



Aitkin  
County

# Board of County Commissioners Agenda Request

2M  
Agenda Item #

**Requested Meeting Date:** 6/28/2016

**Title of Item:** Forest Bat survey - year 2

<input type="checkbox"/> REGULAR AGENDA	<b>Action Requested:</b>	<input type="checkbox"/> Direction Requested
<input checked="" type="checkbox"/> CONSENT AGENDA	<input checked="" type="checkbox"/> Approve/Deny Motion	<input type="checkbox"/> Discussion Item
<input type="checkbox"/> INFORMATION ONLY	<input type="checkbox"/> Adopt Resolution (attach draft)	<input type="checkbox"/> Hold Public Hearing* <i>*provide copy of hearing notice that was published</i>

<b>Submitted by:</b> Land Commissioner	<b>Department:</b> Land Department
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<b>Presenter (Name and Title):</b> Mark Jacobs	<b>Estimated Time Needed:</b>
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**Summary of Issue:**

We are part of a project of conducting forest bat surveys in Aitkin and Carlton County in association with Dovetail Partners, UPM-Blandin Paper, and Sappi Fine Papers; through an Eco-footprint grant from Enbridge. This is year 2 of the project in which the grant pays 50% of the cost.

The surveys cost increased this year due to the contractor (WEST Inc.) not having other projects in the area.

The data from the project to date played a role in the final 4d rule regulations for the northern long-eared bat being less restrictive than anticipated. Since white nose syndrome has now been confirmed in MN this data will be important in basing future decisions on forest bats in our region.

**Alternatives, Options, Effects on Others/Comments:**

**Recommended Action/Motion:**

I recommend that we proceed with year two of this project.

**Financial Impact:**

Is there a cost associated with this request?  Yes  No

What is the total cost, with tax and shipping? \$ 20,280

Is this budgeted?  Yes  No *Please Explain:*

The Aitkin County share is not to exceed \$20,280 for 5 sites.

2016 Bat Survey/Telemetry project			
Aitkin - Survey	Cost	EF Grant	County
12-51-23	\$ 8,341.00	\$ 4,285.00	\$ 4,056.00
13-48-25	\$ 8,341.00	\$ 4,285.00	\$ 4,056.00
4-44-24	\$ 8,341.00	\$ 4,285.00	\$ 4,056.00
32-51-26	\$ 8,341.00	\$ 4,285.00	\$ 4,056.00
14-50-24	\$ 8,341.00	\$ 4,285.00	\$ 4,056.00
	\$ 41,705.00	\$ 21,425.00	\$ 20,280.00

# PROPOSAL

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## Forest Bats of Minnesota Surveys and Compliance Strategies



**Prepared for:**

**Aitkin County Land Department**  
209 2<sup>nd</sup> St. NW Room # 206  
Aitkin, MN 56431

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**Prepared by:**

**Western EcoSystems Technology, Inc.**  
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Cheyenne, WY 82001  
**May 20, 2016**



## TABLE OF CONTENTS

INTRODUCTION .....	3
TASK 1 SURVEYS .....	3
Scope of Work.....	3
Task 1 Schedule and Deliverables .....	5
Task 1 Cost Proposal .....	5

## **INTRODUCTION**

Aitkin County Land Department (“ACLD”) have requested a proposal from Western EcoSystems Technology Inc. (WEST) to conduct a scope of work designed to evaluate the presence, distribution, and habitat use by federally listed northern long-eared bats (*Myotis septentrionalis*; NLEB), listed as threatened with a final 4(d) rule, under the Endangered Species Act [ESA, April 2015) and other species of forest-dwelling bats.

## **TASK 1 SURVEYS**

### **Scope of Work**

WEST will conduct acoustic and mist-net studies to learn more about bat activity within five different stand locations within Aitkin County, Minnesota. These surveys will focus on all forest bats within Aitkin County, especially NLEB.

### **Subtask 1.1 Acoustic Bat Surveys**

WEST will complete acoustic surveys of five sites within Aitkin County. ACLD have indicated that they would like to survey four different areas at each separate site with acoustic detectors (AnaBat or SM3BAT). The objective of the acoustic surveys will be to assess the potential for presence of the NLEB and other native bat species within variable forest stands. Acoustic surveys will be conducted in conjunction with mist-net surveys. Surveys will be conducted throughout the maternity season of *Myotis* species in northern Minnesota (June 1 – August 15). The first site in Aitkin County will be surveyed in late-June (between June 20 and 30, 2016), and subsequent surveys within Aitkin County will be completed approximately every two weeks. Acoustic surveys will follow current USFWS guidelines (2016 Range-wide Indiana Bat Summer Survey Guidelines (can be applied to NLEB). Acoustic surveys will use AnaBat™ ultrasonic detectors (Titley Electronics Pty Ltd.) or SM2BAT or SM3BAT recorders (SM2’s, SM3’s; Wildlife Acoustics). All acoustic survey sites will be positioned following 2016 USFWS bat survey protocols. Specifically, suitable sites may include: 1) forest-canopy openings, 2) near water, 3) wooded fence lines, 4) blocks of recently logged forest with remnant potential roost trees, 5) road and stream corridors with open canopy or closed canopy >10 meters high, and 6) woodland edges. Features that reduce recorded call quality (e.g., vegetation, turbines, power-lines, or microwave towers) will be avoided.

