APPENDIX E
AGENCY CORRESPONDENCE

APPENDIX E-1
USACE CORRESPONDENCE

DEPARTMENT OF THE ARMY
PITTSBURGH DISTRICT, CORPS OF ENGINEERS
WILLIAM S. MOORHEAD FEDERAL BUILDING
1000 LIBERTY AVENUE
PITTSBURGH, PA 15222-4186

January 7, 2011

REPLY TO:
Operations Division
Regulatory Branch
2010-647

Mr. David Willis, Environmental Manager
Pennsylvania Turnpike Commission
P.O. Box 67676
Harrisburg, Pennsylvania 17106-7676

Dear Mr. Willis:

I am replying to the Pennsylvania Turnpike Commission's (PTC) Allegheny Tunnel Transportation Improvement Project (the project) NEPA Alternative Analysis Concurrence Record request submitted at the September 22, 2010 Agency Coordination Meeting. The PTC has requested concurrence to carry forward the Brown and Yellow corridors as described in the September 1999 Draft Detailed Alternative Analysis for the project located in Bedford and Somerset Counties, Pennsylvania.

The PTC concurrence request prompted a multi-agency meeting on October 27, 2010 to discuss the current potential resource impacts. At this meeting, the agencies agreed to provide a state response from the Department of Environmental Protection and a federal response from the Corps of Engineers. At this time the agencies do not concur with the PTC request to carry forward the Yellow and Brown corridors only, based on the magnitude of environmental impacts, cost and recent endangered species findings.

The United States Fish and Wildlife Service (USFWS) has documented an Indiana bat (Myotis sodalis) hibernaculum located directly north of the existing Allegheny Tunnel in the abandoned South Penn Railroad tunnel in the east face of the Allegheny Front. The Indiana bat migration route, from the hibernaculum to their maternity colony, crosses through the proposed northern alternatives including the Brown and Yellow corridors. The USFWS will require that the project include a biological assessment, pursuant to Section7 consultation, to evaluate the potential adverse effects of the proposed project construction.

Realigning the red tunnel alternative to the south or reevaluating the black alternative, as described in the February 1999 Preliminary Alternatives Analysis, could eliminate substantial adverse effects to the federally endangered Indiana bat. The alternatives to the north of the tunnel may still be considered if it can be shown that no substantial adverse effects will occur to federally endangered species. Otherwise, we encourage the PTC to consider alternatives to the south of the Allegheny Tunnel.

We will continue to work with you to develop your project. If you have any questions, please contact Kevin Gabig at (412) 395-7248 or by email at Kevin.E.Gabig@usace.army.mil.

Sincerely,

Marcia Haberman
Chief, Southern Section
Regulatory Branch

CF:
Jamie Detweiler PADEP SWRO
Carole Copeyon USFWS
Barbara Okorn EPA

Crescenzo, Steven

From: Sherwin, Tammy
Sent: Wednesday, November 06, 2013 1:10 PM
To: Jones, Ed; Crescenzo, Steven; Eismont, Kelly; Gustkey, John
Subject: FW: Allegheny Tunnel Preliminary JD (UNCLASSIFIED)

FYI - this is our Preliminary JD approval.

Tammy L. Sherwin
Assistant Operations Manager, Environmental Services

L.R. Kimball - a CDI Company
415 Moon Clinton Road | Coraopolis, PA 15108
Ph: 412.262.5400 ext 624253 | Fax: 412.262.3036 | www.lrkimball.com

-----Original Message-----
From: Bole, Donald R LRP [mailto:Donald.R.Bole@usace.army.mil]
Sent: Wednesday, November 06, 2013 11:29 AM
To: Willis, David
Cc: Sherwin, Tammy; Engelhardt, Michael
Subject: RE: Allegheny Tunnel Preliminary JD (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Dave,

This can be considered the official reply.

Thanks.

Donald R. Bole
U.S. Army Corps of Engineers
1000 Liberty Avenue
Pittsburgh, PA 15222-4186
(412) 395-7576

-----Original Message-----
From: Willis, David [mailto:dwillis@paturnpike.com]
Sent: Wednesday, November 06, 2013 10:47 AM
To: Bole, Donald R LRP
Cc: Sherwin, Tammy; Engelhardt, Michael
Subject: [EXTERNAL] RE: Allegheny Tunnel Preliminary JD (UNCLASSIFIED)

Don: Thanks for the reply. Do you intend to send a letter stating the same, or should we consider this the official reply?

-----Original Message-----

From: Bole, Donald R LRP [mailto:Donald.R.Bole@usace.army.mil]
Sent: Wednesday, November 06, 2013 10:35 AM
To: Willis, David
Cc: Sherwin, Tammy; Engelhardt, Michael
Subject: Allegheny Tunnel Preliminary JD (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Mr. Willis,

A wetland delineation was submitted to our office in July 2013 for the Allegheny Tunnel project, located near Somerset, Pennsylvania. In addition, you have requested that the CORPS conduct a preliminary jurisdictional determination field visit, which was completed on October 23, 2013. All waters identified in your delineation are considered to be jurisdictional and the preliminary jurisdictional determination does not expire. Also, the CORPS concurs with the information contained in the wetland delineation and did not request any changes to identified aquatic resources; however, the wetland data forms that were used are not the official USACE Eastern Piedmont wetland data forms. It was determined that after an alternative is selected, revised data forms would need to be submitted only for wetlands contained within the preferred alternative permit area. If you have any questions, please let me know.

Thanks,
Don

Donald R. Bole
U.S. Army Corps of Engineers
1000 Liberty Avenue
Pittsburgh, PA 15222-4186
(412) 395-7576

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

DEPARTMENT OF THE ARMY
PITTSBURGH DISTRICT, CORPS OF ENGINEERS
WILLIAM S. MOORHEAD FEDERAL BUILDING
1000 LIBERTY AVENUE
PITTSBURGH, PA 15222-4186

REPLY TO
ATTENTION OF

July 24, 2014

Operations Division
Regulatory Branch
2010-647

Mr. David Willis, Environmental Manager
Pennsylvania Turnpike Commission
P.O. Box 67676
Harrisburg, Pennsylvania 17106-7676

Dear Mr. Willis,

This letter is in response to your request for a preliminary jurisdictional determination and addendum delineation report, received in our office on July 14, 2014 prepared by L.R. Kimball. An initial delineation of the Allegheny Tunnel project was performed by L.R. Kimball in July 2013.

A site visit was completed on October 23, 2013. You have requested a preliminary jurisdictional determination (PJD) for the proposed permit area. The waters listed in Table 3 and 4 (see enclosure) are potentially waters of the United States.

The U.S. Army Corps of Engineers authority to regulate waters of the U.S. is based, in part, on the definitions and limits of jurisdiction contained in 33 CFR 328 and 33 CFR 329. Section 404 of the Clean Water Act (CWA) requires that a Department of the Army (DA) permit be obtained prior to the discharge of dredged or fill material into waters of the U.S., including wetlands. Section 10 of the Rivers and Harbors Act of 1899 requires that a DA permit be obtained for any work in, on, over or under a navigable water. In addition, our December 2, 2008 headquarters guidance titled "Revised Guidance on Clean Water Act Jurisdiction Following the U.S. Supreme Court Decision in Rapanos v. United States and Carabell v. United States" must be followed for the USACE to provide final verification of CWA jurisdiction.

Based on a review of the information provided, 74 wetlands totaling 37.84 acres and 135 streams totaling 85,776 linear feet are located within the proposed permit area. This office has determined that these waters **may** be jurisdictional waters of the United States in accordance with the Regulatory Guidance Letter for Jurisdictional Determinations issued by the U.S. Army Corps of Engineers on June 26, 2008 (RGL No. 08-02). As indicated in the guidance, this **PJD is non-binding and** cannot be appealed (33 C.F.R. 331.2) and only provides a written indication that waters of the U.S, including wetlands, may be present on-site.

At this time you have requested a Preliminary Jurisdictional Determination with an option to request an approved JD later. However, for the purposes of the determination of impacts, compensatory mitigation, and other resource protection measures for activities that require authorization from this office, the streams and wetlands identified above will be evaluated as if they are jurisdictional waters of the United States. Additional details concerning these waters may be found in the attached *Preliminary Jurisdictional Determination Form.*

If you have any questions, please contact Donald Bole at 412-395-7576 and reference project No. 2010-647 in all future correspondence with this office regarding this delineation.

Sincerely,

Jon T. Coleman
Chief, Southern Section
Regulatory Branch

Enclosure:
PJD Form

Copies Furnished:
Mike Englehardt, PADEP SWRO
Greg Bednar, PTC

APPENDIX E-2
PADEP CORRESPONDENCE

COMMONWEALTH OF PENNSYLVANIA
Department of Environmental Protection
Southwest Regional Office
412-442-4000

JAN 27 2011

SUBJECT: Pennsylvania Turnpike Commission
Allegheny Tunnel Transportation Improvement Project
Concurrence Request
Stonycreek and Allegheny Townships, Somerset County

TO: David P. Willis
Environmental Manager
Pennsylvania Turnpike Commission

FROM: Jamie Detweiler
Water Pollution Biologist 2
Technical Services Section
Watershed Management
Southwest Regional Office

At the September 22, 2010 Agency Coordination Meeting you requested concurrence with "Continuing forward with the re-evaluation of the Brown and Yellow Corridors, utilizing the previous data as technical support." Attached, please see a letter of response from the following state agencies: Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Pennsylvania Game Commission, Pennsylvania Department of Conservation and Natural Resources.

cc: Dave Spotts, Pennsylvania Fish and Boat Commission
Tracy M. Librandi Mumma, Pennsylvania Game Commission
Andrew Rohrbaugh, Pennsylvania Department of Conservation and Natural Resources
Kevin Gabig, United States Army Corps of Engineers
Susan Zacher, Pennsylvania Historical and Museum Commission

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOUTHWEST REGIONAL OFFICE

David P. Willis
Pennsylvania Turnpike Commission
P.O. Box 67676
Harrisburg, PA 17106-7676

Dear Mr. Willis,

I am writing in response to your request at the September 22, 2010, Agency Coordination Meeting (ACM) for comments regarding the proposed Allegheny Tunnel Transportation Improvement Project.

The Pennsylvania Department of Environmental Protection (DEP), Pennsylvania Fish and Boat Commission (PFBC), Pennsylvania Department of Conservation and Natural Resources (DCNR), and Pennsylvania Game Commission (PGC) DO NOT CONCUR with your proposal to re-evaluate only the Brown and Yellow Corridors, as alternative routes to be carried forward for detailed study.

In addition to the No Action, Brown Corridor, and Yellow Corridor alternative routes, you should also include a modification of the red tunnel alternative, and an additional alternative route to the south of the existing tunnel. Your detailed analysis for each of these alternatives should include current, site specific information.

There is insufficient, current, project specific information to eliminate the red tunnel alternative. As discussed during the aforementioned meeting, a modification of this alternative should be brought forward for further investigation. A slight relocation of the proposed red tunnel alternative to the south (no more than needed to satisfy construction requirements) would eliminate the direct impact to the railroad tunnel, which serves as a hibernaculum to the Federally Endangered Indiana Bat, and which has also been identified as a cultural resource.

At the aforementioned ACM, the United States Fish and Wildlife Service provided documentation that bats are hibernating and traveling adjacent to and within the proposed project areas, and traveling north from the existing hibernaculum through several of the proposed alternatives. Additionally, the information from PFBC has identified a timber rattlesnake den site on the mountain ridge within the proposed brown cut alternative. In light of this information, the Pennsylvania Turnpike Commission must update its detailed alternatives analysis, to evaluate if any of the proposed alternatives will potentially affect these and any other endangered, threatened, or special concern species.

Due to the information on the movements of the Indiana Bat and permit requirements associated with evaluating impacts to endangered species, we encourage you to explore the modified red tunnel alternative and a possible alternative farther to the south of the existing tunnel.

Furthermore, your detailed study of alternatives must also be revised and updated to identify and describe concerns such as, but not limited to, impacts to headwater streams; locations of waste/borrow areas; stormwater management facilities; potential areas with acidic/pyritic rock; woodrat habitat; additional 102, NPDES construction permitting; coordination with the Susquehanna River Basin Commission; wetlands delineation; additional wild trout streams; disruption to movement corridors; etc.

Since the path of the Orange Alternative encompasses the path of the Brown Alternative, but continues east, whereas the brown alternative ties into the existing road, we agree with your proposal to discontinue any further analysis of the orange corridor alternative.

Please note, it is our understanding that, once the alternative analysis has been updated, additional, in-depth agency coordination will be sought after in an attempt to choose a preferred alternative that will satisfy all of the agencies. During this coordination, additional concerns not mentioned in this correspondence may arise.

If you have any questions concerning this matter, feel free to contact Jamie Detweiler at 412-442-4323.

Signature: Chris Kelly Date: 1/26/11 Agency: DEP

Signature: David E. Lycott Date: 1/13/11 Agency: PFBC

Signature: Tracey M. Librandi Mumma Date: 1/19/11 Agency: PGC

Signature: Date: 1/24/11 Agency: DCNR

L.R. Kimball®
ARCHITECTURE · ENGINEERING · COMMUNICATIONS TECHNOLOGY

A CDI Company

Telephone Record Form

Employee: Steve Crescenzo	**Date:** 07/02/2013
Contact: Dave Goerman	**Project Name:** PTC Allegheny Tunnel Transportation Improvement Project
☐ **Called** ☐ **Received Call** ☒ **Returned Call**	**Project Number:** 9718220609
Phone: 717-772-5971	**Topic:** PADEP Level 1 Rapid Assessment Protocol Feedback

Items Discussed/Resolved:

Mr. Crescenzo returned a phone call to Mr. Goerman, who requested feedback on the use of the Pennsylvania Department of Environmental Protection's (PADEP's) Pennsylvania (PA) Riverine and Wetland Condition Level 1 Rapid Assessment Protocols (RAPs), as used on the PA Turnpike Commission's (PTC's) Allegheny Tunnel Transportation Improvement Project (Project). Mr. Crescenzo indicated that the wetland and stream delineation report is currently being drafted for submission to the PADEP and United States Army Corps of Engineers, as part of the prelimianry jurisdictional determination process for the Project, which could be provivded to Mr. Goermann as a cc. Mr. Goerman indicated that he would like to see a full copy of the report.

Mr. Goerman indicated that the PADEP has been getting questions regarding the approximate effect on the level of effort and costs associated with conducting the Level 1 and 2 RAPs, for which he is seeking feedback from L.R. Kimball's use of the Level 1 RAP on this Project. Mr. Crescenzo indicated that the Level 1 was utilized for each resource within the Project study area, all of which was completed in the field - desktop review was not available prior to conducting the field work due to the condition of the resources and available information (i.e., PASDA, LIDAR, and NWI). Mr. Crescenzo indicated that field teams did not experience a drastic increase in the level of effort required to complete the Level 1 RAP, as most resources were co-located within similar habitat; therefore, repetition of condition indices were noted for large groupings of resources.

Mr. Goerman stated that the PADEP is making changes to the Level 2 forms in an effort to address how to compute and implement mitigation requirements, which includes fine-tuning the calcuation so it can be used for small and large projects alike. As part of this process, the Level 2 Wetland RAP has been revised to make the roadbed calculation easier. Mr. Goerman stated that this revision is currently under review within the PADEP; however, he will forward a copy of the revised draft upon completion of this review.

Mr. Goerman inquired if he could follow-up with additional questions during the further development of these RAPs, to which Mr. Crescenzo stated that Mr. Goerman could contact him anytime.

Action Required and By Whom:

L.R. Kimball to supply one (1) copy of the wetland and stream report to Mr. Goermann, via cc on the Preliminary Jurisdicitonal Determination request to be delivered to the PADEP Southwestern Regional Office and United States Corps of Engineers - Pittsburgh District Office.

Mr. Goermann to email a copy of the revised draft of the PA Wetland Condition Level 2 Rapid Assessment Protocol upon completion of internal PADEP review.

Copy to: File

APPENDIX E-3
PHMC CORRESPONDENCE

Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120-0093
www.phmc.state.pa.us

November 9, 2010

Pennsylvania Turnpike Commission
Western Regional Office
Attn: Gregory Bednar
2200 North Center Avenue
New Stanton, PA 15931

TO EXPEDITE REVIEW USE
BHP REFERENCE NUMBER

Re: ER 97-0474-111-Y
COE/PTC: Allegheny Tunnel Transportation Improvement Project
Allegheny and Stonycreek Townships, Somerset County
Agency Coordination Meeting 9/27/10 Concurrence Record

Dear Mr. Bednar:

The Bureau for Historic Preservation (the State Historic Preservation Office) has reviewed the above named project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended in 1980 and 1992, and the regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation as revised in 1999 and 2004. These regulations require consideration of the project's potential effect upon both historic and archaeological resources.

As evidenced by the 1997 environmental resource number for this project, this project was initially reviewed during the period 1997-2000. At that time a historic above-ground survey and determination of eligibility for the National Register of Historic Places was completed. As a result of that evaluation it was determined that the following resources are eligible for the National Register of Historic Places: the Pennsylvania Turnpike, Main Line; the South Pennsylvania Railroad Allegheny Tunnel; the Sarver Farmstead and the Jacob Kimmel Property.

No archaeological investigations were undertaken at that time. However, a predictive model to identify potential below-ground resources was completed, with the promise of more intensive investigations once the preferred alternative(s) was selected. Based on that model, it did not appear that any of the alternatives presented would encounter a site that could not be dealt with through mitigation.

