

# INDOT Protected Species Guidance



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# Table of Contents

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## ***Chapter 1 – Habitat and Types of Bat Coordination***

- 1.1 Suitable Summer Habitat
- 1.2 Critical Habitat and Hibernaculum
- 1.3 Documented Habitat
- 1.4 Mitigation
- 1.5 Types of Bat Coordination

## ***Chapter 2 – Inspections***

- 2.1 Bridge/Structure Inspections
- 2.2 Signs of Bats and Guano Collection
- 2.3 Qualified Individual

## ***Chapter 3 – Rangewide Programmatic Agreement***

- 3.1 Half Mile Bat Review and GIS Layers
- 3.2 IPaC Review
- 3.4 IPaC Questions Defined

## ***Chapter 4 – Outside the Rangewide Programmatic Agreement***

- 4.1 Standard Informal Coordination

## ***Chapter 5 – Other Species***

- 5.1 Other Species Coordination
- 5.2 Pollinators
- 5.3 Migratory Bird Treaty Act
- 5.4 Bald and Golden Eagle Protection Act
- 5.5 State Listed Species

## ***Chapter 6 – Commitments, Resolutions, Stage 3 and Construction***

- 6.1 Commitments and Resolutions
- 6.2 Draft USPs
- 6.3 Active Season Tree Removal Requests

## ***Chapter 7 – FAQs and Helpful Information***

- 7.1 Frequently Asked Questions
- 7.2 Helpful Information, Definitions, and Terminology

# CHAPTER 1 – HABITAT AND TYPES OF BAT COORDINATION

## 1.1 SUITABLE SUMMER HABITAT

### Suitable Summer Habitat for Indiana Bat (IB) and Northern Long-eared Bat (NLEB)

Suitable summer habitat:

consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags  $\geq 3$  inches dbh [12.7 centimeter] that have exfoliating bark, cracks, crevices, and/or hollows), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 ft. (305 meters [m]) of other forested/wooded habitat (USFWS 2015a).

Suitable summer habitat includes:

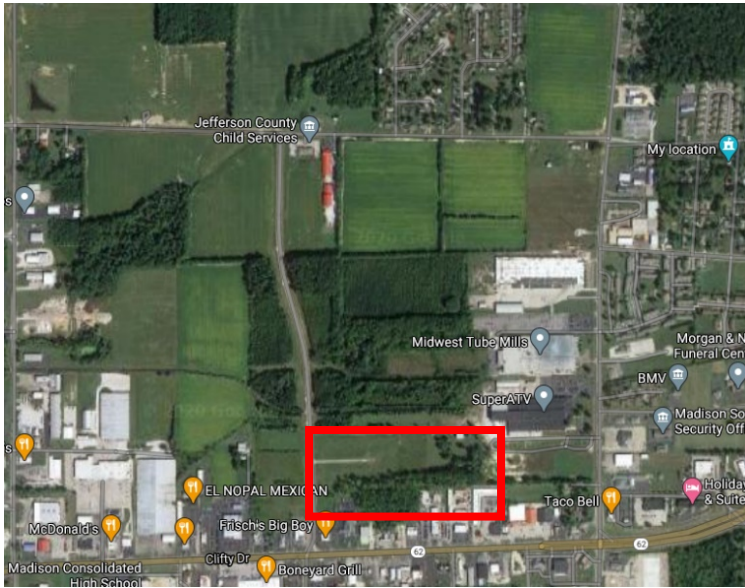
- Forested/wooded habitats where bats roost, forage, and travel.
- Adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields, and pastures.
- Forests and woodlots containing potential roosts (i.e., live trees and/or snags  $\geq 5$  inches dbh [12.7 centimeter] that have exfoliating bark, cracks, crevices, and/or hollows).
- Linear features such as fencerows, riparian forests, and other wooded corridors.
- Dense or loose aggregates of trees with variable amounts of canopy closure.
- Individual trees when they exhibit the characteristics of a potential roost tree and are located within 1,000 ft. of other forested/wooded habitat.
- Large water source within 1,000 ft. for bats to travel and use.

Examples:



#### **Example 1: Indianapolis NE corner at I-465 and White River**

- 1) Located along White River (water source for bats).
- 2) Tree line connects to larger wooded habitat to the north (travel corridor for bats).



**Example 2: Madison, IN**

- 1) Larger pocket of mixed size trees
- 2) Rural land to the north
- 3) Line of trees connecting to the forested/wooded habitat to the north
- 4) Large wildlife refuge to the north of this site.

Unsuitable summer habitat

Currently, there is no formal definition of unsuitable summer habitat provided in the USFWS Biological Opinion (BO), however, INDOT uses the following conditions/criteria based on language from the BO and previous coordination with USFWS:

- Individual trees greater than 1,000 feet from forested/wooded areas.
- Trees found in highly developed urban areas (e.g., street trees, downtown areas).
- Pure stand of less than 3-inch dbh trees that are not mixed with larger trees.
- No large water source within 1,000 ft. for bats to travel and use.

Examples:



**Example 1: Indianapolis Monument Circle**

- 1) Highly developed urban area.
- 2) Scattered sidewalk trees.
- 3) Trees not connecting to forested/wooded areas.





**Example 2: Noblesville, IN**

- 1) Highly urban area. 2) Scattered trees throughout. 3) Trees not connecting to larger forested/wooded habitat. 4) No large water source within 1,000 ft.



**Example 3: Winchester, IN**

- 1) Scattered trees.
- 2) Trees not connecting to forested/wooded areas.
- 3) No large water source within 1,000 ft.

**1.2 CRITICAL HABITATS AND HIBERNACULUM**

Critical Habitat is a specific geographic area which contains features essential to the conservation of an endangered or threatened species and may require special management and protection.

In reference to bats, critical habitat is identified as a layer in red during IPaC coordination. The location is protected by showing the entire county as a critical habitat if it is present. This could indicate a hibernaculum or a critical habitat is present. Both situations show up as the same critical habitat (red) in IPaC, however, critical habitat is not county-wide. In order to refine the location of the critical habitat in relation to the project location, coordination will need to occur with the appropriate INDOT District Environmental.

If the project is within the 10-mile buffer of a Priority 1 or 2 hibernaculum or critical habitat IPaC can be completed, however, the time of year tree removal restrictions change to Nov 15 – March 31 to allow for fall swarming to be concluded.

Hibernacula includes underground caves and cave-like structures (i.e., abandoned or active mines, railroad tunnels, and other locations) where bats hibernate in winter. A site is prioritized based on the use of the site by bats. Indiana has seven Priority 1 sites and four Priority 2 sites.

- Priority 1 - have a current and/or historically observed winter population of  $\geq 10,000$  Indiana bats
  - Indiana = 7 (2009)
- Priority 2 - have a current or observed historic population of 1,000 or more, but less than 10,000
  - Indiana = 4 (2009)
- Priority 3 - have current or observed historic populations of 50 to 1,000 bats
- Priority 4 - have current or observed historic populations of less than 50 bats

Please note, the Indiana Karst Region has been expanded based on the new *Protection of Karst Features during Project Development and Construction* guidance. For further information on how to appropriately answer questions in the IPaC determination key refer to Section 3.4 of this document.

### 1.3 DOCUMENTED HABITAT

The USFWS defines documented habitat in the BO as “that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry biangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics.” USFWS is working on updating this definition in the future.

If the 0.5-mile bat review identifies a roost tree(s), capture location(s), or acoustic detection(s) near the project area, INDOT will coordinate with USFWS to determine if the project is located within documented bat habitat. This will likely occur prior to INDOT sending the results of the 0.5-mile bat review. If this is missing, coordinate with INDOT to determine if documented bat habitat is present. This information is required to ensure the IPaC determination key questions are being answered appropriately.

If it is determined the project is in documented bat habitat, the appropriate questions in the IPaC determination key should reflect that. Currently these are the questions related to documented bat habitat (see section 3.4 for guidance on how to answer them):

- Does the project include activities within documented Indiana bat habitat?
- Will the removal or trimming of habitat or trees occur within suitable but undocumented Indiana bat roosting/foraging habitat or travel corridors?
- What time of year will the removal or trimming of habitat or trees within suitable but undocumented Indiana bat roosting/foraging habitat or travel corridors occur?
- Does the project include activities within documented NLEB habitat?
- Will the removal or trimming of habitat or trees occur within suitable but undocumented NLEB roosting/foraging habitat or travel corridors?
- What time of year will the removal or trimming of habitat or trees within suitable but undocumented NLEB roosting/foraging habitat or travel corridors occur?

Most projects located in a documented bat habitat will result in a LAA determination, however, not all LAA determinations require a mitigation payment.

If the project is in documented Indiana bat habitat, all tree removal will require a mitigation payment. “Rangewide In-Lieu Fee Program, The Conservation Fund” will be answered for the type of mitigation that will be used in the IPaC determination key question. The entire total of tree removal (acreage) for the project will be included in the mitigation calculation in the IPaC project description. Refer to the most

current “Using the IPaC” document located on the INDOT Environmental Policy [website](#) for further information.

If the project is only in documented northern long-eared bat habitat, no mitigation is required for the project even though IPaC will result in a LAA determination. “Not Applicable” will be answered for the type of mitigation in the IPaC determination key. The project description in IPaC should include a statement that the project is only located in a documented northern long-eared bat habitat, which does not require mitigation.

## 1.4 MITIGATION

To satisfy the mitigation requirement, INDOT follows the Rangewide Indiana bat In-Lieu Fee Program established by the USFWS. This program is managed by The Conservation Fund. Mitigation fees compensate for unavoidable impacts to Indiana bats and their habitats. The funds will be used to restore and preserve IB habitat in a conservation focus area that the USFWS has provided to The Conservation Fund. Information about the Program is located at:

[https://www.fws.gov/midwest/endangered/section7/fhwa/pdf/ILF\\_InstrumentINBA.pdf](https://www.fws.gov/midwest/endangered/section7/fhwa/pdf/ILF_InstrumentINBA.pdf)

Current projects that require mitigation payments are projects with tree removal occurring in a documented Indiana bat habitat, or projects that will involve tree removal 100-300ft from an existing roadway/railway. Refer to the most current “Using the IPaC” document located on the INDOT Environmental Policy [website](#) for further guidance on including the mitigation calculation into IPaC.

For projects located in documented Indiana bat habitat, all tree removal will require a mitigation payment. “Rangewide In-Lieu Fee Program, The Conservation Fund” will be answered for the type of mitigation that will be used in the IPaC determination key. The entire total of tree removal (acreage) for the project will be included in the mitigation calculation in the IPaC project description.

For projects not located in documented Indiana bat habitat, mitigation will be required where tree removal will occur between 100-300ft from an existing roadway/railway. The project description in IPaC must include the tree removal amount and the mitigation calculation. The tree removal should be split out based on the distance where clearing will occur. For example, the project will require a total of 10 acres of tree removal. 4 acres will be removed within 100ft of the roadway and 6 acres will be removed 100-300ft from the roadway. Only the tree clearing occurring 100-300ft from the roadway will require a mitigation payment and will be the amount included in the calculation.

The formula for calculating the mitigation amount is:

(acres of tree removal) x (mitigation ratio) x (current dollar amount for IN) = dollars for mitigation

Acres of tree removal – This could be the full amount of tree removal for the project or only a portion of tree removal. See the above paragraphs to determine which is appropriate for the project.

Mitigation ratio – From the USFWS BO:

**Table 3. Compensatory mitigation ratios for Indiana bat.**

Project Location	<30% Forest Cover (within County)		≥30% Forest Cover (within County)	
	Active*	Inactive*	Active*	Inactive*
0-100 ft. edge of road/rail ballast	1.5	NLAA	1.25	NLAA
0-100 ft. edge of road/rail ballast – documented roosting/foraging habitat	2.25	1.75	2	1.5
100-300 ft. edge of road/rail ballast	2.25	1.75	2	1.5

The “Compensatory Mitigation Ratio Percent Forest Cover (by county)” table can be found on the following website: <https://www.fws.gov/midwest/angered/section7/fhwa/index.html>.

