in addressing and incorporating public comments; and (4) providing support through the Implementing Agreement (IA) and ITP application process.

WEST has been developing HCPs for listed bats for many years. These documents can provide standards, and thereby efficiency, for preparation of the ACLD and CCLD HCP, as much of the underlying data on northern long-eared bats has been gathered and can be used in the development of the ACLD and CCLD HCP. WEST will use information derived from completed survey efforts, as well as any new, applicable information, to guide the preparation of the ACLD and CCLD HCP.

Task 1 Information Adequacy Review

To develop the HCP, WEST will integrate information gained during past acoustic, mist-net, and telemetry surveys in 2014, 2015, and 2016, as well as current information defining ACLD and CCLD forest resources and management goals and practices. WEST will rely upon ACLD and CCLD to provide the basis for a description of the purpose and need for the HCP, existing GIS maps and text describing related resources and activities (e.g. forested habitat and management practices to be addressed in the HCP), as well as complete descriptions of forest management activities sufficient that WEST can adequately describe not only the activities for which ACLD and CCLD seek incidental take coverage, but also the potential impacts these activities may have on the covered species, the estimated take of Covered Species associated

with the Covered Activities, and the conservation measures appropriate to minimization and mitigate for the effects of the impacts of such taking.

WEST will develop the following, in support of the HCP process and documentation:

1. A description of the current conditions of forest resources and habitat on ACLD and CCLD lands, including a list of protected and other sensitive bat species resources, with graphic and text descriptions of the potential locations of these species and their habitats.

2. A general descriptive assessment of the predicted impacts to Covered Species that may occur if white-nose syndrome continues to spread and populations begin to decline in Minnesota. Regulatory compliance risk associated with potential deleterious impacts to the Covered Species will be described in this context. Depending upon the duration of the permit desired by ACLD and CCLD, an assessment of the predicted impacts to the Covered Species from climate change will be similarly described.

3. GIS maps and a descriptive narrative of resources affected will be developed by WEST for use in the HCP. The narrative will identify the map location and features, and will describe the forest community/habitat types and provide a graphic and text description of the forest habitat and its relationship to the Covered Species in the Permit Area.

WEST will use current USFWS guidance regarding assessment of potential impacts of timber management to northern long-eared bats in USFWS Region 3, which reflects very recent research and agency evaluation. WEST will review relevant background information received from ACLD and CCLD in the context of this current USFWS guidance, and the latest research regarding impacts of timber management to bats. To determine information adequacy for preparation of the HCP, WEST will review previous survey and habitat assessment data and any agency communication that may be pertinent to timber management practices by ACLD and CCLD. WEST will prepare a Status Summary document which identifies and recommends potential strategies to resolve any HCP-specific data inadequacies. Approaches used to prepare the Status Summary will follow relevant publicly available information, policies, and guidelines as WEST deems appropriate. WEST will provide to ACLD and CCLD for review and comment one or more proposed strategies to complete a robust HCP.

Task 2 Preparation of Draft Habitat Conservation Plan

WEST will work with the USFWS Twin Cities Ecological Field Services Office (ESFO) Bloomington, Minnesota and Region 3 personnel in development of the HCP to ensure all mandatory elements of an HCP are appropriately addressed, and that the HCP meets all statutory elements required under Section 10 of the ESA. WEST has developed a process with distinct component elements and milestones by which an effective and biologically defensible HCP is developed. For the basic structure and content of the HCP, WEST will rely heavily on publicly-available HCP materials, as well as our internal resources that are relevant to the ACLD and CCLD HCP.

The mandatory elements of an HCP require the HCP Applicant to assess impacts of the proposed incidental take and provide measures the Applicant will take to avoid, minimize, and mitigate the impacts of the take (i.e., the conservation plan). These elements define the process by which an applicant can work collaboratively with the USFWS in the successful completion of the HCP, and are the framework for WEST's approach to developing a successful HCP/ITP package. The HCP outline and content will be in accordance with ESA [Section 10(a)(2)(A)] and Federal regulation [50 CFR 17.22(b)(1), 17.32(b)(1), and 222.22]. The general outline and content of each HCP chapter as proposed is described below, although WEST acknowledges that this outline and chapter content are subject to change based upon ACLD and CCLD and USFWS input.

Chapter 1.0 – Introduction

This chapter will provide a general overview and describe the purpose of the HCP, the legal and regulatory framework of the HCP, including ESA sections 7, 9, and 10, compliance with National Environmental Policy Act (NEPA), and other appropriate federal and state laws or regulations. Chapter 1 will furthermore provide background information on the ACLD and CCLD HCP, the proposed permit duration and the factors considered in determining the length of the permit, covered lands, and the covered species.

Chapter 2.0 – Project Description and Covered Activities

This chapter introduces the Applicant's background and history and describes in detail the covered activities to be addressed in the HCP. This chapter will describe ACLD and CCLD's environmental policies and timber management history, and will describe in detail the operating practices, including all relevant TMP components and information about future proposed activities. This chapter will also establish the basis of the boundary of the "permit area" and "plan area," of the HCP by identifying all activities that may result in incidental take of the Covered Species and the area in which those activities occur. The HCP permit and plan area definitions will be as precise as possible to avoid later uncertainty about where the permit applies or where ACLD and CCLD may have responsibilities under the HCP. Maps, figures, and UTM coordinates of proposed turbine locations, and/or legal descriptions will be included as necessary to clearly identify precise boundaries. Activities will be described in as much detail as necessary to give a complete and accurate description of the facilities and the actions that are likely to lead to take. Pertinent information on timing or phasing of covered activities will also be included.

Chapter 3.0 – Environmental Setting and Biological Resources

This chapter will provide general information on the existing environmental setting for the ACLD and CCLD timber management practices, including land use, topography,

geology, soils, hydrology, landcover, wildlife in the permit area, and relevant pre-construction studies conducted. Content for this chapter will be drawn largely from the available desktop and field studies conducted by WEST, and ACLD and CCLD and relevant projects in the region. This chapter will also include baseline biological and ecological information on the Covered Species, including what is currently known about their life history requirements, habitat requirements, current threats, distribution and population trends both range-wide and within the plan area. WEST assumes that the Covered Species will be limited to the northern long-eared bats and possibly the little brown bat. Although WEST will be available to support ACLD and CCLD if additional species are added to the HCP, our scope and costs are built on the assumption that the two species will be the only species covered.

Chapter 4.0 – Impact Assessment / Take Assessment

This chapter will describe the type, timing, and extent of anticipated impacts from Covered Activities that are likely to lead to take of the Covered Species. Impacts will be described in terms of whether they are direct or indirect. Direct impacts are those that have an immediate effect on the Covered Species, whereas indirect impacts are those that are caused by the proposed action(s) and are later in time, but still are reasonably certain to occur. Methods used to estimate bat take during timber management operations have varied in large part due to the varying risk profiles of timber harvest practices, available on-site and regional data, and preferences of various field offices.

This chapter will also describe the impact of the taking of the Covered Species, the methods for which will be determined during the HCP development and discussions with the USFWS and ACLD and CCLD. The objective of the impacts of the take assessment is to determine if the proposed take may jeopardize the continued existence of the species. The impacts of the taking of the Covered Species will be assessed in a stepwise fashion that initiates at the local population level and then progresses to the regional level (e.g., recovery unit scale) and the to the species range-wide level. The impacts of the taking will be discussed in terms of observed and future anticipated impacts from WNS in the upper Midwest.

Initially a qualitative approach will be developed and vetted with the USFWS to compare the overall proposed take level (for the term of the permit) to the known or estimated population sizes of the Covered Species. If the qualitative analysis indicates no effect on the Covered Species from the take at the local level, the HCP analysis will be confirmed with the USFWS and completed at that stage. The need for a more detailed analysis on the regional and range-wide levels is likely for the ACLD and CCLD HCP, as may be determined if the proposed take may adversely affect the species local population(s). In this case the HCP is in turn likely to include an analytical approach such as use of the USFWS's Region 3 Northern Long-Eared Bat and Little Brown Bat Resource Equivalency Analysis (REA) models to estimate the lost reproductive capacity of northern long-eared bats and little brown bats resulting from the proposed take.

