December 16, 2010

Timothy M. Hill
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Ohio Department of Transportation
P.O. Box 899
Columbus, OH 43216-0899

TAILS: 31420-2010-F-0454 (PID 80209)

Attn: Michael Pettegrew, Chris Staron

RE: **BEL-148-22.80 (PID 80209)**

Dear Mr. Hill:

This letter is in response to your March 4, 2010 request, received in our office on March 8, 2010, for site-specific review pursuant to section 7 of the Endangered Species Act of 1973, as amended, regarding a roadway improvement project along SR-148 in York Township, Belmont County, Ohio. The project proposes to improve 0.43 miles of SR-148 by realigning the roadway to the north of the existing SR-148, eliminating a landslide hazard along the northern side of SR-148 and a rock-fall hazard on the roadway's existing southern slope, and improving the horizontal and vertical alignment of the roadway. We understand that the project will result in impacts to approximately 1,018 linear feet of an intermittent, modified warm water habitat stream. This stream section will be relocated further to the north during the realignment of SR-148. No wetlands will be impacted by the project. In addition, approximately 1.75 acres of upland forest habitat will be impacted by the project, including 5 suitable Indiana bat roost trees, 1 of which exhibits maternity roost characteristics.

FEDERALLY LISTED SPECIES:
The project is located within the range of the federally endangered Indiana bat (*Myotis sodalis*); the snuffbox mussel (*Epioblasma triquetra*), a federally proposed endangered species; the sheepnose mussel (*Plethobasus cyphyus*), a federal candidate species; and the bald eagle (*Haliaeetus leucocephalus*) and eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), federal species of concern.

ODOT has determined that this project will have *no effect* on the **snuffbox** and **sheepnose mussels**, **bald eagle**, and **eastern hellbender**; therefore, impacts to these species are not anticipated. The remainder of this letter addresses impacts to the **Indiana bat**.

FISH & WILDLIFE COORDINATION ACT COMMENTS:
The Service recommends that impacts to streams and wetlands be avoided, and buffers surrounding these systems be preserved. Streams and wetlands provide valuable habitat for fish and wildlife resources, and the filtering capacity of wetlands helps to improve water quality. Naturally vegetated buffers surrounding these systems are also important in preserving their wildlife-habitat and water quality-enhancement properties. We support and recommend mitigation activities that reduce the likelihood of invasive plant spread and encourage native plant colonization. Prevention of non-native, invasive plant establishment is critical in

maintaining high quality habitats. All disturbed areas in the project vicinity should be mulched and revegetated with native plant species.

In addition, we recommend limiting the use of rock channel protection (RCP) for erosion control. Instead, we recommend using native vegetation to control erosion, or, at a minimum, using native vegetation in combination with rock.

INDIANA BAT - TIER 2 BIOLOGICAL OPINION:
On January 26, 2007, the U.S. Fish and Wildlife Service (Service) issued a programmatic biological opinion (PBO) for the Ohio Department of Transportation's (ODOT) Statewide Transportation Program through January 2012. This PBO established a two-tiered consultation process for ODOT activities, with issuance of the programmatic opinion being Tier 1 and all subsequent site-specific project analyses constituting Tier 2 consultations. Under this tiered process, the Service will produce tiered biological opinions when it is determined that site-specific projects are likely to adversely affect federally listed species. When *may affect, not likely to adversely affect* determinations are made, the Service will review those projects and if justified, provide written concurrence and section 7(a)(2) consultation will be considered completed for those site-specific projects.

In issuing the PBO (Tier 1 biological opinion), we evaluated the effects of all ODOT actions outlined in your Biological Assessment on the federally listed Indiana bat. Your current request for Service review of the BEL-148-22.80 improvement project is a Tier 2 consultation under the January 26, 2007, PBO. We have reviewed the information contained in the letter and supporting materials submitted by your office describing the effects of the proposed project on federally listed species. We concur with your determination that the action is *likely to adversely affect* the Indiana bat. As such, this review focuses on determining whether: (1) this proposed site-specific project falls within the scope of the Tier 1 PBO, (2) the effects of this proposed action are consistent with those anticipated in the Tier 1 PBO, and (3) the appropriate conservation and mitigation measures identified in the biological assessment are adhered to.

That is, this letter serves as the Tier 2 biological opinion for the proposed BEL-148-22.80 improvement project. As such, this letter also provides the level of incidental take that is anticipated and a cumulative tally of incidental take that has been authorized and exempted in the PBO.

<u>BEL-148-22.80 Tier 2 Consultation History</u>
When ODOT initiated the current Tier 2 formal consultation on the BEL-148-22.80 project with their March 4, 2010 letter, the Service and ODOT OES had just begun a conversation about ODOT's use of pooled mitigation areas (PMAs) to mitigate for project impacts to the Indiana bat. Please refer to the table below for additional details on the consultation process for this project.