Current dollar amount for IN – This is reviewed annually by USFWS, as appropriate. For the current amount see “Estimated Cost Per Acre Land Values by Service Area – Table 2 of ILF Instrument Exhibit E” at: <https://www.fws.gov/midwest/angered/section7/fhwa/index.html>.

Once IPaC is reviewed by INDOT it is sent to USFWS for a 30-day review period. USFWS will issue a concurrence letter concluding the IPaC review. The concurrence letter will include the mitigation dollar amount to be paid for the project, however, based on the project there could also be additional commitments included which must be listed as firm commitments in the environmental document. Refer to Chapter 6 of this document for further information regarding commitments. Please note, if the mitigation dollar amount is different than the submitted amount please use the USFWS concurrence letter dollar amount when mitigation is paid.

## 1.5 TYPES OF BAT COORDINATION

Section 7 Indiana bat and northern long-eared bat coordination can qualify for one of two categories, informal or standard formal. Informal coordination could include one of two separate types of coordination: the Rangewide Programmatic Agreement by completing the Information for Planning and Consultation (IPaC) or standard informal coordination. Standard formal coordination includes preparing a Biological Assessment and is rare.

Section 7 Indiana bat and northern long-eared bat coordination, regardless of outcome, starts with uploading project information into the IPaC to document the project scope, location, and receive an IPaC species list. Likely, the next step will be implementing the Rangewide Programmatic Agreement and completing the IPaC determination key, which is the most common type of coordination. The Rangewide Programmatic Agreement is a regional consultation approach and based on a Programmatic Biological Opinion. Coordination is completed through a guided analysis of project impacts in the IPaC determination key. Section 7 informal and limited formal consultation can be completed in the IPaC determination key.

If the project does not qualify for the Rangewide Programmatic Agreement and cannot complete the IPaC determination key, standard informal coordination is likely but should be coordinated with the appropriate District Environmental to ensure this is the correct type of coordination to occur. To complete this coordination, a standard informal letter will need to be prepared and reviewed by INDOT. Refer to Section 4.1 in this document for more information about completing this coordination.



The projects that most commonly fall outside the Rangewide Programmatic Agreements are:

- Construction or tree removal beyond 300ft from an existing roadway/railway;
- More than 20 acres of tree clearing per 5 miles;
- Located within a 0.5-mile of a hibernacula;
- Tree removal in documented habitat; and
- Located close to roost trees

Standard formal coordination is a process followed for major or high impacting projects that may adversely affect federally listed species or critical habitat. Standard formal coordination requires the preparation of a Biological Assessment (BA) for all listed species in the project area and is likely concluded with a Biological Opinion (BO). Standard formal consultation is required for all projects where a Likely to Adversely Affect (LAA) determination will be made and the project does not qualify for completing the IPaC determination key. An LAA determination may result in design modifications; firm commitments to avoid negative effects to species or habitat; and include an incidental take statement or permit. If it is anticipated standard formal coordination will be needed with USFWS, contact INDOT as soon as possible.

Please note, not all projects receiving an LAA determination complete standard formal coordination. Limited formal coordination can occur through the Rangewide Programmatic Agreement in the IPaC determination key. Limited formal coordination completed in the IPaC determination key does not elevate an environmental document in the CE threshold table due to it qualifying for the Rangewide Programmatic Agreement. Standard formal coordination is rare, and to date INDOT has only completed this consultation for a few projects (I-69 from Evansville to Indianapolis for example).

## CHAPTER 2 - INSPECTIONS

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### 2.1 BRIDGE/STRUCTURE INSPECTIONS

According to the USFWS BO (February 2018):

Bridges have been shown to provide many bat species with important alternative roosts which, because of their structure, maintain the sun's heat well into night hours (Keeley and Tuttle 1999). Indiana bats and NLEBs have been documented using bridges or other structures (e.g., buildings) as summer roosts (day or nighttime roosts) and recently an Indiana bat maternity colony was documented using a bridge (A. King, USFWS, pers. com). In addition, ... it is not possible to exclude categories of bridges based on their physical characteristics. In conclusion, Indiana bats and NLEBs are known to roost in multiple types of bridges and other structures. Any projects that remove or modify a bridge so that it is no longer suitable for roosting (temporarily or permanently) with a known maternity or bachelor roost site, or is a documented day or night roost site will require site-specific analysis.

The USFWS defines "bridge" differently than FHWA or INDOT. For INDOT a "bridge" is any structure 20ft wide or more. USFWS defines "bridge" as any structure creating a gap in the transportation facility. Based on the USFWS definition all bridges/structures need to be inspected for bats since it creates a gap in the transportation facility. The USFWS has not provided guidance on the size of the pipes or structures that require inspection. Until that is provided all pipes or structures will need to be inspected as part of the USFWS/IPaC coordination.

Structure inspections should occur on any structure if they are open at each end or have any opening a bat can access. This includes pipes, structures, bridges, culverts, etc. Currently, there is no minimum size limit for bridges/structures to be inspected per USFWS guidance. If the structure is fully enclosed

(under roadway or soil), or enclosed with grills or grates, they do not require inspections for USFWS coordination.

**Bridge/Structure Inspections**

Bridge/structure inspections must be completed by qualified individuals. In order to become a qualified individual, the online INDOT Bat Training must be completed. Contact INDOT ESD to request access for completing the INDOT Bat Training.

Projects that require a bridge/structure inspection include but are not limited to:

- Work below the deck surface either from the underside or from above the deck surface that bore down to the underside;
- Work that could impact expansion joints;
- Work involving deck removal on bridges; or
- Work involving linings or structure demolition for bridges, culverts, and/or other structures.

If no site visit or field work will be required for the project (PCEs), likely BIAS inspections can be the only inspection uploaded into IPaC. However, if the BIAS inspection is close to 2 years old, an additional inspection might be needed. Please note, this is up to the appropriate INDOT District Environmental discretion, so prior to IPaC submittal, coordination will need to occur with the appropriate INDOT District Environmental to ensure the appropriate inspections are being included in the IPaC determination key.

If site visit and/or field work is required for the project, an environmental inspection (using the USFWS or INDOT form) must occur on bridges/structures. Both the BIAS and environmental inspection forms will be uploaded into IPaC for review. If discrepancies between the inspections are found, research and/or additional inspections will need to occur to verify what is present on the bridge/structure before the IPaC determination key can be completed.

When uploading BIAS inspections into IPaC only include the title page and bat results page of the inspection. Do not include the entire BIAS inspection.

If there are a large number of structures that require inspections in the project area, an environmental inspection form does not need uploaded into IPaC for each structure. An Excel spreadsheet can be completed to summarize all the structure inspections and uploaded into IPaC. An example of how to complete an Excel spreadsheet is provided below. Please note, INDOT or USFWS may request a specific structure inspection form as applicable, so completing them and placing them in the project file is always recommended.

DES Number	Structure Number	Type of Structure	Size of Structure	Length of Structure	Location	Waterbody	Date of Inspection	Evidence of Bats	Evidence of Birds	Work Type
1234567	46	CMP	4' x 4'	125'	CR 400	UNT 1 to Goose Creek	5/1/2021	No	No	Replacement

Environmental and BIAS bridge/structure inspections are only valid for two years, so if a project will not start construction before then, an additional inspection(s) must occur. This could mean more than one additional inspection on a bridge/structure might be needed prior to construction depending on the project schedule. For example, if the environmental inspection was completed in 2018 for IPaC coordination, and construction for the project will not occur until 2023, then additional inspections will need completed in 2020 and also 2022. This should be included as a firm commitment in the environmental document and the commitment resolution must include the results of the additional bridge/structure inspection(s). Language for the firm commitment can be found in the commitments section 6.1 of this document. In addition, the structure inspection forms will also need to be uploaded into the IPaC project files and submitted to INDOT with the ECF review.

### Building/House Removal

All buildings/houses that will be demolished or removed for a project require an inspection prior to completing the IPaC determination key. Include a short discussion in the IPaC project description. A related question is included in the IPaC determination key. Once “yes” is answered for that question the building/house inspection form must be uploaded into IPaC. The USFWS inspection form includes checkboxes to indicate the type of structure being inspected. If the building/house is currently occupied the external of the building/house will need inspected and included on the form uploaded into the IPaC determination key.

A firm commitment will be required in the environmental document that the building/house will be inspected prior to demolition. If bats or signs of bats are found INDOT and USFWS will need coordinated with prior to the building/house being demolished. Language for the firm commitment can be found in the commitments section 6.1 of this document.

## 2.2 SIGNS OF BATS AND GUANO COLLECTION

According to the *Programmatic Biological Opinion (BO) for Transportation Projects in the Range of the Indiana Bat and Northern Long-Eared Bat* prepared by U.S. Fish and Wildlife Service (USFWS, 2018), if bat activity or signs of bat activity (e.g., guano stains) are observed, Transportation Agencies and State DOTs will conduct maintenance activity or similar bridge/structure alteration in a manner that will not disturb bats using the bridge/structure.

Conditions on bridges/structures that bats prefer are cracks in concrete, expansion joints, cave-like environments, and structures over large rivers or wide floodplains.

Evidence of bat use may include visual observation (live and/or dead), sounds and audible observation, droppings of guano, and/or presence of staining. Presence of one or more indicators is sufficient evidence that bats may be using the bridge/structure.

Visual observations can include bats flying around and/or bats using the bridge/structure. Sounds include high pitched squeaking or chirping under or inside the bridge/structure. Guano droppings are small mouse-like pellets that are black or brown. Droppings accumulate on the ground or floor under or at the bottom of the bridge/structure. Droppings may also adhere to the walls or supports under roost locations (i.e. cracks, expansion joints, cave-like areas). Staining may appear wet and usually found in dark places along concrete support beams and walls. For more information about signs of bats refer to the USFWS guidance at:

<https://www.fws.gov/midwest/endangered/section7/fhwa/pdf/AppDBridgeStructureAssessmentGuidanceApril2020.pdf>

If bat activity or signs of bats are found on a bridge/structure, the project sponsor must determine what species of bats are using the bridge/structure. Species specific genetic material is present in bat guano. Currently in Indiana there are three federally listed bats: Indiana bat, northern long-eared bat, and gray bat, however, additional species could be listed in the future. Additional studies include (in order of priority): guano sampling and analysis by Northern Arizona University (NAU) (or other qualified research facility) to determine species from feces, emergence counts, mist net surveys, and hand capture identification. If bat activity or signs of bats are observed on the bridge/structure, guano sampling is the first study conducted by INDOT to determine if the bats using the bridge/structure are federally listed.

The goal of guano collection is to obtain a representative and sufficient set of guano samples for the bridge/structure, which will allow defensible conclusions to be drawn about whether listed species of bats are present. This will minimize the amount of follow-up work that will be required to complete coordination with USFWS.

If bat activity or signs of bats are found using the bridge/structure, INDOT must be notified as soon as possible. A plan should be developed and implemented to collect guano as soon as possible.

Depending on the location, guano can easily blow away or wash away. Also, if the sample is old, it may have degraded to the point the species may not be identifiable. If guano is not collected prior to the conclusion of active bat season, guano collection will need to wait until the bats return the next active bat season. In addition, if guano collection is not well documented and/or completed to include a full representation of the bats using the bridge/structure, additional guano sampling will be required. This will likely delay USFWS coordination for the project. INDOT has developed an INDOT Bat Guano Collection form to document the guano collection for the project. Once completed the INDOT Bat Guano Collection form with appropriate attachments will be uploaded into the IPaC project files for INDOT and USFWS review. Use the INDOT Bat Guano Collection form to document the projects guano collection.

The current qualified facility analyzing guano for INDOT is NAU. DNA within the guano is used to determine the species composition of bats using the bridge/structure. Based on NAU policies, the minimum sample size (6 pooled samples or 10 individual samples) must be collected for the run. Multiple INDOT projects may combine samples to reach the minimum with the appropriate coordination. If the project will not meet the minimum sample size, coordination will need to occur with NAU to ensure the project samples will be analyzed and billed (at a substantially higher rate) appropriately. For information about guano sampling and some FAQs about the analysis of guano refer to the following links: [https://in.nau.edu/wp-content/uploads/sites/51/2018/08/Guano-Collection-SOP\\_NAU-Bat-Team-ek.pdf](https://in.nau.edu/wp-content/uploads/sites/51/2018/08/Guano-Collection-SOP_NAU-Bat-Team-ek.pdf) <https://in.nau.edu/bat-ecology-genetics/frequently-asked-questions/>

Currently, it takes 2-4 months to receive results from NAU, however, this time can vary depending on equipment availability at NAU.