Chapter 5.0 – Conservation Program

This chapter will describe the avoidance (if appropriate), minimization, mitigation, monitoring, and adaptive management measures that will be implemented to achieve the biological goals and objectives of the HCP. WEST will work closely with ACLD and CCLD in developing this chapter to ensure that measures will result in an economically viable HCP. It is imperative to work closely with the USFWS during development of the Conservation Program to ensure that measures are sufficient to meet ITP issuance criteria.

The mitigation plan will be developed in coordination with the Twin Cities ESFO. It is assumed that the REA models for northern long-eared bats and little brown bats will be used to help develop the criteria to define an appropriate mitigation project for the Covered Species, including the credit that will be applied for summer or swarming habitat protection and/or restoration, and/or winter habitat protection. WEST will work collaboratively with the USFWS ESFO to develop ideas for bat mitigation and will strive to find projects that will be suitable for both Covered Species to minimize mitigation costs.

WEST will support ACLD and CCLD in the development of a mitigation plan in close coordination with the USFWS ESFO where appropriate. WEST will assist in identifying potential mitigation strategies and partners and participate in meetings with USFWS and mitigation partners regarding the specific details of the mitigation plan. We propose to utilize our local experience to help design a cost-effective mitigation plan that provides maximum conservation to the Covered Species through cost efficient use of available resources. Note that this scope of work does not include the selection of specific mitigation parcels or caves to be protected.

Adaptive management will be an integral part of the conservation plan to address uncertainty in the take assessment and to offset the impacts of the take. The monitoring program will help to fill any data gaps and will provide information to complete a data feedback loop that links implementation and monitoring to a decision-making framework.

Monitoring will be necessary to evaluate compliance with the HCP, determine if the biological goals and objectives are being met, and provide feedback to inform the adaptive management strategy. Procedures for monitoring compliance with the ITP and effectiveness of the conservation plan will be described in detail in this chapter of the HCP. Reporting requirements of the mitigation and monitoring process will also be described here (e.g., annual report assessing take that occurred, annual report on habitat acquisition or management, etc.). Additional information on reporting may include the basic content of the reports, the reporting schedule, due dates, who will prepare reports, and to whom reports will be submitted.

Chapter 6.0 – Funding

This chapter will describe how each component of the HCP will be funded and what funding assurances will be provided. It will include estimated costs of monitoring and mitigation and will account for inflation over the course of the ITP term, as well as estimated costs for addressing changed circumstances and adaptive management responses, as necessary.

Chapter 7.0 – Alternatives

A mandatory element of an HCP, this chapter will identify alternatives to the taking that were considered by the Applicant but which were not chosen. In general, this chapter will describe alternatives to the Covered Activities that ACLD and CCLD considered that did not lead to take or would lead to a different level of take, and/or alternatives to the conservation plan proposed in the HCP that would lead to different impacts of the taking on the Covered Species. The exact form of the HCP alternatives will be discussed and developed with the USFWS so as not to expend valuable resources developing this chapter that does not greatly influence the overall outcome of the HCP process.

Chapter 8.0 – Plan Implementation, Changed and Unforeseen Circumstances

This chapter describes the HCP administration, implementation, and reporting schedules. This chapter also provides a discussion of HCP assurances, including identification of and measures which ACLD and CCLD will implement in the event of changed circumstances, the process by which unforeseen circumstances will be addressed, and the identification of and process for minor and major permit amendments.

Chapter 9.0 - Glossary and Acronyms

This section will provide definitions of important terms and acronyms used in the HCP.

Chapter 10.0 – References

This section of the HCP will provide appropriate references for literature cited, personal communications, and the list of preparers of the HCP.

Appendices

This section of the HCP will provide appropriate appendices such as relevant pre-construction study reports, technical descriptions of analyses or models too detailed for inclusion in the HCP, wildlife and incident reporting procedures, and an implementing agreement, if one is prepared for this HCP.

WEST will compile the draft chapter content described above, as well as associated graphs, tables, figures, and maps. Interim draft chapters of the HCP will be internally peer-reviewed by WEST staff with expertise in ecology of the Covered Species and ESA Section 10 consultations to ensure that all issues have been properly addressed.

Task 3 Review and Revisions; Final HCP and ITP Application

Draft HCP – First Draft

Following completion of draft chapters of the HCP, WEST will compile a preliminary First Draft HCP that will include all major components of the document – covered activities, minimization and mitigation measures, monitoring and adaptive management processes, funding assurances, alternatives, and changed and unforeseen circumstances, as well as associated graphs, tables, figures, and maps. The First Draft HCP will be reviewed internally by ACLD and CCLD and legal counsel prior to any submittal of the compiled draft or components of the draft to the USFWS and state agencies participating in the process for review. This first draft will include all major components of the document – covered activities, minimization measures, monitoring, and mitigation, closely following USFWS-vetted measures included in existing, publicly-available bat HCPs and other publicly-available documents.

Draft HCP – Second Draft

WEST will prepare the second draft of the HCP, which is anticipated to have significant input and comment from the USFWS and other 3rd parties, as necessary. It is anticipated that the Second Draft HCP will undergo the most extensive review by the agencies, and agency coordination through phone calls and an in-person meeting will be important to ensure that concerns and comments are fully vetted and an acceptable process for comment resolution is developed. If needed for this HCP, and concurrently with development of the First Draft HCP, WEST will develop a standalone Monitoring Plan, based upon the HCP and suitable for meeting regulatory requirements and policy guidance, and provide support in developing an Implementing Agreement.

Draft Final HCP, ITP Application, and Public Comment Support

After the draft HCP has been accepted by the USFWS as statutorily complete, WEST will prepare the Draft Final HCP and formal application package to be submitted to the USFWS for public review. This application is expected to be developed concurrently with the USFWS NEPA and Section 7 analyses, and the draft HCP will be made available for public review at the same time the draft NEPA document is made available.

Final HCP, ITP Application, and Supplemental Documents through ITP Issuance

The proposed scope of work includes technical support to assist the USFWS and ACLD and CCLD in addressing public and stakeholder comments received on the Final Draft HCP. Provided the collaborative process with the USFWS has been successful, minimal changes to

finalize the HCP are anticipated. This task includes preparation of final HCP and the ITP application with the technical assistance and guidance of the USFWS, and preparation of responses to comments and revisions as needed to the HCP.

Once public comments have been addressed and the final draft HCP has been approved by the USFWS, WEST will assist ACLD and CCLD in the preparation and submittal of an ITP application, which will include a summary of the key elements of the conservation plan.

Task 4 Unpriced Option: NEPA Analysis and Section 7 (Biological Opinion) Support and Assistance

Scope and costs for preparing the NEPA documents (most likely an Environmental Assessment [EA] rather than an Environmental Impact Statement [EIS]) for the USFWS are not included in this proposal. WEST is available to complete NEPA process management and documentation for the ITP issuance, but the agency may prefer that another third-party preparer complete the NEPA compliance requirements for the HCP; this distinction will be made in preliminary discussions with the USFWS.

Provided as an Unpriced Optional Subtask, pending further discussion with ACLD and CCLD about the scope of work for the NEPA analysis, WEST will provide support and assistance in preparation and review of the USFWS NEPA document and the ESA Section 7 Biological Opinion. WEST's role in these documents will be primarily related to wildlife resources including all wildlife, birds and bats, and threatened and endangered species, and assistance with review and comment on draft material. WEST will provide expert review and assistance in preparation of the NEPA document if requested. It is proposed in the budget that the NEPA document to be prepared will be an EA. The budget does not include any additional in-person meetings that may be required for the NEPA and Section 7 documents, and contemplates that all correspondence and coordination will occur via phone and email.

Task 5 Agency Meetings

WEST will organize meetings and coordinate with the USFWS during the HCP preparation. Up to three in-person agency meetings in Bloomington, Minnesota, and up to six agency conference calls are included in the budget.