At the September 27, 2010 Agency Coordination Meeting, your agency requested that two alternatives, the Brown and Yellow Corridors, be carried forward for more intensive study. And the Red Corridor Alternatives would be dropped.

As noted in our letter of December 7, 2000, we stated that all the proposed alternatives would have an adverse effect on the Pennsylvania Turnpike and that the Red Tunnel Alternative would also adversely affect the South Pennsylvania Railroad Allegheny Tunnel and the Sarver Farmstead.

Since ten years have passed since the last consideration of this project and the cultural resource identification was completed it is difficult for our agency to concur with the dropping of additional alternatives at this time. Since the first review period for this project, it has been discovered that the South Pennsylvania Railroad Allegheny Tunnel is an endangered bat hibernaculum and that the Raystown Branch of the Juniata River valley is an important migration route for the bats. It is also our understanding that endangered rattlesnake nesting sites are located on the ridge area north/east of the existing turnpike. The natural resources agencies will be writing separately to discuss their concerns with the proposed alternatives.

Before any alternatives are dropped, it is essential to re-evaluate the Sarver Farmstead and the Jacob Kimmel Property to ascertain if they still possess sufficient integrity to continue to be eligible for the National Register of Historic Places. Likewise, depending on the final alternatives studied additional historic structures survey may be necessary. We concur that the Red Tunnel Alternative as currently presented would appear to have the largest number of adverse effects. As noted at the meeting, it is difficult to concur with the dropping of alternatives based on over ten year old surveys. We concur with the natural agencies that most alternatives north/east of the current Turnpike will likely impact both cultural and natural resources. We therefore recommend that you consider a modified Red Alternative that uses much of the existing Turnpike and which would shift the new tunnel away from the South Pennsylvania Railroad Allegheny Tunnel. We also recommend that you investigate other alternative south/west of the currently Pennsylvania Turnpike.

If you need further information concerning archaeological issues please consult Doug McLearen at (717) 772-0925. If you need further information on structures please consult Susan Zacher at (717) 783-9920.

Sincerely,

Susan Zacher for

Douglas C. McLearen, Chief
Division of Archaeology &
Protection

cc: COE, Pittsburgh
DCM/smz

Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120-0093
www.phmc.state.pa.us

November 9, 2011

Tammy L. Sherwin
L.R. Kimball
415 Moon Clinton Road
Coraopolis, PA 15108

Re: ER 97-0474-111-Z
COE/PTC: Allegheny Tunnel Improvement Project
Somerset County

Dear Ms. Sherwin:

The Bureau for Historic Preservation (the State Historic Preservation Office) has reviewed the above named project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended in 1980 and 1992, and the regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation as revised in 1999 and 2004. These regulations require consideration of the project's potential effect upon both historic and archaeological resources.

We concur with the proposed Area of Potential Effect for this on-going project. Meetings were held more recently then eleven years ago to discuss the alternatives for this project. We will review the updated cultural resource information when it is submitted. As the U.S. Army Corps of Engineers, Pittsburgh District is the lead federal agency for this project, it is essential that they are the agency to submit any eligibility determinations. Likewise, they will need to update the consulting party lists for this undertaking.

If you need further information in this matter please consult Susan Zacher at (717) 783-9920.

Sincerely,

Susan Zacher for

Douglas C. McLearen, Chief
Division of Archaeology &
Protection

Cc: COE, Pittsburgh
PTC
DCM/smz

Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120-0093
www.phmc.state.pa.us

13 June 2012

Tammy L. Sherwin
Assistant Operations Manager
L.R. Kimball
415 Moon Clinton Road
Coraoplis, PA 15108

Re: ER 1997-0474-111-AA
Historic Resource Update
Allegheny Tunnel Improvement Project
Stonycreek and Allegheny Townships, Somerset County
Determination of Eligibility: Dutch Colonial House, SR 160 and J. Landis Farmstead

Dear Ms. Sherwin:

The Bureau for Historic Preservation has reviewed the above named project under the authority of the Environmental Rights amendment, Article 1, Section 27 of the Pennsylvania Constitution and the Pennsylvania History Code, 37 Pa. Cons. Stat. Section 500 et seq. (1995).

Thank you for the additional information on the revised APE and the resources within the boundary that were not previously evaluated for National Register eligibility. We concur that the **Dutch Colonial House, SR 160** lacks integrity and architectural significance. We concur the **J. Landis Farmstead** lacks sufficient integrity to reflect agricultural and/or architectural significance. Both resources are **not eligible** for listing in the National Register.

We also understand there have been no substantial changes to any of the historic properties identified as eligible in 2001 that would warrant reassessments of National Register eligibility. In addition, there are no additional resources within the APE that have met the 50-year age consideration for National Register eligibility since the completion of the previous survey in 2001. The Pennsylvania Turnpike and the South Pennsylvania Railroad are the only National Register eligible above-ground resources within the APE.

If you need further information concerning this review, please contact Barbara Frederick at (717) 772-0921.

Sincerely,

Andrea L. MacDonald, Chief
Division of Preservation Services

ALM/bcf

Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120-0093
www.phmc.state.pa.us

26 March 2015

Tammy L. Sherwin
Assistant Operations Manager
L.R. Kimball
415 Moon Clinton Road
Corapolis, PA 15108

Re: ER 1997-0474-111-BB
Historic Resource Update
Allegheny Tunnel Improvement Project
Stonycreek and Allegheny Townships, Somerset County
Assessment of Effect

Dear Ms. Sherwin:

The Bureau for Historic Preservation has reviewed the above named project under the authority of the Environmental Rights amendment, Article 1, Section 27 of the Pennsylvania Constitution and the Pennsylvania History Code, 37 Pa. Cons. Stat. Section 500 et seq. (1995).

We are in agreement that the above listed project will have an adverse effect on the National Register eligible Pennsylvania Turnpike Main Line Historic District as it will result in the removal/reconstruction of a contributing portion of the original roadway. Mitigation for adverse effects to this resource has been carried out under a separate agreement. Therefore, no further coordination with our office regarding effects to above-ground resources is necessary for this project.

If you need further information concerning this review, please contact Barbara Frederick at (717) 772-0921.

Sincerely,

Douglas C. McLearen, Chief
Division of Archaeology and Protection

DCL/bcf

21 November 2016

Tammy L. Sherwin
Environmental Manager, CDI LR Trumball
615 W Highland Ave
Ebensburg PA 15931

Re: 1997-0474-111-CC, COE: Allegheny Tunnel Improvement Project, Somerset County, Pennsylvania, Addendum to Historic Resources Update

Dear Ms. Sherwin:

Thank you for submitting information concerning the above referenced project. The Bureau for Historic Preservation (the State Historic Preservation Office) reviews projects in accordance with state and federal laws. Section 106 of the National Historic Preservation Act of 1966, and the implementing regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation, is the primary federal legislation. The Environmental Rights amendment, Article 1, Section 27 of the Pennsylvania Constitution and the Pennsylvania History Code, 37 Pa. Cons. Stat. Section 500 et seq. (1988) is the primary state legislation.

Above Ground Resources
We are in receipt of the additional information provided for the above listed project. We are in agreement with the expanded APE. Based on the additional information provided, we are in agreement that the following resources lack sufficient integrity and/or significance and are **not eligible** for listing in the National Register:

Seanor House, 2730 Huckleberry Highway
Fritz House, 2710 Huckleberry Highway
Kimmel House, 2692 Huckleberry Highway
Kimmel House, 2701 Huckleberry Highway
Shaulis House, 2642 Huckleberry Highway
Mankey House, 2636 Huckleberry Highway
Thompson House, 2624 Huckleberry Highway
Creamer House, 285 Felton Lane
Downey Cemetery, Huckleberry Highway
Clark Cemetery, Bluebird Lane

We concur the scope and level of effort utilized to identify historic properties for this project is appropriate. Our determination of eligibility is based upon the information provided and available in our files for review. If National Register listing for this property is sought in the future, additional documentation of the property's significance and integrity may be required to both verify this determination of eligibility and satisfy the requirements of the National Park Service (36 CFR Part 60). Thus, the outcome of the National Register listing process cannot be assured by this determination of eligibility.

If you need further information concerning this review, please contact Barbara Frederick at (717) 772-0921.

Sincerely,

Douglas C. McLearen, Chief
Division of Archaeology and Protection

APPENDIX E-4
USFWS CORRESPONDENCE

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pennsylvania Field Office
315 South Allen Street, Suite 322
State College, Pennsylvania 16801-4850

December 22, 2010

Kevin E. Gabig
U.S. Army Corps of Engineers
Pittsburgh District
Williams S. Moorhead Federal Building
1000 Liberty Avenue
Pittsburgh, PA 15222-4186

RE: PA Turnpike Commission Allegheny Tunnel Transportation Improvement Project
USFWS Project #2010-1279

Dear Mr. Gabig:

This documents ongoing consultation between the Fish and Wildlife Service and the Army Corps of Engineers regarding the subject Pennsylvania Turnpike Commission project, located in Somerset County, Pennsylvania. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species.

The proposed project is located within the range of the Indiana bat (*Myotis sodalis*), a species that is federally listed as endangered. Indiana bats and their habitat are known to occur in and adjacent to the project area, as encompassed by the various alignments under consideration. Specifically, Indiana bats hibernate in the South Penn Railroad Tunnel, an abandoned, unfinished tunnel located immediately north of the existing, operational turnpike tunnels. In addition, the home ranges of male Indiana bats occur both north and south of the existing turnpike, and an important spring and fall migration corridor for male and female Indiana bats occurs along the Raystown Branch of the Juniata River, north of the existing turnpike.

Tree removal associated with project construction will result in the loss, degradation, and fragmentation of Indiana bat habitat, and this is expected to have an adverse effect on this species. In addition, project operation is expected to increase the risk of Indiana bat mortality due to bat collisions with vehicles. While any of the project alignments under consideration would result in the types of adverse effects described above, those alignments to the north of the existing turnpike would have the most substantial adverse effects, since most of the tracked Indiana bats associated with the South Penn Tunnel appear to be migrating to summer habitat north of the turnpike. Proposed alignments to the north of the turnpike would cross vital spring and fall travel corridors, and would place the South Penn Tunnel between the existing and new turnpike lanes. This will increase the risk of isolating the hibernating population from its established summer habitats to the north of the turnpike, and will place those bats that do attempt to migrate between winter and summer habitats at an increased risk of mortality. In short,

alignments to the north of the turnpike are likely to compromise the hibernating population at the South Penn Tunnel, as well as the associated maternity colony in the valley near Shawnee State Park. These anticipated effects would be in addition to those expected to occur as a result of white-nose syndrome (WNS) over the next few years.

While alignments to the south of the existing turnpike will also have adverse effects on the Indiana bat, spring and fall telemetry studies indicate the highest risk would be to adult male Indiana bats which have foraging and roosting territories south the turnpike. Considering most of the tracked Indiana bats remained north of the turnpike, a southern alignment would avoid adverse effects on the maternity colony near Shawnee State Park and avoid adverse effects on the male Indiana bats whose summer ranges occur north of the turnpike. While a southern alignment would not preclude the eventual need for formal consultation, it would substantially reduce adverse effects on the Indiana bat.

As discussed at both the Agency Coordination Meeting on September 22, and the multi-agency meeting on October 27, 2010, the Service recommends that alignments to the north of the turnpike be dropped from further consideration due to adverse effects that may compromise the status of the regional Indiana bat population. We encourage the applicant and Corps to seriously consider and further evaluate alignments to the south of the existing turnpike, including a tunnel alignment that would incorporate use of the existing tunnel farthest from the hibernaculum into the project design, while abandoning the tunnel closest to the hibernaculum.

As you and the applicant further refine the alignments that will be carried forward for the NEPA analysis, we are available to discuss the potential adverse effects of specific alignments on the Indiana bat. The anticipated direct and indirect effects of an alignment south of the turnpike should be fully evaluated in a biological assessment, pursuant to the section 7 consultation regulations (50 CFR 402.12 and 402.14). Enclosed for your reference are spring and fall telemetry studies which document Indiana bats roosting, foraging and traveling in and on either side of the proposed turnpike alignments. These studies and relevant literature related to the Indiana bat should be considered when preparing the biological assessment.

To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.

Please contact Carole Copeyon of my staff at 814-234-4090 if you have any questions or require further assistance.

Sincerely,

Clinton Riley
Field Office Supervisor

Enclosures

cc:
EPA Region III – Okorn
PGC – Librandi-Mumma
PA Turnpike Commission – Dave Willis
Readers file
ES file
Response type:
ES:PAFO:ckc:12/20/2010
P:\FROFFICE\Finals\FINALS 2011\2010-1279_PA Turnpike Tunnel LAA_122110.docx

Barb Okorn
US EPA Region III (3EA30)
1650 Arch Street
Philadelphia, PA 19103

Dave Willis
PA Turnpike Commission
PO Box 67676
Harrisburg, PA 17106-7676

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pennsylvania Field Office
315 South Allen Street, Suite 322
State College, Pennsylvania 16801-4850

January 5, 2012

Tammy L. Sherwin
L.R. Kimball®
415 Moon Clinton Rd.
Coraopolis, PA 15108

RE: USFWS Project #2010-1279

Dear Ms. Sherwin:

This responds to your letter of September 21, 2011, requesting identification of species and resources of special concern for the Allegheny Tunnel Improvement Project in Stonycreek and Allegheny Townships, Somerset County, PA. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species, the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*) to ensure protection of fish and wildlife resources, as well as the Migratory Bird Treaty Act (MBTA, 16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended) and the Bald and Golden Eagle Protection Act (54 Stat. 250, as amended; 16 U.S.C. 668-668d) to ensure the protection of migratory bird species.

Federally Listed Species

The proposed project is located within the range of the Indiana bat (*Myotis sodalis*), a species that is federally listed as endangered. Indiana bats and their habitat are known to occur in and adjacent to the project area, as encompassed by the various alignments under consideration. Specifically, Indiana bats hibernate in the South Penn Railroad Tunnel, an abandoned, unfinished tunnel located immediately north of the existing, operational turnpike tunnels. In addition, the home ranges of male Indiana bats occur both north and south of the existing turnpike, and an important spring and fall migration corridor for male and female Indiana bats occurs along the Raystown Branch of the Juniata River, north of the existing turnpike.

Tree removal associated with project construction will result in the loss, degradation, and fragmentation of Indiana bat habitat, and this is expected to have an adverse effect on this species. In addition, project operation is expected to increase the risk of Indiana bat mortality due to bat collisions with vehicles. While any of the project alignments under consideration would result in the types of adverse effects described above, those alignments to the north of the existing turnpike would have the most substantial adverse effects, since most of the tracked

Indiana bats associated with the South Penn Tunnel appear to be migrating to summer habitat north of the turnpike. Proposed alignments to the north of the turnpike would cross vital spring and fall travel corridors, and would place the South Penn Tunnel between the existing and new turnpike lanes. This will increase the risk of isolating the hibernating population from its established summer habitats to the north of the turnpike, and will place those bats that do attempt to migrate between winter and summer habitats at an increased risk of mortality. In short, alignments to the north of the turnpike are likely to compromise the hibernating population at the South Penn Tunnel, as well as the associated maternity colony in the valley near Shawnee State Park. These anticipated effects would be in addition to those expected to occur as a result of white-nose syndrome (WNS) over the next few years.

While alignments to the south of the existing turnpike will also have adverse effects on the Indiana bat, spring and fall telemetry studies indicate the highest risk would be to adult male Indiana bats which have foraging and roosting territories south the turnpike. Considering most of the tracked Indiana bats remained north of the turnpike, a southern alignment would avoid adverse effects on the maternity colony near Shawnee State Park and avoid adverse effects on the male Indiana bats whose summer ranges occur north of the turnpike. While a southern alignment would not preclude the eventual need for formal consultation, it would substantially reduce adverse effects on the Indiana bat.

As discussed at both the Agency Coordination Meeting on September 22, 2010 and the multi-agency meeting on October 27, 2010, the Service recommends that alignments to the north of the turnpike be dropped from further consideration due to adverse effects that may compromise the status of the regional Indiana bat population. We encourage the applicant and the Army Corps of Engineers to seriously consider and further evaluate alignments to the south of the existing turnpike, including a tunnel alignment that would incorporate use of the existing tunnel farthest from the hibernaculum into the project design, while abandoning the tunnel closest to the hibernaculum. Regardless of the specific alignment, the anticipated direct and indirect effects of the turnpike should be fully evaluated in a biological assessment, pursuant to the section 7 consultation regulations (50 CFR 402.12 and 402.14).

Assessment of Risks to Migratory Birds including Bald and Golden Eagles

The Fish and Wildlife Service (Service) is the principal Federal agency charged with protecting and enhancing populations and habitat of migratory bird species. The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. While the MBTA has no provision for authorizing incidental take, the Service recognizes that some birds may be killed even if all reasonable measures to avoid take are implemented. Unless the take is authorized, it is not possible to absolve individuals, companies or agencies from liability (even if they implement avian mortality avoidance or similar conservation measures). However, the Office of Law Enforcement focuses enforcement action on those individuals, companies, or agencies that take migratory birds with disregard for their actions and the law.