#### Guano Collection

As stated above, the goal of guano collection is to obtain a representative and sufficient set of guano samples for the bridge/structure, which will allow defensible conclusions to be drawn about whether listed species of bats are present. This will minimize the amount of follow-up work that will be required to complete coordination with USFWS.

Some of the keys to successful sampling include:

- Develop a collection plan before the collection site visit. It should be based on the observed locations of guano and staining. Questions to consider when developing the plan:
  - How many distinct areas of guano are present, what is their relationship to each other, and what feature of the bridge/structure is above each area? See the tips, tricks, and best management practices discussion below for additional information.
  - What other evidence of use is present?
  - What time of year can the sample be obtained? During bridge/structure use or as close to movement to hibernaculum as possible is recommended to avoid sample decay/degradation. Active bat season is currently April 1 – September 30.
  - What equipment is required to safely collect guano? Sample collection vials (check expiration date), gloves, plastic spoons, permanent markers, camera/phone, etc. Your sampling plan should determine the number of vials you need. Obtain more vials if needed—don't let vial availability dictate the number of samples you take.
- Documentation
  - Map of bats and/or guano location(s) found on the bridge/structure.
  - Map of sample points. Map should include vial labels to allow correlation of results with location, type of sample, and any special notes.
  - Photographs of conditions above, on the structure, and on the ground at the time of sample collection.

INDOT has developed the INDOT Bat Guano Collection form to document the guano collection for the project. Once complete it will be uploaded into the IPaC project files for INDOT and USFWS review. It is highly recommended the INDOT Bat Guano Collection form be completed in this situation. The INDOT Bat Guano Collection form can be found on the INDOT Environmental Policy [website](#).

### Best Management Practices of Guano Collection

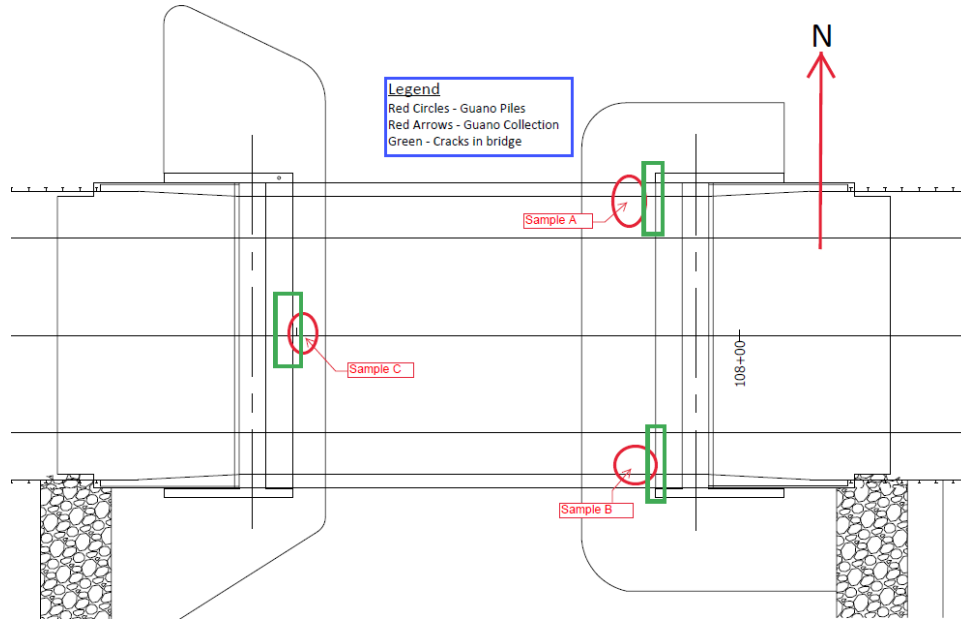
Collection of guano under a bridge/structure can vary a great deal. Common sense and planning are important to ensuring guano collection is completed appropriately. Below are some recent best management practices and examples of what has worked when collecting guano. Any of the information below can be modified if the bats and/or guano appears differently on the bridge/structure in question. The key is to document the collection and collect enough guano to ensure the most accurate representation of bats has been included for analysis.

- 1) Collect the most fresh guano. Most of the time this won't be all in one place in the pile and should be evenly distributed across the top of the pile. If possible, lay plastic on top of the pile and collect the fresh guano that falls over the next day or two. This will ensure the freshest guano. If guano is too old and degraded the guano analysis may not be able to fully identify the species of bats from the samples collected. This could result in additional guano sampling needed.
- 2) The more pellets from each deposit area and the more samples possible to cover each location is ideal. However, knowing when to stop, when you can consolidate, and when you need to separate is also important. This will be dependent on how the guano is distributed under or on the bridge/structure.
- 3) The number of vials collected should be proportional to the surface area of guano under a bridge. There is not an exact number for this, but it could be calculated based on square feet and collection of around 10-20 pellets per foot.
- 4) To collect samples off a vertical surface;
  - a. A few pellets using the smaller 1.5ml tube will likely be sufficient.
  - b. However, if guano is not only in one vertical location but instead along the entire side of the bridge/structure, likely using a long linear line of collection could be more appropriate.
- 5) To collect samples of a long linear line of guano;
  - a. A good approach would be to collect around 10 pellets every square foot for 15 feet or collect a few pellets every five feet. However, this is dependent on how long the deposit lengths are.
  - b. Make sure to fill the 15ml vial when collecting.
  - c. If a few pellets every five feet does not fill the vial increase the number of pellets collected per interval or reduce the interval so the vial is filled to the maximum.
  - d. One recent INDOT project found long linear guano piles the entire width of the bridge. That project collected three samples on each side of the bridge using the arches as structure breaks to define the sampling areas.
  - e. Another recent INDOT project found long linear guano piles along the center bridge seam that were very large. That project collected multiple collections along the roosting feature since the guano deposits were so large.
- 6) To collect guano from individual guano piles;
  - a. Collect pellets off the top around the entire surface of the pile.
  - b. Make sure to fill the 15ml vial when collecting.
  - c. Small piles of guano are also likely important. If needed, they can be combined into one vial. Conducting independent samples at each small location could be costly, and not enough guano may be present to fill a tube at each location. The key is to ensure you are collecting the best representative sample from each location to validate the guano results.
  - d. One point of caution is if several piles of guano are combined into one sample, and the results conclude a federally listed bat, it won't be specifically known where under the bridge the federally listed bat(s) is present. This could be a concern during the Section 7 coordination and may require additional guano sampling to determine the location.



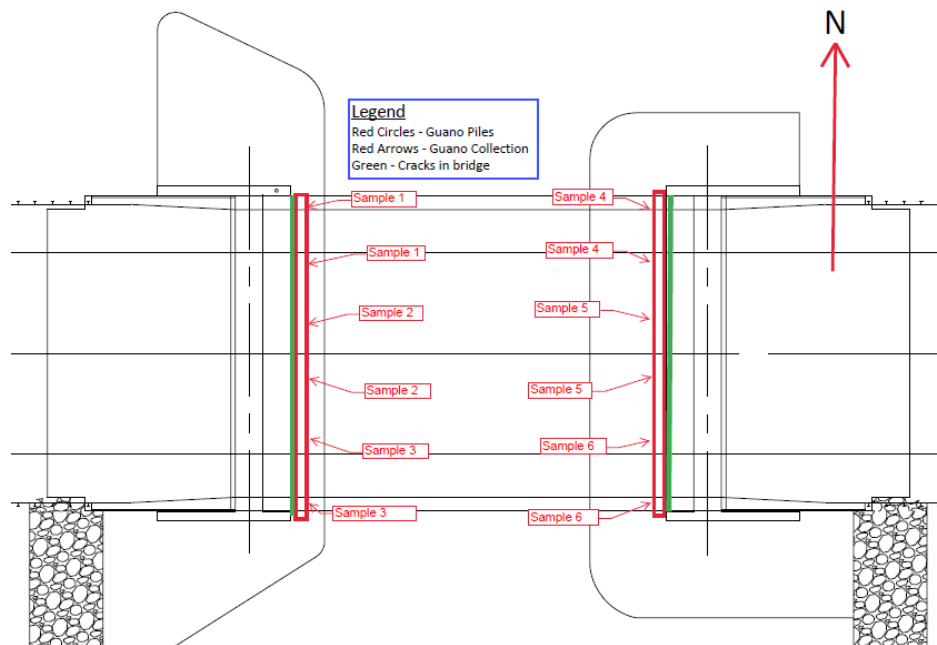
Guano Collection Plan Sheet Example 1:

- Three large individual piles of guano found.
- Three samples collected, one sample per pile.
  - Several scoops per pile, five-ish pellets per scoop.
- Cracks and gaps on the bridge above each guano pile.



Guano Collection Example 2:

- Two lines of guano along the ground under bridge approach gaps.
- Six samples collected along both lines of guano (Three samples each line).
- Scoops taken at least every five feet along each line of guano.



### Processing NAU Results

Once the guano analysis has been completed, NAU (or other qualified facility) will send a report of the analysis results. One PDF file will be created to include the completed INDOT Bat Guano Collection form, plan sheet with specific callouts (refer to the INDOT Bat Guano Collection form instructions), project photos (if applicable), and the guano analysis results. The file will be uploaded into the IPaC project files for INDOT and USFWS review. All projects, regardless of the conclusion of the guano analysis, will upload this file into the IPaC project files for INDOT and USFWS review.

If additional bridge/structure inspections are required for the project, guano analysis results will be honored for one additional required bridge/structure inspection. However, if two or more additional bridge/structure inspections are required for the project, additional guano sampling will need to occur at the time of the second required bridge/structure inspection if bats are still using the bridge/structure (up to 4 years maximum or the second inspection after the initial guano collection, whichever occurs first). The additional guano analysis is required to verify the initial analysis results are still valid, or there has been a change in the species of bats using the bridge/structure. See following example for project X:

- Initial bridge/structure inspection found bats on 8/6/2018
- Guano collected on 8/30/2018 and results received a month later
- Construction scheduled spring 2023
- Additional inspection occurred on 8/30/2020 and bats still using bridge/structure (2 years from the guano collection)
- Additional inspection occurred on 8/30/2022 and bats still using bridge/structure (2 years from previous inspection) – additional guano collection and analysis required

If the guano analysis results conclude only non-federally listed bats, the IPaC determination key can be completed. A short discussion about finding bats, when the bridge/structure inspection occurred, when the guano collection occurred, and the results of the guano analysis will need to be included in the IPaC project description. “No” should be answered for bats using the bridge/structure (this question only applies to federally listed bats) in the IPaC determination key. The bridge/structure inspection form along with the INDOT Bat Guano Collection file (INDOT Bat Guano Collection form, plan sheet, photos, and guano analysis results) will be uploaded into the IPaC project files as supplemental documents for INDOT and USFWS to review along with the IPaC determination key. In the protected species section of the environmental document include a discussion about when the bridge/structure inspection occurred, the inspection found bats, when guano collection occurred, and the results of the guano analysis. Refer to the most current guidance language on the INDOT Environmental Policy [website](#). Do not include the INDOT Bat Guano Collection file (INDOT Bat Guano Collection form, plan sheet, photos, and guano analysis results) in the environmental document appendix. Only include the bridge/structure inspection forms and IPaC pages in the environmental document appendix. In the commitments section of the environmental document a project specific for consideration commitment will need added. Language for the project specific commitment can be found in the commitments section 6.1 of this document under the heading *Guano Results*.

If the above referenced commitment is included in the environmental document, coordination must occur at the environmental document stage with the INDOT Project Manager and the designer for the project. This for consideration commitment must be considered for all applicable projects. Refer to the further discussion in section 6.1 of this document. The resolution to this commitment must include whether the commitment will be implemented or not. If it will not be implemented, the commitment resolution must include the specific reason the commitment could not be implemented. Being listed as for consideration in the environmental document is not a justifiable reason to not implement this specific commitment. INDOT is committed to reducing/avoiding unnecessary impacts to any bat, regardless of listing.