The first in-person meeting with the USFWS will be held after ACLD and CCLD notifies the USFWS of their intent to prepare an HCP and apply for an ITP. The agenda for the first meeting will include, but not be limited to, the overall HCP outline and general HCP terms (e.g., the permit area, permit duration, Covered Species, Covered Activities), discussion of the proposed take assessment methods; discussion of the proposed minimization and monitoring measures, and discussion of the ITP monitoring and adaptive management process. The goal of the initial meeting will be to come to initial agreement with the USFWS on these HCP elements so that the Draft HCP can be compiled. The second meeting is planned to occur prior to the Final Draft HCP (the public review draft) to resolve final areas of conflict or outstanding issues. The final in-person meeting will be held after the Public review period is complete. The primary objective for

the final in-person meeting is to address public comments and determine necessary revisions to the Draft HCP to address comments. WEST will assist in determining scheduling, agenda, and meeting notes for each meeting and agency conference call.

Conference calls will be held during preparation of the HCP on an as-needed basis, to address HCP development issues and review comments with the ACLD and CCLD HCP team and/or USFWS.

Task 6 Project Management and Coordination

As proposed, this Subtask includes time for management of the HCP development process including general Project management, coordination, and administrative activities. As with all WEST projects, the ACLD and CCLD HCP will be overseen by a HCP Project Manager who will work with the Project team to make sure that deliverables are consistent with ACLD and CCLD priorities and goals. The HCP Project Manager, will be responsible for coordination among multiple WEST team members that bring a wide range of experience to the analysis and drafting of the HCP document. WEST approaches all projects with experienced staff, as specialists in each area performing their respective tasks as part of a well-integrated team. The HCP Project Manager will work with a team of dedicated bat biologists, statisticians, and technical editors to prepare the HCP document. This team approach is crucial when working on complex and involved tasks, such as the preparation of an HCP.

As part of proposed Task 6 responsibilities, WEST will coordinate with stakeholders on project correspondence, draft documents, and other relevant material for review. This includes two strategy meetings per quarter (with minimum one hour of senior adviser time); one hour weekly coordination calls with ACLD and CCLD staff; WEST will also provide calendar-quarterly reports detailing project status, including completed milestones, upcoming activities, and financial details of the project.

The HCP Project Manager will ensure that deliverables and deadlines are understood by the WEST team and are translated into clearly-defined tasks. This internal management structure will ensure that the HCP is consistent with the expectations of ACLD and CCLD, the USFWS, and other appropriate Project stakeholders. The HCP Project Manager will also ensure that deliverables are scientifically robust and defensible, and that deliverables are produced on time, and within budget.

Development of the HCP will require business decisions affecting Project financial and schedule commitments, thus active participation by ACLD and CCLD in development of the HCP is critical to issuance of the ITP. Additionally, development of the HCP will involve evaluation and decision on legal issues, such as determination of appropriate funding mechanisms and the need for an implementing agreement with the USFWS. Therefore, WEST expects that representation on the HCP development team by legal counsel will be provided by ACLD and CCLD as an important aspect of successful completion of the HCP/ITP application package. WEST will coordinate with all designated HCP development team members on Project correspondence and drafts of written reports and material for review. All correspondence sent

to agencies and other stakeholders will be coordinated through the ACLD and CCLD Project Manager(s).

Schedule and Deliverables

The following schedule is for development of the HCP through ITP issuance, and describes an approximately 18 month period. Note that this is a somewhat aggressive "best case" scenario, which, while realistic, depends upon smooth transitions between phases of the HCP development and timely review by all invited stakeholders, especially USFWS. Should initiation of the HCP be delayed at ACLD and CCLD's request, the timeline can be delayed accordingly.

- January 2017: Notice to proceed and begin work on first Draft HCP
- June 2017: First Draft of Chapters 1 – 4 of the HCP for internal review and discussion with USFWS
- October 2017: First Draft of Chapters 5 – 8 of the HCP for internal review and discussion with USFWS
- December 2017: Second Draft HCP compiled for USFWS submittal, prepared through internal (WEST, ACLD and CCLD) and external (USFWS) meetings/discussion/review
- January 2018: Draft Final HCP for USFWS review
- February 2018: End of USFWS review period for Draft Final HCP
- March 2018: Notice of Availability of the Draft EA and Draft HCP for public review
- April 2018: End of public review period for Draft EA and Draft HCP
- May 2018: Final HCP completed
- June 2018: Final EA, Record of Decision, Implementing Agreement, findings document, Biological Opinion
- July 2018: end of Final EA public review/ "waiting" period

To meet the timelines that we have proposed, it will be necessary for ACLD and CCLD to provide, in a timely fashion, thorough and accurate descriptions of Project activities, associated GIS layers, information regarding funding assurances, and participation in development of minimization, mitigation, and monitoring plans, and project alternatives. WEST will work closely with ACLD and CCLD to acquire and develop these elements.

Note that a number of factors outside the control of WEST and ACLD and CCLD may affect the schedule, including availability of USFWS personnel for meetings and agency timeliness of review of draft material. Given the high-profile nature of bat conservation issues as a result of unprecedented population reductions from WNS, the USFWS is expanding their internal review of HCP documents to the Regional level in some cases. Such broad-level review can result in unpredictable comments and need for revisions, especially when new reviewers and Solicitors are brought on at a late stage in the review process, as has been

the case with other HCPs WEST has been involved in. Thus, unexpected delays may result from extra time required to respond to unforeseen USFWS comments and reanalysis of key chapters of the HCP. However, because many similar issues will have been resolved through WEST's work on other bat HCPs, we have established valuable templates and/or processes to address and overcome these potential roadblocks. As long as WEST and ACLD and CCLD take a proactive approach to these issues, potential need for renegotiation with the USFWS should not appreciably slow down the timeline for completion of the HCP.

The above schedule should be considered a general guide for completion of the draft HCP, acceptable to the USFWS. WEST will make every effort to maintain a reasonable schedule as above for completion of the HCP and will discuss schedule changes with ACLD and CCLD upon recognition.

Cost Proposal

The total cost to complete the Scope of Work is $111,404 and will be invoiced on a time-and-materials basis. These costs will not be exceeded without prior written consent from ACLD and CCLD. However, please note that projects of this nature may sometimes involve additional effort resulting from unanticipated agency or public comments, or the introduction of Project changes during the HCP or NEPA processes. Our costs were developed based upon the assumptions listed in the scope of work such as the number of reviews (both internally with ACLD and CCLD, as well as agency reviews) and approach to take estimation, along with other listed assumptions on overall schedule. Any changes to the assumptions listed in the Scope of Work could result in additional costs. WEST will promptly apprise ACLD and CCLD if additional effort is necessary and the estimated budget shown in the table below will be exceeded and provide justification for potential cost increases. Table 1 provides the details of our proposed cost breakdown for the HCP.

Task 3: Habitat Conservation Plan	Line Item Cost
Task 1. Information Adequacy Review	$8,540
Task 2. Preparation of the Draft Habitat Conservation Plan	$41,600
Task 3. Review and Revisions; Final HCP and ITP Application	$13,720
Task 4. Unpriced Option: NEPA Analysis and Section 7 (Biological Opinion) Support and Assistance	---
Task 5. Agency Meetings	$29,684
Task 6. Project Management and Coordination	$17,860
Total	**$111,404**

Budget Clarifications and Exceptions

The following are clarifications and exceptions used in the costing of the proposed budget, and are binding elements of any contract that may ensue from this submittal.

- The scope and budget assume the overall timeline for the HCP development process will be approximately 18 months. In the event that the Project is delayed beyond two years, or in the event that the scope of work changes from that described above, WEST will work with ACLD and CCLD to determine the adequacy of resources remaining to complete the HCP.
- Three, 1-day agency meetings (with an overnight for travel) are included in the scope and budget. The budget costs are based upon agency meetings being held at the USFWS Twin Cities ESFO in Bloomington, Minnesota.
- For each chapter of the HCP, the costs include time for developing the draft chapter, QA/QC, technical review, technical editing, two iterations of review, and incorporating the chapter into the over Draft and Final HCP documents.
- The Executive Summary for the HCP will be written following completion of the Final Draft HCP so as to avoid inconsistencies between the summary and the text and so that all reviewers are familiar with the full content of the document.
- The scope of the HCP will cover two species of bats as identified. In the event that the ACLD and CCLD determine that additional covered species should be included, WEST will provide a cost estimate for including those species.
- Principal content required for the draft Introduction and Background information, Project Description, and the Funding Description of the HCP will be provided by the ACLD and CCLD.
- The scope of work and budget do not include review or preparation of the NEPA or Section 7 documents, required for the USFWS action of ITP issuance.