Acoustic monitoring will begin before sunset and continue for the entire night; each site will be surveyed for two nights. If weather conditions such as persistent rain (>30 minutes), strong sustained winds (>9 mph), or cold temperature (below 10°C [50°F]) occur during the first five hours of a survey night, then that site will be surveyed for an additional night. To maximize the quality of recorded echolocation calls, detectors will be positioned approximately 3 meters off the ground at a 45° angle or greater. A plastic case and PVC tube will be used for weatherproofing. For each acoustic site, the date, start and end time, site description, site coordinates, tree species composition, stand age, vegetation community type, and weather data will be recorded. Bat calls will be identified using quantitative identification methods, e.g.

Kaleidoscope (version 3.1.2; Bats of North America classifier version 3.1.0; Wildlife Acoustics, Maynard, Massachusetts). All calls identified as NLEB by automated ID software will be examined and verified by a qualified biologist with extensive acoustic identification experience. If call sequences are not characteristic of the NLEB, contain distinct calls produced by species other than NLEB, or are of insufficient quality, they will be reclassified. Bat passes recorded during the study will be identified to species or species groups, depending on call quality. Data collected during the acoustic bat survey will assist ACLD to better assess potential impacts to bat species in Aitkin County forest systems.

### **Subtask 1.2 Mist-net Study**

To determine presence/absence of the NLEB and other species within the different survey stands within Aitkin County, mist-net surveys will be conducted. The purpose of mist-net surveys will be to assess whether NLEB and other native bat species are using the variable forest stands for foraging habitats. The mist-net survey will focus on NLEB and will follow 2016 USFWS bat survey protocols. Mist-net surveys will be in junction with acoustic surveys.

The mist-net survey schedule will run at the same time as acoustic surveys. Standard two-ply, 75 denier, nylon mist-nets with a mesh size of 38 millimeters (1.30 inches) will be used at all mist-net sites. The five sites within and Aitkin County will be surveyed using mist-nets for four net nights each. Mist-netting will begin at sunset and continue for at least five hours. Mist-nets will typically be placed in suitable bat habitat and positioned perpendicularly across flight corridors filling the corridor from side to side and extending from ground-level up to overhanging canopy. WEST will usually survey two mist-net locations per site. Nets will be checked approximately every 10 minutes. The net location will be established at least 30 meters (98.4 feet) apart within each mist-net site. Disturbance in the form of noise, light, or movement will be minimized at all net locations. If weather conditions such as persistent rain (>30 minutes), strong, sustained winds (>9 mph), or cold temperature (below 10°C [50°F]) impair netting, then the net site will be sampled for an additional night. All mist-net surveys will be performed by staff holding the proper state and federal permits and approved by the USFWS.

For each mist-net night, the date, start and end time, site description, site coordinates, mist-net specifics, and weather data (temperature, cloud cover, wind speed, precipitation, and moon phase) will be recorded. All captured bats will be identified to species. In addition, sex, age, reproductive condition, body mass (grams), forearm length (millimeters), and capture status (recapture/new) will be recorded for each bat. To assess exposure to White-Nose Syndrome ("WNS") in individual bats, a Reichard Index score (0-3) will be recorded for all captured bats. To prevent cross contamination of captured bats with *Pseudogymnoascus destructans*, the fungal cause of WNS, the 2016 USFWS WNS decontamination protocol will be followed for all mist-netting efforts. Captured bats will be measured and processed immediately and usually released within 15 minutes. Species of bats captured will be photo-documented with voucher photographs. Forearm bands may be attached to captured *Myotis* species.

### **Subtask 1.3 Final Bat Survey Report**

At the conclusion of all summer surveys, final reports will be drafted detailing results of the summer surveys. Final reports will include maps, coordinates, and photographs of all survey locations for both acoustic and mist-net surveys. Photographs of all species captured and all captured NLEB and little brown bats will be included. The final reports will include the number of acoustic bat calls recorded per detector night and total number of bat calls recorded, as well as the number of known NLEB calls recorded at each site. The total numbers of bats captured at each site will be reported, including: the species, sex, age, forearm measurement, weight, and Reichard Index score.

#### **Task 1 Schedule and Deliverables**

The following schedule is for the 2016 summer surveys as well as final reports for all subtasks of surveys. The below schedule reflects all survey Subtasks, including: acoustic surveys (1.1), mist-net surveys (1.2), and ~~radio-telemetry~~ (1.3). *Final Report*

- June 2016: notice to proceed and begin work on 2016 subtask 1.1, 1.2, and summer surveys
- June to August 2016: summer acoustic (1.1) and mist-net (1.2) will be conducted at five survey sites within Aitkin County
- October 2016: Subtask 1.3 final draft reports will be delivered, detailing results of the 2016 summer surveys for ACLD

ACLD will be notified if any potential changes to the above schedule occur.

#### **Task 1 Cost Proposal**

This work will be completed on a time-and-materials basis. A cost breakdown for each task is included in the table below. Total costs to ACLD for this work will not exceed \$41,705 without prior written consent from ACLD.

Please note that projects of this nature may sometimes involve additional effort resulting from unanticipated agency comments. WEST will promptly apprise ACLD if the estimated budget shown in the table below will be exceeded and provide justification for potential cost increases.

<b>Task 1: Surveys</b>	<b>Line Item Cost</b>
<b>Aitkin County Survey Costs</b>	
Subtask 1.1. Acoustic Bat Surveys	\$9,030
Subtask 1.2. *Mist-net Surveys	\$28,225
Subtask 1.3. Final Bat Survey Report	\$4,450
<b>TOTAL</b>	<b>\$41,705</b>

\*Rainout expenses included