



February 24, 2015

Dr. Mary Knapp, Field Supervisor

U.S. Fish & Wildlife Services
4625 Morse Road, Suite 104
Columbus, OH 43230

RE: Threatened & Endangered Species Information Request
FILE: 78-Acre Undeveloped Site
Harvard Road, City of Orange Village, Cuyahoga County, Ohio
15478 / PN 60863

Dear Dr. Knapp:

O'Brien & Gere has been contracted to provide Section 404/401 wetland permitting services for a 78-acre undeveloped site situated on the south side of Harvard Road, immediately east of the I-271 interchange, located in the City of Orange Village, Cuyahoga County, Ohio (*i.e.*, the Site). Enclosed is a Site location map showing the project location (41.445328°N / -81.489008°W) and a photographic log for your reference.

A wetland delineation was completed by O'Brien & Gere in July 2014, across the area being considered for this project. In accordance with the Corps' interagency review procedures under a Individual Permit application, O'Brien & Gere is interested in determining if there are any known records of federally-listed threatened or endangered (T&E) species or any areas of designated critical habitat on-Site or in the project vicinity.

According the US Fish and Wildlife Services' website, four federally- listed species are known to occur in Cuyahoga County and include: Indiana bat (E); Northern long-eared bat (PE); Piping plover (E); and Red knot (T). The wetlands on-Site are a mixture of palustrine-forested (PFO) and palustrine-emergent (PEM) wetlands.

Please include as much detail as possible (*e.g.*, a photocopy of the USGS topographic map or a list of longitude/latitude) for each known occurrence. If you have any questions, please feel free to contact me at (513) 697-2027. Thank you for your attention to this matter.

Very truly yours,

O'Brien & Gere Engineers, Inc.

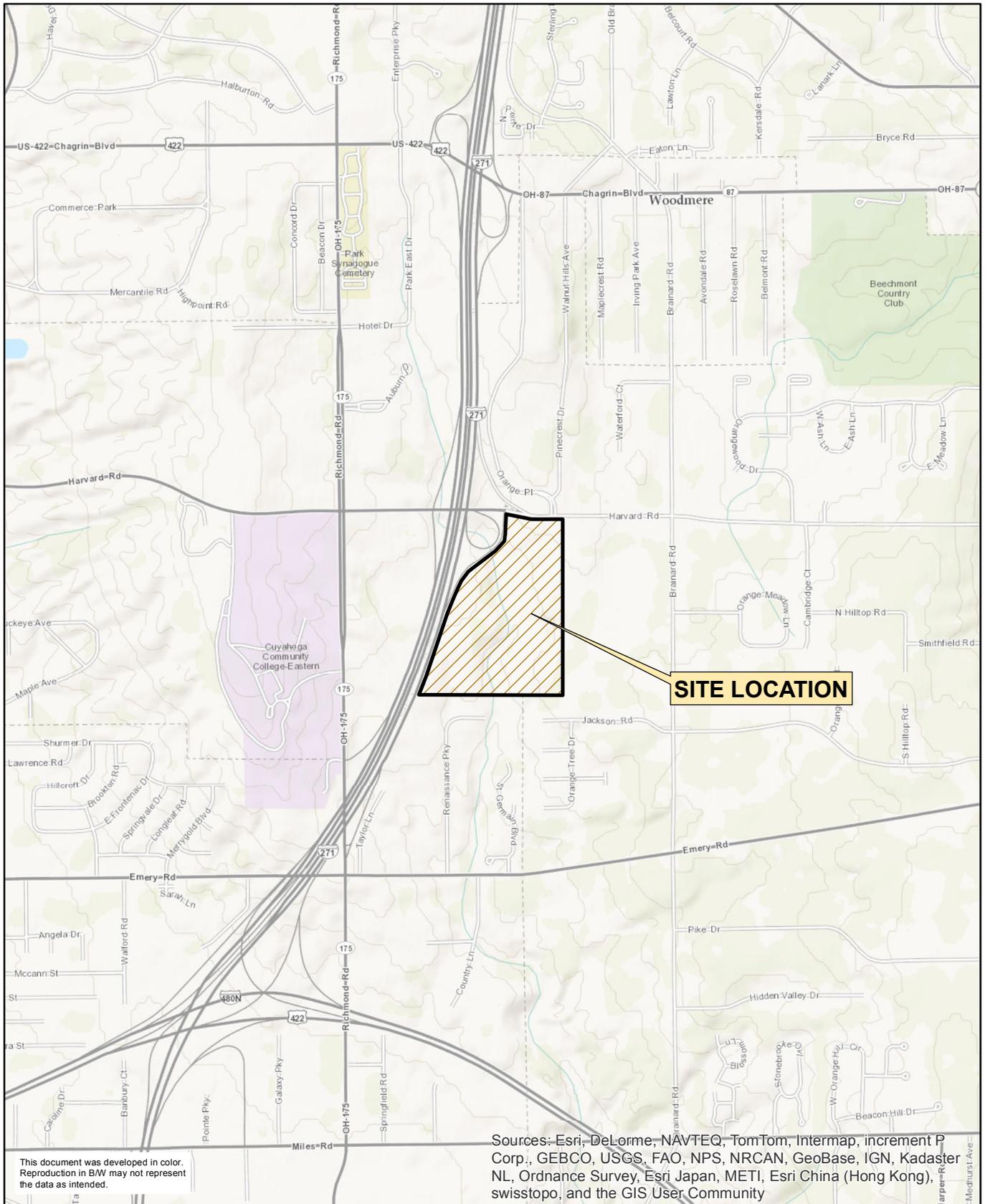
A handwritten signature in black ink, appearing to read 'Michael J. Waligura'.

Michael J. Waligura, REM
Technical Associate

Enclosure

FIGURE 1

C:\Walligura\Richard Jacobs\Orange South - Site Location - Fig 1.mxd



PLOTDATE: 07/24/14 onellijm

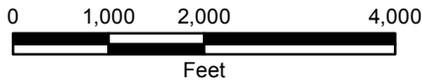
This document was developed in color. Reproduction in B/W may not represent the data as intended.

Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community



ORANGE SOUTH

SITE LOCATION



PHOTOGRAPHIC LOG

CLIENT NAME: THE RICHARD E. JACOBS GROUP LLC		SITE LOCATION: ORANGE SOUTH, HARVARD ROAD, ORANGE VILLAGE, OHIO	PROJECT NO. 15478 60863
PHOTO NO. N/A	DATE: 7/16/14		
DESCRIPTION View of a palustrine emergent (PEM) wetland located on the Site.			

CLIENT NAME: THE RICHARD E. JACOBS GROUP LLC		SITE LOCATION: ORANGE SOUTH, HARVARD ROAD, ORANGE VILLAGE, OHIO	PROJECT NO. 15478 60863
PHOTO NO. N/A	DATE: 7/16/14		
DESCRIPTION View of PEM wetland dominated by the invasive plant <i>Phragmites australis</i> (Common reed).			