- Unless otherwise stated in the Scope of Work, draft and review documents will be shared electronically in Microsoft Word tracked changes mode.
- The Administrative Record for the Project will be for the activities related to the HCP development and will not be for the USFWS and their NEPA process.

PROJECT ORGANIZATION AND MANAGEMENT APPROACH

Project Management

WEST prides itself in providing an effective and efficient approach for clients. By using a strong statistical and analytical approach, our project managers focus efforts towards answering the specific questions at hand as efficiently as possible. The Key Personnel listed in this proposal have years of experience designing and managing bat surveys, management plans, and ESA compliance projects. We will use the experience that our project managers have gained to efficiently develop study plans, develop strategies for compliance issues, and leverage our relationships with USFWS and state agency staff towards effective permitting and regulatory review timelines.

Further, WEST achieves efficiency by using expert biologists that are skilled at project management to streamline the management process. Whether conducting preliminary risk assessments, designing or implementing surveys, monitoring studies, or conservation plans, this approach benefits our clients by saving time, effort, and ultimately money. We pride ourselves in completing projects within scope, on time, and within established budgets.

For field studies, we have both the experience and existing trained staff to efficiently manage the data collection process, data entry, and statistical analysis. The project managers included in this proposal have experience meeting and adapting to the needs of changing development priorities and active construction schedules while maintaining high quality levels of service and reporting. Our internal process has embedded quality controls, ensuring that the information and records review process will be efficient, and with scientifically defensible results. This quality control is currently undergoing a rigorous update to add in further personnel and levels of review to provide even higher quality products. Critically, WEST has the data, knowledge, and expertise to put the results of our field studies into context, and to help our clients best understand risks and opportunities throughout project decision-making processes.

The Task Managers have access to WEST's technical matter experts, such as WEST's nationally recognized avian and bat biologists; biometricians and statisticians; technical writers and editors and the data management department. WEST has over 100 full-time professional scientists and statisticians on staff, bringing expertise in the RFP areas including biologists, ecologists, regulatory compliance and conservation planning specialists, and GIS professionals. Our commitment to scientific excellence, regulatory compliance expertise, and development of cost-effective, successful projects for our clients is demonstrated throughout our organization, starting with WEST's founders and Principals, and projected throughout all technical and administrative staff. WEST brings this depth and breadth of experience to meet the needs of the

technical and management criteria stated in the RFP. Additionally, the Key Personnel will be supported by a complete Information Technology Department, Accounting, Contracting and other key functions that will facilitate a smooth business administration of the project.

Quality Control of Deliverables

Quality control procedures as they relate to preparation and review of deliverables are as follows:

Preparation of Deliverables
Project personnel will perform their assigned activities to develop project deliverables in accordance with (1) the processes and procedures necessary for an HCP, (2) agreed-upon editorial style conventions, and (3) any specific instructions or administrative guidance from the WEST Project Manager or Senior Advisor. All work to produce, collect, and verify information will be accomplished using sound scientific principles and methodologies.

Environmental documents and technical data which may ultimately be released to the public will be written and presented in plain language and a format easily understood by the educated public. Data will be reviewed and calculations and analyses will be performed, reviewed, and accepted for inclusion in deliverables in keeping with industry standards. Either the complete reference documents or copies of relevant sections of the reference documents will be maintained in the Administrative Record located in WEST's Cheyenne, WY Headquarters office.

Review of Deliverables Prior to Submission
Upon completion of a draft deliverable, the author will submit the draft to the WEST Project Manager who will select one or more qualified staff to perform a technical review. Technical reviewers will verify the accuracy, representativeness, completeness, and reference-ability of environmental information to the extent necessary to ensure that conclusions are based on appropriate information of known quality.

Internal Protocols for Protecting Confidential Information
We recognize that the work to be carried out must be kept confidential. WEST routinely provides services similar to the proposed scope of work for other clients, and is committed to keeping such proprietary information confidential. All employees of WEST fully understand that they are contractually bound to a requirement to protect the right of confidentiality of WEST, our clients, subcontractors, and associates. Every staff member is legally and ethically bound to guard confidentiality at all times and in all places. As a condition of employment all employees of WEST sign a Confidentiality Statement. An employee may not speak to the news media or publish articles, position statements, or other statements of personal opinion as an official or unofficial spokesperson of WEST without prior approval from the CEO or his/her designee. The project-specific protocol as per contracts and client direction is always followed and takes precedence.

Key Personnel Roles and Project Team Organization

WEST will complete all services using a team of experienced and qualified staff that have successfully completed similar tasks for other similar projects throughout the region. Project tasks will be organized by specialty area among a group of full-time WEST biologists and statisticians. A short biography of each of the Key Personnel is found below, and complete resumes are available upon request. The WEST team will be structured such that the Project Manager will coordinate each of the Tasks and will allow the team to communicate effectively with ACLD and CCLD.