DATE	EVENT/ACTION
February 19, 2010	Although not an action on this project, a letter to ODOT OES prepared by the Service (COFO) on this date (received by ODOT via email on March 1) referenced a potential problem with ODOT's Pooled Mitigation Area (PMA) crediting balance sheets that was previously discussed in a telephone conversation between Karen Hallberg (COFO) and Bill Cody (ODOT OES) on or about January 4, 2010 (re the MAH-80 PMA): credits utilized for mitigation on previous projects or otherwise allocated to mitigate for impacts to another resource being utilized to mitigate for impacts to Indiana bat habitat without prior approval by the Service.
March 4, 2010	COFO received ODOT's coordination letter on the BEL-148-22.80 project, in which ODOT OES offered to mitigate for Indiana bat impacts by placing a conservation easement on an excess parcel of property owned by ODOT in Harrison County (HAS-151).

April 7, 2010	Date of scheduled meeting between ODOT OES, FHWA, and COFO to discuss Service concerns re ODOT PMAs. ODOT had to cancel this meeting due to an emergency issue on the Nelsonville Bypass project.
April 9, 2010	K. Hallberg emailed C. Staron (ODOT OES) re the BEL-148-22.80 project: COFO cannot approve proposed mitigation on HAS-151 prior to the meeting re PMAs; but COFO is willing to review **alternative** mitigation proposals from ODOT that fall under mitigation measures M-1, M-2, and/or M-4, as described in the 2007 PBO.
April 12, 2010	In response to an email from C. Staron requesting that consultation be concluded on the BEL-148 project, K. Hallberg emailed C. Staron: COFO cannot conclude using HAS-151 mitigation at this time; we would be willing to field review the parcel for possible **future** consideration.
April 20, 2010	Scheduled PMA meeting for May 14, 2010 at COFO. K. Hallberg finalized a date for field review of HAS-151 site with C. Staron. Field review to be conducted on May 11, 2010.
May 10, 2010	K. Hallberg requested postponement of HAS-151 site due to weather and workload. Visit rescheduled for June 21.
May 14, 2010	Tim Hill, Bill Cody, and Mike Pettegrew (ODOT OES) met with Noel Mehlo (FHWA) and Mary Knapp, Jeromy Applegate, and Karen Hallberg (USFWS COFO) at COFO to discuss ODOT's PMAs and mitigation options for project impacts to Indiana bat habitat.
June 21, 2010	K. Hallberg canceled HAS-151 site visit due to illness; rescheduled for August 2.
August 2, 2010	M. Pettegrew and C. Staron and ODOT District 11 personnel field reviewed HAS-151 site with K. Hallberg.
August 4, 2010	K. Hallberg received preliminary mapping of HAS-151 site from C. Staron via email.
September 15, 2010	C. Staron emailed K. Hallberg requesting comments re HAS-151 as mitigation on BEL-148.
October 13, 2010	C. Staron emailed K. Hallberg requesting comments re HAS-151 as mitigation on BEL-148.
October 29, 2010	K. Hallberg emailed C. Staron: cannot agree to HAS-151 mitigation at this time; setting up meeting with M. Pettegrew to discuss other mitigation options or deferment of mitigation for this project.
November 2, 2010	K. Hallberg emailed M. Pettegrew requesting mitigation alternatives for BEL-148; K. Hallberg also provided suggestions based on PBO.
November 3, 2010	K. Hallberg received additional details re acreage of forest and wetlands on HAS-151 site from C. Staron via email.
November 15, 2010	K. Hallberg met with M. Pettegrew and M. Michael (ODOT OES) to discuss status of current projects at COFO for review, including BEL-148. K. Hallberg explained concerns with HAS-151 parcel, and all discussed other mitigation options/possible mitigation property locations.
November 23, 2010	K. Hallberg and M. Pettegrew further discussed possible alternative mitigation for the BEL-148 project via email and telephone, and ultimately agreed to defer mitigation decision at this time; M. Pettegrew agreed to prepare correspondence reflecting that agreement.
December 10, 2010	Tim Hill (ODOT OES), Noel Mehlo and Leigh Oesterling (FHWA), and Mary Knapp and Karen Hallberg (USFWS COFO) met at COFO and resolved that mitigation for BEL-148 project would be deducted from ODOT's POR-261 site at a ratio of 3:1. (The POR-261 site was approved for Indiana bat mitigation at this meeting, following a field review of the property by M. Michael and K. Hallberg on November 10, 2010).