CLIENT NAME: THE RICHARD E. JACOBS GROUP LLC	SITE LOCATION: ORANGE SOUTH, HARVARD ROAD, ORANGE VILLAGE, OHIO	PROJECT NO. 15478 60863
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PHOTO NO. N/A	DATE: 7/16/14	
DESCRIPTION View of PEM wetland adjacent to the I-271 Interchange.		

CLIENT NAME: THE RICHARD E. JACOBS GROUP LLC	SITE LOCATION: ORANGE SOUTH, HARVARD ROAD, ORANGE VILLAGE, OHIO	PROJECT NO. 15478 60863
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PHOTO NO. N/A	DATE: 7/16/14	
DESCRIPTION View of palustrine forested (PFO) wetland on-Site.		

CLIENT NAME: THE RICHARD E. JACOBS GROUP LLC		SITE LOCATION: ORANGE SOUTH, HARVARD ROAD, ORANGE VILLAGE, OHIO	PROJECT NO. 15478 60863
PHOTO NO. N/A	DATE: 7/16/14		
DESCRIPTION Alternate view of an additional PFO on-Site.			

CLIENT NAME: THE RICHARD E. JACOBS GROUP LLC		SITE LOCATION: ORANGE SOUTH, HARVARD ROAD, BEACHWOOD, OHIO	PROJECT NO. 15478 60863
PHOTO NO. N/A	DATE: 7/17/14		
DESCRIPTION View of the intermittent stream on-Site.			

Michael Waligura

From: susan_zimmermann@fws.gov on behalf of Ohio, FW3 <ohio@fws.gov>
Sent: Friday, March 06, 2015 9:53 AM
To: Michael Waligura; Tara Sturgill
Cc: Jenny Norris; nathan.reardon@dnr.state.oh.us
Subject: City of Orange Village - Orange South, Cuyahoga Co. OH



UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. Fish and Wildlife Service
Ecological Services Office
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / Fax (614) 416-8994



TAILS# 03E15000-2015-TA-0833

Dear Mr. Waligura,

We have received your recent correspondence requesting information about the subject proposal. There are no federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area. The following comments and recommendations will assist you in fulfilling the requirements for consultation under section 7 of the Endangered Species Act of 1973, as amended (ESA).

The Service recommends that proposed developments avoid and minimize water quality impacts and impacts to high quality fish and wildlife habitat (e.g., forests, streams, wetlands). Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. All disturbed areas should be mulched and revegetated with native plant species. Prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

LISTED SPECIES COMMENTS: All projects in the State of Ohio lie within the range of the **Indiana bat** (*Myotis sodalis*), a federally listed endangered species. Since first listed as endangered in 1967, their population has declined by nearly 60%. Several factors have contributed to the decline of the Indiana bat, including the loss and degradation of suitable hibernacula, human disturbance during hibernation, pesticides, and the loss and degradation of forested habitat, particularly stands of large, mature trees. Fragmentation of forest habitat may also contribute to declines. Most recently white-nose syndrome (WNS), a novel fungal pathogen, has caused serious declines in the Indiana bat population in the northeastern U.S. WNS has also been documented in Ohio and declines of Indiana bats during winter censuses have been noted, but the full extent of the impacts from WNS in Ohio are not yet known.

During winter, Indiana bats hibernate in caves and abandoned mines. Summer habitat requirements for the species are not well defined but the following are considered important:

(1) dead or live trees and snags with peeling or exfoliating bark, split tree trunk and/or branches, or cavities, which may be used as maternity roost areas;

- (2) live trees (such as shagbark hickory and oaks) which have exfoliating bark;
- (3) stream corridors, riparian areas, and upland woodlots which provide forage sites.

It appears that suitable habitat, capable of supporting an Indiana bat maternity colony, is present at the project site. Proposed activities would result in significant impacts to this habitat. Female Indiana bats exhibit strong site fidelity to summer roosting and foraging areas, meaning that they return to the same area, and often the same trees, to roost, year after year. Because of this, the proposed project may result in indirect adverse effects to this species, even if tree clearing is conducted during the winter season when Indiana bats are not present. **Therefore, we recommend that summer surveys be conducted to determine presence or probable absence of Indiana bats at the project site.** The survey must be conducted by an approved surveyor and be designed and conducted in coordination with the Endangered Species Coordinator for this office. Summer surveys must be conducted between June 1 and August 15. We recommend that any Indiana bats captured, especially reproductively active females, be monitored through radio-tracking to determine roost locations.

Should the proposed site contain any caves or abandoned mines that may be disturbed by the project, further coordination with this office is requested to determine if fall or spring surveys are warranted. Any survey should be designed and conducted in coordination with the Endangered Species Coordinator for this office. The survey must be conducted by an approved surveyor and be designed and conducted in coordination with the Endangered Species Coordinator for this office.

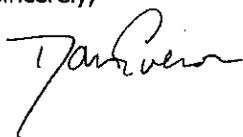
Survey results must be coordinated with this office prior to initiation of any work. Based on the results of the survey, we will evaluate potential impacts to the Indiana bat from the proposed project. If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), no tree clearing on any portion of the parcel should occur until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed. If sufficient information is not provided to document a "not likely to adversely" determination, formal consultation under section 7 of the Endangered Species Act of 1973, as amended, will be necessary.

Due to the project type, size, and location, we do not anticipate adverse effects to any other federally endangered, threatened, proposed, or candidate species. Should the project design change, or during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the Service should be initiated to assess any potential impacts.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the Endangered Species Act of 1973 (ESA), as amended, and are consistent with the intent of the National Environmental Policy Act of 1969 and the U. S. Fish and Wildlife Service's Mitigation Policy.

This letter provides technical assistance only and does not serve as a completed section 7 consultation document. We recommend that the project be coordinated with the Ohio Department of Natural Resources due to the potential for the project to affect state listed species. Contact John Kessler, Environmental Services Administrator, at (614) 265-6621 or at john.kessler@dnr.state.oh.us.

Sincerely,



Dan Everson

Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW

Jennifer Norris, ODNR-DOW

Inventory of Bat Species

Orange South Site
Chagrin Highlands, Ohio (Cuyahoga County)

June, 2015

Prepared for
The Richard E. Jacobs Group LLC
25425 Center Ridge Road
Cleveland, OH 44145-4122
Attn: Carl Frey, PE
cfrey@rejacobsgroup.com
440-808-7506

Prepared by

Tragus Environmental Consulting, Inc.
37 North Highland Avenue
Akron, Ohio 44313
330-472-7013



Introduction

The Orange South Site is located in Cuyahoga County. The site is just under 80 acres and supports forested habitats and wetlands. Prior coordination with regulatory agencies indicates that a survey for endangered bats is warranted.

In April of 2015, the USFWS revised guidelines for performing compliance studies for Indiana bat as well as guidance for the northern long-eared bat. This document incorporates this new guidance.