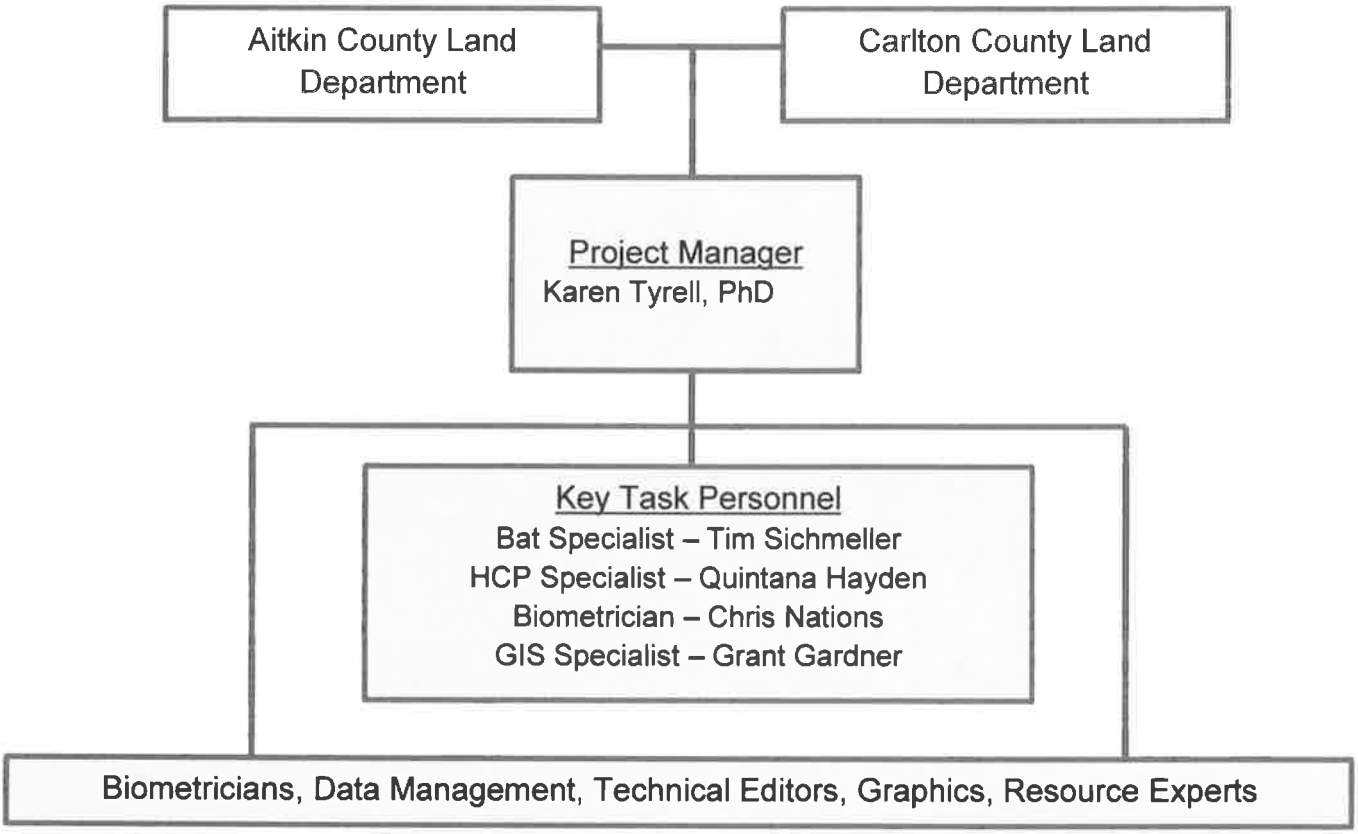

Figure 1 - WEST Project Team Organization Chart

WEST's Key Personnel (identified by name in the Organization Chart, Figure 1 and biographical sketches in the following section) have been selected for their role in this Project by two principal qualifications; (1) technical subject matter expertise, and (2) proven management experience on the key services described in the scope of work. WEST's Key Personnel are all seasoned experts who have managed similar efforts on numerous past projects. Each team member understands the breadth and complexity of the technical scope, scheduling, budget control and management of not-to-exceed price contracting, and the communication requirements necessary to complete the key services. These individuals will deliver work products of the highest quality, produced efficiently and in adherence with cost and schedule constraints. Brief biographies of Key Personnel immediately follow.

Key Personnel Biographies

Karen Tyrell, PhD, HCP Project Manager

Karen is a Senior Ecologist in the WEST Knoxville, Tennessee field office. Karen has over 25 years of experience specializing in wildlife resource investigations and regulatory permit compliance for the development of renewable and fossil fuel energy generation and transmission facilities throughout the U.S. Karen's role at WEST includes expanding client support in the fields of energy generation and transmission, as well as government contracts. Karen is the Project Manager for the Technical Team for the Great Plains Wind Energy Habitat Conservation Plan, which covers a nine-state region and is one of the Nation's largest and most complex endangered species compliance efforts. Karen also serves as Key Staff on the Regional HCP proposed by the Oil and Gas Industry to address conservation and compliance requirements for five species of bats from project impacts. Dr. Tyrell's work for the Department of Defense has included development of Best Management Practices for Integrated Natural Resource Management Plans, Endangered Species Management Plans/Components, and Forest Management Plans.

Karen received a BS in Zoology at the University of Wisconsin-Madison. Karen began her professional career in the late 1980's working for the Illinois State Natural History Survey, completing state-wide surveys and impact assessments for endangered bats. Upon completing her PhD at the University of Illinois, where she studied auditory system development and sensory cue use by foraging bats, Karen taught Behavioral Ecology at Illinois for a year, then took a faculty position in Biology at the University of Tennessee. Prior to joining WEST, Karen was responsible for establishing and growing the natural resources management capabilities for private environmental consulting groups, and has focused on projects addressing the environmental planning and regulatory permitting needs of commercial developers as well as federal, state, and municipal government organizations. Much of this work has been in support of compliance with the National Environmental Policy Act (NEPA) and the Endangered Species Act (ESA). She has developed impact assessment and environmental compliance training courses for a number of federal and state environmental programs, and served on the USFWS Indiana Bat Recovery Team. Karen is active on a number of technical and academic committees addressing environmental effects of utility-grade wind power facilities.

Tim Sichmeller, Bat Specialist

Tim joined WEST in 2010 as a bat biologist. Tim received his M.S. from Ball State University in 2010, where he studied the physiology and ecology of three sympatric Myotis bats, the endangered Indiana bat (*M. sodalis*), the threatened northern long-eared bat and the little brown bat. In 2005, Tim received his B.S. in Zoology from Colorado State University.

Tim spearheads our Indiana bat and northern long-eared bat surveys within their respective ranges. Tim has managed and supervised pre-construction wind projects, pipeline presence / absence surveys and bat habitat assessments, as well as working closely with the timber industry on presence / absence surveys and conservation strategies. Tim has worked directly in the northern great lakes states since 2014, supervising and managing acoustic, mist-net, and

radio-telemetry projects surveying for northern long-eared bats. Tim has worked with ACLD and CCLD since 2014, conducting acoustic, mist-net, and radiotelemetry surveys for both land departments in selected forest stands. As project manager and field supervisor, Tim has managed several crews, coordinated schedules to meet strict deadlines, and managed logistics over large-scale contracts. Tim is involved in reviewing and writing reports for several different survey efforts at WEST. Tim has been an invited speaker at different workshops and conferences, discussing bat biology and ecology, presentation of data to assist with management decisions, and instructing forest managers on bat habitat. Such conferences include The Midwest Association of Fish and Wildlife Agencies, Bat-Friendly Forestry Workshop, as well as leading a field tour for forest managers in Aitkin County, Minnesota.

Quintana Hayden, HCP Specialist

Quintana has more than six years of experience working on defining environmental impacts and conservation measures for endangered species habitat management, and has assisted in the development of numerous HCPs and NEPA analyses for bats, including northern long-eared bats and little brown bats. She has served as a contributing author and conducted supporting desktop research, literature review, and data analysis for numerous studies addressing impacts from energy development on wildlife resources including HCPs for which she has authored sections such as Environmental Setting and Biological Resources, Covered Species, Effects of the Proposed Action, Conservation Plan, Unforeseen and Changed Circumstances. She has been the primary author of numerous Bird and Bat Conservation Strategies for projects that synthesize existing data and information, develop conservation measures to avoid, minimize, and mitigate potential impacts, and provide monitoring plans for assessing potential impacts. Her responsibilities have also included estimation of take and impact of the take for covered species, analysis of acoustic bat survey data to describe temporal patterns of activity, development of protocols for post-construction mortality monitoring and mitigation effectiveness monitoring, and development of adaptive management triggers and responses. She has experience coordinating with clients and USFWS staff throughout the HCP process and has completed the USFWS Habitat Conservation Planning training at the National Conservation Training Center. Quintana has also assisted in the development of an Environmental Impact Statement for an Indiana bat HCP and development of Bird and Bat Conservation Plans (BBCSs) to support ITP Applications and NEPA review of projects that have prepared HCPs.

Chris Nations, Biometrician

Chris has worked for WEST since 2006. Chris has experience in a variety of techniques in ecological statistics including sampling design, capture-recapture and band-recovery estimation of survival and population size, resource selection, home range estimation based on telemetry data, statistical and mathematical models for animal movement, and population modeling including age- and stage-based matrix methods and demographic sensitivity analysis. He also has training and experience in multivariate methods, survival analysis, linear models including mixed models, generalized linear models, and computer intensive techniques including bootstrapping, simulation, and nonlinear optimization. He is familiar with several computer packages for statistical analysis, simulation, and general programming; these include R, SAS, Matlab, and C. Chris has developed innovative models designed to estimate impacts to bats

both on a Project-specific and a regional level. Chris has developed models of distribution and habitat use by bats, and associated impact assessment tools and methodology for estimating take of listed and non-listed species of bats, and is a recognized expert in the field of HCP impact assessment.

Grant Gardner, GIS Specialist

Grant is a GIS Specialist with comprehensive experience in the collection, management, and analysis of large amounts of geospatial data. He has served as GIS lead for several large-scale habitat suitability and patch occupancy modeling efforts as well as localized site-risk analyses for sensitive species. Grant's experience also includes data development, data conversion, navigating regulatory agency GIS protocols and frameworks, QA/QC, metadata creation, map production, coding, field coordination, and spatial analysis for an extensive array of environmental and conservation applications and projects. Grant's work has been primarily in the energy sector, frequently collaborating with public entities including NOAA, USGS, USFWS, and many state Fish & Wildlife agencies. Grant is adept with ESRI's ArcGIS Desktop 10.3 software, including the Spatial Analyst extension, and developing and editing models via ArcGIS' ModelBuilder framework. He holds a master's degree in geography from the University of Wyoming, where he has also served as a course instructor in GIS.