If the guano analysis results conclude any federally listed bats, additional coordination and/or surveys will be required to determine how the bats are using the bridge/structure and receive a Section 7 determination. The coordination will start with INDOT reviewing the project location, project scope, and the INDOT Bat Guano Collection file (INDOT Bat Guano Collection form, plan sheet, photos, and guano

analysis results) uploaded into the IPaC project files. Likely the next step would be to schedule a meeting to discuss the project, but this will be decided once the initial documentation is reviewed in IPaC. If federally listed bats are using a bridge/structure it will add significant time to the Section 7 consultation process. This includes coordination with INDOT Central Office, USFWS, and FHWA on additional studies that will be required. This will add additional cost to the project. Avoidance and minimization measures may be required that will impact construction timing, project scope, and/or mitigation requirements.

## 2.3 QUALIFIED INDIVIDUAL

The phrase “qualified individual” can be defined differently depending on the study/survey in question. The following information was extracted from the USFWS permit application guidelines, USFWS website, and USFWS 2020 Survey Guidelines. These are minimum qualifications.

### Environmental Bridge/Structure Inspections

- Completed the online INDOT bat field investigation training.

### Guano Collection

- Have received a natural resource degree or equivalent work experience.
- Include name and relevant title/qualification of individual (i.e. Biologist) in documentation.

### Visual identification of bats

- Demonstrate experience correctly identifying species that occur in the state. Include experience with both listed and non-listed species that may be misidentified as the target listed species.

### Phase I Habitat Assessment Reports – Summer habitat and potential hibernacula assessments

- Have received a natural resource degree or equivalent work experience.
- Include name and relevant title/qualification of individual (i.e. Biologist) in documentation.

### Mist Netting and Hand Captures

- A qualified biologist that holds a USFWS Recovery Permit for Indiana bats in the state/region in which they are surveying and is authorized by the appropriate state agency to net and handle Indiana bats.
- The biologist is required to be on the qualified bat surveyors list prior to conducting any field work.
- Surveys completed May 15 – August 15.

### Acoustic Surveys

- Acoustic surveyors must have either completed bat acoustic courses/workshops (e.g. BCM, ERM, Tittley/AnaBat Wildlife Acoustics, USFWS) or be able to show similar on the job or academic experience to USFWS.
- Surveys completed May 15 – August 15.

### Radio Tracking

- A qualified biologist that holds a USFWS Recovery Permit for Indiana bats in the state/region in which they are surveying and/or has been authorized by the appropriate state agency to net and handle Indiana bats.
- The biologist is required to be on the qualified bat surveyors list prior to conducting any field work.
- The qualified biologist must have experience in handling Indiana bats and attaching radio transmitters.
- Surveys completed May 15 – August 15.

### Emergence Surveys

- A qualified biologist that holds a USFWS Recovery Permit for Indiana bats in the state/region in which they are surveying and/or has been authorized by the appropriate state agency to net and handle Indiana bats.
- The biologist is required to be on the qualified bat surveyors list prior to conducting any field work.
- Also, biological technicians, and any other individual deemed qualified by local USFWS Field Office.
- Surveys completed during active bat season.

## CHAPTER 3 – RANGEWIDE PROGRAMMATIC AGREEMENT

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The Rangewide Programmatic Agreement is a regional consultation approach to coordinate with USFWS for transportation impacts to the Indiana bat and northern long-eared bat. It is based on a Programmatic Biological Opinion and was approved by a concurrence letter from USFWS to the Federal Highway Administration (FHWA), the Federal Transportation Administration (FTA), and the Federal Railroad Administration (FRA). Coordination is completed through a guided analysis of project impacts in the Information for Planning and Consultation (IPaC) project planning tool. It will provide project specific avoidance and minimization measures (AMMs) which become firm commitments in the environmental document. Not all projects qualify for the Rangewide Programmatic Agreement, however, most projects will complete this coordination.

It is important to note that coordinating in the IPaC is a two step process. Uploading project information to receive an IPaC species list and completing the IPaC determination key for Indiana bat and northern long-eared bat. For all projects that include a federal nexus (federal funding, federal permits, federal oversight, etc.) Section 7 coordination starts with uploading project information into the IPaC to document the project scope, location, and receive an IPaC species list. However, not all projects qualify to implement the Rangewide Programmatic Agreement and complete the IPaC determination key.

### 3.1 HALF MILE BAT REVIEW AND GIS LAYERS

**Confidential information from the GIS reviews are not for public use or inclusion in the environmental document. Site specific hibernacula, capture, or roost tree location data (i.e. geographic coordinates, GIS shapefiles, maps) must not be shared, distributed, or published without prior written consent from USFWS Bloomington Field Office.**

A 0.5-mile bat review looks at confidential GIS layers for documented roost tree(s), capture location(s), acoustic record(s) and/or hibernaculum records. If a project is located close to any of these records, additional commitments or design changes might be needed for the project to avoid impacts to the Indiana bat or northern long-eared bat. For Crawfordsville (one county), Seymour, and Vincennes districts there is an additional layer that is reviewed to determine how close a project is to a hibernacula. If the project is within the 10-mile buffer of the Priority 1 or 2 hibernacula the time of year tree removal restrictions change to Nov 15 – March 31 to allow for fall swarming to be concluded.

When requesting a 0.5-mile review the following information is needed:

- Project DES number
- Brief project description (if available)
- Maps or graphics of the project area including the termini of the project
- Email requesting the 0.5-mile bat review to the appropriate INDOT District Environmental (listed in the most current version of the “Using the IPaC” document on the [INDOT Environmental Policy website](#)).

Once the above information is received, INDOT will review the GIS layers in comparison to the project location. Once the review is completed, an email will be sent with the results of the 0.5-mile review.

If the 0.5-mile bat review identifies a roost tree(s), capture location(s), and/or acoustic record(s) near the project area, INDOT will coordinate with USFWS to determine if the project is located within documented bat habitat. This will occur prior to INDOT sending the results of the 0.5-mile bat review. If this is missing, please coordinate with INDOT to determine if documented bat habitat is present. This information is required to ensure the IPaC determination key questions are being answered appropriately.

#### Multiple signage, signal, or lighting projects

If an INDOT project includes upgrading several signage locations, signal locations, or lighting locations and the project scope is only occurring on or within the existing roadbed (with no tree trimming or

removal), the IPaC determination key can still be completed if roost tree(s), capture location(s), and/or acoustic record(s) are found to be close to some of the locations during the INDOT 0.5-mile review. Once the INDOT 0.5-mile review has been completed include a discussion in the IPaC project descriptions that some of the locations found x (include a general discussion of the results of the 0.5-mile check) but due to the project scope only including existing signage, signal, and/or lighting upgrades, this project is not located in documented bat habitat. Once that is completed the IPaC determination key can be completed as normal.

## 3.2 IPAC REVIEW

Project coordination is completed through a guided analysis based on project impacts in the Information for Planning and Consultation (IPaC). It will result in a project specific determination and avoidance and minimization measures (AMMs) which become firm commitments in the environmental document. Section 7 informal and limited formal consultation can be completed in the IPaC determination key. When completing IPaC please follow the guidance in the most current "Using the IPaC" document located on the INDOT Environmental Policy [website](#). Please note, all bat coordination and questions start with the appropriate INDOT District Environmental. USFWS should not be coordinated with prior to INDOT.

### NE

- INDOT District Environmental will review the IPaC determination key submission
- Once INDOT reviews and concurs with IPaC, a concurrence email will be sent to the IPaC preparer. Section 7 coordination for the IB and NLEB is concluded unless the project scope changes.

### NLAA

- INDOT District Environmental will review the IPaC determination key submission
- Once INDOT reviews and concurs with the IPaC determination key, it will be sent to USFWS for their 14-day review period.
- An INDOT concurrence email will be sent to the IPaC preparer informing them IPaC has been sent to USFWS for their review.
- Once the USFWS 14-day review period has expired, Section 7 coordination for the IB and NLEB is concluded unless the project scope changes or USFWS responds to the concurrence letter in IPaC.
- If the project has been submitted for USFWS review and the IPaC determination key will need updated, the previous determination key will need to be deleted and redone. Only the action agency can delete the previous determination key in IPaC (in this case INDOT). Please email the appropriate INDOT District Environmental to delete the previous determination key.

### LAA

- INDOT District Environmental will review the IPaC determination key submission
- Once INDOT concurs with the project it will be sent to USFWS by INDOT for their 30-day review period.
- An INDOT concurrence email will be sent to the IPaC preparer informing them the project has been submitted for the 30-day USFWS review.
- USFWS will issue a concurrence letter at the conclusion of their review, which will likely include additional firm commitments and possibly mitigation for the project.
- Once the USFWS concurrence letter is received, Section 7 coordination for the IB and NLEB is concluded unless the project scope changes.

If project scope changes occur after the IPaC determination key completion and concurrence, IPaC may need to be updated and re-coordination will need to occur with INDOT and USFWS. If it is unclear whether IPaC coordination needs updated, coordinate with the appropriate INDOT District Environmental. A few common examples of scope changes that require IPaC updates include:

- Project footprint or location changes.
- Tree clearing needed for the project is increased.
- Any scope change that causes an IPaC determination key answer to change.



- Any scope change that will cause the concluding IPaC determination or AMMs to change.
- Another species gets added to the determination key (look for guidance from INDOT and USFWS).

### 3.3 IPAC QUESTIONS DEFINED

Listed below are the most common questions generated in the IPaC determination key. The determination key generates questions based on previously answered questions. The project specific questions may be different than what is included in this list.

- **Is the project within the range of the Indiana bat?**
  - This is automatically answered and should state “yes.”
- **Is the project within the range of the Northern long-eared bat?**
  - This is automatically answered and should state “yes.”
- **Which Federal Agency is the lead for the action?**
  - This should be Federal Highway Administration (FHWA) for all projects that include a federal nexus (federal funding, federal permits, federal oversight, ect.). If the project is 100% state funded, the Rangelwide Programmatic Agreement does not apply.
- **Are *all* project activities limited to non-construction activities only? (examples of nonconstruction activities include: bridge/abandoned structure assessments, surveys, planning and technical studies, property inspections, and property sales)**
  - This is almost always answered “no” unless the scope of the project is only surveying, inspections, and/or assessments.
- **Does the project include *any* activities that are greater than 300 feet from existing road/ rail surfaces?**
  - If any piece of the construction scope will be occurring beyond 300ft from an existing road/rail surface, this should be “yes.” INDOT uses edge of pavement when determining feet from existing road/rail surface.
  - Parking lots, driveways, or drives to businesses are not considered existing road/rail. Existing roadway is defined as actively used by public traffic (not private roadway). Existing railway is defined as actively used railroad, not a former railway.
  - If this is answered “yes” likely the project does not qualify to complete the IPaC determination key, however, coordination should continue in the determination key until notified.
- **Does the project include *any* activities within 0.5 miles of a known Indiana bat and/or NLEB hibernaculum?**
  - This is determined during the 0.5-mile bat review.
  - If this is answered “yes” likely the project does not qualify to complete the IPaC determination key, however, coordination should continue in the determination key until notified.
- **Is the project located within a karst area?**
  - If a project is in the Indiana Karst Region, this question should be answered “yes.” The Indiana Karst Region has been expanded based on the new *Protection of Karst Features during Project Development and Construction* guidance. Answer the karst question in the IPaC determination key accordingly based on the updated guidance.
  - Answering yes to this determination key question will likely generate the Hibernacula AMM1 for the project.
- **Is there *any* suitable summer habitat for Indiana Bat or NLEB within the project action area? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)**
  - Most projects must answer “yes” to this question. A “no” response to this question is rare and should be confirmed based on coordination with the appropriate INDOT District Environmental. Refer to section 1.1 for further information.