In May of 2014, the Ohio Division of Wildlife issued state guidance for performing Indiana bat surveys. This document incorporates these new rules.

This report includes the results of a habitat evaluation and mist netting survey.

The site is located at:
41 degrees 26 minutes and 41.37 seconds North
81 degrees 29 minutes and 15.83 seconds West

Permit numbers for *Tragus* are below:
USFWS Permit TE105320-6
Ohio DOW Permit 17-06

Habitat Survey - Results

The site is small but supports a surprisingly well developed forest with an understory of native vegetation and wetland. A small stream meanders through the property. While the stream appears relatively natural, the tortuously meandering course marginalizes its use as a primary flight corridor. An old access road runs through the center of the site and serves as the best netting habitat on the subject property.

The surrounding area is a mix of residential and commercial. The site is immediately adjacent to Interstate 77 and highway traffic could be heard through the entire night. The nearest protected natural area is the Ohio & Erie Canal Reservation, located a few miles to the southwest of the property.

Overall habitat on the site is surprisingly good. There are several trees with suitable characteristics to serve as maternity trees for several species of bats. Common trees found on the site include red oak, white oak, sugar maple, American beach, silver maples, red maple, tulip tree, ash and elm, and hickory.

Additional habitat descriptions can be found in a separate wetlands delineation report authored by O'Brian and Gere.

Mist-Netting Survey - Results

Mist-Netting Techniques

Current guidelines issued by the USFWS indicate that 9 net-nights are required for a project of this size. Guidelines further indicate that a prevalence of suitable weather must persist throughout the course of the investigation. Strong winds, precipitation, and temperatures below 10 degrees Celsius (50 degrees Fahrenheit) may deter bats from flying and foraging for insects.

This study completed 9 net-nights over a two night period which meets the minimum guidelines required for compliance purposes. Wind conditions were favorable and there was no precipitation on either study night. Temperatures were normal for this time of year.

Mist-netting procedures followed guidelines developed by the Indiana Bat Recovery Team (Brady, et al., 1983) and endorsed by the U.S. Fish and Wildlife Service (USFWS) and Ohio Division of Wildlife and included all recent revisions. Sites were selected as described below. At each site, a tier of low-visibility nylon mist nets was erected across likely flyways and other areas where bat activity was anticipated or otherwise noted. When possible, nets were erected to sufficient height and width to entirely block off the flight corridor. Nets were secured to a rope-and-pulley system suspended from telescoping poles (Kunz, 1988). Nets were erected during the twilight hours and monitored every 15-20 minutes for a five-hour period. All mist nets were constructed of 50-denier/2-ply (1.5-inch mesh) nylon.

Data Collection

Basic biological data were collected from all bats netted, including species identification, ear, tragus, forearm length, gender, age (juvenile or adult), weight in grams, and reproductive condition (if discernible). All bats were released at the site of capture. Additional information recorded included the climatological conditions, date, time of capture, lunar phase, and percent cloud cover. Species identification was based on the keys described by Belwood (1998).

Staff Participation

The following staff participated in this survey. Permits are included in Appendix D.

Mike Johnson – Lead Biologist (permit holder)
Heidi Raynor – Biologist (listed on permit for Mike Johnson)
John Baumgardner – Field Assistant
Marilyn Cornel – Field Assistant

Site Selection and Descriptions

Potential flight corridors were identified based upon field reconnaissance conducted during daylight hours. Potential capture sites within this study were limited to access roads that cross the site. A description of each netting station is provided below and shown on the map in Appendix A.

June 6, 2015 (total net nights = 6)

June 6 was warm and clear. The temperature was 75 degrees at 8:45 PM when the nets were first raised. Lunar phase was near full but low on the horizon. There was no cloud cover most of the

night. There was no wind. The temperature was 60 degrees at 1:45 AM when nets were lowered for the evening. Netting conditions were excellent.

Net #1 consisted of two tiers of 6-meter mist nets stacked vertically over the small stream that meanders through the site. At this location, it was possible to block off the entire flight corridor.

Net #2 consisted of a three tiers of 6-meter mist nets stacked vertically over an access road. At this location, it was possible to block off the entire flight corridor.

Net #3 consisted of two tiers of 6-meter mist nets set over a clearing in an access path. At this location, it was possible to entirely block off the flight corridor.

Net #4 consisted of two tiers of 6-meter mist nets set over the same stream as Net #1. At this location, it was possible to block off the entire flight corridor.

Net #5 consisted of a two tiers of 6-meter mist nets set over the access road that runs the length of the site. At this location, it was possible to entirely block off the flight corridor.

Net #6 consisted of two tiers of 9-meter mist nets stacked vertically and adjacent to a wetland pond that parallels the access road. At this location, it was not possible to block off the vertical limits of the flight corridor.

June 7, 2015 (total net nights = 3)

Nets #4 - #6 from the previous evening were dismantled. Nets #1 - #4 were replaced and run a second night.

June 7 was nearly identical to the previous evening with the exception of being slightly cooler. Temperatures ranged from 60 degrees at 8:45 PM when nets were first raised to 55 degrees at 1:45 AM when the nets were lowered and the survey ended. Netting conditions were good.