In addition to Key Personnel identified in Figure 1, WEST has over 100 full-time professional scientists and statisticians on staff, bringing expertise in the RFP areas including biologists, ecologists, regulatory compliance and conservation planning specialists, and GIS professionals. WEST brings this depth and breadth of experience to meet the needs of the technical and management criteria stated in the scope of work.

QUALIFICATIONS

WEST has been a leader in the field development impact assessment, monitoring, natural resources research, and permitting since 1990. WEST has participated in a breadth of ecological studies, planning, and compliance support for projects in the Midwest, and throughout the U.S., and has played a leading role in understanding, assessing, and placing into perspective the impacts of energy development and transmission projects on wildlife and habitat using scientifically credible and defensible monitoring and research methods. WEST has developed risk assessments for proposed energy facilities, which incorporate comparable datasets and meta-analyses on multiple spatial scales and for different taxonomic groups. WEST has successfully worked for stakeholders involved in energy issues, including state and federal agencies, industry, consultants, utilities, and conservation organizations.

Habitat Conservation Plans

WEST has demonstrated expertise in HCP preparation in accordance with Section 10(a)(1)(B) of the ESA. WEST has completed and is currently working on multiple HCPs across the country for individual development projects, as well as large-scale programmatic HCPs for regional power development (e.g., the Great Plains Wind Energy HCP and the Region 3 Wind Energy HCP). WEST has developed a collaborative and streamlined process for working with applicants, the USFWS, and other stakeholders to develop credible and defensible HCPs that meet the criteria necessary for ITP issuance. WEST's experience with threatened and endangered species risk evaluation and conservation planning and agency consultation allows us to develop defensible and scientifically-based HCPs.

HCP Experience

With over 10 years of experience in developing HCPs, and six years developing HCPs covering endangered bats, WEST is *the* leader in the field of Section 10 ESA consultations for endangered bats. WEST was the lead biological consultant on three of the four ITPs issued to date for Indiana bats, including Beech Ridge, Criterion, and Fowler Ridge Wind energy projects. Additionally, prior to joining the WEST team, WEST staff led the Buckeye Wind Power Project HCP, which was the first HCP released for any power project related to Indiana bats and the first wind-related HCP prepared for the state of Ohio. WEST is currently working on six HCPs focused on Indiana bats and northern long-eared bats. Other examples of WEST's leadership in the arena of HCP preparation is our role as the lead contractor for the biological components of two multi-applicant, multi-species, multi-regional HCP efforts described below. WEST is also working on two other HCPs for power projects in the western United States. This extensive HCP experience has allowed WEST to develop a collaborative and streamlined process for working with applicants, the USFWS, and other stakeholders to develop credible and defensible HCPs that meet the criteria for ITP issuance.

Selected Projects demonstrating WEST's HCP Experience

USFWS Region 3 Programmatic HCP

WEST is the lead technical consultant on the interdisciplinary team developing the programmatic Habitat Conservation Plan for USFWS Region 3. Covered species include the federally listed Indiana bat, northern long-eared bat, gray bat (*Myotis grisescens*), Kirtland's warbler (*Dendroica kirtlandii*), piping plover (*Charadrius melodius*), and interior least tern (*Sterna antillarum athalassos*), as well as two bat species currently under review for listing under the Endangered Species Act (ESA): eastern small-footed bat and little brown bat. WEST's responsibilities involved development of key HCP components , including estimated take levels for each species with and without avoidance and minimization measures; evaluating the impacts of the take for each species; developing a regional conservation plan consisting of effective and practicable avoidance, minimization, mitigation, and monitoring measures that meet the Maximum Extent Practicable criteria; a programmatic mitigation plan to fully compensate for the impact of the taking, including methodology for calculation of mitigation debt, criteria for appropriate mitigation projects and mitigation sites, and methodology for calculation of mitigation credit; a regional monitoring protocol and adaptive management plan for take compliance and conservation plan effectiveness. WEST biologists and biostatisticians presented each of these key HCP components to the Region 3 HCP Steering Committee, comprised of representatives from industry, a nonprofit organization, state natural resource agencies, and USFWS Region 3, for discussion and agreement throughout the HCP development process.

Great Plains Wind Energy Multi-Region, Multi-Species Habitat Conservation Plan, AWEA/Wind Energy Whooping Crane Action Group

WEST is a technical contractor participating in the preparation of a bi-regional programmatic HCP, which is led by Dr. Tyrell as the Project Manager. WEST is responsible for activities of the multidisciplinary Technical Team in development of the Great Plains Wind Energy Habitat Conservation Plan (GPWE HCP) addressing federally listed species including the endangered whooping crane, lesser prairie-chicken (*Tympanuchus pallidicinctus*), piping plover, and interior least tern. The GPWE HCP, proposed by 16 industry partners and the American Wind Energy Association, covers nine states and two USFWS Regions. This ground-breaking project involves extensive impact modeling, GIS analysis and projection of multiple build-out scenarios, and coordination of multiple stakeholders to meet the needs and objectives of both industry partners and state and federal wildlife agencies. WEST is responsible for evaluating the impacts of the taking of endangered and threatened species as well as development of minimization, mitigation, monitoring, and adaptive management plans.

Beech Ridge Energy Project HCP, Greenbrier and Nicholas Counties, West Virginia

WEST was contracted by Invenergy LLC to develop the Habitat Conservation Plan in application for an Incidental Take Permit for Indiana bat and Virginia big-eared bat (*Corynorhinus townsendii virginianus*) at the Beech Ridge Wind Energy Project. WEST's responsibilities involved coordination with the applicant USFWS West Virginia Field Office, WV Department of Natural Resources, and peer reviewers to reach agreement on key HCP

components; develop the HCP and the Research, Monitoring, and Adaptive Management Plan; and review and comment on the USFWS EIS. WEST also assisted with development of an Implementing Agreement between the applicant and the USFWS. The ITP for Beech Ridge was issued in 2013.

Fowler Ridge HCP and EIS, Benton County, Indiana

WEST was contracted by BP Wind Energy to develop the Habitat Conservation Plan in application for an Incidental Take Permit for Indiana bat at the Fowler Ridge Wind Farm. WEST's responsibilities involved development of the HCP with the project proponent and coordination with the USFWS Bloomington Field Office to reach agreement on key issues and HCP components. WEST also conducted intensive post-construction fatality monitoring and curtailment studies at Fowler Ridge Wind Farm to inform development of the avoidance and minimization measures for the HCP. WEST also assisted with development of an Implementing Agreement between BP Wind Energy and the USFWS and WEST employees also helped prepare the EIS for the USFWS for ITP issuance. The ITP for Fowler Ridge was issued in 2014.

Criterion HCP, Garrett County, Maryland

WEST was contracted by Constellation Power to develop the Habitat Conservation Plan in application for an Incidental Take Permit for Indiana bat at the Criterion Wind Project. WEST's responsibilities involved development of and coordination with the U.S. Fish and Wildlife Service Chesapeake Bay Field Office and Maryland Department of Natural Resources to reach agreement on key HCP components, implement site specific monitoring studies, develop the HCP and monitoring plan documents, development of an Avian Protection Plan for the project, and review and comment on the USFWS EA and Biological Opinion. The ITP for Criterion was issued in 2013.

Other WEST HCP Experience

WEST is under contract with numerous energy companies to develop HCPs for Indiana bats and northern long-eared bats at facilities which are planned, under development, or are operational. WEST's responsibilities involve coordination with project team members and appointed legal counsel, the U.S. Fish and Wildlife Service local field and Region 3 offices , and state departments of natural resources to reach agreement on key HCP components; develop the HCPs including monitoring, adaptive management, and mitigation plans; and review and comment on the USFWS NEPA documents.

Bat Covered Species Experience

WEST's collective knowledge of bat ecology and habitats is unequalled in the consulting field. Our highly-qualified bat experts rank as some of the best in their field and have bat research experience spanning North America. WEST offers a full range of expertise on bat issues, from sensitive species surveys to habitat and risk assessments.