Description of the Proposed Action

Pages 1-2 of your letter, along with the supporting materials you submitted, include the location and a thorough description of the proposed action. The action, as proposed, involves the improvement of 0.43 miles of SR-148 in York Township in Belmont County. The purpose of this project is to improve the substandard vertical and horizontal geometry along this section of SR-148 to satisfy the ODOT design standards for the posted speed and to eliminate existing landslide and rock-fall hazards. Five trees that exhibit suitable summer roost habitat characteristics for the Indiana bat will be removed for the project, including one tree that exhibits brood-rearing habitat for the species. ODOT will implement the following conservation measures to avoid, minimize, and/or mitigate adverse impacts to the Indiana bat: 1) any unavoidable tree removal will take place between September 15 and April 15 to avoid direct impacts (A-1), and 2) protection of land/habitat through conservation easements or deed restriction to offset loss of suitable habitat (M-1).

The Service appreciates ODOT's commitment to follow **conservation measure A-1** of the Programmatic Consultation for this project, under which trees within the project area will be cleared only between 15 September and 15 April. **Please note that the Service encourages the use of revised guidelines of tree removal between 30 September and 1 April**, as Indiana bats have been observed arriving at their traditional summer areas earlier in the spring and staying longer in the fall than previously documented.

As confirmed in an email from Mike Pettegrew to Karen Hallberg on December 14, 2010, ODOT will mitigate for project impacts to Indiana bat habitat at a ratio of 3:1. ODOT will subtract 5.25 forested acres from the recently approved POR-261 Mitigation Site to compensate for impacts to 1.75 acres of wooded habitat that will be cleared for this project. We understand that the 5.25 acres will be subtracted from upland forested acreage at the POR-261 site and that this acreage will then be unavailable to mitigate future project impacts. Upon subtraction of the 5.25 acres for this project, 13.615 acres of wooded habitat will remain available at the POR-261 site to mitigate for impacts to Indiana bat habitat on future projects.

Status of the Species

Species description, distribution, life history, population dynamics, and status are fully described on pages 13-26 for the Indiana bat in the PBO and are hereby incorporated by reference. Since the issuance of the PBO in 2007, there has been no change in the status of the species.

Species descriptions, life histories, population dynamics, status and distributions are fully described on pages 23-30 for the Indiana bat in the PBO and are hereby incorporated by reference. The most recent population estimate indicates 387,835 Indiana bats occur rangewide (King 2010). The current revised Indiana Bat Recovery Plan: First Revision (2007) delineates recovery units based on population discreteness, differences in population trends, and broad level differences in land-use and macrohabitats. There are currently four recovery units for the Indiana bat: Ozark-Central, Midwest, Appalachian Mountains, and Northeast. All of Ohio falls within the Midwest Recovery Unit.

In 2007, white nose syndrome (WNS) was found to fatally affect several species of bats, including the Indiana bat, in eastern hibernacula. To date, WNS is known from New York, Massachusetts, Vermont, West Virginia, Pennsylvania, New Jersey, New Hampshire, Connecticut, Virginia, Tennessee, Oklahoma, and Missouri, as well as the provinces of Ontario and Quebec in Canada. The extent of the impact this syndrome may have on the species rangewide is uncertain, but based on our current limited understanding of WNS, we expect mortality of bats at affected sites to be high (personal communication, L. Pruitt, 2008).

Environmental Baseline

The environmental baseline for the species listed above was fully described on pages 21-26 of the PBO and is hereby incorporated by reference. Since the issuance of the PBO in 2007, there has been no change in the environmental baseline.

Status of the species within the action area

Since the issuance of the PBO in 2007, there have been no new Indiana bat capture records within the vicinity of this project. Your letter and supporting materials state that suitable habitat exists within the action area, thus we are assuming presence.

Effects of the Action

Based on analysis of the information provided in your letter and supporting materials, we have determined that the effects of the proposed action are consistent with those contemplated and fully described on pages 31-35 of the PBO. Adverse effects to the Indiana bat from this project could occur due to the removal of a potential maternity roost tree. However, implementation of seasonal cutting restrictions (avoidance measure A-1) will avoid direct adverse effects to individual bats. Projects that require the removal of one or more potential primary maternity roost trees outside of the Indiana bats' maternity season can result in adverse effects to colony members upon their return to maternity areas following hibernation. When a primary roost tree becomes unsuitable, members of a colony may initially distribute themselves among several previously used alternate roost trees (USFWS 2002; Kurta et al. 2002). It is not known how long it takes for the colony to attain the same level of roosting cohesiveness that it experienced prior to the loss of an important primary roost tree. As explained in the PBO, colony cohesiveness is essential for successful birth and rearing of young. It is likely that due to the ephemeral nature of roost trees, the Indiana bat has evolved to be able to relocate replacement roosts, if available, when their previously-used roost trees become unsuitable. Until the bats from the colony locate another desirable primary roost tree and reunite, it is possible, however, that some individual members of a colony will be subject to increased stress resulting from: (1) having to search for a replacement primary roost tree, which increases energy expenditure and risk of predation; (2) having to roost in alternate trees that are less effective in meeting thermoregulatory needs; and (3) having to roost singly, rather than together, which decreases the likelihood in meeting thermoregulatory needs, thereby reducing the potential for reproductive success.