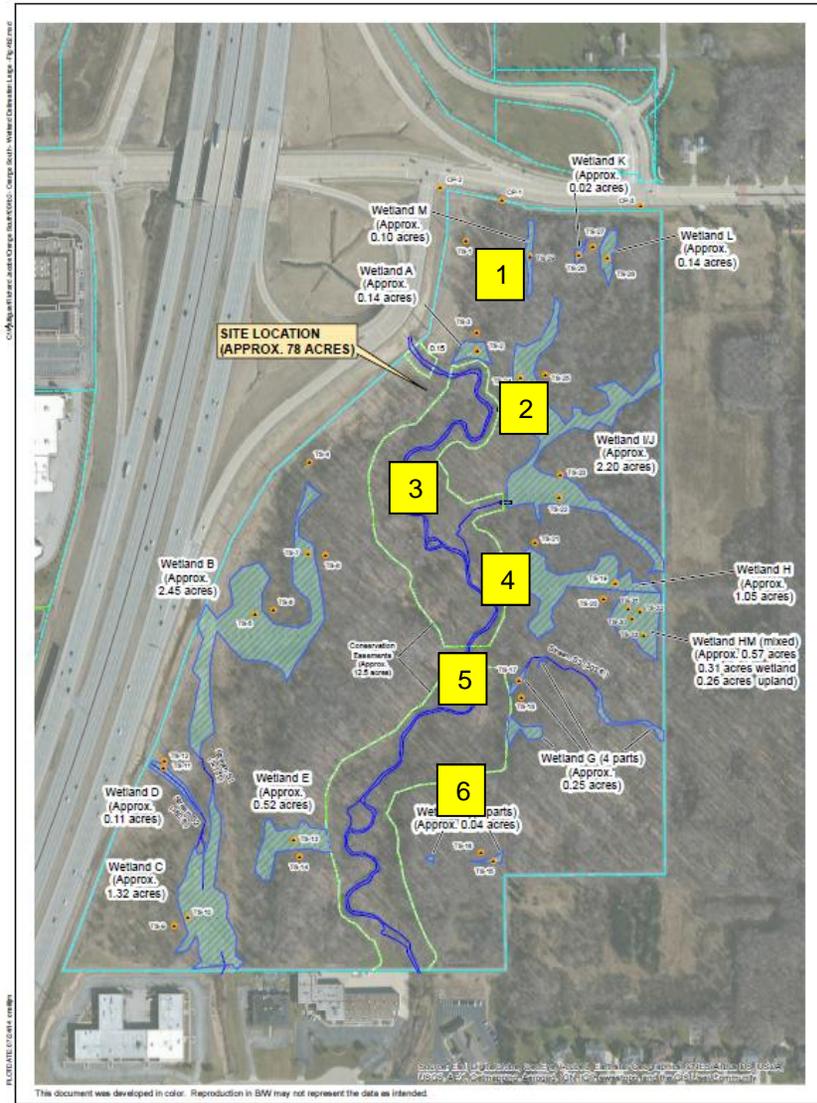
Results

A total of 9 net-nights were performed at the proposed Orange South Site in Cuyahoga County, Ohio. A single big brown bat (*Eptesicus fuscus*) was captured. This species is common throughout the area. The single specimen was captured on the first night of netting at Net #1. The specimen was an adult male weighing 16 grams with a forearm length of 43.9mm. The specimen appeared to be sexually active as evidenced by enlarged testes. The specimen appeared in good health and lacked signs of white nose syndrome.

No rare or endangered species were noted during the course of this investigation. There are no underground mines, caves, or other suitable hibernacula.

Appendix A
Maps showing Location of Site and Netting Locations

FIGURE 4



Appendix A

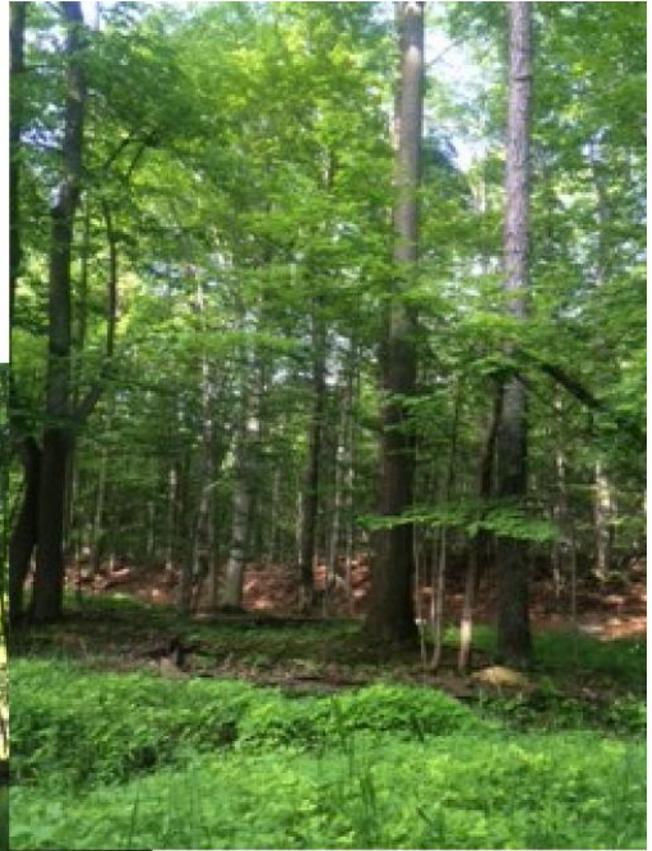
Map Showing Location of Nets

Appendix B
Photographs

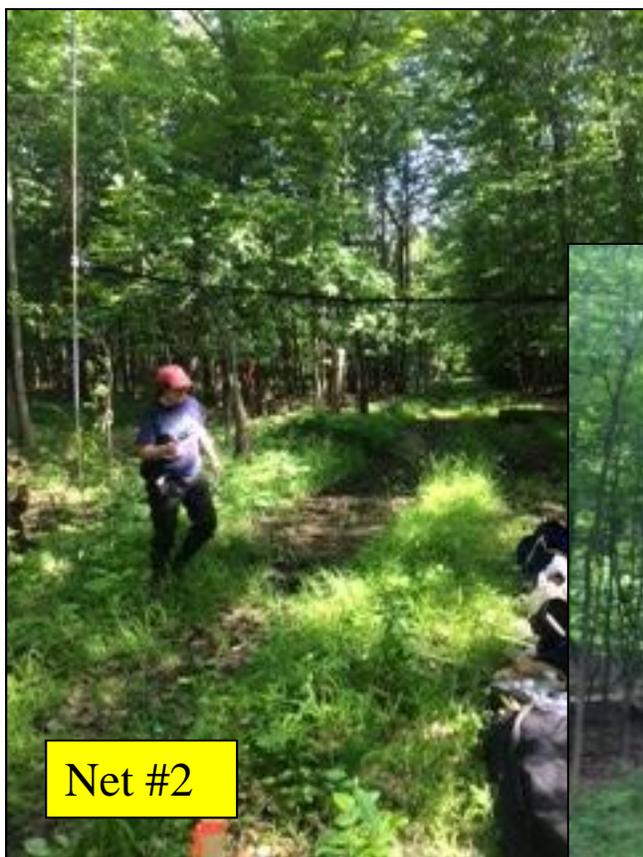
Appendix B

Pictures of General Habitat and Netting Locations

The majority of the site is dominated by young and moderately mature forests with a well developed understory of native vegetation and wetlands. A small meandering stream flows through the site.



Appendix B
Pictures of Netting Locations



Appendix B
Pictures of Netting Locations



Appendix C
Field Data Sheets

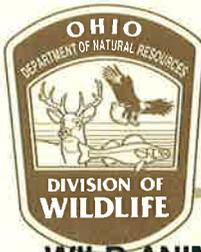
Tragus, Inc. - Bat Data Form

#4 Cox2 over Stream
 #5 Cox2 over Road
 #6 9x2 over Wetland.