WEST staff members have conducted numerous studies and surveys and have scientific publications and presentations for the specific bats species (see Table below). In addition, we have completed ESA section 7 and 10 compliance studies and have addressed resource

management needs through a variety of projects including environmental reviews under NEPA and state environmental quality acts, biological resources studies for industry and agencies, and BBCSs for a wide variety of projects.

Overview of WEST's Bat Impact Assessment, Conservation Management, and Compliance Experience

WEST Staff Experience	Indiana Bats	Northern Long-Eared Bats	Little Brown Bats	Tri-Colored Bats	Eastern Small-Footed Bats	Other Species of Bats*
Field Studies	●	●	●	●	●	●
Peer-Reviewed Publications	●	●	●	●		●
Regulatory Compliance, ESA Section 10, HCPs	●	●	●	●	●	●
Regulatory Compliance, ESA section 7, Biological Assessments	●	●	●	**	**	●
Management Plans, Conservation Plans	●	●	●	●	●	●
Development, implementation, and monitoring of conservation and mitigation efforts	●	●	●	●	●	●

*Includes: Virginia big-eared bat (US federally endangered), gray bat (US federally endangered), evening bat, silver haired bat, red bat, hoary bat.

**Currently little brown bats, tri-colored bats, and eastern small footed bats are not federally listed species so the need to address these species in ESA regulatory compliance situations has been very limited. WEST has addressed impacts to and conservation of these species by including them in Bird and Bat Conservation Strategies appended to HCPs under ESA section 10 and BMPs included in ESA section 7 analyses, as well as in NEPA wildlife impact evaluations, and is presently addressing two of these species in a the USFWS Region 3 Programmatic HCP.

Information Resources: Existing Information and Inventory for Covered Species of Bats

WEST maintains comprehensive scientific and statistical databases, some of which have over 15,000 entries. WEST employs a dedicated experienced and trained data management staff that routinely handles data received from around the U.S and international locations. Our internal data management process has embedded quality control and assurance measures, ensuring that the process is efficient with high quality results.

WEST demonstrates ready-access to and effective maintenance of data required for the analyses and documentation called for in the RFP by our current bat survey work. WEST bat

biologists are leaders in quantitative and qualitative approaches for bat acoustic species identification and permitted mist-net surveyors. Since 2010, WEST has conducted bat acoustic monitoring and mist-net surveys at over 100 projects throughout the U.S. and holds USFWS and multiple state permits to capture Indiana bats, gray bats, northern long-eared bat and big-eared bats across their ranges. Several WEST Bat Team members have extensive experience with the acoustic identification of endangered bat species. In 2014 alone, WEST bat biologists conducted quantitative and qualitative species identification of bat echolocation calls and mist-netting on 27 projects throughout the United States. These projects involved acoustic identification of Indiana bats, gray bats, little brown bats, eastern small-footed bats and northern long-eared bats and included two large northern long-eared bat presence/absence projects with well over 500 survey sites.

Not only does WEST maintain an accessible electronic library of current relevant information to draw upon for species ecological information, impact analyses, and conservation measures, we demonstrate this resource availability and utilization in our own track record of publication of scientific and species management literature.

Experience Developing Interim Plans and Developing Short Term Low Effect HCPs

Until an ITP is authorized, a private project is at risk of unauthorized take of federally listed species, and is subject to penalty under ESA. An ITP applicant may evaluate potential impacts to listed species during the development of the HCP, and determine that this risk of take and ESA violation should be addressed through a "bridge strategy" until the ITP provides coverage for incidental take. Recently, WEST has designed several bridge strategies to address take of listed Indiana bats and northern long-eared bats during preparation of an HCP. Developing the bridge strategy starts with evaluating the risk of take of listed species from project activities. If these activities can be arranged in space or time to avoid take before the ITP is authorized, then simple avoidance through best management practices may be the most straightforward compliance approach.

When avoidance is not practicable, several approaches have been used to short-term exception to the ESA section 9 prohibition on take. WEST has developed and applied various "bridge strategies" for regulatory compliance and/or to demonstrate adherence with agency guidelines to minimize risk to endangered bats as an interim measure while an HCP is in process. Because these approaches vary in the extent to which they provide compliance assurance, they must be crafted to address the specific risk profile of a project or program. Interim or bridge strategies successfully used by WEST are described below. Examples are provided where client confidentiality allows.

Sometimes the USFWS will allow an applicant to use a Section 10(a)(1)(A) endangered species permit authorization as a bridge strategy, if a research study tied to the applicant's activities is both of compelling value and may result in take. While WEST has helped craft this approach for projects concerned with take of listed bats (e.g. Fowler Ridge, see section C.3), recently the

USFWS has become less likely to award ESA section 10(a)(1)(A) permits for projects seeking an ITP, but this is an option which may be appropriate and can be evaluated with the USFWS.

A more common recent approach to providing a bridge strategy has been to work with the USFWS to gain a Technical Assistance Letter (TAL). Projects that implement measures to avoid take can use a TAL to secure concurrence from USFWS that take will be avoided or that take is unlikely. WEST has worked with both Region 3 and 5 to develop TALs issued for projects that present risk to listed bats (e.g. Beech Ridge, see section C.3). While the TAL does not authorize take of listed species, it provides documentation of good-faith effort and agreement with the agencies regarding steps to minimize the potential for take. Should take occur regardless of the measures described in the TAL, USFWS is likely to exercise prosecutorial discretion and work with the proponent to effectively address risk going forward.

WEST has crafted, with USFWS in Region 3, a successful strategy which uses monitoring and adaptive management to provide information feedback and indicate adjustments aligned with the threat of take of listed species. This adaptive management "feedback loop" can be effective in minimizing threats to listed species while still optimizing the project proponents' ability to proceed with their activities and meet project goals. This approach may be integrated in a TAL.

Use of a low-effect HCP as a bridge strategy is possible and has the advantage of authorization of incidental take. Prior to selecting this approach as a bridge strategy, it should be very clearly discussed and the approach carefully crafted in coordination with the USFWS, or the "interim" HCP may lose the potential efficiencies of this approach. While WEST Key Project Personnel have worked on successful low effect HCPs in both Regions 3 and 5 (Lake Erie Water Snake HCP, Ohio; Habitat Conservation Plan for the West Virginia Northern Flying Squirrel in Association With Snowshoe Mountain, West Virginia), the risks associated with using an HCP/ITP for short-term authorization (time, expense, revisions based upon feedback during the NEPA process) should be carefully examined and minimized. If the USFWS are fully informed and participate during development of the interim HCP, then their section 7 review, NEPA analysis, and permit issuance can all follow in a timely and efficient manner to provide incidental take coverage in the near-term.

Relationship with Federal Agencies and the USFWS

WEST has strong relationships with leadership in federal agencies at the state, regional, and national levels. WEST staff member Dr. Courtney developed the current USFWS science integrity and peer review program, together with the current Deputy Director for Ecological Services, Gary Frazier. Dr. Courtney has been under contract to this USFWS program for the past 15 years. He also maintains close working relationships with the Service to bolster the agency's science capacity, working closely with Director Ashe, Asst. Director for Science Paul Souza, and Chief of Recovery Don Morgan. Dr. Dale Strickland, WEST President and CEO, was appointed to serve on the National Academy of Sciences Evaluation of Landscape Conservation Cooperatives Committee, convened to evaluate the Landscape Conservation Cooperatives (LCC) program. Dr. Karen Tyrell served on the USFWS Recovery Team for

Indiana Bats. WEST personnel maintain working relations with DOI leadership, and with both majority and minority staffers in both the House and the Senate, having testified on science issues in both chambers.

In addition to a close working alliance with USFWS, WEST staff members have served on committees, designed and implemented scientific studies, and served on review panels for a diversity of federal agencies and programs. Dr. Tyrell designed the studies for and co-authored the Indiana bat Habitat Evaluation Procedure model for the determination of summer habitat suitability for this species following USFWS protocol, and worked with the agency to evaluate model integrity. She has provided training for the US Forest Service, US Army Corps of Engineers, Federal Transit Administration, and US Office of Surface Mining in endangered bat impact evaluation and compliance. Dr. Tyrell led the first contractor team to be awarded the US Department of the Army's Commander's Award for Public Service by the Kansas City District USACE for interagency support of Endangered Species Act compliance and consultation with the USFWS. Dr. Tyrell was also on the Team recognized for Excellence in NEPA Program Management by the US Department of Defense.