In addition to the MBTA, bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (Eagle Act), which prohibits killing; selling; or otherwise harming eagles, their nests, or their eggs. The Eagle Act also includes provisions not included in the MBTA, including the protection of unoccupied nests and a definition of take that prohibits disturbing eagles. The Service recommends that applicants carefully evaluate their proposed project in light of the *National Bald Eagle Management Guidelines* to determine whether or not eagles might be disturbed as a direct or indirect result of the project. These guidelines as well as additional eagle information are available at http://www.fws.gov/migratorybirds/BaldEagle.htm

In Pennsylvania, several major migratory bird pathways converge resulting in annual fall and spring bird migrations of raptors and songbirds. The Allegheny Front has been designated as an Important Bird Area (IBA) partly due to the high concentrations of raptors and songbirds that utilize this area during fall and spring migration. For instance, it has been documented to provide important routes for spring raptor migration, especially Golden Eagles. Additionally, these ridges provide nesting habitat for a plethora of birds including numerous interior forest songbird species. They also provide foraging habitat for raptors which will hunt throughout migration as well as provide roosting habitat. A variety of factors influences when and where raptors fly along the ridges, including time of year, time of day, general weather conditions, seasonality of flight, wind direction and wind speed relative to ridge orientation, general ecology of the different taxa, summer and winter ranges of raptors, and availability of suitable habitat. Raptors will often fly directly above the ridges and tend to hug the ridges in flight as wind speed increases. In addition, they are often observed nearer to the ridge during morning and later afternoon hours which is when traffic may be more prevalent.

The proposed project is likely to directly impact migratory birds by lethally taking birds during clearing and construction activities and by increasing mortality due to vehicular collisions. It is also likely to indirectly impact migratory birds by fragmenting the habitat, especially if deep cuts are proposed in the mountainsides; altering the landscape so that it no longer provides suitable habitat; increasing noise such that it impedes acoustic communication which may decrease reproductive success and/or decrease predator awareness; and creating disturbances that restrict access to previously used foraging and breeding sites. Since potential exists for avian mortality within the project boundaries, we offer the following recommendations to avoid and minimize impacts to migratory birds within and around the project area:

1. Where disturbance is necessary, clear natural or semi-natural habitats (*e.g.*, forests, woodlots, reverting fields, shrubby areas) and perform maintenance activities (*e.g.*, mowing) between September 1 and March 31, which is outside the nesting season for most native bird species. Without undertaking specific analysis of breeding species and their respective nesting seasons on the project site, implementation of this seasonal restriction will avoid take of most breeding birds, their nests, and their young (*i.e.*, eggs, hatchlings, fledglings).

2. Minimize land and vegetation disturbance during project design and construction to reduce habitat fragmentation by locating potential fences, staging areas, and other infrastructure in or immediately adjacent to already-disturbed areas (*e.g.*, existing roads,

agricultural fields). Where this is not possible, minimize roads, fences, and other infrastructure.

3. Avoid permanent habitat alterations in areas where birds are highly concentrated. Examples of high concentration areas for birds are wetlands, State or Federal refuges, Audubon Important Bird Areas, private duck clubs, staging areas, rookeries, leks, roosts, and riparian areas.

4. To conserve area-sensitive species, avoid fragmenting large, contiguous tracts of wildlife habitat especially if performing prescribed burns as the treatment method. Maintain contiguous habitat corridors to facilitate wildlife dispersal. Where practicable, concentrate harvesting infrastructure and equipment on lands already altered or cultivated, and away from areas of intact and healthy native habitats. If not feasible, select fragmented or degraded habitats over relatively intact areas.

5. Develop a habitat restoration plan for the proposed site that avoids or minimizes negative impacts on vulnerable wildlife. Use only plant species that are native to the local area for revegetation of the project area.

Streams and Wetlands

Topographic maps show streams, and possibly wetlands, occurring within the project boundaries. If it is not possible to avoid these areas when planning or constructing the project, we recommend the use of best management practices when conducting in-stream construction. This includes working during periods of low flow; using sedimentation and erosion controls; expediting all restoration efforts directly after construction to reduce run-off into aquatic areas downstream; stabilizing new construction as the project progresses; conducting stream work from the streambanks; and, wherever possible, minimizing excursions into streambeds. Affected streams and wetlands should be restored to pre-construction elevations, cross-sections, and contours. All excavated materials from any earthmoving activities should be stored at a predetermined, confined, upland site to avoid runoff into aquatic areas. Any topsoil removed from wetlands while constructing trenches should be stockpiled (in a pre-determined upland site) and returned to the top of the trench during backfilling. Any vegetation in affected riparian areas should be re-established to pre-project conditions using only native plant species. Measures to compensate for unavoidable losses of riparian areas surrounding streams should be developed and implemented as part of the project.

A Clean Water Act section 404 permit from the U.S. Army Corps of Engineers may be needed prior to project construction. In reviewing the applications for such permits, unless the activities fall under general or nationwide permits, the Service may concur, with or without stipulations, or object to the proposed work, depending on project effects on fish and wildlife resources which may be identified and evident at that time. The Service would likely recommend that the Corps require compensatory mitigation for permanent wetland or riparian habitat losses (including permanent alteration of vegetative cover).

To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.

If you have any questions regarding federally listed species, please contact Carole Copeyon of my staff at 814-234-4090. For all other issues, please contact Jennifer Siani at the aforementioned phone number.

Sincerely,

Clinton Riley
Field Office Supervisor

L.R. Kimball®
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Telephone Record Form

Employee: Steve Crescenzo	**Date:** March 19, 2014
Contact: Jennifer Siani (for Bob Anderson)	**Project Name:** PTC Alleghney Tunnel Transportation Improvement Project
☐ **Called** ☒ **Received Call** ☐ **Returned Call**	**Project Number:** 9718220609
Phone: 814-234-4090	**Topic:** N. Long-Eared Bat & Large Project Review Update

Items Discussed/Resolved:

Earlier in the day, I left a message for Mr. Anderson regarding updating the Pennsylvania Turnpike Commission's (PTC's) Allegheny Tunnel Transportation Improvement Project (Project) rare, threatened, and endangered species correspondence, as well as the status of the proposed federal listing of the norhtern long-eared bat (Myotis septentrionalis) and any associated guidance documents that are available for this species. Jennifer Siani of the United States Fish and Wildlfie Service (USFWS) State College, Pennsylvania (PA) Office contacted me and indicated that she was replacing Bob Anderson as the USFWS reviewer for the Project.

I inquired if the large project review would require updating, since the previous review letter from the USFWS was dated January 5, 2012. Ms. Siani indicated that the large project review would need to be updated, since the USFWS review letters are good for two (2) years.

I also inquired if there is any guidance available for projects within the range of the northern long-eared bat, since this species is proposed to be federally listed and under the USFWS' jurisdiciton in October 2014. Ms. Siani indicated interim guidance is available on the USFWS' website, which she would email the link to. I inquired if the guidance was similar to that for the Indiana bat (Myotis sodalis), which she indicated that the northern long-eared bat guidance is similar to in time of year restrictions and conservation meansures; however, a conservation fund has not been established for this species as it has been for the Indiana bat.

Ms. Siani asked if I could give a brief update of the Project status, which I indicated that there are seven altternatives (six action alternatives and one no build alternative) that are currently being considered and included within the draft Environmental Assessment (EA). Currently, the PTC and L.R. Kimball are analyzing the preliminary designs of these Alternatives to avoid and minimize impacts in preparation for incorporating this analysis into the Draft EA, which will also include the selection of a Preferred Alternative. Tenatively, the Draft EA is scheduled to be completed within the third quarter 2014.

Ms. Siani inquired why the Project was determined to require an EA and not an Environmental Impact Statement, which I stated that the United States Army Corps of Engineers, the lead federal agency in the Project review, determined that an EA would be sufficient for this project.. I indicated that L.R. Kimball would be drafting the large project review update letter, and Ms. Siani could contact me with any questions or comments.

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Telephone Record Form

Action Required and By Whom:

USWFS to provide interim guidance for the northern long-eared bat via email (Attached).

Copy to: File

Crescenzo, Steven

From: Siani, Jennifer <jennifer_siani@fws.gov>
Sent: Wednesday, March 19, 2014 1:43 PM
To: Crescenzo, Steven
Subject: Northern long eared bat guidance

Hi Steve,
It was nice chatting with you about the Allegheny Tunnel project. Here is the link to our webpage with northern long eared bat guidance that I mentioned. If you have any questions, feel free to email or call me. Focus on the last link entitled:

northern long eared bat interim conference and planning guidance (Jan. 6, 2014) 67-page PDF; 1.2MB - - This document addresses immediate information needs for section 7 conferences and conservation planning.

http://www.fws.gov/midwest/endangered/mammals/nlba/index.html

Jennifer Siani, PhD
U.S. Fish and Wildlife Service
315 South Allen Street, Suite 322
State College, PA 16801
814.234.4090 ext 225
www.fws.gov/northeast/pafo/index.html

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pennsylvania Field Office
315 South Allen Street, Suite 322
State College, Pennsylvania 16801-4850

August 28, 2014

L.R. Kimball
Attn: Steven Crescenzo
437 Grant Street, Suite 812
Pittsburgh, PA 15219

RE: USFWS Project #2010-1279

Dear Mr. Crescenzo:

This is in response to your letter of April 15, 2014, requesting information about federally listed and proposed, endangered and threatened species within the area affected by the proposed Allegheny Tunnel Transportation Improvement Project in Stonycreek and Allegheny Townships, Somerset County, Pennsylvania. The project description you provided includes background regarding past tunnel projects made to address traffic concerns and project justification. The project is currently in the alignment selection phase. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species, the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*) to ensure protection of fish and wildlife resources, as well as the Migratory Bird Treaty Act (MBTA, 16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended) and the Bald and Golden Eagle Protection Act (54 Stat. 250, as amended; 16 U.S.C. 668-668d) to ensure the protection of migratory bird species.

The two hibernacula located within the project area were surveyed in 2008 and 2012 by the Pennsylvania Game Commission (PGC). During these interior surveys, the PGC captured Indiana bats (*Myotis sodalis)* in one hibernaculum and several post-lactating female northern long-eared bats (*Myotis septentrionalis)* at two hibernacula within the project area.

Bat mist net surveys were conducted by the project proponents in July 2012 at the request of the PGC. These surveys resulted in the capture of 262 bats of five species: big brown (*Eptesicus fuscus*), eastern red (*Lasiurus borealis*), northern long-eared, little brown (*Myotis lucifugus*), and eastern small-footed bats (*Myotis leibii*). Of the northern long-eared bats captured, three were lactating and three were post-lactating females. Surveys were not conducted in 2013. Although Indiana bats were not captured in the 2012 survey, the project is already within known swarming habitat, known spring migration corridors, known winter hibernacula, and within known male summer territories, as previously discussed.

Endangered Species Act

Indiana bat

In our letters of December 21, 2010, and January 5, 2012, we notified Kevin Gabig, of the U.S. Army Corps of Engineers, and Tammy Sherwin, of L.R. Kimball, that the Indiana bat, a species that is federally listed as endangered, is known to occur in, and adjacent to, the six alignments then under consideration. In the wake of white-nose syndrome, a fungal infection lethal to cave and mine hibernating bats, the South Penn Railroad Tunnel has emerged as the location with the largest number of hibernating Indiana bats remaining in Pennsylvania . Despite reductions in the overall number of cave hibernating bats, and the July 2012 survey data you describe, Indiana bats exhibit strong site fidelity; therefore, the project area still likely includes the home ranges of male Indiana bats known to occur both north and south of the existing turnpike, and is an important spring and fall migration corridor for male and female Indiana bats occurring along the Raystown Branch of the Juniata River, north of the existing turnpike.

Tree removal associated with project construction will result in the loss, degradation, and fragmentation of Indiana bat habitat, which is expected to have an adverse effect on this species. In addition, project operation is expected to increase the risk of Indiana bat mortality due to bat collisions with vehicles. Those alignments positioned to the north of the existing turnpike will place the South Penn Tunnel between the existing and new turnpike lanes, which will bisect known Indiana bat travel corridors and create the greatest risk killing or injuring Indiana bats known to migrate to summer habitat north of the turnpike during vital spring and fall periods. Therefore, the alignments to the north of the turnpike may not only have significant adverse effects to the hibernating population at the South Penn Tunnel, but also to a known Indiana bat maternity colony near Shawnee State Park that hibernates in part, or entirely, in South Penn Tunnel. Alignments to the south of the existing turnpike may also have adverse effects to the Indiana bats but spring and fall telemetry studies indicate the greatest risk will be to adult male Indiana bats that forage and roost south the turnpike.

None of the currently proposed alignments completely avoid the risk of incidental take of Indiana bats. However, because most Indiana bats tracked from South Penn Tunnel remain north of the turnpike, a southern alignment will substantially reduce the risk of adverse effects to the maternity colony near Shawnee State Park and to those male Indiana bats whose summer ranges are north of the turnpike. Consistent with our letters in 2010 and 2012, we again recommended that alignments to the north of the turnpike be dropped from further consideration due to anticipated adverse effects to both a regionally important Indiana bat hibernaculum and to an Indiana bat maternity colony that may compromise the status of an Indiana bat population already under severe stress due to the effects of white-nose syndrome.

Under provisions of section 7(a)(2) of the Act, the Army Corps of Engineers (Corps), as a federal agency that authorizes or permits any of the proposed alternatives, must consult with the Fish and Wildlife Service to ensure that its actions will not jeopardize the continued existence of any listed species. The Corps is required to consult if an action "may affect" listed species or designated critical habitat. Therefore, the anticipated direct and indirect effects of the project

should be fully evaluated in a biological assessment, pursuant to the section 7 consultation regulations (50 CFR 402.12 and 402.14). In that evaluation, we encourage the Turnpike Commission and the Corps, to seriously consider, and further evaluate, alignments to the south of the existing turnpike, including a tunnel alignment that would incorporate use of the existing tunnel farthest from the hibernaculum into the project design, while abandoning the tunnel closest to the hibernaculum.

Northern long-eared bat

The project area is within the fall swarming, winter hibernacula, and summer maternity habitat of northern long-eared bats (*Myotis septentrionalis*). Northern long-eared bats were proposed for listing as an endangered species on October 2, 2013. No critical habitat has been proposed at this time. Species proposed for listing are not afforded protection under the ESA; however, as soon as a listing becomes effective, the prohibition against jeopardizing its continued existence and "take"[1] applies regardless of an action's stage of completion. In the event that the northern long-eared bat is listed before the project has been fully implemented, and if voluntary conservation measures are not adequate to avoid incidental take, additional consultation with us will be necessary.

During an April 16, 2014, conference call, LR Kimball requested technical assistance regarding the northern long-eared bat in anticipation of a possible listing decision. At that time, we discussed the Service's January 6, 2014, *Northern Long-Eared Bat Interim Conference and Planning Guidance* (available at www.fws.gov/midwest/endangered/mammals/nlba/index.html) and possible measures to reduce impacts to northern long-eared bats. Specifically, LR Kimball stated that they are considering minimization of forest habitat loss, time of year restrictions for timber clearing, and coordination of blasting requirements as conservation measures with the understanding that guidance may change once a listing decision is finalized and final guidance becomes available.

Assessment of Risks to Migratory Birds

The Service is the principal Federal agency charged with protecting and enhancing populations and habitat of migratory bird species. The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. While the MBTA has no provision for authorizing incidental take, the Service recognizes that some birds may be killed even if all reasonable measures to avoid take are implemented.

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[1] As defined in the Act, take means ". . . to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." "Harm" in the definition of take means an act which kills or injures wildlife. Such act may include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering (50 CFR part 17.3). "Harass" means an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering.

More than half of the proposed project study area is located within the Important Bird Area (IBA) known as the Allegheny Front. IBAs are the most critical regions in the Commonwealth of Pennsylvania for conserving bird diversity and abundance, and are the primary focus of Audubon Pennsylvania's conservation efforts. The Allegheny Front has been designated as an IBA partly due to the high concentrations of raptors and songbirds that utilize this area during fall and spring migration. For instance, it has been documented to provide important routes for spring raptor migration, especially Golden Eagles. Additionally, these ridges provide nesting habitat for a plethora of birds including interior forest songbird species. They also provide roosting habitat and foraging habitat for raptors hunting throughout migration. A variety of factors influences when and where raptors fly along the ridges, including time of year, time of day, general weather conditions, seasonality of flight, wind direction and wind speed relative to ridge orientation, general ecology of the different taxa, summer and winter ranges of raptors, and availability of suitable habitat. Raptors will often fly directly above the ridges and tend to hug the ridges in flight as wind speed increases. In addition, they are often observed nearer to the ridge during morning and later afternoon hours which is when traffic around the Allegheny Tunnel may be more prevalent. To find out more information about this IBA, including which bird species breed there, visit: http://netapp.audubon.org/IBA/State/US-PA

The potential exists for avian mortality from habitat destruction and alteration within the project boundaries. Site-specific factors that should be considered in project siting to avoid and minimize the risk to birds include avian abundance; the quality, quantity and type of habitat; geographic location; type and extent of bird use (*e.g.* breeding, foraging, migrating, etc.); and landscape features. Please review the enclosed information for general recommendations for avoiding and minimizing impacts to migratory birds within and around the project area. Please be aware that since these are general guidelines, some of them may not be applicable to the current project design or they may have already been included in the project design.

Additional Information

In PGC's letter dated June 30, 2014, that agency requested additional information in order to make more accurate determinations regarding effects to species and resources under PGC's jurisdiction. We request the same information to us to assist in determining possible effects to federally listed species and trust resources. Specifically, we would also like to see:

- Location and details of any subsurface impacts (*i.e.* blasting) to occur on each of the proposed alignments within ½ mile of each bat hibernacula

- An alternative comparison matrix of all proposed alignments that includes the amount of impacts to resources and their associated habitats for the species described in this letter. The matrix should include, but not be limited to, the following information for each of the proposed alignments and the waste area/access road:

    - Amount and location of proposed impacts to wetlands, including the amount of each type of wetland to be impacted.