Date: 6/5/15 S. Time: 8:45 S. Temp: 75 °F E. Time: 5:25 E. Temp: 75 °F Precipitation: none fog/mist light rain medium rain heavy rain
 Moon: 1/4 ☾ Wind: 0-2 3-4 5 % Cloud Cover: 0-25 50 75 100 Capture Technique: mist net harp trap
 Leader: M. Johnson Participants: H. Rejcek J. Baumgardner

Net Number (Initials, date(day-month-year), sequential number) EXAMPLE: MJK090709-01	Net length (m) and numbers	Set over (stream, road, trail, etc.)	Coordinates North	Coordinates West	Comments	SPECIES	GENDER	AGE	REPRODUCTIVE CONDITION	CAPTURE TIME	BAND NUMBER	FOREARM LENGTH	LWS (0-3)	RWS (0-3)	WEIGHT	NET	COMMENTS	
	6x3	Access Road	41-05 843	81-32 541	Complete canopy closure													
<i>[Large handwritten signature]</i>																		

Appendix D
Permits



DIVISION OF WILDLIFE

Ohio Department of Natural Resources

WILD ANIMAL PERMIT: 17-06

SCIENTIFIC COLLECTION

MICHAEL D JOHNSON
TRAGUS ENVIRONMENTAL CONSULTING
37 NORTH HIGHLAND AVE
AKRON, OH 44303

Division of Wildlife Headquarters
2045 Morse Road, Bldg. G
Columbus, Ohio 43229-6693
1-800-WILDLIFE

Chief, Division of Wildlife **Scott Zody**

DATE ISSUED

2/3/2014

Others authorized on permit

YES (SEE ATTACHMENT)

is hereby granted permission to take, possess, and transport at any time and in any manner specimens of wild animals, subject to the conditions and restrictions listed below or any documents accompanying this permit. This permit, unless revoked earlier by the Chief, Division of Wildlife, is effective from:

3/16/2014 to: 3/15/2017

The Chief of the Division of Wildlife will not issue permits for Dangerous Wild Animal (DWA) species (ORC 935.01 except native DWA, required for specific projects. The permit issued by the Chief does not relieve the permittee of any responsibility to obtain a permit pursuant to R.C. Chapter 935 except as specified for the animals and purposes permitted herein. The permittee must adhere to all additional requirements under R.C. Chapter 935.

THIS PERMIT IS RESTRICTED AS FOLLOWS:

1. At least 15 days prior to the initiation of bat field work, you must provide Jennifer Norris (jennifer.norris@dnr.state.oh.us) with a study plan specifying objectives, location, dates, and all other details, for DOW review and approval.
2. Prior to collecting activities, permittee must contact the local wildlife officer or nearest wildlife district office to advise locations and duration of sampling. Landowner permission must also be obtained.
3. May collect bats, including endangered species, for survey and inventory.
4. Permittee may collect fish, macroinvertebrates, reptiles, amphibians, birds and mammals for survey and inventory. Individuals must be immediately released at point of capture unless required as a voucher specimen. No endangered species may be collected. Voucher specimens may be deposited at the CMNH.
5. Collection by mist nets permitted. All specimens are to be immediately released. Radio-transmitters may be applied to bats.
6. Must maintain and follow restrictions of current U.S. Fish and Wildlife Service permit #TE105320-6. Permittee must also follow current U.S. Fish and Wildlife Service WNS decontamination protocols.
7. Notify Jennifer Norris at 614-265-6349 or 419-602-3141 (cell) within 24 hrs if an Indiana bat is located or if visible signs of WNS are observed. Bands obtained from ODNR must be used on all Indiana bats.
8. Collection is prohibited in the Killbuck, Big Darby, Little Darby, tributaries to and east branch of the Chagrin River above I-90, Fish Creek (Williams County) and Division of Wildlife property without explicit written permission from the Division of Wildlife. Sampling is further restricted in streams that may have federally listed mussels. See the enclosed "USFWS Restricted Streams of Ohio" document for a list of streams and contact information.
9. An annual electronic report must be submitted in the appropriate Wildlife Diversity Database Excel spreadsheet format.
10. All work conducted on live bats, as well as identification of all bats collected, must be conducted by federal bat permittees. State sub-permittees may assist under the direct, on-site supervision of a federal permittee.

Locations of Collecting:

STATEWIDE WITH NOTED EXCEPTIONS

Equipment and method used in collection:

MIST NETS, RADIO-TELEMETRY, ELECTROSHOCKING, SEINES, DIP NETS, LIVE TRAPS, TURTLE TRAPS/HOOP TRAPS, SALVAGE, HAND

Name and number of each species to be collected:

INDIANA BATS (*Myotis sodalis*) FOR PRESENCE ABSENCE SURVEYS. FISH, MACROINVERTEBRATES, REPTILES, AMPHIBIANS, BIRDS AND MAMMALS FOR SURVEY AND INVENTORY.

RESTRICTIVE DOCUMENTS ACCOMPANYING THIS PERMIT? YES

NO ENDANGERED SPECIES OR AQUATIC NUISANCE SPECIES MAY BE TAKEN WITHOUT WRITTEN PERMISSION FROM THE CHIEF



DIVISION OF WILDLIFE

Ohio Department of Natural Resources

Division of Wildlife Headquarters
2045 Morse Road, Bldg. G
Columbus, Ohio 43229-6693
1-800-WILDLIFE

Scott Zody, Chief

February 3, 2014

Tragus Environmental Consulting
Attn: Michael D. Johnson
37 North Highland Ave.
Akron, OH 44303

Dear Mr. Johnson:

This letter authorizes you, Michelle Malcosky, Marlo Perdicas, Heidi Raynor and those working under the direct, on-site supervision of named permittees to work with Ohio bat species, including the Indiana bat (*Myotis sodalis*). By authority of the Endangered Species Act (ESA), you are hereby designated as an agent of the ODNR, Division of Wildlife (DOW) to conduct work on federally listed species of bats in Ohio. Your designation as an agent of DOW is effective beginning March 16, 2014 and will expire March 15, 2017. If necessary, you may request an extension of this designation to continue your work with federally listed species of bats in Ohio.

Effective until March 15, 2017, this designation allows you to (1) add dead Indiana bat and invertebrate specimens salvaged during field work to the OSU Museum of Biological Diversity's permanent collection, (2) monitor roost sites or survey suspected locations of federally listed species in Ohio, (3) locate additional roost or locations of federally listed species in Ohio, (4) set mist nets in the vicinity of potential federally listed bat roost sites and determine use, (5) band federally listed bats in Ohio (contact Jennifer Norris for bands). All above mentioned activities must adhere to the current USFWS white nose syndrome (WNS) decontamination protocol. Any and all work conducted on bats, as well as identification of bats, must be conducted by named permittees that are federally permitted. Assistants are only permitted to work under the direct, on-site supervision of named permittees. At least 15 days prior to the initiation of field work, you must provide Jennifer Norris (jennifer.norris@dnr.state.oh.us) with a study plan specifying objectives, location, dates, and all other details, for DOW review and approval.

The United States Fish and Wildlife Service (USFWS) and DOW are partners in a cooperative agreement under Section 6c of the ESA. Your designation as an agent of the DOW means your work with federally listed species in Ohio is permitted under federal regulations 50 CFR 17.21c and 50 CFR 17.31b. This includes aid to sick, injured, or orphaned species [50 CFR 17.21c (3) (i)] and salvage of dead specimens useful for scientific study [50 CFR 17.21c (3) (iii)]. You must notify the USFWS of any such taking as outlined in 50 CFR 17.21c (4). In addition to salvage activities, you are authorized to take species of federally endangered species, as outlined in 50 CFR 17.21c (5), provided your activities meet the guidelines outlined in 50 CFR 17.21c (5) (i) - 50 CFR 17.21c (5) (iv).