- Will the project remove *any* suitable summer habitat and/or remove/trim any existing trees within suitable summer habitat?
  - “Tree” is not defined in the USFWS Biological Opinion, but INDOT uses greater than or equal to 3-inch dbh as a tree to be consistent with IDNR. “Tree” also refers to living and dead. If the project will remove or trim any trees 3-inch dbh or greater in size, “yes” should be answered.
  - Keep in mind the trees may not be 3-inch dbh or greater at the time of coordination, but if construction is not scheduled for a few years in the future the trees may be 3-inch dbh or greater at the time of construction.
- Will the project clear more than 20 acres of suitable habitat per 5-mile section of road/rail?
  - Most projects answer “no” to this question. “Yes” to this question is rare.
  - If this is answered “yes” likely the project does not qualify to complete the IPaC determination key, however, coordination should continue in the determination key until notified.
  - Keep in mind, if the tree removal acreage is figured using the USFWS single tree calculation the results will be skewed. Prior to answering “yes” to this question, ensure the tree removal acreage is figured by measurement to get a more accurate tree removal acreage for the project.
- Have presence/probable absence summer surveys been conducted within the suitable habitat located within your project action area?
  - This is rare for INDOT projects. Only answered “yes” if summer surveys have been conducted per USFWS guidance:  
<https://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html>.
  - If a summer survey has been completed, “yes” should be answered and then the preparer will be prompted to upload the document.
- Does the project include activities within documented Indiana bat habitat?
  - “Yes” should be answered if it was determined by INDOT and/or USFWS that the project will be occurring in a documented Indiana bat habitat.
  - If the above is not applicable, “no” should be answered.
  - Refer to section 1.4 for information regarding mitigation.
- Will the removal or trimming of habitat or trees occur within suitable but undocumented Indiana bat roosting/foraging habitat or travel corridors?
  - If the previous question is answered “yes,” this question is answered “no.” Also, if the previous question is answered “no,” this question is answered “yes.”
- What time of year will the removal or trimming of habitat or trees within suitable but undocumented Indiana bat roosting/foraging habitat or travel corridors occur?
  - Projects are required to program or schedule tree removal during inactive bat season, so this question should only be answered “During the inactive season.”
- Does the project include activities within documented NLEB habitat?
  - “Yes” should be answered if it was determined by INDOT and/or USFWS that the project will be occurring in a documented NLEB bat habitat.
  - If the above is not applicable, “no” should be answered.
  - Refer to section 1.4 for information regarding mitigation.
- Will the removal or trimming of habitat or trees occur within suitable but undocumented NLEB roosting/foraging habitat or travel corridors?
  - If the previous question is answered “yes,” this question is answered “no.” Also, if the previous question is answered “no,” this question is answered “yes.”
- What time of year will the removal or trimming of habitat or trees within suitable but undocumented NLEB roosting/foraging habitat or travel corridors occur?
  - Projects are required to program or schedule tree removal during inactive bat season, so this question should only be answered “During the inactive season.”
- Will *any* tree trimming or removal occur within 100 feet of existing road/rail surfaces?
  - INDOT uses edge of pavement when determining feet from existing road/rail surface.

- Parking lots, driveways, or drives to businesses are not considered existing road/rail. Existing roadway is defined as actively used by public traffic (not private roadway). Existing railway is defined as actively used railroad, not a former railway.
- **Will any tree trimming or removal occur between 100-300 feet of existing road/rail surfaces?**
  - INDOT uses edge of pavement when determining feet from existing road/rail surface.
  - Refer to section 1.4 for information regarding mitigation.
  - Parking lots, driveways, or drives to businesses are not considered existing road/rail. Existing roadway is defined as actively used by public traffic (not private roadway). Existing railway is defined as actively used railroad, not a former railway.
- **Are all trees that are being removed clearly demarcated?**
  - This is required to be answered “yes.”
- **Will the removal of habitat or the removal/trimming of trees include installing new or replacing existing permanent lighting?**
  - This question is asking “yes” if permanent lighting will be installed or replaced in the location where the tree removal is occurring.
- **Does the project include wetland or stream protection activities associated with compensatory wetland mitigation?**
  - This question is asking if any wetland restoration projects (e.g. mitigation site construction) will be occurring.
  - “No” should be answered if a project is anticipating mitigation will be required due to stream or wetland impacts.
- **Does the project include slash pile burning?**
  - Slash burning is a form of fire mitigation by safely burning leaves, pine needles, downed trees, saplings, standing small trees, and thick vegetation. Bats may be exposed to smoke during slash pile burning. Smoke and noxious gases from slash pile burning can enter hibernacula depending on wind and weather conditions causing smoke inhalation to bats.
  - Answer “yes” to this question if slash pile burning will occur for the project. This is rare for INDOT projects.
- **Does the project include any bridge removal, replacement, and/or maintenance activities (e.g., any bridge repair, retrofit, maintenance, and/or rehabilitation work)?**
  - This should be answered “yes” if any bridge/structure work will be occurring for the project.
  - Refer to section 2.1 for further information.
- **Is there any suitable habitat for Indiana bat or NLEB within 1,000 feet of the bridge? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)**
  - Most projects must answer “yes” to this question.
  - Refer to section 1.1 for further information.
- **Has a bridge assessment been conducted within the last 24 months to determine if the bridge is being used by bats?**
  - A bridge/structure inspection is required for projects that involve any bridge/structure work.
  - “Yes” should be answered and the inspection report will be required to upload into IPaC.
  - Refer to section 2.1 for further information.
- **Did the bridge assessment detect any signs of Indiana bats and/or NLEBs roosting in/under the bridge (bats, guano, etc.)?**
  - This question is asking if the IB and/or NLEB are using the bridge/structure.
  - “No” should be answered if the bridge/structure inspection did not indicate bats or signs of bates.
  - “No” should also be answered if bats or signs of bats were found, guano was analyzed, resulted in only non-federally listed bats (e.g. Big brown bat).
  - “Yes” should be answered if bats or signs of bats were found, guano was analyzed, and resulted with IB and/or NLEB.

- If this is answered “yes” likely the project does not qualify to complete the IPaC determination key, however, coordination should continue in the determination key until notified.
- Will the bridge removal, replacement, and/or maintenance activities include installing new or replacing existing permanent lighting?
  - This is answered “yes” if permanent lighting will be added or replaced along with the bridge/structure work.
- Does the project include the removal, replacement, and/or maintenance of *any* structure other than a bridge? (e.g., rest areas, offices, sheds, outbuildings, barns, parking garages, etc.)?
  - “Yes” should be answered if a building/house will be demolished as part of the project.
  - Refer to section 2.1 for further information.
  - If the building/house is currently occupied the external of the building/house will need inspected and included on the inspection form uploaded into IPaC.
  - Refer to Chapter 6 for a firm commitment required in the environmental document.
- Will the project involve the use of temporary lighting *during* the active season?
  - Temporary lighting includes any construction or nighttime lighting needed for the construction of the project. Temporary lighting will not stay in the project location past construction activities.
  - Most projects use temporary lighting, and it allows construction to have more availability for work.
  - If the project is unsure, it is best to answer “yes” to this question.
  - If “no” is answered and changed later in project development, the IPaC determination key will need updated.
  - Some INDOT districts require this to be yes based on construction schedules.
- Is there *any* suitable habitat within 1,000 feet of the location(s) where temporary lighting will be used?
  - Most projects must answer “yes” to this question if temporary lighting is needed.
  - Refer to section 1.1 for further information.
- Will the project install new or replace existing permanent lighting?
  - “Yes” is answered if the project will be installing or replacing permanent lighting anywhere in the project area.
- Will the project raise the road profile above the tree canopy?
  - This answer is typically “no.”
  - “Yes” is answered if the roadway will be constructed above the surrounding trees.
- Have you made a No Effect determination for *all* other species indicated on the FWS IPaC generated species list?
  - N/A should be answered if no additional species (other than the Indiana bat and northern long-eared bat) are generated on the IPaC species list.
  - If other species are generated on the IPaC species list a determination of No Effect or May Affect will need made.
  - N/A should be answered for any listed candidate species generated on the IPaC species list.
  - Refer to section 5.1 for further information.
- Have you made a May Affect determination for *any* other species on the FWS IPaC generated species list?
  - N/A should be answered if no additional species (other than the Indiana bat and northern long-eared bat) are generated on the IPaC species list.
  - If other species are generated on the IPaC species list a determination of No Effect or May Affect will need made.
  - Refer to section 5.1 for further information.
- How many acres of trees are proposed for removal between 0-100 feet of the existing road/rail surface?
  - Include the tree removal amount that will occur between 0-100 feet.
  - Make sure this answer matches the project description above.

- Please note, using the USFWS calculation to determine the acreage of tree removal skews the actual acreage of tree clearing. This calculation should only be used if the tree removal is scattered and not easily able to be determined by measurements or plan sheets.
- **How many acres of trees are proposed for removal between 100-300 feet of the existing road/rail surface?**
  - Include the tree removal amount that will occur between 100-300 feet.
  - Make sure this answer matches the project description above.
  - Please note, using the USFWS calculation to determine the acreage of tree removal skews the actual acreage of tree clearing. This calculation should only be used if the tree removal is scattered and not easily able to be determined by measurements or plan sheets.
- **Please describe the proposed bridge work**
  - Include a discussion of the bridge/structure work that will occur for the project.
  - Make sure this answer matches the project description above.
- **Please state the timing of all proposed bridge work**
  - Include the timing of construction.
- **Please enter the date of the bridge assessment**
  - Include the date of the bridge/structure inspection.
  - If construction will occur more than 2 years from the previously completed inspection (answer above) an additional bridge/structure inspection commitment is required to be included in the environmental document.
  - Refer to Chapter 6 for a firm commitment required in the environmental document.

## CHAPTER 4 – OUTSIDE THE RANGEWIDE PROGRAMMATIC AGREEMENT

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### 4.1 STANDARD INFORMAL COORDINATION

For all projects that include a federal nexus (federal funding, federal permits, federal oversight, etc.) Section 7 coordination starts with uploading project information into the IPaC to document the project scope, location, and receive an IPaC species list. However, not all projects qualify to implement the Rangewide Programmatic Agreement and complete the IPaC determination key. Coordinating in the IPaC is a two step process: uploading project information to receive an IPaC species list and completing the IPaC determination key for Indiana bat and northern long-eared bat.

If the project does not qualify for the Rangewide Programmatic Agreement and cannot complete the IPaC determination key, additional coordination with USFWS must occur to receive a Section 7 determination. To complete this coordination, a standard informal letter will need to be prepared and reviewed by INDOT. The standard informal bat letter will include the project scope, potential impacts, and conclude with a determination regarding the potential impacts to the species. Standard informal bat letters should be submitted to the appropriate INDOT District Environmental outlined in the most current “Using the IPaC” document on the INDOT Environmental Policy [website](#). Once INDOT reviews and concurs with the standard informal bat letter it will be submitted to USFWS by INDOT for their 30-day review. USFWS will issue a concurrence letter at the conclusion of their review which may include additional firm commitments and possibly mitigation for the project.



The projects that most commonly fall outside the Rangewide Programmatic Agreements are:

- Construction or tree removal beyond 300ft from an existing roadway/railway;
- More than 20 acres of tree clearing per 5 miles;
- Located within a 0.5-mile of a hibernacula;
- Tree removal in documented habitat; and
- Located close to roost trees

Appropriate Avoidance and Minimization Measures (AMMs) and/or commitments must be included in the standard informal bat letter based on determination concluded. For example, if you were to run the project through the IPaC determination key and receive a NLAA determination likely you would receive General AMM 1, Tree AMM 1-4, and possibly Lighting AMM 1. Those AMMs should be included in the standard informal letter if it includes a similar project scope and concludes a similar determination. In addition, typical information included in IPaC determination key questions should also be included in the standard informal bat letter, as applicable. For example, if a building (house) will be removed for the project, that will need to be discussed in the standard informal bat letter and the inspection form attached due to it being asked in the IPaC determination key.

All standard informal bat letters must be concluded with a preliminary Section 7 determination and ask for USFWS to concur with the determination. This determination should be commensurate to the project scope, project location, habitat present, applied commitments, and/or applied AMMs. This determination, justification, and conclusion language in the standard informal bat letter is project specific. Not all standard informal bat letters should use the same justification. In addition, just because a project does not qualify for applying the Rangewide Programmatic Agreement, does not conclude an increased Section 7 determination is warranted. If the project is considering a MA-LAA determination is warranted, contact INDOT as soon as possible. Likely standard informal coordination cannot be completed if the project is concluding a MA-LAA determination.