- Amount and location of proposed disturbance to other aquatic resources (streams, rivers, creeks, tributaries, etc.), as well as total amount of loss of each.

- Total acres of forest habitat removal including location of, species composition, size (dbh), and age of trees to be impacted for each alignment and the waste area/access road. Include the amount of contiguous forested habitat to be fragmented by each of the proposed alignments.

- Total acres of direct and indirect disturbance to threatened and endangered species habitat (bat hibernacula, Indiana bat habitat, etc.).

- Alteration of wildlife migration corridors associated with each alignment. Including information regarding any proposed wildlife crossings associated with each alignment (both tunnel and cut) as well as how the location of each proposed wildlife crossings were determined.

To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.

Please contact Robert Anderson of my staff at 814-234-4090 if you have any questions or require further assistance.

Sincerely,

Lora L. Zimmerman
Field Office Supervisor

Enclosure

cc:
PGC – Tracey Librandi-Mumma

Resources for determining likely presence of migratory birds

The Fish and Wildlife Service (Service) is the principal Federal agency charged with protecting and enhancing populations and habitat of migratory bird species. The Migratory Bird Treaty Act (MBTA, 16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. While the MBTA has no provision for authorizing incidental take, the Service recognizes that some birds may be killed even if all reasonable measures to avoid take are implemented. Unless the take is authorized, it is not possible to absolve individuals, companies or agencies from liability (even if they implement avian mortality avoidance or similar conservation measures). However, the Office of Law Enforcement focuses on those individuals, companies, or agencies that take migratory birds with disregard for their actions and the law.

Thank you for taking migratory bird protection into consideration. At this time, we do not maintain databases containing species-specific and site-specific data within the state of Pennsylvania, however, the potential exists for avian mortality from habitat destruction and alteration within the project boundaries. Site-specific factors that should be considered in project siting to avoid and minimize the risk to birds include avian abundance; the quality, quantity and type of habitat; geographic location; type and extent of bird use (*e.g.* breeding, foraging, migrating, etc.); and landscape features. Resources are available to assist you in determining which species are likely to be present within your project area. These include but are not limited to the following:

- http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BirdManagement.html - This website provides links to information on the MBTA (e.g., which birds are covered under the law), bald eagles, birds of conservation concern broken down by regions, birds of management concern, and focal species associated with the Service's focal species strategy.

- http://www.pabirds.org/SeasonalTables.htm - This link provides tables of breeding and migration of birds by county in PA. It is a way to identify which bird species may be impacted within a given project area but it does not contain all PA counties.

- http://pa.audubon.org/pennsylvanias-important-bird-area-program - This is a link to the PA chapter of the Audubon which provides best management practices for birds, information on Important Bird Areas, and so forth.

- http://www.mapsportal.org/audubon_national_iba/ - National map with information on each Audubon Important Bird Area.

- https://www.pwrc.usgs.gov/bbs/RawData/Choose-Method.cfm - This link contains North American Breeding Bird Survey data and information.

- http://ebird.org/ebird/GuideMe?cmd=changeLocation – Allows users to create a bar chart of species occurrence for your region of interest.

- http://bird.atlasing.org/Atlas/PA/Main?viewBlocksRegions=1 – The Second Pennsylvania Breeding Bird Atlas has some data available online.

- http://www.amjv.org/ - The Appalachian Mountains Joint Venture (AMJV) is one of 18 habitat Joint Venture partnerships in the United States. This is the predominant joint venture in Pennsylvania.

- http://bna.birds.cornell.edu/bna/ - The Birds of North America online features comprehensive life history information on all birds breeding in North America.

If you have any questions regarding these measures, please contact Lora Zimmerman of the Pennsylvania Field Office located in State College, PA at 814-234-4090.

Adaptive Management Practices for Conserving Migratory Birds

The Fish and Wildlife Service is the principal Federal agency charged with protecting and enhancing populations and habitat of migratory bird species. The Migratory Bird Treaty Act (MBTA, 16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. While the MBTA has no provision for authorizing incidental take, the Service recognizes that some birds may be killed even if all reasonable measures to avoid take are implemented. Unless the take is authorized, it is not possible to absolve individuals, companies or agencies from liability (even if they implement avian mortality avoidance or similar conservation measures). However, the Office of Law Enforcement focuses on those individuals, companies, or agencies that take migratory birds with disregard for their actions and the law.

The potential exists for avian mortality from habitat destruction and alteration within the project boundaries. Site-specific factors that should be considered in project siting to avoid and minimize the risk to birds include avian abundance; the quality, quantity and type of habitat; geographic location; type and extent of bird use (*e.g.* breeding, foraging, migrating, etc.); and landscape features.

We offer the following recommendations to avoid and minimize impacts to migratory birds within and around the project area:

1. Where disturbance is necessary, clear natural or semi-natural habitats (*e.g.*, forests, woodlots, reverting fields, shrubby areas) and perform maintenance activities (*e.g.*, mowing) between September 1 and March 31, which is outside the nesting season for most native bird species. Without undertaking specific analysis of breeding species and their respective nesting seasons on the project site, implementation of this seasonal restriction will avoid take of most breeding birds, their nests, and their young (*i.e.*, eggs, hatchlings, fledglings).

2. Minimize land and vegetation disturbance during project design and construction. To reduce habitat fragmentation, co-locate roads, fences, lay down areas, staging areas, and other infrastructure in or immediately adjacent to already-disturbed areas (*e.g.*, existing roads, pipelines, agricultural fields) and cluster development features (*e.g.*, buildings, roads) as opposed to distributing them throughout land parcels. Where this is not possible, minimize roads, fences, and other infrastructure.

3. Avoid permanent habitat alterations in areas where birds are highly concentrated. Examples of high concentration areas for birds are wetlands, State or Federal refuges, Audubon Important Bird Areas, private duck clubs, staging areas, rookeries, leks, roosts, and riparian areas. Avoid establishing sizable structures along known bird migration pathways or known daily movement flyways (*e.g.*, between roosting and feeding areas).

4. To conserve area-sensitive species, avoid fragmenting large, contiguous tracts of wildlife habitat, especially if habitat cannot be fully restored after construction. Maintain

contiguous habitat corridors to facilitate wildlife dispersal. Where practicable, concentrate construction activities, infrastructure, and man-made structures (*e.g.*, buildings, cell towers, roads, parking lots) on lands already altered or cultivated, and away from areas of intact and healthy native habitats. If not feasible, select fragmented or degraded habitats over relatively intact areas.

5. Develop a habitat restoration plan for the proposed site that avoids or minimizes negative impacts to birds, and that creates functional habitat for a variety of bird species. Use only plant species that are native to the local area for revegetation of the project area.

If you have any questions regarding these measures, please contact Lora Zimmerman of the Pennsylvania Field Office located in State College, PA at 814-234-4090.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801-4850

November 2, 2015

Ashley Cassol
L.R. Kimball
615 West Highland Avenue
P.O. Box 1000
Ebensburg, PA 15931

RE: USFWS Project #2010-1279

Dear Ms. Cassol:

This is in response to your letter of October 7, 2015, requesting information about federally listed and proposed, endangered and threatened species within the area affected by the proposed Allegheny Tunnel Transportation Improvement project located in Stonycreek and Allegheny Townships, Somerset County, Pennsylvania. The project description you provided includes new study areas for the six alignments being considered. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species, the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*) to ensure protection of fish and wildlife resources, as well as the Migratory Bird Treaty Act (MBTA, 16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended) and the Bald and Golden Eagle Protection Act (54 Stat. 250, as amended; 16 U.S.C. 668-668d) to ensure the protection of migratory bird species.

Endangered Species Act

The proposed project is located within the range of the federally endangered Indiana bat (*Myotis sodalis*) and threatened northern long-eared bat (*Myotis septentrionalis*). On May 4, 2015, the northern long-eared bat became federally listed; more information on the new listing of this species can be found at: http://www.fws.gov/midwest/endangered/mammals/nlba/index.html

There are two bat hibernacula located within, or in close proximity to, the project area. The hibernacula were surveyed in 2008 and 2012 by the Pennsylvania Game Commission (PGC). During these interior surveys, the PGC captured Indiana bats in one hibernaculum and several post-lactating female northern long-eared bats at both hibernacula.

Bat mist net surveys were conducted by the project proponents in July 2012 at the request of the PGC. These surveys resulted in the capture of 262 bats of five species: big brown (*Eptesicus fuscus*), eastern red (*Lasiurus borealis*), northern long-eared, little brown (*Myotis lucifugus*), and eastern small-footed bats (*Myotis leibii*). Of the northern long-eared bats captured, three were lactating and three were post-lactating females. Surveys were not conducted in 2013. Although Indiana bats were not captured in the 2012 survey, the project is already within known swarming habitat, known spring migration corridors, known winter hibernacula, and within known male summer territories, as previously discussed.

In our letters of December 21, 2010, January 5, 2012, and August 28, 2014, we notified U.S. Army Corps of Engineers (Corps) and L.R. Kimball, that the Indiana bat and northern long-eared bat are known to occur in, and adjacent to, the six alignments then under consideration. Both bat species are known to occur north and south of the existing turnpike, and the area is an important spring and fall migration corridor for male and female Indiana bats occurring along the Raystown Branch of the Juniata River, north of the existing turnpike.

Tree removal associated with project construction will result in the loss, degradation, and fragmentation of bat habitat, which is expected to have an adverse effect on both bat species. In addition, project operation is expected to increase the risk of Indiana bat and northern long-eared bat mortality due to bat collisions with vehicles. Those alignments positioned to the north of the existing turnpike will place the South Penn Tunnel between the existing and new turnpike lanes, which will bisect known Indiana bat travel corridors and create the greatest risk killing or injuring Indiana bats known to migrate to summer habitat north of the turnpike during vital spring and fall periods. Therefore, the alignments to the north of the turnpike may not only have significant adverse effects to the hibernating population at the South Penn Tunnel, but also to a known Indiana bat maternity colony near Shawnee State Park that hibernates in part, or entirely, in South Penn Tunnel. Alignments to the south of the existing turnpike may also have adverse effects to the Indiana bats but spring and fall telemetry studies indicate the greatest risk will be to adult male Indiana bats that forage and roost south the turnpike.

None of the currently proposed alignments completely avoid the risk of incidental take of Indiana bats or northern long-eared bats. However, because most Indiana bats tracked from South Penn Tunnel remain north of the turnpike, a southern alignment will substantially reduce the risk of adverse effects to the maternity colony near Shawnee State Park and to those male Indiana bats whose summer ranges are north of the turnpike. Consistent with our letters in 2010, 2012, and 2014, we again recommended that alignments to the north of the turnpike be dropped from further consideration due to anticipated adverse effects to both a regionally important Indiana bat hibernaculum and to an Indiana bat maternity colony that may compromise the status of an Indiana bat population already under severe stress due to the effects of white-nose syndrome.

Under provisions of section 7(a)(2) of the Act, the Corps, as a federal agency that authorizes or permits any of the proposed alternatives, must consult with the Fish and Wildlife Service to ensure that its actions will not jeopardize the continued existence of any listed species. The Corps is required to consult if an action "may affect" listed species or designated critical habitat. Therefore, the anticipated direct and indirect effects of the project should be fully evaluated in a

biological assessment, pursuant to the section 7 consultation regulations (50 CFR 402.12 and 402.14). In that evaluation, we encourage the Turnpike Commission and the Corps, to seriously consider, and further evaluate, alignments to the south of the existing turnpike, including a tunnel alignment that would incorporate use of the existing tunnel farthest from the hibernaculum into the project design, while abandoning the tunnel closest to the hibernaculum.

Assessment of Risks to Migratory Birds

The Service is the principal Federal agency charged with protecting and enhancing populations and habitat of migratory bird species. MBTA prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. While the MBTA has no provision for authorizing incidental take, the Service recognizes that some birds may be killed even if all reasonable measures to avoid take are implemented.

More than half of the proposed project study area is located within the Important Bird Area (IBA) known as the Allegheny Front. IBAs are the most critical regions in the Commonwealth of Pennsylvania for conserving bird diversity and abundance, and are the primary focus of Audubon Pennsylvania's conservation efforts. The Allegheny Front has been designated as an IBA partly due to the high concentrations of raptors and songbirds that utilize this area during fall and spring migration. For instance, it has been documented to provide important routes for spring raptor migration, especially Golden Eagles. Additionally, these ridges provide nesting habitat for a plethora of birds including interior forest songbird species. They also provide roosting habitat and foraging habitat for raptors hunting throughout migration. A variety of factors influences when and where raptors fly along the ridges, including time of year, time of day, general weather conditions, seasonality of flight, wind direction and wind speed relative to ridge orientation, general ecology of the different taxa, summer and winter ranges of raptors, and availability of suitable habitat. Raptors will often fly directly above the ridges and tend to hug the ridges in flight as wind speed increases. In addition, they are often observed nearer to the ridge during morning and later afternoon hours which is when traffic around the Allegheny Tunnel may be more prevalent. To find out more information about this IBA, including which bird species breed there, visit: http://netapp.audubon.org/IBA/State/US-PA

The potential exists for avian mortality from habitat destruction and alteration within the project boundaries. Site-specific factors that should be considered in project siting to avoid and minimize the risk to birds include avian abundance; the quality, quantity and type of habitat; geographic location; type and extent of bird use (*e.g.* breeding, foraging, migrating, etc.); and landscape features. Please review the enclosed information for general recommendations for avoiding and minimizing impacts to migratory birds within and around the project area. Please be aware that since these are general guidelines, some of them may not be applicable to the current project design or they may have already been included in the project design.

To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.

Please contact Brian Scofield of my staff at 814-234-4090 if you have any questions or require further assistance.

Sincerely,

Lora L. Zimmerman
Field Office Supervisor

Enclosure

cc:
PGC – Tracey Librandi-Mumma

Resources for determining likely presence of migratory birds

The Fish and Wildlife Service (Service) is the principal Federal agency charged with protecting and enhancing populations and habitat of migratory bird species. The Migratory Bird Treaty Act (MBTA, 16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. While the MBTA has no provision for authorizing incidental take, the Service recognizes that some birds may be killed even if all reasonable measures to avoid take are implemented. Unless the take is authorized, it is not possible to absolve individuals, companies or agencies from liability (even if they implement avian mortality avoidance or similar conservation measures). However, the Office of Law Enforcement focuses on those individuals, companies, or agencies that take migratory birds with disregard for their actions and the law.

Thank you for taking migratory bird protection into consideration. At this time, we do not maintain databases containing species-specific and site-specific data within the state of Pennsylvania, however, the potential exists for avian mortality from habitat destruction and alteration within the project boundaries. Site-specific factors that should be considered in project siting to avoid and minimize the risk to birds include avian abundance; the quality, quantity and type of habitat; geographic location; type and extent of bird use (*e.g.* breeding, foraging, migrating, etc.); and landscape features. Resources are available to assist you in determining which species are likely to be present within your project area. These include but are not limited to the following:

- http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BirdManagement.html - This website provides links to information on the MBTA (e.g., which birds are covered under the law), bald eagles, birds of conservation concern broken down by regions, birds of management concern, and focal species associated with the Service's focal species strategy.

- http://www.pabirds.org/SeasonalTables.htm - This link provides tables of breeding and migration of birds by county in PA. It is a way to identify which bird species may be impacted within a given project area but it does not contain all PA counties.

- http://pa.audubon.org/pennsylvanias-important-bird-area-program - This is a link to the PA chapter of the Audubon which provides best management practices for birds, information on Important Bird Areas, and so forth.

- http://www.mapsportal.org/audubon_national_iba/ - National map with information on each Audubon Important Bird Area.

- https://www.pwrc.usgs.gov/bbs/RawData/Choose-Method.cfm - This link contains North American Breeding Bird Survey data and information.

- http://ebird.org/ebird/GuideMe?cmd=changeLocation – Allows users to create a bar chart of species occurrence for your region of interest.

- http://bird.atlasing.org/Atlas/PA/Main?viewBlocksRegions=1 – The Second Pennsylvania Breeding Bird Atlas has some data available online.

- http://www.amjv.org/ - The Appalachian Mountains Joint Venture (AMJV) is one of 18 habitat Joint Venture partnerships in the United States. This is the predominant joint venture in Pennsylvania.

- http://bna.birds.cornell.edu/bna/ - The Birds of North America online features comprehensive life history information on all birds breeding in North America.

If you have any questions regarding these measures, please contact Lora Zimmerman of the Pennsylvania Field Office located in State College, PA at 814-234-4090.

Adaptive Management Practices for Conserving Migratory Birds

The Fish and Wildlife Service is the principal Federal agency charged with protecting and enhancing populations and habitat of migratory bird species. The Migratory Bird Treaty Act (MBTA, 16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. While the MBTA has no provision for authorizing incidental take, the Service recognizes that some birds may be killed even if all reasonable measures to avoid take are implemented. Unless the take is authorized, it is not possible to absolve individuals, companies or agencies from liability (even if they implement avian mortality avoidance or similar conservation measures). However, the Office of Law Enforcement focuses on those individuals, companies, or agencies that take migratory birds with disregard for their actions and the law.

The potential exists for avian mortality from habitat destruction and alteration within the project boundaries. Site-specific factors that should be considered in project siting to avoid and minimize the risk to birds include avian abundance; the quality, quantity and type of habitat; geographic location; type and extent of bird use (*e.g.* breeding, foraging, migrating, etc.); and landscape features.