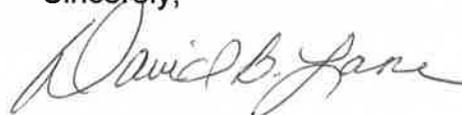
PAGE TWO
Michael Johnson
February 3, 2014

Note that a separate permit under Section 10 of the ESA is necessary in the case where you might hold live federally listed species longer than 45 days. Permit requests under Section 10 of the ESA should be directed to endangered species biologist Angela Boyer in Columbus, Ohio (614-416-8993 ext. 22). If you have questions about whether any proposed activities are covered under this authority or need any other assistance, contact the USFWS.

Information gathered from your work will be valuable to the DOW. As a condition of this letter permit, any field work conducted should report all data in an electronic copy of the Wildlife Diversity Bat Database. Additionally, a written report summarizing your findings should be provided to the following individuals; Jennifer Norris, Division of Wildlife, 2045 Morse Rd. Bldg G., Columbus, OH 43229 and Angela Boyer, U.S. Fish and Wildlife Service, 4625 Morse Rd., Suite 104, Columbus, OH 43230. Annual reports are due by 15 March for the previous year.

Notify Jennifer Norris at (614) 265-6349 or mobile at (419) 602-3141 within 24 hours if an Indiana bat is found or if WNS is suspected on any bats observed. Please provide latitude and longitude coordinates or a thorough description of where the bat was observed.

Sincerely,



SCOTT ZODY
Chief

SZ:mm

cc: C. Caldwell
J. Norris
A. Boyer, USFWS
L. Arehart
P. Kurfis
J. Roof
J. Abele
M. Welsh
File



DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

FEDERAL FISH AND WILDLIFE PERMIT

I. PERMITTEE

TRAGUS ENVIRONMENTAL CONSULTING, INC.
37 NORTH HIGHLAND AVENUE
AKRON, OH 44303
U.S.A.

2. AUTHORITY-STATUTES
16 USC 1539(a)

REGULATIONS
50 CFR 17.22

50 CFR 13

3. NUMBER
TE105320-6

AMENDMENT

4. RENEWABLE
 YES
 NO

5. MAY COPY
 YES
 NO

6. EFFECTIVE
02/06/2013

7. EXPIRES
12/31/2015

8. NAME AND TITLE OF PRINCIPAL OFFICER (If #1 is a business)
MICHAEL D. JOHNSON
PRESIDENT

9. TYPE OF PERMIT
NATIVE ENDANGERED SP. RECOVERY - E WILDLIFE

10. LOCATION WHERE AUTHORIZED ACTIVITY MAY BE CONDUCTED
ON LANDS SPECIFIED WITHIN THE ATTACHED SPECIAL TERMS AND CONDITIONS

11. CONDITIONS AND AUTHORIZATIONS:

- A. GENERAL CONDITIONS SET OUT IN SUBPART D OF 50 CFR 13, AND SPECIFIC CONDITIONS CONTAINED IN FEDERAL REGULATIONS CITED IN BLOCK #2 ABOVE, ARE HEREBY MADE A PART OF THIS PERMIT. ALL ACTIVITIES AUTHORIZED HEREIN MUST BE CARRIED OUT IN ACCORD WITH AND FOR THE PURPOSES DESCRIBED IN THE APPLICATION SUBMITTED. CONTINUED VALIDITY, OR RENEWAL, OF THIS PERMIT IS SUBJECT TO COMPLETE AND TIMELY COMPLIANCE WITH ALL APPLICABLE CONDITIONS, INCLUDING THE FILING OF ALL REQUIRED INFORMATION AND REPORTS.
- B. THE VALIDITY OF THIS PERMIT IS ALSO CONDITIONED UPON STRICT OBSERVANCE OF ALL APPLICABLE FOREIGN, STATE, LOCAL, TRIBAL, OR OTHER FEDERAL LAW.
- C. VALID FOR USE BY PERMITTEE NAMED ABOVE.
 - C.1. VALID FOR USE BY MICHAEL D. JOHNSON, MICHELLE MALCÓSKY, MARLO PERDICAS, HEIDI RAYNOR, AND ASSISTANTS UNDER THEIR DIRECT AND ON-SITE SUPERVISION. NAMED PERMITTEES MUST REMAIN PRESENT AT MIST-NET SITE(S) WHILE THEY ARE BEING OPERATED.
- D. ACCEPTANCE OF THIS PERMIT SERVES AS EVIDENCE THAT THE PERMITTEE AND ITS AUTHORIZED AGENTS UNDERSTAND AND AGREE TO ABIDE BY THE TERMS OF THIS PERMIT AND ALL SECTIONS OF TITLE 50 CODE OF FEDERAL REGULATIONS, PARTS 13 AND 17, PERTINENT TO ISSUED PERMITS. SECTION 11 OF THE ENDANGERED SPECIES ACT OF 1973, AS AMENDED, PROVIDES FOR CIVIL AND CRIMINAL PENALTIES FOR FAILURE TO COMPLY WITH PERMIT CONDITIONS.
- E. Permittee is authorized to take (capture and release) the Indiana bat (*Myotis sodalis*) and gray bat (*M. grisescens*) for scientific research aimed at recovery of the species.
- F. Activities are authorized at the following locations:
 - F.1. Locations within Oklahoma (Region 2 of the USFWS) upon receipt of written concurrence from the Field Supervisor, as outlined in Condition G.
 - F.2. Locations within Illinois, Indiana, Iowa, Michigan, Missouri, and Ohio (Region 3 of the USFWS) upon receipt of written concurrence from the Field Supervisor, as outlined in Condition G.