In addition, if the project will include tree clearing 100-300ft. from an existing roadway/railway, no mitigation payment is required if the project does not qualify for the Rangewide Programmatic Agreement and must complete standard informal coordination. During standard informal or standard formal coordination mitigation is applied differently than what is outlined in the Rangewide Programmatic Agreement.

Some examples of common project scopes and Section 7 determination conclusions:

- Example 1:
  - Scope: Road reconstruction, no tree clearing, construction actions beyond 300ft. from existing roadway, temporary lighting needed, project area in suitable summer habitat, and nothing found during the INDOT 0.5-mile bat check
  - Applied AMMs: General AMM 1 and Lighting AMM 1
  - Determination Concluded: MA-NLAA due to applied AMMs, no tree clearing required, surrounding habitat assessment, and construction occurring during active bat season in suitable summer habitat
- Example 2:
  - Scope: Bridge rehabilitation, tree clearing needed that will occur within 100ft., 100-300ft., and 300ft.+ from existing roadway, temporary lighting needed, project area in suitable summer habitat, and nothing found during the INDOT 0.5-mile check
  - Applied AMMs: General AMM1, Tree AMMs 1-4, Lighting AMM 1
  - Determination Concluded: MA-NLAA due to applied AMMs, surrounding habitat assessment, and construction occurring during active bat season in suitable summer habitat
- Example 3:
  - Scope: HMA Overlay, no work occurring beyond existing roadbed, increased vibrations and noise due to construction equipment, no tree clearing, possible temporary lighting needed, project area in suitable summer habitat, USFWS records indicated one capture of an IB lactating female and roost tree adjacent to the project area in the southern half of the project

- Applied AMMs and commitments: General AMM 1, Lighting AMM 1, Time of year work restriction for the southern half of the project to occur between August 1 to March 30 (based on coordination with USFWS and INDOT)
- Determination Concluded: MA-NLAA due to applied AMMs, applied commitments, and coordination with INDOT and USFWS
- Example 4:
  - Scope: Roadway slide, tree clearing required beyond 300ft. from existing roadway for bank stabilization, project area in suitable summer habitat, temporary lighting needed, USFWS records show project area is within the 10-mile buffer of a Priority 1 or 2 hibernaculum
  - Applied AMMs: General AMM 1, Tree AMM 1-4 (Tree AMM 2 time of year tree clearing restrictions adjusted to be from November 15 – March 30), and Lighting AMM 1
  - Determination Concluded: MA-NLAA due to applied AMMs, adjusted time of year tree clearing dates to account for surrounding habitat present, and construction occurring during active bat season in suitable summer habitat

Some examples of projects that might conclude MA-LAA determinations during standard informal coordination:

- Federally listed bats found using a bridge/structure and the project scope includes an impact to area of the bridge/structure that the bats are using
- In a documented IB habitat with impacts to the habitat beyond 300ft. from an existing roadway
- Impacts to a maternity colony

Once the USFWS concurrence letter is received, INDOT will forward the letter to the preparer and may summarize important information included in the concurrence response. . Once the email is received from INDOT, Section 7 coordination for the IB and NLEB is concluded unless the project scope changes.

If project scope changes occur, and the previous standard informal coordination letter will need updated, an addendum to the previous standard informal bat coordination letter will need completed. This addendum will be in memo format and should include the following:

- Summarizing the original project scope;
- Discuss the project scope changes since the original standard informal coordination letter;
- Changes in project impacts (if applicable); and
- Conclude with either a request that USFWS concur with the previous Section 7 determination from the original standard informal coordination letter or update the Section 7 determination and request USFWS to concur

The addendum will be submitted and reviewed by INDOT as outlined above, and then forwarded to USFWS by INDOT for their additional 30-day review. USFWS will issue a concurrence letter at the conclusion of their review which may include additional firm commitments.

## CHAPTER 5 – OTHER SPECIES

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### 5.1 OTHER SPECIES COORDINATION

For all projects that include a federal nexus (federal funding, federal permits, federal oversight, etc.) Section 7 coordination (for any species) starts with uploading project information into the IPaC to document the project scope, location, and receive an IPaC species list. If the IPaC species list or response from USFWS indicates another species is present in the project area, the project will need to determine if it qualifies for programmatic coordination based on the current INDOT guidance. If the project does not qualify for programmatic coordination an effect determination will need to be made for impacts that could occur to the other species. Other species refers to any additional species that are not covered by an IPaC determination key. Determination categories include No Effect or May Affect. If a No Effect determination

can be made for the project, no additional coordination will be required with INDOT or USFWS, however, how the conclusion was made will need discussed in the environmental document.

If the project anticipates a May Affect determination, a May Affect - Not Likely to Adversely Affect (MA-NLAA) or a May Affect - Likely to Adversely Affect (MA-LAA) determination will need to be made.

If a project anticipates a MA-NLAA determination additional coordination is required with INDOT and USFWS with a standard informal letter prepared. The letter will be submitted to the appropriate INDOT District Environmental for review. INDOT EWPO can assist or provide secondary reviews on any standard informal coordination letters as needed. Once INDOT reviews and concurs with the standard informal letter it will be submitted to USFWS by INDOT for their 30-day review. USFWS will issue a concurrence letter at the conclusion of their review which may include additional firm commitments and possibly mitigation for the project.

The standard informal letter will include:

- Project scope;
- Why coordination is occurring with USFWS (e.g. mussel present that could be impacted);
- Likely impacts that could occur to the species and surrounding habitat;
- AMMs and/or commitments the project will implement;
- Section 7 determination and reason that determination was concluded; and
- Request that USFWS review and concur with the determination included.

All standard informal bat letters must conclude with a preliminary Section 7 determination and ask for USFWS to concur with the determination. This determination should be commensurate to the project scope, project location, habitat present, applied commitments, and/or applied AMMs. This determination, justification, and conclusion language in the standard informal letter is project specific. Not all standard informal letters should use the same justification. In addition, just because a project does not qualify for the current INDOT programmatic coordination, does not conclude an increased Section 7 determination is warranted. If the project is considering a MA-LAA determination is warranted, contact INDOT as soon as possible. Likely standard informal coordination cannot be completed if the project is concluding a MA-LAA determination.

When the USFWS concurrence letter is received, INDOT will forward the letter to the preparer and may summarize important information included in the concurrence response. Some projects receive important statements, AMMs, commitments, and time of year restrictions in the concurrence letter that are project specific. Once the email is received from INDOT, Section 7 coordination for the species is concluded unless the project scope changes.

If a project anticipates a MA-LAA determination standard formal coordination with USFWS might be required. If it is anticipated standard formal coordination will be needed with USFWS, contact INDOT as soon as possible. Standard formal coordination is a process followed for major or high impacting project that may adversely affect federally listed species or critical habitat. Standard formal coordination requires the preparation of a Biological Assessment (BA) for all listed species in the project area and is likely concluded with a Biological Opinion (BO). The MA-LAA determination may result in design modifications; firm commitments to avoid negative effects to species or habitat; and include an incidental take statement or permit.

INDOT is updating the current USFWS Interim Policy. Once completed, an update will be sent out.

## 5.2 POLLINATORS

The USFWS IPaC was recently updated. The Monarch Butterfly (*Danaus plexippus*) is now being generated as a candidate species on the species list in IPaC to notify users it could be listed in the future. Candidate species are those species where USFWS has enough information to propose for listing

(listing is warranted) but has not yet published a listing proposal. At this time no additional or separate coordination is required with INDOT or USFWS and no effect determination is required.

If the listing status changes, INDOT and USFWS will send out additional information and guidance on how to coordinate and receive a Section 7 determination for impacts to the Monarch Butterfly and its habitat. There may be some recommendations about general best management practices appearing in coordination responses from USFWS. Those recommendations should be considered during the projects design and included as For Consideration commitments in the environmental document if they are applicable.

### 5.3 MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act, MBTA, (16 U.S.C. 703-712) prohibits the taking of migratory birds or nests with eggs and young without a federal permit. The nesting season for migratory birds is May 1 through September 1.

General guidelines include:

- Nests with eggs or young shall not be disturbed.
- Nests may be removed from a structure prior to May 1st, if no eggs or young are present.
- Regular monitoring is required, a nest can be built and have eggs in seven days or less.
- New nest construction shall be removed prior to egg laying.
- The area shall be inspected prior to the start of work each day, and nesting activity shall be removed if no eggs or young are present.
- Once cleared, construction can begin.

The ability to avoid and minimize impacts starts early in project planning. Bridge inspections are required to note the presence of nests or other signs of use of the bridge/structure by birds (only species included in the MBTA) and bats on the inspection form. In addition, nesting activity should also be noted in the waters report and described in the environmental document.

Step 1. Avoidance and minimization during planning and project construction.

- a) Unique Special Provision for projects with documented use or bridges located over a water resource.
- b) Special situations from agency coordination documents.
- c) Project start timed to allow Contractor to be in place to clear structure and put-up deterrence measures prior to start of nesting season.

Step 2. Identify remaining potential to impact migratory birds after avoidance and minimization measures are implemented.

- a) Avoidance and minimization measures have been implemented and structure monitored.
- b) Nest is built and eggs or young are present.

Step 3. Evaluate to determine if potential impacts will be “incidental”.

- a) Determine if construction activity can continue without disturbing nest. This is based on location of nest in relation to work area and ability to avoid disturbance by screening nest from work area or other measures.
- b) If the potential impact is possible this may be determined to be “incidental.”

Step 4. If “incidental,” construction continues without implementation of additional measures.

A species specific USP will be required when the response from the IN Department of Natural Resources (IDNR) documents a bird species in the project area and there is the potential to impact the species. The INDOT Ecology and Waterway Permitting Office (EWPO) will assist with the development of a USP that will minimize the impacts to the species and coordinate with the IDNR district biologist or ornithologist for

approval. The goal will be to develop measures that will avoid and minimize impacts to the species while allowing the project to proceed with limited restrictions.

For the additional information see the INDOT Environmental Policy [website](#) and Ecology and Waterway Permitting [website](#).

## 5.4 BALD AND GOLDEN EAGLE PROTECTION ACT

The Bald and Golden Eagle Protection Act, BGEPA, (16 U.S.C. 668-668c) prohibits the taking of bald or golden eagles, including their parts, nest or eggs without a federal permit. Parts includes feathers. The act defines "take" as pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb. "Disturb" means to agitate or bother to a degree that causes, or is likely to cause, injury to an eagle, or a decrease in productivity or nest abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior. The nesting season for bald eagles is mid-January through the end of July.

Notice of a bald eagle nest in the project area will come from sources such as the DNR Early Coordination letter, field observation or DNR CIF permit. The USFWS does not maintain a database of known nest locations. They rely on the DNR to track this information.

Step 1. Determine location of nest (includes active and alternative nests) relative to the project site.

- a) Is there a visual screen between the nest and the project site? Nests may be shielded by rolling topography, trees, or other screening factors. Eagles are more prone to disturbance when an activity occurs in full view.
- b) What is the distance between the nest and the project site?
  - 330 feet – minimum buffer when there is a visual screen between project site and nest.
  - 660 feet – minimum buffer when there is no visual screen between project site and nest.
  - When the nest is located closer than 330 feet the activity must occur outside of the nesting season.

Step 2. Determine potential impacts from project.

- a) Is the proposed activity similar to existing tolerated activity?
- b) If yes, minimum buffer can be at same distance as the existing tolerated activity. This is not likely for INDOT construction projects.
- c) If activity is similar, all clearing, external construction, and landscaping activities within 660 feet of the nest must occur outside of the nesting season.

Step 3. Determine avoidance and minimization measures required to eliminate take.

Step 4. INDOT EWPO completes an incidental take analysis for the project. Incidental take analysis may include:

- a) Map of project site in relation to nests (not to be released to the public).
- b) Commitment(s).
- c) Unique Special Provision to include AMMs.
- d) Plan sheets (areas that include AMMs, i.e. protected resource fence, restricted access areas).

Step 5. DNR ornithologist reviews incidental take analysis and concurs that implementation will prevent take.

Step 6. Commitments, USPs, plan sheets added to final project documents.