We offer the following recommendations to avoid and minimize impacts to migratory birds within and around the project area:

1. Where disturbance is necessary, clear natural or semi-natural habitats (*e.g.*, forests, woodlots, reverting fields, shrubby areas) and perform maintenance activities (*e.g.*, mowing) between September 1 and March 31, which is outside the nesting season for most native bird species. Without undertaking specific analysis of breeding species and their respective nesting seasons on the project site, implementation of this seasonal restriction will avoid take of most breeding birds, their nests, and their young (*i.e.*, eggs, hatchlings, fledglings).

2. Minimize land and vegetation disturbance during project design and construction. To reduce habitat fragmentation, co-locate roads, fences, lay down areas, staging areas, and other infrastructure in or immediately adjacent to already-disturbed areas (*e.g.*, existing roads, pipelines, agricultural fields) and cluster development features (*e.g.*, buildings, roads) as opposed to distributing them throughout land parcels. Where this is not possible, minimize roads, fences, and other infrastructure.

3. Avoid permanent habitat alterations in areas where birds are highly concentrated. Examples of high concentration areas for birds are wetlands, State or Federal refuges, Audubon Important Bird Areas, private duck clubs, staging areas, rookeries, leks, roosts, and riparian areas. Avoid establishing sizable structures along known bird migration pathways or known daily movement flyways (*e.g.*, between roosting and feeding areas).

4. To conserve area-sensitive species, avoid fragmenting large, contiguous tracts of wildlife habitat, especially if habitat cannot be fully restored after construction. Maintain

contiguous habitat corridors to facilitate wildlife dispersal. Where practicable, concentrate construction activities, infrastructure, and man-made structures (*e.g.*, buildings, cell towers, roads, parking lots) on lands already altered or cultivated, and away from areas of intact and healthy native habitats. If not feasible, select fragmented or degraded habitats over relatively intact areas.

5. Develop a habitat restoration plan for the proposed site that avoids or minimizes negative impacts to birds, and that creates functional habitat for a variety of bird species. Use only plant species that are native to the local area for revegetation of the project area.

If you have any questions regarding these measures, please contact Lora Zimmerman of the Pennsylvania Field Office located in State College, PA at 814-234-4090.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801-4850

February 7, 2020

Kelly Eismont
L.R. Kimball
615 West Highland Avenue
P.O. Box 1000
Ebensburg, PA 15931

RE: USFWS Project #2010-1279

Dear Ms. Eismont:

This is in response to your letter of December 9, 2019, requesting information about federally listed and proposed endangered and threatened species within the area affected by the proposed Allegheny Tunnel transportation improvement project located in Stonycreek and Allegheny Townships, Somerset County, Pennsylvania. This submission provided a map of the study area for our review. We previously commented on this project on December 21, 2010; January 5, 2012; August 28, 2014; and November 2, 2015. The following comments are provided pursuant to the Endangered Species Act of 1973 (Act, 87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq*.) to ensure the protection of endangered and threatened species, as well as the Migratory Bird Treaty Act (MBTA, 16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended) and the Bald and Golden Eagle Protection Act (54 Stat. 250, as amended; 16 U.S.C. 668-668d) to support the protection of migratory bird species.

The proposed project is located within the range of the federally endangered Indiana bat (*Myotis sodalis*) and threatened northern long-eared bat (*Myotis septentrionalis*).

Species Status

There are two bat hibernacula located within the mapped project study area provided with your letter. One hibernacula was surveyed in 2008 and 2012, and the other was only surveyed in 2012. Both hibernacula were surveyed by the Pennsylvania Game Commission (PGC). During these surveys, the PGC captured Indiana bats in one hibernaculum and several post-lactating female northern long-eared bats at both hibernacula.

Bat mist-net surveys were conducted by the project proponents in July 2012 at the request of the PGC. These surveys resulted in the capture of 262 bats of five species: big brown (*Eptesicus fuscus*), eastern red (*Lasiurus borealis*), northern long-eared, little brown (*Myotis lucifugus*), and

eastern small-footed bats (*Myotis leibii*). Of the northern long-eared bats captured, three were lactating and three were post-lactating females, indicating there are maternity colonies in the area of this species. Mist-net surveys have not been conducted since. Although Indiana bats were not captured in the 2012 mist-net survey, the project study area serves as known swarming, spring staging, winter hibernacula, and male summer habitat.

In our letters of December 21, 2010, January 5, 2012, August 28, 2014, and November 2, 2015, we notified the U.S. Army Corps of Engineers (Corps) and L.R. Kimball that the Indiana bat and northern long-eared bat are known to occur in, and adjacent to, the six alignments then under consideration. Both bat species are known to occur north and south of the existing turnpike, and the area is an important spring and fall migration corridor for male and female Indiana bats occurring along the Raystown Branch of the Juniata River, northeast of the existing turnpike.

Effects

Significant tree removal associated with project construction will result in the loss, degradation, and fragmentation of bat habitat, which can be expected to have an adverse effect on both bat species. Blasting can have a significant effect on bats both during and outside of the hibernation season, as vibrations from blasting can cause rock to collapse or shift, affecting the interior hibernacula habitat through temperature or climate changes. Removal of thousands of tons of rock and debris can also affect the interior microclimate of the hibernacula and surrounding landscape. In addition, project operation is expected to increase the risk of Indiana bat and northern long-eared bat mortality due to bat collisions with vehicles. Those alignments positioned to the north of the existing turnpike will place the South Penn Tunnel between the existing and new turnpike lanes, which will bisect known Indiana bat travel corridors and create the greatest risk of killing or injuring Indiana bats known to migrate to summer habitat north of the turnpike during vital spring and fall periods. Therefore, the alignments to the north of the turnpike may not only have significant adverse effects to the hibernating population at the South Penn Tunnel, but also to a known Indiana bat maternity colony near Shawnee State Park that hibernates in part, or entirely, in South Penn Tunnel. Alignments to the south of the existing turnpike may also have adverse effects to the Indiana bats, but spring and fall telemetry studies indicate the greatest risk will be to adult male Indiana bats that forage and roost south of the turnpike.

None of the currently proposed alignments completely avoid the risk of incidental take of Indiana bats or northern long-eared bats. However, because most Indiana bats that have been tracked from South Penn Tunnel remain northeast of the turnpike, a southern alignment will substantially reduce the risk of adverse effects to the maternity colony near Shawnee. Consistent with our letters in 2010, 2012, 2014, and 2015, we again recommend that alignments to the north of the turnpike be dropped from further consideration due to anticipated adverse effects to both a regionally important Indiana bat hibernaculum and to an Indiana bat maternity colony that may compromise the status of an Indiana bat population already under severe stress due to the effects of white-nose syndrome. We also recommend that temperature and humidity data be collected in these two hibernacula for several seasons prior to earthmoving activities occurring and that temperature and humidity be monitored post-construction to determine whether the hibernacula microclimate has been altered from project activities.

Under provisions of section 7(a)(2) of the Act, the Corps, as the lead Federal agency that will authorize or permits any of the proposed alternatives, must consult with the U.S. Fish and Wildlife Service (Service) to ensure that its actions will not jeopardize the continued existence of any listed species. The Corps is required to consult if an action "may affect" listed species or designated critical habitat. Therefore, the anticipated direct and indirect effects of the project should be fully evaluated in a biological assessment, pursuant to the section 7 consultation regulations (50 CFR 402.12 and 402.14). In that evaluation, we encourage the Turnpike Commission and the Corps to seriously consider, and further evaluate, alignments to the south of the existing turnpike, specifically a tunnel alignment that would incorporate use of the existing tunnel farthest from the hibernaculum into the project design, while abandoning the tunnel closest to the hibernaculum.

We look forward to reviewing the selected alternative and providing more specific information on this project as it relates to impacts to federally listed threatened and endangered species.

Assessment of Risks to Migratory Birds

The Service is the principal Federal agency charged with protecting and enhancing populations and habitat of migratory bird species. The MBTA prohibits the intentional killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. The Service recognizes that some birds may be killed even if all reasonable measures to avoid take are implemented.

More than half of the proposed project study area is located within the Important Bird Area (IBA) known as the Allegheny Front. IBAs are the most critical regions in the Commonwealth of Pennsylvania for conserving bird diversity and abundance, and are the primary focus of Audubon Pennsylvania's conservation efforts. The Allegheny Front has been designated as an IBA partly due to the high concentrations of raptors and songbirds that utilize this area during fall and spring migration. For instance, it has been documented to provide important routes for spring raptor migration, especially golden eagles. Additionally, these ridges provide nesting habitat for a plethora of birds including interior forest songbird species. They also provide roosting habitat and foraging habitat for raptors hunting throughout migration. A variety of factors influence when and where raptors fly along the ridges, including time of year, time of day, general weather conditions, seasonality of flight, wind direction and wind speed relative to ridge orientation, general ecology of the different taxa, summer and winter ranges of raptors, and availability of suitable habitat. Raptors will often fly directly above the ridges and tend to hug the ridges in flight as wind speed increases. In addition, they are often observed nearer to the ridge during morning and later afternoon hours, which is when traffic around the Allegheny Tunnel may be more prevalent. To find out more information about this IBA, including which bird species breed there, visit: http://netapp.audubon.org/IBA/State/US-PA

The potential exists for avian mortality from habitat destruction and alteration within the project boundaries. Site-specific factors that should be considered in project siting to avoid and minimize the risk to birds include avian abundance; the quality, quantity and type of habitat; geographic location; type and extent of bird use (*e.g.* breeding, foraging, migrating, etc.); and

landscape features. Please review the enclosed information for general recommendations for avoiding and minimizing impacts to migratory birds within and around the project area. Please be aware that since these are general guidelines, some of them may not be applicable to the current project design or they may have already been included in the project design.

To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.

Please contact Pamela Shellenberger of my staff at 814-206-7459 if you have any questions or require further assistance.

Sincerely,

Sonja Jahrsdoerfer

Sonja Jahrsdoerfer
Project Leader

Enclosure

cc:
PGC – Librandi-Mumma
Corps – Hans

Adaptive Management Practices for Conserving Migratory Birds

The U.S. Fish and Wildlife Service is the principal Federal agency charged with protecting and enhancing populations and habitat of migratory bird species. The Migratory Bird Treaty Act (MBTA, 16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended) prohibits the intentional killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. The Service recognizes that some birds may be killed even if all reasonable measures to avoid take are implemented.

The potential exists for avian mortality from habitat destruction and alteration within the project boundaries. Site-specific factors that should be considered in project siting to avoid and minimize the risk to birds include avian abundance; the quality, quantity and type of habitat; geographic location; type and extent of bird use (*e.g.* breeding, foraging, migrating, etc.); and landscape features.

We offer the following recommendations to avoid and minimize impacts to migratory birds within and around the project area:

1. Where disturbance is necessary, clear natural or semi-natural habitats (*e.g.*, forests, woodlots, reverting fields, shrubby areas) and perform maintenance activities (*e.g.,* mowing) between September 1 and March 31, which is outside the nesting season for most native bird species. Without undertaking specific analysis of breeding species and their respective nesting seasons on the project site, implementation of this seasonal restriction will avoid take of most breeding birds, their nests, and their young (*i.e.*, eggs, hatchlings, fledglings).

2. Minimize land and vegetation disturbance during project design and construction. To reduce habitat fragmentation, co-locate roads, fences, lay down areas, staging areas, and other infrastructure in or immediately adjacent to already-disturbed areas (*e.g.*, existing roads, pipelines, agricultural fields) and cluster development features (*e.g.*, buildings, roads) as opposed to distributing them throughout land parcels. Where this is not possible, minimize roads, fences, and other infrastructure.

3. Avoid permanent habitat alterations in areas where birds are highly concentrated. Examples of high concentration areas for birds are wetlands, State or Federal refuges, Audubon Important Bird Areas, private duck clubs, staging areas, rookeries, leks, roosts, and riparian areas. Avoid establishing sizable structures along known bird migration pathways or known daily movement flyways (*e.g.,* between roosting and feeding areas).

4. To conserve area-sensitive species, avoid fragmenting large, contiguous tracts of wildlife habitat, especially if habitat cannot be fully restored after construction. Maintain contiguous habitat corridors to facilitate wildlife dispersal. Where practicable, concentrate construction activities, infrastructure, and man-made structures (*e.g.*, buildings, cell towers, roads, parking lots) on lands already altered or cultivated, and

away from areas of intact and healthy native habitats. If not feasible, select fragmented or degraded habitats over relatively intact areas.

5. Develop a habitat restoration plan for the proposed site that avoids or minimizes negative impacts to birds, and that creates functional habitat for a variety of bird species. Use only plant species that are native to the local area for revegetation of the project area.

If you have any questions regarding these measures, please contact Pamela Shellenberger of the Pennsylvania Field Office located in State College, PA at 814-206-7459.

APPENDIX E-5
DCNR CORRESPONDENCE

pennsylvania
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

BUREAU OF FORESTRY

October 3, 2011

PNDI Number:021520

Tammy L. Sherwin
L.R. Kimball
Fax 412-262-3036

Re: Allegheny Tunnel Improvement Project
Somerset County

Dear Ms. Sherwin,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt Number 021520 for review. PA Department of Conservation and Natural Resources screened this project for potential impacts to species and resources of concern under DCNR's responsibility, which includes plants, terrestrial invertebrates, natural communities, and geologic features only.

Potential Impact Anticipated

PNDI records indicate species or resources of concern are located in the project vicinity. Based on a detailed PNDI review, DCNR determined potential impacts to the following threatened or endangered species or species of special concern. Please note our new survey protocols are available at http://www.gis.dcnr.state.pa.us/hgis-er/Login.aspx .

Scientific name	Common Name	PA Current Status	PA Proposed Status
Viola appalachiensis	Appalachian Blue Violet	Threatened	Tentatively Undetermined
Actaea podocarpa	Mountain Bugbane	Threatened	Rare
Solidago roanensis	Mountain Goldenrod	Rare	Rare

Survey Request
DCNR requests a survey for the following species:

- *Viola appalachiensis* —bogs and stream banks in rich, moist woods; flowers April-June
- *Actaea podocarpa* —rich moist wooded slopes and coves in mountains; flowers August
- *Solidago roanensis* —rocky banks, roadsides, cut-over woods and woods edges; flowers August-September
- A survey for the above species should be conducted by a qualified botanist *at the appropriate time of year and then submitted to our office for review.* **Your botanist should carefully review the new DCNR Botanical Survey Protocols available at http://www.gis.dcnr.state.pa.us/hgis-er/Login.aspx. These protocols are recommended to ensure that the all necessary information is collected and that survey reports are prepared properly. It is the expectation of DCNR that these protocols will be followed when conducting surveys for species under our jurisdiction.**
- Your botanist should *fill out the field survey form while performing their survey*: http://www.gis.dcnr.state.pa.us/hgis-er/hgis/Internet%20Field%20Survey%20Form_2007.pdf. Contact our office prior to the survey for detailed information about the species, or for a list of qualified surveyors.
- Any target and non-target state-listed species found during the site visit should be reported to our office. Mitigation measures and monitoring may be requested if species or communities of special concern are found on or adjacent to site.
- If the land type(s) does not exist onsite a survey may not be necessary; please submit a habitat assessment report which describes the current land cover, habitat types and species found onsite.

This response represents the most up-to-date summary of the PNDI data files and is valid for one (1) year from the date of this letter. An absence of recorded information does not necessarily imply actual conditions on-site. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered.

Should the proposed work continue beyond the period covered by this letter, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative and accurate map).

This finding applies to impacts to DCNR only. To complete your review of state and federally-listed threatened and endangered species and species of special concern, please be sure the U.S. Fish and Wildlife Service, PA Game Commission, and the Pennsylvania Fish and Boat Commission have been contacted regarding this project as directed by the online PNDI ER Tool found at www.naturalheritage.state.pa.us.

Sincerely,

Andrew Rohrbaugh, Environmental Review Specialist FOR Chris Firestone, Wild Plant Program Mgr.
Ph: 717-705-2823 ~ c-arohrbau@ pa.gov

pennsylvania
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

BUREAU OF FORESTRY

April 26, 2013 **Allegheny Tunnel Turnpike Project**

Tammy Sherwin
L.R. Kimball
Fax 412-262-3036

Re:
Allegheny Tunnel Turnpike Project
Somerset County, PA

Dear Ms. Sherwin,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review for the Allegheny Tunnel Turnpike Project for review. PA Department of Conservation and Natural Resources screened this project for potential impacts to species and resources under DCNR's responsibility, which includes plants, terrestrial invertebrates, natural communities, and geologic features only.

Potential Impact Anticipated

The survey of this site, sent to our office on March 19, 2013 by Lisa Smith, found a number of ranked species, which can be found in the table below. DCNR's regulation for plant species of concern uses the Proposed PA Status, since this is the most scientifically up-to-date information available. Therefore, our top concerns for this site are the *Oxypolis rigidior*, *Solidago uliginosa*, and *Thalictrum coriaceum* populations onsite. This letter is to inform you of the regulatory statuses of these species; future meetings will determine what impacts are likely to each species, and how these impacts can be avoided, minimized, or mitigated. DCNR appreciates your assistance in conserving our rare plant species, and looks forward to working together on this project.