ADDITIONAL CONDITIONS AND AUTHORIZATIONS ALSO APPLY

12. REPORTING REQUIREMENTS

ANNUAL REPORT DUE: 1/31

ISSUED BY

TITLE
CHIEF - ENDANGERED SPECIES

DATE
02/06/2013

- F.3. Locations within Alabama, Arkansas, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee (Region 4 of the USFWS) upon receipt of written concurrence from the Field Supervisor, as outlined in Condition G.
- F.4. Locations within Maryland, New Jersey, New York, Pennsylvania, Vermont, Virginia and West Virginia (Region 5 of the USFWS) upon receipt of written concurrence from the Field Supervisor, as outlined in Condition G. and in accordance with required state permits.
- G. Permittee shall request authorization from the USFWS Field Supervisor (Condition M.) for the state in which activities are proposed to occur at least 15 days prior to conducting any activities. Your notification must be in writing and must indicate:
- G.1. Location of proposed activities, including project site, county, and state.
- G.2. A description of the activities (i.e., surveys, radio-telemetry studies, etc.).
- G.3. Dates when the project is proposed to take place.
- G.4. Evidence that Permittee has received any required contracts to complete the activities.
- G.5. You may proceed with activities upon receipt of written concurrence from the Field Supervisor. *Your concurrence letter must be carried with this permit to authorize locations not named in this permit.*
- H. Permittee shall adhere to the following conditions involving capture and handling of bats:
- H.1. Bats may be captured with mist nets following the protocol "Indiana Bat Mist-Netting Guidelines" (USFWS 2007 Draft Indiana Bat Recovery Plan). The monitoring interval for mist nets may not exceed 10 minutes. Captured bats may be held for a maximum of 30 minutes, unless injured. In extenuating circumstances, bats shall be held for no longer than 45 minutes.
- H.2. Permittees may carry out non-intrusive measurements on captured bats. Lipped metal bands having a unique identifier may be applied to the forearm of captured bats prior to release. No more than one band per bat may be used.
- H.3. Radio transmitters may be applied during summer roosting period via nontoxic skin bond adhesive such as colostomy glue. The total weight of the transmitter may not exceed 5% of the bat's body weight and the total weight of the package (transmitter and adhesive) may not exceed 6% of the bat's body weight. The lightest package (both transmitter and adhesive) capable of accomplishing the required task should be used, especially with pregnant females and newly volant juveniles. Bats carrying transmitters must be monitored daily for at least three days, or until the transmitter falls off, whichever occurs first.
- H.4. No trapping activities shall occur within 20 meters of an Indiana bat maternity roost site, either natural or artificial roosts, unless Permittee receives prior written approval from the U.S. Fish and Wildlife Service Field Supervisor for the state in which the activities are proposed to occur.
- H.5. Permittee may collect dorsal hair samples, guano samples, and wing biopsy tissue samples from captured Indiana bats and gray bats for scientific study. Hair samples shall be obtained via clipping fur from between scapula from females and juvenile males. The clipped area is the same area frequently clipped for radio transmitter attachment. Wing tissue samples may also be obtained for analysis. For each endangered bat sampled, a new, sterile biopsy punch (2mm) must be used and no more than two samples, one from each wing, may be obtained per individual. All boards and equipment used to obtain samples must be disinfected according to the protocol cited in Condition H.6.
- H.6. Equipment used to capture and handle bats shall be cleaned and decontaminated according to the most recent USFWS approved decontamination protocol available on the USFWS website at: <http://www.fws.gov/WhiteNoseSyndrome/research.html>.
- I. Upon determination that endangered bats are present at previously undocumented sites, Permittee shall notify the following offices within 48 hours: the U.S. Fish and Wildlife Service Region 3 Office (Condition L.), and the U.S. Fish and Wildlife Service Field Office within the geographic location of study areas (Condition M.).

- J. Accidental mortality may not exceed two specimens. In the event that this number is met, all activities must cease. Any bat mortality or serious injury must be reported within 5 calendar days to the applicable office listed in condition L. and to the nearest U.S. Fish and Wildlife Service Law Enforcement Office (<http://www.fws.gov/offices/directory>). Dead or moribund bats may be retained for further study only with the written permission of the U.S. Fish and Wildlife Service. Any bats that are not authorized for retention are to be chilled and promptly transferred to the U.S. Fish and Wildlife Service for potential necropsy and/or contaminants analysis (Condition L.5.).
- K. A report of all activities conducted under the authority of this permit is due by January 31 following each year the permit is in effect. In addition, copies of all publications and reports resulting from work conducted under this permit must be submitted as they become available. Failure to furnish any reports required by this permit is cause for permit revocation and/or denial of future permit applications. At a minimum, your report must include:
- K.1. The date, time, geographic locations (including datum and projection information), age, sex, and weight of all bats encountered.
 - K.2. A description of locations searched where no bats were found.
 - K.3. Band numbers of all bats banded.
 - K.4. Information on any injuries and/or mortalities and disposition of specimens.
 - K.5. Location and characteristics of roost trees and bat colonies.
 - K.6. Copies of any separate reports and/or publications resulting from work conducted under the authority of this permit.
 - K.7. A completed INDIANA BAT SURVEY AND BANDING DATA form.
 - K.8. Copies of all site specific authorization letters required under condition G.
- L. Copies of your reports shall be sent to the offices listed below. When possible, electronic copies shall be submitted in lieu of hard copies in MS Word, Portable Document Format, or other file format that is compatible with the receiving office.
- L.1. Lisa Mandell
U.S. Fish and Wildlife Service
Ecological Services
5600 American Blvd. W.
Suite 990
Bloomington, Minnesota 55437-1458
(612/713-5343; fax 612/713-5292)
permitsR3ES@fws.gov
 - L.2. Cam Shaw
U.S. Fish and Wildlife Service
Attn: Permit Coordinator (AES/TE/P)
1875 Century Boulevard, Suite 200
Atlanta, Georgia 30345-3301
(904/731-3191; fax 404/679-7081)
permitsR4ES@fws.gov
 - L.3. Alex Hoar
U.S. Fish and Wildlife Service
Endangered Species Division
300 Westgate Center Drive
Hadley, Massachusetts 01035-9589
(413/253-8631; fax 413/253-8482)
permitsR5ES@fws.gov

L.4. Marty Tuegel
Regional Recovery Permits Coordinator
U.S. Fish and Wildlife Service, Region 2
P.O. Box 1306
Albuquerque, New Mexico 87103-1306
(505/248-6651; fax 505/248-6788)
permitsR2ES@fws.gov

L.5. Lori Pruitt
Endangered Species Coordinator for Indiana
U.S. Fish and Wildlife Service
Ecological Services Field Office
620 S. Walker Street
Bloomington, Indiana 47403-2121
(812/334-4261 x1213; fax 812/334-4273)

M. Additionally, based on geographic area, reports and publications shall be submitted to the following:

M.1. For studies conducted in Illinois:

M.1.a. Kristen Lundh
Endangered Species Coordinator for Illinois/Iowa
U.S. Fish and Wildlife Service
Ecological Services Field Office
1511 47th Ave.
Moline, Illinois 61265
(309/757-5800, x215; fax 309/757-5807)

M.1.b. Joe Kath
Endangered Species Coordinator
Illinois Department of Natural Resources
Division of Natural Heritage
One Natural Resource Way
Springfield, IL 62702-1271
(217/785-8764; fax 217/785-2438)

M.2. For studies conducted in Indiana:

Katie Gremillion-Smith
Endangered Species Coordinator
Indiana Department of Natural Resources
Division of Fish and Wildlife
Room W273, 402 W. Washington St.
Indianapolis, Indiana 46204-2267
(317/232-8160; fax 317/232-8150)

M.3. For studies conducted in Iowa:

M.3.a. Kristen Lundh
Endangered Species Coordinator for Illinois/Iowa
U.S. Fish and Wildlife Service
Ecological Services Field Office
1511 47th Ave.
Moline, Illinois 61265
(309/757-5800, x215; fax 309/757-5807)