Adult male and non-reproductive female Indiana bats may also be indirectly exposed to loss of roosting habitat. In general, effects on these individual bats would be less severe than the effects associated with individuals of maternity colonies. Adult male and non-reproductive female Indiana bats are not subject to the physiological demands of pregnancy and rearing young. Males and non-reproductive females typically roost alone or occasionally in small groups. When these individuals are displaced from roosts they must utilize alternative roosts or seek out new roosts. Because these individuals are not functioning as members of maternity colonies, they do not face the challenge of reforming as a colony. Roost tree requirements for non-reproductive Indiana bats are less specific whereas maternity colonies generally require larger roost trees to accommodate multiple members of a colony. Therefore, it is anticipated that adverse indirect effects to non-reproductive bats will be less than the effects to reproductively active females. The Service anticipates that indirect effects to non-reproductive Indiana bats from the loss of roosting habitat will be insignificant.

In addition, ODOT's placement of conservation-oriented restrictions on the POR-261 site has the potential to provide suitable habitat for the Indiana bat at this location into perpetuity. The access and use restrictions were placed on the POR-261 property and transferred to Kent State University through a State of Ohio Department of Transportation Director's Deed signed by Director James G. Beasley on October 29, 2008. Prior to establishment of this deed, the POR-261 site was available for development, which likely would have further reduced available habitat for the Indiana bat in eastern Ohio.

We are not aware of any non-federal actions in the action area that are reasonably certain to occur. Thus, we do not anticipate any cumulative effects associated with this project.

Conclusion

We believe the proposed BEL-148-22.80 improvement project is consistent with the PBO. After reviewing site specific information, including 1) the scope of the project, 2) the environmental baseline, 3) the status of the Indiana bat and its assumed presence within the project area, 4) the effects of the action, and 5) any cumulative effects, it is the Service's biological opinion that this project is *not likely to jeopardize* the continued existence of the Indiana bat.

Incidental Take Statement

The Service anticipates that the proposed action will result in incidental take associated with projects in the East management unit. Incidental take for this project, based on the potential removal of approximately 1.75 acres, resulting in the cumulative incidental take of 68.39 for this management unit. This project, added to the cumulative total of incidental take for the implementation of ODOT's Statewide Transportation Program, is well within the level of incidental take anticipated in the PBO through 2012 (see table below).

Management Unit	**IT anticipated in PBO**	**IT for this project**	**Cumulative IT granted to date**
West	1,565 acres	0 acres	117.65 acres
Central	2,280 acres	0 acres	50.99 acres
Northeast	4,679 acres	0 acres	188.15 acres
East	6,370 acres	**1.75 acres**	**69.14 acres**
South	7,224 acres	0 acres	71.99 acres
Statewide	22,118 acres	1.75 acres	497.92 acres

We determined that this level of anticipated and exempted take of Indiana bats from the proposed project, in conjunction with the other actions taken by ODOT pursuant to the PBO to date, is *not likely to result in jeopardy* to the species.

We understand that ODOT is implementing all pertinent Indiana bat conservation measures, specifically A-1 and M-1 stipulated in the Biological Assessment on pages 29-31. In addition, ODOT is monitoring the extent of incidental take that occurs on a project-by-project basis. These measures will minimize the impact of the anticipated incidental take.

This fulfills your section 7(a)(2) requirements for this action. However, should the proposed project be modified or the level of take identified above be exceeded, ODOT should promptly reinitiate consultation as outlined in 50 CFR §402.16. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the continued implementation of ODOT's Statewide Transportation Program and projects predicated upon it may affect listed species in a manner or to an extent not considered in this opinion; (3) the continued implementation of ODOT's Statewide Transportation Program and projects predicated upon it are subsequently modified in a manner that cause an effect to federally listed species not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease, pending reinitiation. Requests for reinitiation, or questions regarding reinitiation, should be directed to the U.S. Fish Wildlife Service's Columbus, Ohio Field Office.

We appreciate your continued efforts to ensure that this project is consistent with all provisions outlined in the Biological Assessment and PBO. If you have any questions regarding our response or if you need additional information, please contact Karen Hallberg at extension 23.

Sincerely,

Mary Knapp, Ph.D.
Field Supervisor

cc: ODNR, DOW, SCEA Unit, Columbus, OH (*email only*)
Ohio Regulatory Transportation Office, Columbus, OH (*email only*)
OEPA, Columbus, OH (*email only*)