Scientific Name	Common Name	PA Status	Proposed PA Status
Oxypolis rigidior	Stiff Cowbane	Tentatively Undetermined	Threatened
Solidago uliginosa	Bog Goldenrod	None	Threatened
Thalictrum coriaceum	Thick-Leaved Meadow Rue	Endangered	Threatened
Uvularia pudica	Mountain Bellwort	Tentatively Undetermined	Rare
Viola appalachiensis	Appalachian Blue Violet	Threatened	Tentatively Undetermined
Symphyotricum praeltum	Veiny-Lined Aster	None	Tentatively Undetermined
Panax quinquefolius	Wild Ginseng	Vulnerable	Vulnerable

This response represents the most up-to-date review of the PNDI data files and is valid for two years only. If project plans change or more information on listed or proposed species becomes available, our determination may be reconsidered. For PNDI project updates, please see the PNHP website at www.naturalheritage.state.pa.us for guidance. As a reminder, this finding applies to potential impacts under DCNR's jurisdiction only. Visit the PNHP website for directions on contacting the Commonwealth's other resource agencies for environmental review. Should you have any questions or concerns, please don't hesitate to contact me at 717.705.2823 or c-arohrbau@pa.gov.

Sincerely,

Andrew Rohrbaugh, Environmental Review Manager
Bureau of Forestry, Ecological Services Section
Pennsylvania Natural Heritage Program

Rebecca H. Bowen, Section Chief
Bureau of Forestry, Ecological Services Section
Pennsylvania Natural Heritage Program

pennsylvania
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

BUREAU OF FORESTRY

May 15, 2014 **PNDI Large Project Number: 022343**

Steven R. Crescenzo
L.R. Kimball
437 Grant Street, Frick Building – Suite 812
Pittsburgh, PA 15219
Email: steven.crescenzo@lrkimball.com (hard copy not to follow)

Re: Allegheny Tunnel Transportation Improvement Project
Allegheny and Stonycreek Townships, Somerset County

Dear Mr. Crescenzo,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Large Project **# 022343** for review. PA Department of Conservation and Natural Resources screened this project for potential impacts to species and resources of concern under DCNR's responsibility, which includes plants, terrestrial invertebrates, natural communities, and geologic features only.

L.R. Kimball conducted a survey in April, August, and September 2012 within the project study area for *Solidago roanensis* (mountain goldenrod), *Actaea podocarpa* (mountain bugbane), and *Viola appalachiensis* (Appalachian blue violet) based on coordination with DCNR. L.R. Kimball found several populations of *V. appalachiensis*, along with *Oxypolis rigidior* (stiff cowbane), *Solidago uliginosa* (bog goldenrod), *Thalictrum coriaceum* (thick-leaved meadow rue), *Uvularia pudica* (mountain bellwort), *Symphyotrichum praeltum* (veiny-leaved aster), and *Panax quinquefolia* (wild ginseng). DCNR identified in an April 26, 2013 letter that potential impacts to these populations of plant species of concern are to be expected from the proposed project, and the top concerns of the project are impacts to *O. rigidior, S. uliginosa,* and *T. coriaceum*. Future coordination, meetings, and the development of a plan are required to determine how impacts to these species can be avoided, minimized, and/or mitigated.

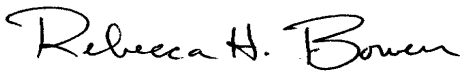
L.R. Kimball requested an updated review of the proposed project area in May 2014 to determine if any new plant species would need attention for potential botanical surveys. DCNR conducted an updated review of the area on May 14, 2014, and did not find any additional plant species of concern or Threatened & Endangered plant species within the proposed project area, nor the proposed Allegheny Tunnel Waste Site or proposed Haul Road, which were cleared by the PNDI tool on February 18 and April 3, 2014, respectively. Therefore, based on the information you submitted concerning the nature of the project, the immediate location, and our detailed resource information, DCNR has determined that **no new impacts** are likely for this project.

However, DCNR looks forward to further coordination with L.R. Kimball in 2014 in order to construct a plan to avoid, minimize, or mitigate impacts to populations of *O. rigidior*, *S. uliginosa,* and *T. coriaceum*.

This response represents the most up-to-date review of the PNDI data files and is valid for two (2) years only. If project plans change or more information on listed or proposed species becomes available, our determination may be reconsidered. Should the proposed work continue beyond the period covered by this letter, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative and accurate map). As a reminder, this finding applies to potential impacts under DCNR's jurisdiction only. Visit the PNHP website for directions on contacting the Commonwealth's other resource agencies for environmental review.

Should you have any questions or concerns, please contact Frederick Sechler, Jr., Ecological Information Specialist, by phone (717-705-2819) or via email (c-frsechle@pa.gov).

Sincerely,



Rebecca H. Bowen, Section Chief
Pennsylvania Natural Heritage Program
Bureau of Forestry, Ecological Services Section

pennsylvania
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

BUREAU OF FORESTRY

October 14, 2015 **PNDI Number: 20150824528640**

Ashley E. Cassol
L.R. Kimball – A CDI Company
615 West Highland Avenue
Ebensburg, PA 15931
Email: Ashley.cassol@gmail.com (hard copy not to follow)

Re: Allegheny Tunnel_08.24.15
Stonycreek, Allegheny Townships, Somerset County, PA

Dear Ms. Cassol,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt Number **20150824528640** for review. PA Department of Conservation and Natural Resources screened this project for potential impacts to species and resources of concern under DCNR's responsibility, which includes plants, terrestrial invertebrates, natural communities, and geologic features only.

Potential Impact Anticipated

PNDI records indicate species or resources of concern are located in the project vicinity. Based on a detailed PNDI review, DCNR determined potential impacts to the following threatened or endangered species or species of special concern. Please note our new survey protocols are available at http://www.gis.dcnr.state.pa.us/hgis-er/Login.aspx.

Scientific Name	Common Name	PA Current Status	PA Proposed Status
Thalictrum coracium	Thick-leaved meadow rue	Endangered	Threatened
Uvularia pudica	Mountain bellwort	Tentatively undetermined	Rare

Survey Request
DCNR requests a **botanical survey in areas that have not been surveyed** for the following species:

- ***Thalictrum coracium* (thick-leaved meadow rue)–**habitat is rocky, open wooded habitats and areas with rich, moist soil in mountain or Piedmont terrain–locally documented in rich moist soil in forested areas in and near the proposed project–flowering occurs in late May through June–for more information, please see http://www.naturalheritage.state.pa.us/factsheets/14449.pdf.
- ***Uvularia pudica* (mountain bellwort)–**habitat is mountain woods throughout south central Appalachia–locally documented in rich moist soil in forested areas in and near the proposed project area–flowers in May–for more information, please see http://www.naturalheritage.state.pa.us/factsheets/15408.pdf.

- A survey for the above species should be conducted by a qualified botanist *at the appropriate time of year and then submitted to our office for review*. **Your botanist should carefully review the new DCNR Botanical Survey Protocols available at http://www.gis.dcnr.state.pa.us/hgis-er/Login.aspx. These protocols are recommended to ensure that the all necessary information is collected and that survey reports are prepared properly. It is the expectation of DCNR that these protocols will be followed when conducting surveys for species under our jurisdiction.**
- Your botanist should *fill out the field survey form while performing their survey*: http://www.gis.dcnr.state.pa.us/hgis-er/hgis/Internet%20Field%20Survey%20Form_2007.pdf. Contact our office prior to the survey for detailed information about the species, or for a list of qualified surveyors.
- Any target and non-target state-listed species found during the site visit should be reported to our office. Mitigation measures and monitoring may be requested if species or communities of special concern are found on or adjacent to site.

- If more information becomes available and/or a habitat assessment is conducted, and potential suitable habitat for the above species is not present in the project site or will not be impacted, then contact me at c-frsechle@pa.gov or 717-705-2819 and I can reissue a no impact letter.
- If the land type(s) does not exist onsite a survey may not be necessary; please submit a habitat assessment report which describes the current land cover, habitat types and species found onsite.

This response represents the most up-to-date review of the PNDI data files and is valid for two (2) years only. If project plans change or more information on listed or proposed species becomes available, our determination may be reconsidered. Should the proposed work continue beyond the period covered by this letter, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative and accurate map). As a reminder, this finding applies to potential impacts under DCNR's jurisdiction only. Visit the PNHP website for directions on contacting the Commonwealth's other resource agencies for environmental review.

Should you have any questions or concerns, please contact Frederick Sechler, Jr., Ecological Information Specialist, by phone (717-705-2819) or via email (c-frsechle@pa.gov).

Sincerely,

Greg Podniesinski, Section Chief
Natural Heritage Section, DCNR Bureau of Forestry

pennsylvania
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

BUREAU OF FORESTRY

February 9, 2017 **PNDI Number: 20150824528640**

Tammy Sherwin
L. R. Kimball – a CDI Company
Frick Building, Suite 482, 437 Grant Street
Pittsburgh, PA 15219
Email: tammy.sherwin@cdicorp.com (hard copy not to follow)

Re: Allegheny Tunnel_08.24.15
Stonycreek, Allegheny Townships, Somerset County PA

Dear Ms. Sherwin,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Environmental Review Receipt Number **20150824528640** for review. PA Department of Conservation and Natural Resources screened this project for potential impacts to species and resources of concern under DCNR's responsibility, which includes plants, terrestrial invertebrates, natural communities, and geologic features only.

No Impact Anticipated per conditions

PNDI records indicate species or resources under DCNR's jurisdiction are located in the vicinity of the project. DCNR requested a botanical survey/habitat assessment on October 14, 2015 for *Thalictrum coracium* (thick-leaved meadow-rue) and *Uvularia pudica* (mountain bellwort) within the expanded study area of the Allegheny Tunnel Project. Large populations were found of *U. pudica* over multiple habitat areas, and a small population of *T. coriaceum* was found in habitat 6, which consisted of a calcareous mixed-hardwood forest. In addition, expanded populations of *Viola appalachiensis* were also found within the area. No other PA Threatened and Endangered or PA plant species of concern were found. DCNR suggests avoiding the population of *T. coriaceum* at all possible. If avoidance is not feasible, mitigation and monitoring will be required. DCNR also recommends avoidance and/or minimizing impacts to the PA plant species of concern, *U. pudica*, which occurs throughout the study area. In addition, minimizing impacts for *V. appalachiensis* is recommended, though not the highest priority, since this species can tolerate disturbance. DCNR looks forward to receiving the PTC preferred route for this project, and determining the next steps in working with L.R. Kimball in minimizing and potentially avoiding impacts to these DCNR plants. If avoidance and or minimization of impacts is achieved, no impact is anticipated for this project.

This response represents the most up-to-date review of the PNDI data files and is valid for two (2) years only. If project plans change or more information on listed or proposed species becomes available, our determination may be reconsidered. Should the proposed work continue beyond the period covered by this letter, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative and accurate map). As a reminder, this finding applies to potential impacts under DCNR's jurisdiction only. Visit the PNHP website for directions on contacting the Commonwealth's other resource agencies for environmental review.

Should you have any questions or concerns, please contact Frederick Sechler, Jr., Ecological Information Specialist, by phone (717-705-2819) or via email (c-frsechle@pa.gov).

Sincerely,

Greg Podniesinski, Section Chief
Natural Heritage Section, DCNR Bureau of Forestry

pennsylvania
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

April 10, 2017

Mark P. Compton
Chief Executive Officer
Pennsylvania Turnpike Commission
700 S. Eisenhower Blvd.
Middletown, PA 17057

Re: Allegheny Tunnel Transportation Improvement Project
Allegheny and Stonycreek Townships, Somerset County, PA

Dear Mr. Compton,

We appreciate your willingness to give Secretary Dunn and staff a tour of the site for the Allegheny Tunnel Transportation Improvement Project. The Department would like to take this opportunity to provide feedback on the project and highlight certain impacts that should be considered in the planning and implementation processes. The bureaus below represent the agency's collective comments at this time, but additional comments may be submitted under separate cover.

Bureau of Forestry

There are three plant species of concern in the project area: thick-leaved meadow-rue *(Thalictrum coriaceum*), currently PA Endangered and Proposed PA Threatened; Mountain Bellwort (*Uvularia pudica),* currently PA Tentatively Undetermined and Proposed PA Rare; and Appalachian Blue Violet *(Viola appalenchiensis)*, currently PA Threatened and Proposed Rare. The Bureau received a Plant Survey Report in October 2016 and suggested avoiding any impacts on the plants; if the meadow-rue is impacted, mitigation and monitoring will be required.

The importance of animal, and even plant, migrations have long been unrecognized and underappreciated in large-project planning, so we ask that you consider these impacts early in the planning process and in final design. The existing tunnel and vegetation cover allow for unimpeded movements of many different species throughout the landscape, from large mammals to small birds, bats and plant species. Since the turnpike bisects the entire southern portion of the state, tunnels are among the few places where animal migrations, in particular, can occur without loss of life. Replacing the existing tunnel with an open cut will remove one more of very limited opportunities for migratory species to survive their north-south travels. As this location falls within the Allegheny Front Important Bird Area, severing landscape connectivity may result in impacts to a number of important migratory bird populations. Bats and amphibians also heavily rely on this area and utilize its surrounding resources. We ask that you consider these impacts in your planning and final design decisions.

Bureau of Topographic and Geologic Survey

The presence of active historic landslides in the vicinity of the eastern tunnel opening indicates that conditions for other slope instability issues are present in this area. The location at the Allegheny Front where the dipping rocks of the Ridge and Valley transition to the flat lying Allegheny Plateau has probably produced more small folds, faults, and open fractures than would be expected in areas of more uniform structural setting. These changes create discontinuities in rock and serve as paths for water movement, which can weather rock layers and reduce strength of clays. Pre-construction investigations should pay particular attention to potential zones of weakness and potential for slope failures. This hazard would potentially affect all scenarios, and we recommend the Commission set aside funds for mitigation and repair/removal should slides occur.

The Topographic and Geologic Survey requests the opportunity to see pre-construction geologic data collected for the project and to gather data from exposed bedrock during construction as part of the Temporarily Available Stratigraphic Data Collection program (TASIC).

Should you have any questions, please contact me by phone (717-346-7636) or via email (snicholas@pa.gov).

Sincerely,

SARA NICHOLAS
DIRECTOR
OFFICE OF POLICY AND PLANNING

December 16, 2019

PNDI Number: 695090
Version: Final_2; 12/12/19

Kelly Eismont
L.R. Kimball – A CDI Company
Frick Building, Suite 812
Pittsburgh, PA 15219
Email: Kelly.Eismont@cdicorp.com (hard copy will not follow)

Re: UPDATE- Allegheny Tunnel Transportation Improvement Project
Allegheny and Stonycreek Townships, Somerset County, PA

Dear Kelly Eismont,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt Number **695090**. PA Department of Conservation and Natural Resources screened this project for potential impacts to species and resources under DCNR's responsibility, which includes plants, terrestrial invertebrates, natural communities, and geologic features only.

Previous Coordination

This project was previously known as PNDI Number 20150824528640. In a letter dated October 14, 2015, DCNR requested a botanical survey for *Thalictrum coriacium* (thick-leaved meadow rue) and *Uvularia pudica* (mountain bellwort) within the expanded project study area. The survey was conducted during May and June 2016 and identified *T. coriacium*, *U. pudica*, and *Viola appalachiensis* (Appalachian blue violet). DCNR issued a conditional no impact determination and provided guidance on avoidance and minimization priorities in a letter dated February 9, 2017.

No Impact Anticipated per Avoidance, Minimization, and Mitigation- CONDITIONAL

PNDI records indicate species or resources under DCNR's jurisdiction are located in the vicinity of this project. However, no additional species of concern have been documented within the project vicinity since the 2015 PNDI receipt. In addition to the three species of concern mentioned above, *Solidago ulignosa* (bog goldenrod) and *Oxypolis rigidior* (stiff cowbane) have also been documented within the project study area. Given the lack of changes to PNDI records since 2015 and the currently preliminary nature of the project alignment and construction plans, there have been no significant changes to DCNR's recommendations.

DCNR recommends avoiding the populations of *Thalictrum coriaceum* and *Solidago uliginosa*. If avoidance is not feasible, mitigation (transplanting) and monitoring will be required. DCNR also recommends avoidance and/or minimization of impacts to *Uvularia pudica* and *Oxypolis rigidior*. Minimization of impacts to *Viola appalachiensis* is recommended, though not the highest priority, since this species can tolerate disturbance. DCNR looks forward to receiving the preferred alternative for this project and working with L. R. Kimball to determine the next steps in avoidance and minimization efforts. With the forthcoming avoidance, minimization, and/or mitigation of impacts to plant species of concern, no impact is anticipated for this project.

This response represents the most up-to-date review of the PNDI data files and is valid for two (2) years only. If project plans change or more information on listed or proposed species becomes available, our determination may be reconsidered. Should the proposed work continue beyond the period covered by this letter and a permit has not been acquired, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt,

project narrative, description of project changes and accurate map). As a reminder, this finding applies to potential impacts under DCNR's jurisdiction only. Visit the PNHP website for directions on contacting the Commonwealth's other resource agencies for environmental review.

Should you have any questions or concerns, please contact Megan Pulver, Ecological Information Specialist, by phone (717-705-2819) or via email (c-mpulver@pa.gov).

Sincerely

Greg Podniesinski, Section Chief
Natural Heritage Section

APPENDIX E-6
PGC CORRESPONDENCE

COMMONWEALTH OF PENNSYLVANIA
Pennsylvania Game Commission

2001 ELMERTON AVENUE
HARRISBURG, PA 17110-9797

"To manage all wild birds, mammals and their habitats for current and future generations."