M.3.b. Daryl Howell
Endangered Species Coordinator
Iowa Department of Natural Resources
Parks, Recreation, and Preserves
Wallace State Office Building
East 9th and Grand Avenue
Des Moines, Iowa 50319-0034
(515/281-8524)

M.4. For studies conducted in Michigan:

M.4.a. Barbara Hosler
Endangered Species Coordinator for Michigan
U.S. Fish and Wildlife Service
2651 Coolidge Road
East Lansing, Michigan 48823
(517/351-6326; fax 517/351-1443)

M.4.b. Dan Kennedy
Endangered Species Coordinator
Michigan Department of Natural Resources
Wildlife Division
P.O. Box 30444
Lansing, Michigan 48909-7444
(517/241-3944; fax 517/373-6705)

M.5. For studies conducted in Missouri:

M.5.a. Amy Salveter
Field Supervisor
U.S. Fish and Wildlife Service
Missouri Ecological Services Field Office
101 Park DeVille Drive, Suite A
Columbia, Missouri 65203-2132
(573/234-2132; fax 573/234-2181)

M.5.b. Stephanie Liebi
Scientific Collecting Permit Coordinator
Missouri Department of Conservation
Endangered Species and Natural History Division
2901 W. Truman Blvd.
P.O. Box 180
Jefferson City, Missouri 65102-0180
(573/751-4115 ext. 3574; fax 573/526-5582)

M.6. For studies conducted in Ohio:

M.6.a. Angela Boyer
Endangered Species Coordinator for Ohio
U.S. Fish and Wildlife Service
Ohio Ecological Services Field Office
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614/416-8993, x22; fax 614/416-8994)

M.6.b. Carolyn Caldwell
Endangered Species Coordinator
Ohio Department of Natural Resources
Division of Wildlife
2045 Morse Road
Building G
Columbus, Ohio 43229-6693
(614/265-6329)

M.7. For studies conducted in Alabama:

Daphne Field Office
U.S. Fish and Wildlife Service
Bill Pearson, Field Supervisor
1208-B Main Street
Daphne, AL 36526
(251/441-5181)

M.8. For studies conducted in Arkansas:

Arkansas Field Office
U.S. Fish and Wildlife Service
Jim Boggs, Field Supervisor
110 South Amity
Suite 300
Conway, Arkansas 72032-8975
(501/513-4470)

M.9. For studies conducted in Georgia:

Georgia Field Office
U.S. Fish and Wildlife Service
Sandy Tucker, Field Supervisor
105 Westpark Drive, Suite D
Athens, GA 30606-3175
(706) 613-9493

M.10. For studies conducted in Kentucky:

Frankfort Field Office
U.S. Fish and Wildlife Service
Lee Andrews, Field Supervisor
J C Watts Federal Bldg., Rm 265
330 West Broadway
Frankfort, KY 40601-8670
(502/695-0468)

M.11. For studies conducted in Mississippi:

Mississippi Field Office
U.S. Fish and Wildlife Service
Steve Ricks, Field Supervisor
6578 Dogwood View Pkwy, Ste A
Jackson, MS 39213-7856
(601/321-1122)

M.12. For studies conducted in North Carolina:

Asheville Field Office
U.S. Fish and Wildlife Service
Brian Cole, State Supervisor
160 Zillicoa Street
Asheville, NC 28801-1082
(828/258-3939)

M.13. For studies conducted in South Carolina:

Charleston Field Office
U.S. Fish and Wildlife Service
Jay Herrington, Field Supervisor
176 Croghan Spur Road, Suite 200
Charleston, SC 29407-7558
(843/727-4707 x212)

M.14. For studies conducted in Tennessee:

Cookeville Field Office
Mary Jennings, Field Supervisor
U.S. Fish and Wildlife Service
446 Neal Street
Cookeville, TN 38501-4027
(931/528-6481)

M.15. For studies conducted in Oklahoma:

Oklahoma Field Office
Dixie Bounds, Field Supervisor
U.S. Fish and Wildlife Service
9014 E. 21st St.
Tulsa, Oklahoma 74129
(918/382-4501)

M.16. For studies conducted in Maryland:

Chesapeake Bay Field Office
Genevieve LaRouche, Field Supervisor
U.S. Fish and Wildlife Service
177 Admiral Cochrane Drive
Annapolis, MD 21401
(410) 573-4573

M.17. For studies conducted in New Jersey:

New Jersey Field Office
Eric Davis, Field Supervisor
U.S. Fish and Wildlife Service
927 N. Main Street, Building D
Pleasantville, NJ 08232-1454
(609/646-9310)

M.18. For studies conducted in New York:

New York Field Office
David Stilwell, Field Supervisor
U.S. Fish and Wildlife Service
3817 Luker Road
Cortland, NY 13045
(607) 753-9334

M.19. For studies conducted in Pennsylvania:

Pennsylvania Field Office
Clint Riley, Field Supervisor
U.S. Fish and Wildlife Service
315 So. Allen Street, Suite 322
State College, PA 16801-4850
(814) 234-4090

M.20. For studies conducted in Vermont:

New England Field Office
Tom Chapman, Field Supervisor
U.S. Fish and Wildlife Service
70 Commercial Street, Suite 300
Concord, NH 03301
(603) 223-2541

M.21. For studies conducted in Virginia:

Virginia Field Office
Cindy Schulz, Field Supervisor
U.S. Fish and Wildlife Service
6669 Short Lane
Gloucester, VA 23061
(804) 693-6694

M.22. For studies conducted in West Virginia:

West Virginia Field Office
Deborah Carter, Field Supervisor
U.S. Fish and Wildlife Service
Route 250 South, Elkins Shopping Plaza
694 Beverly Pike
Elkins, WV 26241
(304) 636-6586

cc: FWS/Regions 2, 4, and 5 (Attn: Permits Coordinator)
FWS, TE Coordinators for Illinois, Indiana, Iowa, Michigan, Missouri, and Ohio
DNR/DOC, TE Coordinators for Illinois, Indiana, Iowa, Michigan, Missouri, and Ohio

END

Appendix E

References

- Belwood, Jaqueline, J. 1998. In Ohio's Backyard: Bats. Ohio Biological Survey Backyard Series: i-x, 1-196.
- Brady, J.T., R.K. LaVal, T.H. Kunz, M.D. Tuttle, D.E. Wilson, and R.L. Clawson. 1983. *Recovery Plan for the Indiana Bat*. U.S. Fish and Wildlife Service. 80 pp.
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- Humphrey, Stephen R., A.R. Richter, and C. James. 1977. *Summer habitat and ecology of the endangered Indiana bat (Myotis sodalis)*. J. Mamm. 58:334-346.
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- Kunz, T.H. ed. 1988. *Ecological and Behavioral Methods for the Study of Bats*. Smithsonian Institution Press, Washington.
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