## 5.5 STATE LISTED SPECIES

Notification of state listed species will likely be determined during the Indiana Department of Natural Resources (IDNR) Natural Heritage Database review (received in the early coordination response). Most recommendations received pertaining to state listed species can be listed as for consideration commitments in the environmental document. However, if recommendations are received pertaining to time of year restrictions, modifying the project scope to avoid an impact to the species or habitat, or



permit conditions are anticipated the commitments must be listed as firm commitments in the environmental document. If those specific recommendations cannot be adhered to, further coordination will need to occur with INDOT and IDNR to reach an appropriate resolution for commitment language.

## CHAPTER 6 – COMMITMENTS, RESOLUTIONS, STAGE 3 AND CONSTRUCTION

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### 6.1 COMMITMENTS AND RESOLUTIONS

Some projects may require additional commitments or modifications to the IPaC AMMs in the environmental document due to project scope, construction timing, species present, surrounding habitat, etc. Listed below are the most common additional commitments and AMM modifications that will need added or modified into the environmental document. Also included are notes when the commitments are required, how to modify specific ones, whether they will be firm or for consideration, how they must be resolved, and any other important notes.

#### Migratory Birds

See notes for each commitment listed below. Only one migratory bird commitment will need included in the environmental document, if applicable.

- **(Structure (include number and location))** has shown evidence of use (i.e. nests) by a bird species protected under the Migratory Bird Treaty Act (MBTA) during the **(date)** inspection. Avoidance and minimization measures must be implemented prior to the start of and during the nesting season. Nests without eggs or young should be removed prior to construction during the non-nesting season (September 8 – April 30) and during the nesting season if no eggs or young are present. Nests with eggs or young cannot be removed or disturbed during the nesting season (May 1 – September 7). Nests with eggs or young should be screened or buffered from active construction. Details of the required procedures will be outlined in the “Potential Migratory Bird on Structure” Unique Special Provision (USP).
  - This commitment must be included in the environmental document if birds or signs of birds have been found during the bridge/structure inspection.
  - This will be a firm commitment in the environmental document.
  - This commitment will be resolved with a USP into the contract.
  - Contact INDOT EWPO regarding any questions or concerns regarding migratory birds.
- **(Structure (include number and location))** and the project’s surrounding habitat is conducive for use (i.e. nests) by a bird species protected under the Migratory Bird Treaty Act (MBTA). Prior to the start of nesting season (May 1) the structure must be inspected for birds or signs of birds. If birds or signs of birds are found during the inspection avoidance and minimization measures must be implemented prior to the start of and during the nesting season. Nests without eggs or young should be removed prior to construction during the non-nesting season (September 8 – April 30) and during the nesting season if no eggs or young are present. Nests with eggs or young cannot be removed or disturbed during the nesting season (May 1 – September 7). Nests with eggs or young should be screened or buffered from active construction. Details of the required procedures are outlined in the “Potential Migratory Bird on Structure” USP.
  - This commitment must be included in the environmental document if the bridge/structure is over a water source, where work will occur below the bridge deck (including full depth patching), and the previously listed commitment does not apply.
  - This will be a firm commitment in the environmental document.
  - This commitment will be resolved with a USP into the contract.
  - Contact INDOT EWPO regarding any questions or concerns regarding migratory birds.
- This type of bridge is commonly used by birds protected by the Migratory Bird Treaty Act (MBTA) per IDNR. The bridge should be inspected prior to nesting season to ensure birds are not using the structure. If birds have been found using the structure, avoidance and minimization measures

must be implemented prior to the start of and during the nesting season. Nests without eggs or young should be removed prior to construction during the non-nesting season (September 8 – April 30) and during the nesting season if no eggs or young are present. Nests with eggs or young cannot be removed or disturbed during the nesting season (May 1 – September 7). Nests with eggs or young should be screened or buffered from active construction. Details of the required procedures are outlined in the “Potential Migratory Bird on Structure” USP.

- Please note, this is only for the general recommendation received from IDNR about the bridge commonly being used by birds protected by the MBTA. If one of the previous two listed Migratory Bird commitments are applicable for the project, they supersede this commitment. If there are specific recommendations received in the IDNR ECL response pertaining to specific birds found on the bridge, or specific time of year restrictions for the project, this commitment does not apply to the project.
- This will be added in the environmental document when the migratory bird response is received in the IDNR early coordination letter and the previously listed two commitments are not applicable.
- Firm or for consideration dependent on the project scope.
  - For example, if the project is a bridge replacement/rehabilitation, the commitment should be included as Firm. If the project is only an overlay on the bridge, for consideration is appropriate.

#### Bridge/Structure Inspection(s)

- USFWS Bridge/Structure Assessments are only valid for two years. If construction will begin after **(date of inspection, plus 2 years)**, an inspection of the structure by a qualified individual, must be performed. Inspection of the structure should check for presence of bats/bat indicators and/or presence of birds. The results of the inspection must indicate no signs of bats or birds. If signs of bats or birds are documented during this inspection, the INDOT District Environmental Manager must be contacted immediately.
  - This must be added into the environmental document for any project that completed a bridge/structure inspection for Section 7 coordination and that inspection will be aged 2 years or more.
    - Please note, if a project has a large gap of time from the initial inspection to the start of construction, the project may need to complete multiple bridge/structure inspections (e.g. an initial inspection was completed in 2017. Construction is scheduled in 2022. Additional bridge/structure inspections must occur in 2019 and 2021.).
  - This will be a firm commitment in the environmental document.
  - If this commitment is added to the project environmental document, coordination should occur between the designer and INDOT PM to determine who will complete this inspection(s) when needed. INDOT District Environmental may be able to complete the inspection(s). However, this should be coordinated with the appropriate INDOT District Environmental Manager to ensure they can accommodate the request.
    - If there are further questions about additional bridge/structure inspections, coordinate with the appropriate INDOT District Environmental. In some situations, BIAS inspections might be used to supplement the initial environmental inspection. However, this is at the discretion of the appropriate INDOT District Environmental so coordination must occur prior to using.
  - This inspection by a qualified individual must occur prior to submitting the ECF document for INDOT review and approval.
  - The resolution to this commitment must include the date the inspection(s) was completed, the results of the inspection(s), and the inspection form(s) will need uploaded into the IPaC project files and submitted to INDOT for review no later than with the ECF submittal.
- Prior to any demolition, the structure(s) **(include which specific structures will be removed)** will be inspected for bats or evidence of bats. If bats, or evidence of bats, are found coordination will occur with INDOT ESD and USFWS before demolition starts. If further coordination is needed no demolition can occur until coordination is concluded with INDOT ESD and USFWS.

- This must be added into the environmental document when the project will remove or demolish any building or house.
- This will be a firm commitment in the environmental document.
- This commitment can be resolved in one of two ways:
  - The resolution will include the date the inspection was completed, the results of the inspection, and the inspection form will need submitted to INDOT for review no later than with the ECF submittal (preferred); or
  - This commitment will be resolved with a USP into the contract.

### Mitigation

- A “Reinitiation Notice” is required if: more than **(amount)** acre of trees are to be cleared; the amount or extent of incidental take of Indiana bat and/or northern long-eared bat is exceeded; new information about listed species is encountered; new species is listed or critical habitat designated that the project may affect; the project is modified in a manner that causes an effect to the listed species; or, new information reveals that the project may affect listed species or critical habitat in a manner not considered in the BO or the project information.
  - This must be added into the environmental document when it is included in the USFWS concurrence response letter.
  - This will be a firm commitment in the environmental document.
  - This commitment will be resolved with a USP into the contract.
- Contractors must take care when handling dead or injured bats (regardless of species), and any other federally listed species that are found at the Project site in order to preserve biological material in the best possible condition and protect the handler from exposure to diseases, such as rabies. Project personnel are responsible for ensuring that any evidence about determining the cause of death or injury is not unnecessarily disturbed. Reporting the discovery of dead or injured listed species is required in all cases to enable the Service to determine whether the level of incidental take exempted by the BO is exceeded, and to ensure that the terms and conditions are appropriate and effective. Parties finding a dead, injured, or sick specimen of any bat (regardless of species), or other endangered or threatened species, must promptly notify the USFWS Bloomington Field Office at (812) 334-4261.
  - This must be added into the environmental document when it is included in the USFWS concurrence response letter.
  - This will be a firm commitment in the environmental document.
  - This commitment will be resolved with a USP into the contract.
- The INDOT Project Manager will assure that **(amount)** of Preliminary Engineering funds will be allocated to the Rangewide In-Lieu Fee Program, administered by The Conservation Fund, to resolve formal consultation under the Rangewide Programmatic **((amount) acre X (mitigation ratio) x (current IN dollar amount) = (amount))**. Payment shall be in process for Ready for Contracts (RFC) date.
  - This must be added into the environmental document when it is included in the USFWS concurrence response letter.
  - This will be a firm commitment in the environmental document.
  - Resolution must include the date mitigation payment process was started or when it was concluded.

### Guano Results

- **(Structure (include number and location))** has shown evidence of use (i.e. guano and/or live bats) by a non-listed bat species during the **(date)** inspection. To minimize bat disturbance, if construction will occur during active bat season on any area of the bridge/structure the bats are using, the area(s) shall temporarily be filled with an expandable material prior to active bat season. The structure shall also be inspected for bats prior to demolition, exclusion, or any construction activities. If signs of bats are documented during this inspection, the INDOT District Environmental Manager must be contacted immediately. Details of the required procedures are outlined in the “Bat Inspection and Coordination USP”.
  - This must be added into the environmental document when guano results only conclude non-federally listed bats.

- This will be a for consideration commitment in the environmental document.
- Coordination must occur at the environmental document stage with the INDOT Project Manager and the designer on whether this commitment can be implemented for the project.
- This for consideration commitment must be considered for all applicable projects. Being listed as for consideration in the environmental document is not a justifiable reason to not implement this specific commitment. INDOT is committed to reducing/avoiding unnecessary impacts to any bat, regardless of listing.
- The resolution to this commitment must include whether the commitment will be implemented or not. If it will not be implemented, the commitment resolution must include the specific reason the commitment could not be implemented. If it will be implemented the listed bat USP must be included into the contract.

IPaC AMMs

- TREE AMM2: Apply time of year (TOY) restrictions for tree removal when bats are not likely to be present, or limit tree removal to 10 or fewer trees per project at any time of year within 100 feet of existing road/rail surface and outside of documented roosting/foraging habitat or travel corridors; visual emergence survey must be conducted with no bats observed.
  - This must be added into the environmental document when it is included in the IPaC coordination.
    - Always include the dates that should be adhered to for the TOY tree clearing restrictions. See example below.
  - This will be a firm commitment in the environmental document.
  - This commitment will be resolved with a USP into the contract.
  - If this AMM is generated along with the project receiving the standard IDNR recommendation, both resource agencies will be included together when listing this firm commitment in the environmental document (do not include a separate IDNR For Consideration commitment). See example below.

IPaC AMM Example

Apply time of year (TOY) restrictions (April 1 – September 30 (standard) or April 1 – November 15 (based on the INDOT 0.5-mile check or USFWS coordination) for tree removal when bats are not likely to be present, or limit tree removal to 10 or fewer trees per project at any time of year within 100 feet of existing road/rail surface and outside of documented roosting/foraging habitat or travel corridors; visual emergence survey must be conducted with no bats observed. (USFWS and IDNR)

- Whatever dates are listed in this AMM must match the USP added into the contract for the project.

6.2 DRAFT USPs

There are three draft USPs that must be used to resolve most protected species AMMs and/or commitments. The draft USPs can be found at the following location:

<https://www.in.gov/dot/div/contracts/standards/rsp/index.html>

Unique Special Provisions

- [Unique Special Provision Process](#)
- [List of Unique Provisions \(xls\) / \(pdf\) \(samples\) \(updated 12/17/20\)](#) ←
- [Instructions for Use Unique Special Provisions \(revised 2/18/2019\)](#)
- [Summary Sheet \(updated 2/18/2019\)](#)

#	Section*	Subsection*	Subject	Comments
1	100	104	Design Build Contracts	
2	100	107	Listed Bat Avoidance and Mitigation Measures	revised 10/31/19
3	100	107	Migratory Bird Protection	added 8/27/19
4	100	107	Non-listed Bat Inspection and Coordination	added 8/27/19
5	100	107	Migratory Bird Treaty Act Compliance	added 8/27/19
6	100	108	Data in Issue: the Notice To Proceed	

#### Listed Bat Avoidance and Mitigation Measures (federally listed bats)

- The project specific AMMs and INDOT firm commitments will be included in in the environmental document.
- This specific USP must be added to the contract book to resolve IPaC AMMs.
- This specific USP must be added to the contract book to resolve additional USFWS or INDOT project specific commitments related to federally listed bats.
- This draft USP will be updated/modified to only include the project specific AMMs and/or commitments that have been included as firm commitments in the environmental document and commitments database.
- AMM and/or commitment resolutions in the commitments database will state: “Included in the USP titled (title of USP) and will be included in the contract book.”