ADMINISTRATIVE BUREAUS:

ADMINISTRATION.....717-787-5670
HUMAN RESOURCES.....717-787-7836
FISCAL MANAGEMENT.....717-787-7314
CONTRACTS AND PROCUREMENT.....717-787-6594
LICENSING.....717-787-2084
OFFICE SERVICES.....717-787-2116
WILDLIFE MANAGEMENT.....717-787-5529
INFORMATION & EDUCATION.....717-787-6286
WILDLIFE PROTECTION.....717-783-6526
WILDLIFE HABITAT MANAGEMENT.....717-787-6818
REAL ESTATE DIVISION.....717-787-6568
AUTOMATED TECHNOLOGY SERVICES.....717-787-4076

www.pgc.state.pa.us

Division of Environmental Planning and Habitat Protection
717-783-5957

November 10, 2011 PNDI Large Project Review

Tammy Sherwin
L.R. Kimball
415 Moon Clinton Road
Coraopolis, PA 15108

PNDI Large Project Review
Re: Pennsylvania Turnpike Commission Allegheny Tunnel Improvement Project
Stony Creek and Allegheny Townships, Somerset County, PA

Dear Ms. Sherwin,

Thank you for submitting the Pennsylvania Turnpike Commission Allegheny Tunnel Improvement Project to the Pennsylvania Natural Diversity Inventory (PNDI) for review. The Pennsylvania Game Commission (PGC) screened this project for potential impacts to species and resources of concern under PGC responsibility, which includes birds and mammals only.

Potential Impact Anticipated

PNDI records indicate species or resources of concern are located in the vicinity of the project. The PGC has received and thoroughly reviewed the information that you provided to this office, as well as PNDI data, and has determined that potential impacts to the following endangered species may be associated with your project:

Scientific Name	Common Name	PA Status	Federal Status
Myotis sodalis	Indiana Bat	ENDANGERED	ENDANGERED
Myotis leibii	Eastern Small-footed Bat	THREATENED	
Neotoma magister	Allegheny Woodrat	THREATENED	
Myotis septentrionalis	Northern Long-eared Bat	SPECIAL CONCERN	

Next Steps

Indiana bats are a federally listed endangered species under the jurisdiction of the U.S. Fish and Wildlife Service. As a result, our agency defers comments on potential impacts to Indiana bats to the U.S. Fish and Wildlife Service.

Next Steps

The proposed project area includes at least one bat hibernaculum of concern, that is located within the Allegheny Mountain Important Mammal Area, and includes habitat in which various species of bats swarm, forage, and migrate. Therefore, the following surveys should be performed, so that a more accurate determination can be made regarding the potential impacts from this proposed project. Results of all surveys requested are to be submitted to the PGC by December 31 of the year the survey(s) were conducted.

- Bat mist netting and telemetry should be conducted on the project area by a qualified consultant on the U.S. Fish and Wildlife Service's approved Indiana bat list and following *USFWS Indiana bat mist netting protocols*. A PGC special use permit will need to be obtained by the consultant in order to conduct such surveys that involve the handling of bats. Please provide a draft bat mist-net survey plan prior to implementation, for PGC review and approval. Telemetry should be conducted on all suitable species of concern bats that may be captured during the mist net survey.

- Eastern small-footed bat roosting habitat assessment: All rocky habitat that may offer suitable roost sites for eastern small-footed bat should be completely delineated (GIS shapefiles preferred) and photo-documented. All identified rocky habitat that is not considered to be suitable eastern small-footed bat roost habitat should also be photo-documented and a written narrative provided describing the reason(s) for its non-suitability. Results of the habitat assessment should be submitted to the PGC for review and will be used to determine if emergence counts are needed. If needed, emergence counts are to be conducted by a qualified bat consultant at all potential roost sites in the project area for a minimum of three nights per year: one night in mid-June, one night the second week of July, and a third night during the last week in July. The surveys are to begin ½-hour before sunset and continue for two hours each night and PGC datasheets must be completed for each roost for each night that a survey is conducted.

- Allegheny woodrats have been documented in the vicinity of the project area. Woodrats tend to occupy steep forested slopes dominated by rocky outcroppings or caves and old mine workings. An Allegheny woodrat habitat assessment should be performed within the project area and within 300 feet of the project area. The survey should be conducted following protocols described in the enclosed *PGC Woodrat Guidance Document*. An experienced woodrat surveyor must conduct the survey and complete the required PGC datasheets for all potential habitat and activity sites. Results of the woodrat survey will be used to determine how to best avoid and minimize direct and indirect impacts to woodrats and evaluate the potential for habitat enhancement/mitigation measures.

In addition to the above surveys, the PGC request the following project information:

- Proposed alignment(s) and whether cut(s) or tunnel(s) are planned for each.

- Details of any blasting that is to be conducted on any of the proposed alignments.

- Amount of forested habitat, including locations of, species composition, size, and age of trees to be impacted from each proposed alignment(s).

- Amount and locations of proposed impacts to wetlands associated with each proposed alignment(s).

- Amount and locations of proposed impacts to waterways or water bodies (intermittent or perennial rivers, streams, creeks, tributaries, lakes, or ponds) associated with each proposed alignment(s).

- Amount and locations of habitat fragmentation and impacts to wildlife migration corridors associated with each proposed alignment(s).

This response represents the most up-to-date summary of the PNDI data files and is valid for one (1) year from the date of this letter. An absence of recorded information does not necessarily imply actual conditions on site. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered.

Should the proposed work continue beyond the period covered by this letter, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative and accurate map). If the proposed work has not changed and no additional information concerning listed species is found, the project will be cleared for PNDI requirements under this agency for an additional year.

This finding applies to impacts to birds and mammals only. To complete your review of state and federally-listed threatened and endangered species and species of special concern, please be sure that the U.S. Fish and Wildlife Service, the PA Department of Conservation and Natural Resources, and/or the PA Fish and Boat Commission have been contacted regarding this project as directed by the online PNDI ER Tool found at www.naturalheritage.state.pa.us.

Sincerely,

Tracey Librandi Mumma

Tracey Librandi Mumma
Wildlife Biologist
Division of Environmental Planning & Habitat Protection
Bureau of Wildlife Habitat Management
Phone: 717-787-4250, Extension 3614
Fax: 717-787-6957
E-mail:tlibrandi@pa.gov

A PNHP Partner

TLM/tlm

Enclosures: *USFWS Indiana Bat Mist Netting Protocols*
PGC Woodrat Guidance Document

cc: Carole Copeyon, U.S. Fish & Wildlife Service
DuBrock
Brauning
Butchkoski
Turner
File

COMMONWEALTH OF PENNSYLVANIA
Pennsylvania Game Commission

2001 ELMERTON AVENUE
HARRISBURG, PA 17110-9797

"To manage all wild birds, mammals and their habitats for current and future generations."

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REAL ESTATE DIVISION.....717-787-6568
AUTOMATED TECHNOLOGY SERVICES.....717-787-4076

www.pgc.state.pa.us

Division of Environmental Planning and Habitat Protection
717-783-5957

May 14, 2013 PNDI Large Project Review

Ms. Tammy Sherwin
L.R. Kimball
415 Moon Clinton Road
Coraopolis, PA 15108

Re: Pennsylvania Turnpike Commission Allegheny Tunnel Improvement Project
Stony Creek and Allegheny Townships, Somerset County, PA

Dear Ms. Sherwin,

Thank you for submitting the Pennsylvania Turnpike Commission Allegheny Tunnel Improvement Project to the Pennsylvania Natural Diversity Inventory (PNDI) for review. The Pennsylvania Game Commission (PGC) screened this project for potential impacts to species and resources of concern under PGC responsibility, which includes birds and mammals only.

Potential Impact Anticipated

PNDI records indicate species or resources of concern are located in the vicinity of the project. The PGC has received and thoroughly reviewed the 2012 Bat Mist Net Survey Report (dated February 28, 2013) and Allegheny Woodrat Habitat Assessment Survey Report (dated January 14, 2013), information provided at a May 2, 2013 meeting with Pennsylvania Turnpike Commission staff and their consultants, as well as PNDI data, and has determined that potential impacts to the following endangered species may be associated with your project:

Scientific Name	Common Name	PA Status	Federal Status
Myotis sodalis	Indiana Bat	ENDANGERED	ENDANGERED
Myotis leibii	Eastern Small-footed Bat	THREATENED	N/A
Neotoma magister	Allegheny Woodrat	THREATENED	N/A
Myotis septentrionalis	Northern Long-eared Bat	SPECIAL CONCERN	N/A

The PGC previously reviewed this project and responded to the Pennsylvania Turnpike Commission on November 10, 2011. In the 2011 letter, the PGC stated that the proposed project area includes two bat hibernacula, suitable swarming, foraging, and migration habitat for various species of bats species, and is located within the Allegheny Mountain Important Mammal Area.

The PGC requested that an Allegheny woodrat habitat assessment be conducted on and within 300 feet of the proposed project area in the November 10, 2011 letter. This survey was conducted in May, August, and September of 2012. Six locations were identified as having the characteristics essential for potential habitat use by Allegheny woodrats. However, no sign of woodrat activity or presence was noted at any of the six identified potential habitat areas. The PGC recommends measures are incorporated into the design of the project to minimize impacts to these areas (see "Next Steps" section below).

Since the November 10, 2011 PGC letter was issued, the two hibernacula located within the project area have had interior surveys conducted by the PGC. These surveys documented some level of bat use in both hibernacula. Indiana bats were documented in one of the hibernaculum, while northern long-eared bats and other non-listed bat species were documented using both hibernacula. No eastern small-footed bats were documented in either hibernaculum on the dates surveyed. Given the documented use of these hibernacula, additional conservation measures will be required (see "Next Steps" section below).

Bat mist netting and telemetry (on all suitable species of concern bats captured) on the project area was also requested in the PGC's November 10, 2011 letter. Mist net surveys were conducted between July 6-13, 2012 and resulted in the capture of 262 bats of five species: 170 big brown bats (*Eptesicus fuscus*), 60 eastern red bats (*Lasiurus borealis*), 24 northern long-eared bats, 5 little brown bats (*Myotis lucifugus*), and 1 eastern small-footed bat. The one eastern small-footed bat capture was a juvenile male that was not suitable for telemetry due to its low weight. However, the capture of a juvenile does indicated that a maternity colony is in the vicinity of the capture location therefore additional surveys are needed (see "Next Steps" section below).

Next Steps

- Indiana bats are a federally listed endangered species under the jurisdiction of the U.S. Fish and Wildlife Service. As a result, our agency defers comments on potential impacts to Indiana bats to the U.S. Fish and Wildlife Service

- As previously stated, six potential habitat areas were identified for Allegheny woodrats however no activity or sign was observed. Therefore, based on the results of this survey, the PGC recommends that impacts to the six potential habitat areas identified, be avoided and minimized to the greatest extent possible.

- As was requested in the PGC's November 10, 2011 letter, the PGC again requests that an eastern small-footed bat roosting habitat assessment be conducted, so that a more accurate determination can be made regarding the potential impacts from this proposed project to roosting eastern small-footed bats. All rocky habitat that may offer suitable roost sites for eastern small-footed bat (such as large rocks or boulders, talus or scree, rock outcrops, boulder fields, quarries, caves and associated passages, cliffs, abandoned highwalls and spoil piles from previous surface mining, abandoned deep mines, and existing road rock cuts) should be completely delineated (GIS shapefiles preferred) and photo-documented. All identified rocky habitat that is not considered to be suitable

eastern small-footed bat roost habitat should also be photo-documented and a written narrative provided describing the reason(s) for its non-suitability. Results of the habitat assessment should be submitted to the PGC for review and will be used to determine if emergence counts are needed. If needed, emergence counts are to be conducted by a qualified bat consultant at all potential roost sites in the project area for a minimum of three nights per year: one night in mid-June, one night the second week of July, and a third night during the last week in July. The surveys are to begin ½-hour before sunset and continue for two hours each night and PGC datasheets must be completed for each roost for each night that a survey is conducted. Results of all surveys requested are to be submitted to the PGC by December 31 of the year the survey(s) were conducted.

- In addition to results from the small-footed roost habitat assessment survey, the PGC requests the following project information so that a more accurate determination can be made regarding impacts to species and resources under the PGC's jurisdiction:
  - Location of each of the proposed alignments (both cut and tunnel options), as well as an alternative comparison matrix of all propose alignments that includes the amount of impacts to resources and their associated habitats for which the PGC has jurisdiction.
  - Amount of forested habitat to be impacted by each alignment, including the locations, species composition, size, and age of trees to be impacted from each proposed alignment. Include the amount of contiguous forested habitat to be fragmented by each alignment.
  - Location and amount of rocky habitat (large rocks or boulders, talus or scree, rock outcrops, boulder fields, quarries, caves and associated passages, cliffs, abandoned highwalls and spoil piles from previous surface mining, abandoned deep mines, and existing road rock cuts) to be impacted from each proposed alignment.
  - Amount and locations of proposed impacts to wetlands, waterways, and/or water bodies (intermittent or perennial rivers, streams, creeks, tributaries, lakes, or ponds) associated with each proposed alignment.
  - Impacts to wildlife migration corridors associated with each proposed alignment(s). Including information regarding any proposed wildlife crossings associated with each tunnel and cut, as well as how the location of each proposed wildlife crossings were determined.
  - Location and details of any subsurface impacts (i.e. blasting) to occur on each of the proposed alignments within ½ mile of any hibernacula.

- The PGC recommends the following are incorporated into the design of the project:
  - Habitat removal and/or disturbance within 1,000 feet of all hibernacula be avoided and minimized to the greatest extent possible.
  - Tree removal within the project area be avoided and minimized to the greatest extent possible.
  - Fragmentation of the large continuous forest blocks found within the project area be avoided and minimized to the greatest extent possible.
  - Adverse impacts to wetlands and waterways be avoided and minimized to the greatest extent possible and where possible, riparian buffers of at least 50 feet are maintained.

- The overall footprint of the project be minimized to the greatest extent possible to avoid any unnecessary impacts
- Rocky habitat that maybe used by Allegheny woodrat, eastern small-footed bats, and other wildlife be avoided and minimized to the greatest extent possible

This response represents the most up-to-date summary of the PNDI data files and is valid for one (2) years from the date of this letter. An absence of recorded information does not necessarily imply actual conditions on site. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered.

Should the proposed work continue beyond the period covered by this letter, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative and accurate map). If the proposed work has not changed and no additional information concerning listed species is found, the project will be cleared for PNDI requirements under this agency for two additional years.

This finding applies to impacts to birds and mammals only. To complete your review of state and federally-listed threatened and endangered species and species of special concern, please be sure that the U.S. Fish and Wildlife Service, the PA Department of Conservation and Natural Resources, and/or the PA Fish and Boat Commission have been contacted regarding this project as directed by the online PNDI ER Tool found at www.naturalheritage.state.pa.us.

Sincerely,

Tracey Librandi Mumma

Tracey Librandi Mumma
Wildlife Biologist
Division of Environmental Planning & Habitat Protection
Bureau of Wildlife Habitat Management
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cc: Robert Anderson, U.S. Fish & Wildlife Service
DuBrock
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Division of Environmental Planning and Habitat Protection
717-783-5957

October 7, 2013

Mr. Steven Crescenzo
L.R. Kimball
615 West Highland Avenue
P.O. Box 1000
Ebensburg, PA 15931

Re: *Eastern Small-footed Myotis Habitat Assessment Report*, Allegheny Tunnel Transportation Improvement Project, Allegheny and Stonycreek Townships, Somerset County, PA.

Dear Mr. Crescenzo,

Thank you for submitting the *Eastern Small-footed Myotis Habitat Assessment Report* (dated August 20, 2013), for the Allegheny Tunnel Transportation Improvement Project, to the Pennsylvania Game Commission (PGC) for review. The PGC received the report on September 12, 2013, has since reviewed it, and is requesting the report be revised to address the following deficiencies:

- **Potential Roost Habitat Quality Criteria:**
  - According to the report, low, medium, and high quality roost habitat categories are based on size of formation, number and depth of crevices, and extent of sun exposure however these criteria are not clearly defined in the report. Adjectives such as "high", "small", "numerous", "significant", and "few" are all used but never formally defined. Without such definitions, it is not clear how the consultant could made consistent determinations of which category each rock formation fell into. For example, regarding the sun exposure criteria, low sites ranged from 5 to 90%, medium from 0 to 80%, and high from 0 to 20%. Given that the values associated with each category overlaps it is unclear why habitat was further divided into low, medium, and high classifications. Without formal definitions, it appears that there are no differences between the three categories. The report should be revised to include definitions for each criterion for each category. Also, provide the methods for how canopy cover was measured as it was not described in the report. Additionally, the physical size of the rock formation may not be a good indicator of suitable habitat as small-footed bats have been document in roosting in a small spoil piles as well as in very large rock formations. Please note, it may be better to state that if the rock formation had one or more of the following criteria, then it was deemed potential small-footed roost habitat: canopy cover between X and X, at least X number of crevices that are at least X inches deep, etc.

- Distance from water was discussed in the introduction however it does not appear that this used or documented for the sites identified. Please provide distance to water for each site, if it was in fact determined.

- **Acoustic Software:** The report states that a "custom analysis software specific to the sampling location" will be used to review recorded call sequences. The report needs to be revised to include the name of the software, an explanation of how it is specific to the sampling location, if it has been used previously to assess small-footed bat presence, and what the limitations of the software are. Likewise, discuss how this method of sampling is or is not capable of detecting differences in numbers of small-footed bats at any one location in an effort to determine presence of maternity colonies.