Specific experience with the USFWS that is directly relevant to the proposed HCP is our work in USFWS Regions 3 on HCPs. This close familiar working relationship has led to the successful completion of three HCPs resulting in ITP issuance and near completion of three additional HCPs with ITP issuance anticipated in 2015. The USFWS staff in these states and Regions are very familiar with WEST's HCP development process and knowledge in the field which greatly enhances the efficiency and ability to achieve success in the HCP.

Further illustrating WEST's relationship and established track record of working directly with the USFWS, is the Western Wide Golden Eagle Survey to estimate total number of golden eagles living in the western United States which is a large scale contract for the USFWS. The survey involves flying small fixed wing aircraft across four Bird Conservation Regions in twelve states, over 17,000km of transects, using a mark-recapture modification to standard distance sampling protocol. This is complemented by resource selection analysis preformed for USFWS based on locations of eagles detected during the survey. This large-scale analysis is estimating golden eagle potential based on a suite of predictor variables such as greenness, distance to human population center, slope, aspect and wind potential. WEST has been working on this project since 2003, and has held the annual contract since 2006.

Selected Recent WEST Peer-Reviewed Publications by Proposed Key Project Personnel

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Johnson, G.D., M.K. Perlik, W.P. Erickson, M.D. Strickland, D.A. Shepherd, and P. Sutherland, Jr. 2003. Bat interactions with wind turbines at the Buffalo Ridge, Minnesota Wind Resource Area: An assessment of bat activity, species composition, and collision mortality. Electric Power Research Institute, Palo Alto, California, and Xcel Energy, Minneapolis, Minnesota. EPRI report # 1009178.

Tyrell, K. 2015. Keeping Changes to Endangered Species Conservation off the Critical Path to Project Construction. Proceedings of the Environmental Concerns in Rights-of-Way Management Symposium. 11th International Symposium. Halifax, Nova Scotia, Canada. (September)

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Young, D. 2013. Endangered Species Act Compliance Strategies for Wind Projects. Proceedings of the American Wind Energy Association, Windpower 2013 Conference, Chicago, Illinois.

Young, D. 2011. Determining Potential Take of Indiana Bat from Wind Energy Facilities. Proceedings of the National Wind Coordinating Collaborative, Wind Wildlife Research Meeting VIII, October 19-21, 2010, Lakewood, Colorado

T. Travis Brown, Goniela Iskali, Kevin Lager Murray, Aaron McAlexander, and Larisa Bishop-Boros. 2014. Mist-net Report: Northern Long-eared Bat and Indiana Bat Surveys Enbridge 2014 Wisconsin and Illinois Surveys.

T. Travis Brown, Kevin Lager Murray, Julia Hill, Aaron McAlexander, and Taylor Ashby. 2014. Acoustic Report: Northern Long-eared Bat and Indiana Bat Surveys Enbridge 2014 Wisconsin and Illinois Surveys.

Ritzert, J. and M. Ritzert. 2014. Final Mist-Net Report, Bat Surveys, Walnut Ridge Wind Project. July 22 – August 2, 2014. Prepared for Walnut Ridge Wind, LLC & Geronimo Energy, Edina Minnesota. Prepared by Western EcoSystems Technology, Inc. (WEST), Bloomington, Indiana.

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National Listing Workplan (2016)
Range includes Minnesota

Common Name	Species name	Action Type	Range	Lead RO	Proposed FY Timeframe	Lead FO
Rusty patched bumble bee	*Bombus affinis*	12M	CT, **IL, IN, IA,** ME, MD, MA, **MI, MN,** NC, NJ, **OH,** TN, **WI**	R3	FY16	TCFO
Rusty patched bumble bee	*Bombus affinis*	FLD	CT, **IL, IN, IA,** ME, MD, MA, **MI, MN,** NC, NJ, **OH,** TN, **WI**	R3	FY17	TCFO
Yellow-banded bumble bee	*Bombus terricola*	12M	CT, **IL, IN,** KY, MA, MD, ME, **MI, MN,** MT, NC, ND, NH, NJ, NY, **OH,** PA, RI, SD, TN, VA, VT, WV, **WI;** Canada (Alberta, British Columbia, Manitoba, Newfoundland, Nova Scotia, Ontario, Quebec, and Saskatchewan)	R5	FY18	
Monarch butterfly	*Danaus plexippus plexippus*	12M	AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, **IA,** ID, **IL, IN,** KS, KY, LA, MA, MD, ME, **MI, MN, MO,** MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, **OH,** OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, **WI,** WV, WY	R3	FY19	R3 RO
Northwestern Moose	*Alces alces andersoni*	12M	**MI, MN,** ND, **WI**	R3	FY20	TCFO
Plains spotted skunk	*Spilogale putorius interrupta*	12M	AR, CO, **MN, MO,** NE, OK, SD, TX, WY	R3	FY22	CMFO
Regal fritillary	*Speyeria idalia*	12M	AR, CO, CT, DE, **IA, IL, IN,** KS, KY, MA, MD, ME, **MI, MN, MO,** NC, ND, NE, NH, NJ, NY, **OH,** OK, PA, RI, SD, VA, VT, **WI,** WV, WY	R6	FY22	
Blanding's turtle	*Emydoidea blandingii*	12M	**IA, IL, IN,** MA, ME, **MI, MN, MO,** NE, NH, NY, **OH,** PA, SD, **WI**	R3	FY23	RIFO
Golden-winged warbler	*Vermivora chrysoptera*	12M	AL, AR, CO, CT, DC, DE, FL, GA, **IA, IL, IN,** KS, KY, LA, MA, MD, **MI, MN, MO,** MS, NC, ND, NE, NH, NJ, NY, **OH,** OK, PA, SC, SD, TN, TX, VA, VT, **WI,** WV	R3	FY23	TCFO

Common Name	Species name	Action Type	Range	Lead RO	Proposed FY Timeframe	Lead FO
Little brown bat	*Myotis lucifugus*	Discretionary Status Review	AK, AL, AR, CA, CO, CT, DC, DE, FL, GA, **IA,** ID, **IL, IN,** KS, KY, MA, MD, ME, **MI, MN, MO,** MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, **OH,** OK, OR, PA, RI, SC, SD, TN, UT, VA, VT, WA, **WI,** WV, WY	R3	FY23	R3 RO
Salamander mussel	*Simpsonaias ambigua*	12M	**AR, IL, IN,** KY, **MI, MN, MO,** NY, **OH, PA, TN, WI,** WV	R3	FY23	ELFO
Wood turtle	*Glyptemys insculpta*	12M	CT, DC, **IA,** MA, MD, ME, **MI, MN,** NH, NJ, NY, **OH,** PA, RI, VA, VT, **WI,** WV; Canada (New Brunswick, Nova Scotia, Ontario, Quebec)	R5	FY23	
Prairie gray fox	*Urocyon cinereoargenteus ocythous*	12M	AR, **IA,** KS, **MN, MO,** ND, NE, OK, SD, **WI**	R3	Unscheduled	RIFO
Northern bog lemming	*Synaptomys borealis*	12M	AK, ID, ME, **MN,** MT, NH, WA; Canada (Alberta, British Columbia, Labrador, Manitoba, New Brunswick, Northwest Territories, Nunavut, Ontario, Quebec, Saskatchewan, Yukon Territory)	R5	Unscheduled	

Key to Action Types:

12M: 12-month finding on a petition to list a species. If listing is warranted, we generally intend to proceed with a concurrent proposed listing rule

Discretionary Status Review: Status review undertaken by discretion of the Service. Results of the review may be to propose listing, make a species

FLD: For species that have already been proposed for listing, the final listing determination would either finalize or withdraw the proposed listing rule. We generally intend to finalize critical habitat designations concurrent with final listing rules, to the extent prudent and determinable.