#### Non-listed Bat Inspection and Coordination (non-federally listed bats)

- This specific USP must be added to the contract book to resolve a project specific non-listed bats commitment if it will be implemented.
- Project specific INDOT commitments will be included in in the environmental document.
- Commitment resolution in the commitments database will state: “Included in the USP titled (title of USP) and will be included in the contract book.”
- Can be combined with the Listed Bat USP that is discussed above, if applicable to the project.

#### Migratory Bird Protection

- This specific USP must be added to the contract book if a firm bird commitment has been included in the environmental document.
- Commitment resolution in the commitments database will state: “Included in the USP titled (title of USP) and will be included in the contract book.”

#### Migratory Bird Treaty Act Compliance

- Guidance document on how to appropriately adhere to the Migratory Bird Treaty Act.

### 6.3 ACTIVE SEASON TREE REMOVAL REQUESTS

To protect endangered and threatened bats, tree removal is prohibited while bats are active and is only allowed while bats are hibernating. For most projects, this tree removal window is October 1 to March 31, although the USFWS may provide different dates for specific projects. These dates can be found in the environmental document, the project commitments, and/or as a unique special provision in the contract. Project managers, designers, and construction staff must comply with these dates to be compliant with the Endangered Species Act.

Occasionally, a contractor may request to remove trees outside of the specified tree removal dates, or issues with project scheduling result in trees not being removed as planned during the tree removal window. When this happens, construction staff and project managers should follow the process outlined in the INDOT Active Bat Season Tree Removal Policy located on the INDOT Environmental Policy [website](#).

Requesting tree removal during active bat season requires field investigations, analysis, and coordination. This is a lengthy process that adds additional delays and cost to the project. Do not assume that permission to remove trees can be obtained from USFWS.

## CHAPTER 7 – FAQs AND HELPFUL INFORMATION

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### 7.1 FREQUENTLY ASKED QUESTIONS (FAQs)

- **What coordination is needed for state funded projects?**
  - For state projects, coordination occurs with resource agencies if resources will be impacted. USFWS responses are recommendations. However, if tree removal will be occurring, we should adhere to TOY restrictions to be good stewards.
    - Even though Section 7 coordination is not applicable, “take” of listed species is still prohibited under Section 9 of the ESA.
  - The concern is that there may be federal or state listed species or habitat that could be impacted by the project. Normally state memo’s do not require much but if you are impacting resources it is best practice to contact those agencies. Likely, it would be just the tree removal restrictions that we are voluntarily adhering to, but we have seen other species like Kirtland snakes that are identified and had some stipulations that we adhered to.
  - IC 14-22-34, Nongame and Endangered Species Conservation has similar language as the ESA concern habitat and species.
- **How long is the concluding IPaC determination valid for?**
  - There is no set expiration date for the concluding IPaC determination.
- **When should/must the IPaC determination key be updated?**
  - The IPaC determination key will need to be updated when:
    - Project footprint or location changes.
    - Tree clearing needed for the project is increased.
    - Any scope change that causes an IPaC determination key answer to change.
    - Any scope change that will cause the concluding IPaC determination or AMMs to change.
    - Another species gets added to the determination key (look for guidance from INDOT and USFWS).
  - The IPaC determination key does not need to be updated if the project included a slight scope change (i.e. ROW change) which would not cause a different determination or different AMMs being generated. Add a note to the concurrence letter when it is included in the environmental document appendix. Also, include a note in the environmental document about the scope change and why the IPaC determination key was not updated.
- **What AMMs can be included in a PCE?**
  - PCEs can only include General AMM1, Hibernacula AMM1, Lighting AMM1, and Lighting AMM2. If any tree, bridge or structure AMMs are generated, the project does not qualify for a PCE.
- **IPaC Northern long-eared bat consultation and 4(d) rule consistency key and when to complete it?**
  - This key is an optional consultation for the NLEB. It applies to federal agencies who are not with or representing federal agencies. Since all the projects INDOT encounters include a federal nexus and represent a federal agency (FHWA), this key is not applicable for INDOT use. The only key that INDOT uses at this time is the FHWA, FRA, FTA Programmatic Consultation for Transportation Projects affecting the NLEB or Indiana Bat.



- **What projects have adjusted time of year tree restriction dates?**
  - Examples of projects that have adjusted time of year tree removal dates include projects located within a 10-mile buffer of a Priority 1 or 2 hibernaculum, projects located in a documented Indiana bat habitat, projects located near a roost tree, or projects that have federally listed bats using the bridge/structure. There may be additional situations that come up during USFWS coordination. The adjusted time of year tree removal dates will need to be included in the environmental document and added to the firm commitment/AMM language.
- **Why do some projects have adjusted time of year tree restriction dates?**
  - If you are within a 10-mile buffer of a Priority 1 or 2 hibernacula USFWS is concerned with the forested habitat in that 10-mile area because it is important for fall swarming/roosting. As bats return from their summer roosts, they will congregate in the forests around the hibernacula to mate and continue foraging to fatten up for winter. Research has indicated that areas up to 10 miles from the hibernacula are important for this activity. It does not affect the ability to use the IPaC determination key, it just adjusts the dates of the "active season" for the AMM language. There are a couple GIS layers that are checked during the 0.5-mile review to determine if the project is in the 10-mile buffer of a Priority 1 or 2 hibernacula. If this is the case, the IPaC determination key can still be completed and "no" will be answered to being within a 0.5 mile of the hibernacula, but the time of year tree removal dates would be adjusted in the Tree Removal AMM2 language to insure you do not cut trees occupied by fall swarming bats. This affects the Seymour and Vincennes districts and one county in the Crawfordsville district.
  - However, the above example is only for projects within the 10-mile buffer of a Priority 1 or 2 hibernacula. There may be other projects where the time of year dates are adjusted due to where the project is located and what is surrounding the project location. If this is the case it will be discussed during coordination with USFWS.
- **Is there a minimum size limit for bridges/structures to be inspected?**
  - Currently, there is no minimum size limit for bridges/structures to be inspected per USFWS guidance.
- **What if BIAS and the environmental inspection include different results for bats using the bridge/structure?**
  - An additional inspection will need to occur on the bridge/structure to determine what is or is not using the bridge/structure.
- **What if guano was found on the bridge/structure and when the collection was scheduled there is no guano to collect for testing?**
  - Analyze the situation. Was there a gap in time from finding the guano and collecting it? The guano may have been washed or blown away. The project may need to be delayed in order to verify the use of the bridge/structure. A guano sample is required to send for analysis to determine what species of bats are using the bridge/structure. Collection may be delayed until the next active bat season if we are in inactive bat season. One option is assuming federally listed species are using the bridge/structure and adjusting the project schedule to complete all construction during inactive bat season. However, this is not usually feasible for most construction projects.

## 7.2 HELPFUL INFORMATION, DEFINITIONS AND TERMINOLOGY

### Acronyms

**BIAS** – Bridge Inspection Application System

**BO** – Biological Assessment

**CO** – Central Office (INDOT)

**ECF** – Environmental Consultation Form

**ESD** – Environmental Services Division (INDOT)

**FHWA** – Federal Highway Administration



**FRA** – Federal Railroad Administration  
**FTA** – Federal Transit Administration  
**IB or MYSO** – Indiana bat or *Myotis sodalis*  
**NLEB or MYSE** – northern long-eared bat or *Myotis septentrionalis*  
**MOT** – Maintenance of Traffic  
**TOY** – Time of year  
**USPs** – Unique Special Provisions

#### Important Dates

**Active Bat Season** – No tree removal can occur. April 1 – September 30.

**Inactive Bat Season** – Tree removal can occur. October 1 – March 31.

**Modified Inactive Bat Season** – See guidance throughout this document for when this applies.  
November 15 – March 31.

#### Bat Impact Determinations

**NE** – No Effect

**NLAA** – Not Likely to Adversely Affect

**LAA** – Likely to Adversely Affect

#### Measurements

**Tree** – Greater than or equal to 3-inch dbh

**Sapling** – Less than 3-inch dbh

#### Definitions

**Avoidance and Minimization Measures (AMMs)** – AMMs are automatically generated in IPaC based on the project scope included in the IPaC determination key. AMMs reduce potential impacts of the proposed action to Indiana bats and northern long-eared bats. In some instances, the impacts to the bats and bat habitat can be reduced significantly by applying appropriate AMMs to the project scope.

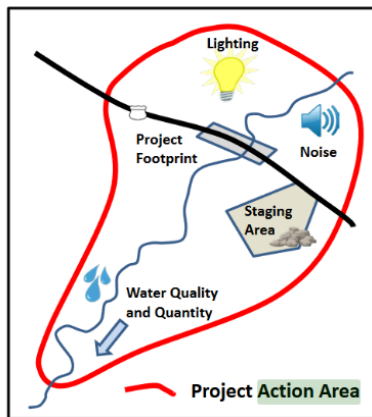
**Diameter Breast Height (dbh)** – Tree diameter measurement around 4.5 feet above the ground (about breast height for the average person). Uses a specially calibrated diameter measuring tape, referred to a d-tape. The measurement is circumference of the tree to help determine age of the tree.

**Existing Road/Rail** - Road surface is defined as the actively used (i.e. vehicles) driving surface and shoulders (may be pavement, gravel, etc.) and rail surface is defined as the edge of the actively used rail ballast. This is any public used road/rail surface, not just state owned. The key is “actively used,” which does not include parking lots, or drives to parking lots.

**Formal Coordination** – Formal consultation is a process followed for major or high impacting projects that may adversely affect federally listed species or a critical habitat. Formal coordination requires the preparation of a Biological Assessment (BA) for all listed species in the project area and is concluded with a Biological Opinion (BO).

- **Limited Formal Coordination** – Can be coordinated through the Rangewide Programmatic Agreement for impacts to the Indiana bat and northern long-eared bat. The Rangewide Programmatic Agreement provides In-Lieu Fee mitigation to compensate for unavoidable impacts to the Indiana bat and northern long-eared bat.

**Permanent Lighting** – Existing lighting that is located in the project area or lighting that is added and will remain once the construction is completed. Some examples include adding lighting to existing unlit signage, railroad crossing signals, signal lighting.



**Project Action Area** – Action area is defined as all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action. USFWS has determined that the action area for this programmatic consultation, hereby referred to as the “action area” is all lands within the range of the Indiana bat and northern long-eared bat affected directly or indirectly by the project’s components. For quick INDOT reference Project Action Area > Investigated Area > Construction Limits.

**Roost Trees** - Roost tree preferences vary between the two species. Indiana bats are known to use a wide variety of tree species ( $\geq 5$  inches dbh) based on presence of cracks, crevices, or presence of peeling bark. A typical Indiana bat primary roost is located under exfoliating bark of a dead ash, elm, hickory, maple, oak, or poplar, although any tree that retains large, thick slabs of peeling bark may be suitable. Primary Indiana bat roosts usually are in trees that are in early-to-mid stages of decay. NLEBs are known to use a wider variety of roost types than Indiana bats. NLEBs roost in cavities, underneath bark, crevices, or hollows of both live and dead trees and/or snags (typically  $\geq 3$  inches dbh). Indiana bats and NLEBs (more frequently) have also been occasionally found roosting in structures like barns and sheds (particularly when suitable tree roosts are unavailable).

**Temporary Lighting** – Lighting that is used for temporary uses during construction. The lighting will not remain once construction is completed. Some examples include lighting by generators for night work, temporary traffic signals as part of MOT of the project, etc.