- **Potential Roost Emergency Count Survey Protocol:**
  - For future emergence count surveys on the 37 identified sites, a diagram illustrating coverage areas for each method/device (positioning/angle, height off the ground, cone of detection, visual observations, infrared cameras, etc.) to be used to survey each rock formation must be provided to confirm that each site will be adequately surveyed. According to the report, monitoring stations will be set at 300' intervals for "large sites", however the required criteria for a site to be "large" is included. The number of monitoring stations to be used at each rock formation site needs to be reflected in each diagram described above. Acoustic detectors should be placed so that they only pick up bats at the rocks, which should only be small-footed as no other PA bats are known to roost in rocks. Finally, if applicable, provide a discussion of any other methods of sampling (harp traps, mist nets, visual surveys, etc.) will be used at any of the sites.
  - The consultant must provide a survey plan to the PGC for review and concurrence outlining all work associated with the emergence counts at least 30 days prior to initiating the surveys. While the current report states that emergence count surveys are to be conducted for a minimum of 3 nights, it is not as to what weeks they will occur. PGC protocol dictates that emergence counts are to occur as follows: 1st Survey in mid-June, 2nd Survey in the 2nd week of July, and 3rd Survey during the last week of July. This way if there is an increase in number of calls/individuals in July compared to June at any one rock formation, it can be assumed that the formation is being used as a maternity colony. The PGC is not deterring the consultant from increasing their effort from the three night minimum however; the PGC protocol needs to be outlined in the survey plan to provide documentation that the minimum survey effort will be met.

- **Potential Hibernacula Surveys:** For the two sites that are potential hibernacula, trapping following PGC trapping protocol (3 nights between September 15 and October 15, with at least one night of trapping occurring between September 25 and October 10) must be done at a minimum. Acoustics can be used in addition to trapping but not instead of trapping, unless the entrance has been deemed to dangerous for trapping. As with the emergence counts, the PGC is not deterring the consultant from increasing their effort above the minimum of three nights of trapping however, the PGC protocol needs to be outlined in the survey plan to provide documentation that the minimum survey effort will be met. Habitat site 2013 is a known bat hibernacula so trapping at that site is not necessary however, trapping at site 1212 is necessary since that site has yet to be trapped and may be a bat hibernaculum.

- **Other report comments:**
  - In regards to the 37 potential small-footed roost habitat sites, provide how many are actually within the limits of disturbance for each of the proposed alignments.
  - All pages within the report should be numbered.
  - Table 1 should be revised to include a column that references the page numbers for all pictures and maps associated with each identified potential habitat or hibernacula area.
  - It was noted that the comments section for potential habitats 1148, 1020-1003, and 1041 states "None". These comments are used the PGC to help determine if we concur with the determination that areas meet the low, medium, or high criteria set forth in the report. Therefore, Table 1 should be revised to state what observations were made to determine these areas were potential habitat.
  - Name and resumes of all staff that participated in this assessment should be included as an appendix.
  - Copies of all protocols that were followed or are proposed for use during the emergence count surveys should be reference and included in an appendix.

Please provide a revised survey report that includes the above information at your earliest convenience for PGC review.

Sincerely,

Tracey Librandi Mumma

Tracey Librandi Mumma
Division of Environmental Planning & Habitat Protection
Bureau of Wildlife Habitat Management
Phone: 717-787-4250, Extension 3614
Fax: 717-787-6957
E-mail:tlibrandi@pa.gov

TLM/tlm

Crescenzo, Steven

From: Librandi Mumma, Tracey <tlibrandi@pa.gov>
Sent: Monday, March 10, 2014 2:27 PM
To: Crescenzo, Steven
Cc: Dave Willis (dwillis@paturnpike.com); Gary Graham (ggraham@paturnpike.com); Jeffrey Davis (jdavis@paturnpike.com); Greg Bednar (gbednar@paturnpike.com); Sherwin, Tammy; Jones, Ed; John Chenger
Subject: RE: PTC Allegheny Tunnel Transportation Improvement Project: PGC Meeting Agenda - March 10, 2014 @ 10:00 A.M.
Attachments: Eastern Small-footed Bat Roost Structures and Examples_030314.pdf

Hi Steve,

The PGC has no comments on the revised Eastern small-footed habitat assessment and acoustic monitoring report submitted to the PGC on January 20, 2014.

As was requested in today's meeting, attached is guidance on small-footed bat alternative roost structures that have been created as mitigation.

I look forward to receiving and reviewing the environmental alternative analysis document for the PTC Allegheny Tunnel Transportation Improvement Project.

Thanks,

Tracey Librandi Mumma
Wildlife Biologist / Habitat Protection Section Chief
Environmental Planning &Habitat Protection Division
Bureau of Wildlife Habitat Management
Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, PA 17110
717-787-4250 ext 3614
Fax 717-787-6957
tlibrandi@pa.gov

From: Crescenzo, Steven [mailto:STEVEN.CRESCENZO@lrkimball.com]
Sent: Thursday, February 20, 2014 9:33 AM
To: Librandi Mumma, Tracey
Cc: Dave Willis (dwillis@paturnpike.com); Gary Graham (ggraham@paturnpike.com); Jeffrey Davis (jdavis@paturnpike.com); Greg Bednar (gbednar@paturnpike.com); Sherwin, Tammy; Jones, Ed; John Chenger
Subject: PTC Allegheny Tunnel Transportation Improvement Project: PGC Meeting Agenda - March 3, 2014 @ 1:00 P.M.

Tracey,

Good morning. Please see the attached Eastern Small-Footed Myotis Coordination Meeting agenda for the PTC's Allegheny Tunnel Transportation Improvement Project, scheduled for 1:00 P.M. on Monday, March 3, 2014 at your office.

Please let either Tammy or I know if you have any questions; otherwise, we'll see you then. Thanks!

Steven R. Crescenzo | Senior Environmental Scientist

L.R. Kimball - a CDI Company
Frick Building – Suite 812 | 437 Grant Street | Pittsburgh, PA 15219
Ph: 412.201.4900 ext. 612305 | Fax: 412.201.2339 | Cell: 724.433.9817 | www.lrkimball.com

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June 30, 2014 PNDI Large Project Review

Mr. Steve Crescenzo
L.R. Kimball
Frick Building – Suite 812
437 Grant Street
Pittsburgh, PA 15219

Re: Pennsylvania Turnpike Commission Allegheny Tunnel Improvement Project – Revision Including Waste Site Areas and Haul Road
Stony Creek and Allegheny Townships, Somerset County, PA

Dear Ms. Sherwin,

Thank you for submitting the Pennsylvania Turnpike Commission Allegheny Tunnel Improvement Project (survey area, haul road, and waste site areas) to the Pennsylvania Natural Diversity Inventory (PNDI) for review. The Pennsylvania Game Commission (PGC) screened this project for potential impacts to species and resources of concern under PGC responsibility, which includes birds and mammals only.

Potential Impact Anticipated

PNDI records indicate species or resources of concern are located in the vicinity of the project. The PGC has received and thoroughly reviewed the 2012 Bat Mist Net Survey Report and 2013 Allegheny Woodrat Habitat Assessment Survey Report, information provided at a May 2, 2013 meeting with Pennsylvania Turnpike Commission staff and their consultants, the 2013 *Myotis leibii* Assessment as well as PNDI data, and has determined that potential impacts to the following endangered species may be associated with your project:

Scientific Name	Common Name	PA Status	Federal Status
Myotis sodalis	Indiana Bat	ENDANGERED	ENDANGERED
Myotis leibii	Eastern Small-footed Bat	THREATENED	N/A
Neotoma magister	Allegheny Woodrat	THREATENED	N/A
Myotis septentrionalis	Northern Long-eared Bat	SPECIAL CONCERN	N/A

The PGC previously reviewed this project and responded to the Pennsylvania Turnpike Commission (PTC) on November 10, 2011. In the 2011 letter, the PGC stated that the proposed project area includes two bat hibernacula, suitable swarming, foraging, and migration habitat for

various species of bats species, and is located within the Allegheny Mountain Important Mammal Area.

The PGC requested that an Allegheny woodrat habitat assessment be conducted on and within 300 feet of the proposed project area in the November 10, 2011 letter. This survey was conducted in May, August, and September of 2012. Six locations were identified as having the characteristics essential for potential habitat use by Allegheny woodrats. However, no sign of woodrat activity or presence was noted at any of the six identified potential habitat areas. The PGC recommends the avoidance measures listed below (see "Next Steps" section below) be incorporated into the design of the project to minimize impacts to these areas.

The two hibernacula located within the project area have had interior surveys conducted by the PGC. These surveys documented some level of bat use in both hibernacula. Indiana bats were documented in one of the hibernaculum, while northern long-eared bats and other non state listed bat species were documented using both hibernacula. Given the documented use of these hibernacula by bats, additional avoidance measures will be required (see "Next Steps" section below).

Bat mist netting and telemetry (on all suitable species of concern bats captured) on the study area was also requested in the PGC's November 10, 2011 letter. Mist net surveys were conducted in July 2012 and resulted in the capture of 262 bats of five species: big brown (*Eptesicus fuscus*), eastern red (*Lasiurus borealis*), northern long-eared, little brown (*Myotis lucifugus*), and eastern small-footed bats. The one eastern small-footed bat capture was a juvenile male indicting the presence of a maternity colony in the vicinity of the capture location thus additional surveys were requested by the PGC in order for a determination to be make regarding what avoidance measures and mitigation are necessary (see "Next Steps" section below).

The PGC reviewed this project again in 2013 and sent a revised response letter to the PTC on May 14, 2013. In the 2013, the PGC stated that six potential habitat areas were identified for Allegheny woodrats, no activity or sign was observed, and based on those results the PGC recommended that impacts to the six potential habitat areas identified be avoided and minimized to the greatest extent possible.

In addition to the woodrat determination, an eastern small-footed bat habitat assessment, which had yet to be completed at the time of the 2013 review was again requested (it had previously been requested in the PGC's 2011 response letter). The eastern small-footed bat roost habitat assessment survey was completed in 2013 and the results identified a total of 37 sites were identified as potential roost habitat areas within the study area. The habitat assessment was not conducted within the haul road or waste site areas associated with the project (both are new additions to the project area in 2014). The PGC has determined that eastern small-footed roost habitat assessment surveys are not warranted within the haul road or waste sites areas, as both areas do not appear to containing potential small-footed roost habitat (such as large rocks or boulders, talus or scree, rock outcrops, boulder fields, quarries, caves and associated passages, cliffs, abandoned highwalls and spoil piles from previous surface mining, abandoned deep mines, and existing road rock cuts).

Next Steps

- Indiana bats are a federally listed endangered species under the jurisdiction of the U.S. Fish and Wildlife Service. As a result, our agency defers comments on potential impacts to Indiana bats to the U.S. Fish and Wildlife Service

- In order to determine, how much mitigation is necessary for impacts to eastern small-footed bat roost habitat, emergence counts are to be conducted by a qualified bat consultant at all potential roost sites to be impacted by the selected alignment for a minimum of three nights per year: one night in mid-June, one night the second week of July, and a third night during the last week in July. The surveys are to begin ½-hour before sunset and continue for two hours each night and PGC datasheets must be completed for each roost for each night that a survey is conducted. Results of all surveys requested are to be submitted to the PGC by December 31 of the year the survey(s) were conducted. In addition, all eastern small-footed bat roost habitat that needs to be removed to facilitate the construction of this project shall be removed between November 15 and March 31, when the bat are not using it.

- In addition to the above, the PGC requests the following information so that a more accurate determination can be made regarding impacts to species and resources under the PGC's jurisdiction:

    - Location and details of any subsurface impacts (i.e. blasting) to occur on each of the proposed alignments within ½ mile of each bat hibernacula and within ½ mile of eastern small-footed bat roost habitat.

    - An alternative comparison matrix of all proposed alignments that includes the amount of impacts to resources and their associated habitats for the species under the PGC's jurisdiction listed above. The matrix should include, but not be limited to, the following information for each of the proposed alignments:

        - Amount and location of proposed impacts to wetlands, including the amount of each type of wetland to be impacted.

        - Amount and location of proposed impacts to other aquatic resources (streams, rivers, creeks, tributaries, etc.) impacts, as well as total amount of loss of each.

        - Total acres of impacts of forested habitat including location of, species composition, size (dbh), and age of trees to be impacted. Include the amount of contiguous forested habitat to be fragmented by each of the proposed alignments.

        - Total acres of impacts to threatened and endangered species habitat (Allegheny woodrat habitat, eastern small-footed bat roost habitat, bat hibernacula, Indiana bat habitat, etc.).

- Impacts to wildlife migration corridors associated with each alignment. Including information regarding any proposed wildlife crossings associated with each alignment (both tunnel and cut) as well as how the location of each proposed wildlife crossings were determined.

- The PGC recommends the following are incorporated into the design of the project:

  - Habitat removal and/or disturbance within 1,000 feet of all identified hibernacula be avoided and minimized to the greatest extent possible.

  - Tree removal within the project area be avoided and minimized to the greatest extent possible.

  - Fragmentation of the large continuous forest blocks found within the project area be avoided and minimized to the greatest extent possible.

  - Adverse impacts to wetlands and other aquatic resources be avoided and minimized to the greatest extent possible and where possible, riparian buffers of at least 50 feet are maintained.

  - The overall footprint of the project be minimized to the greatest extent possible to avoid any unnecessary impacts

  - The six potential Allegheny woodrat habitat areas identified within the project area be avoided and minimized to the greatest extent possible.

  - Rocky habitat within the project area that maybe used by wildlife be avoided and minimized to the greatest extent possible

This response represents the most up-to-date summary of the PNDI data files and is valid for two (2) years from the date of this letter. An absence of recorded information does not necessarily imply actual conditions on site. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered.

Should the proposed work continue beyond the period covered by this letter, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative and accurate map). If the proposed work has not changed and no additional information concerning listed species is found, the project will be cleared for PNDI requirements under this agency for two additional years.

This finding applies to impacts to birds and mammals only. To complete your review of state and federally-listed threatened and endangered species and species of special concern, please be sure that the U.S. Fish and Wildlife Service, the PA Department of Conservation and Natural Resources, and/or the PA Fish and Boat Commission have been contacted regarding this project as directed by the online PNDI ER Tool found at www.naturalheritage.state.pa.us.

Sincerely,

Tracey Librandi Mumma

Tracey Librandi Mumma
Wildlife Biologist
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Phone: 717-787-4250, Extension 3614
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cc: Robert Anderson, U.S. Fish & Wildlife Service
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November 4, 2015 PNDI Number: 20150824528640

Ms. Ashley Cassol
L.R. Kimball Headquarters
615 West Highland Avenue
P.O. Box 1000
Ebensburg, PA 15931

PNDI Number: 20150824528640
Re: PA Turnpike Commission Allegheny Tunnel Improvement Project – Updated Study Area
Stony Creek and Allegheny Townships, Somerset County, PA

Dear Ms. Cassol,

Thank you for submitting the Pennsylvania Natural Diversity Inventory (PNDI) Receipt Number 20150824528640 (Pennsylvania Turnpike Commission Allegheny Tunnel Improvement Project – Updated Study Area) for review. The Pennsylvania Game Commission (PGC) screened this project for potential impacts to species and resources of concern under PGC responsibility, which includes birds and mammals only.

Potential Impact Anticipated

PNDI records indicate species or resources of concern are located in the vicinity of the project. The PGC has received and thoroughly reviewed the survey reports from the various surveys conducted on and in the vicinity of the updated study area, the previous PGC reviews for the project, as well as PNDI data, and has determined that potential impacts to the following endangered species may be associated with your project:

Scientific Name	Common Name	PA Status	Federal Status
Myotis sodalis	Indiana Bat	ENDANGERED	ENDANGERED
Myotis septentrionalis	Northern Long-eared Bat	THREATNED	THREATENED
Myotis leibii	Eastern Small-footed Bat	THREATENED	N/A
Neotoma magister	Allegheny Woodrat	THREATENED	N/A

Indiana Bat: Indiana bats are a federally listed endangered species, respectively, under the jurisdiction of the U.S. Fish and Wildlife Service. As a result, our agency defers comments on potential impacts to Indiana bats to the U.S. Fish and Wildlife Service

Northern long-eared Bats: Northern long-eared bats are a federally listed threatened species, respectively, under the jurisdiction of the U.S. Fish and Wildlife Service. As a result, our agency defers comments on potential impacts to Northern long-eared bats to the U.S. Fish and Wildlife Service

Eastern Small-footed Bat:

- *Mist-netting and Telemetry:* Bat mist netting and telemetry on the previous study area was conducted in July 2012 and resulted in the capture of 262 bats of five species: big brown (*Eptesicus fuscus*), eastern red (*Lasiurus borealis*), northern long-eared, little brown (*Myotis lucifugus*), and eastern small-footed bats. The one eastern small-footed bat capture was a juvenile male indicting the presence of a maternity colony in the vicinity of the capture location thus additional surveys were previously requested by the PGC in order for a determination to be make regarding what avoidance measures and mitigation are necessary. Since the presence of eastern small-footed bats has already been documented on and in the immediate vicinity of the project, no additional mist netting surveys are requested for the new study areas as delineated in yellow on the attached map.

- *Hibernacula Investigations*: Hibernacula investigations need to be conducted on the new study area sections (as delineated in yellow on the attached map) using the attached *PGC Protocol for Assessing Abandoned Mines/Caves for Bat Surveys*. The openings that have potential as bat hibernacula will need to be surveyed to determine the presence or absence of bat species. A special use permit will need to be obtained by the consultant in order to conduct such surveys that involve the handling of bats. It appears that there are at least two potential bat hibernacula, a cave located south of the existing tunnel and an abandoned mine entry located north of the existing tunnel, both within the new study areas. These two features need to be investigated along with any other undocumented potential bat hibernacula located.

- *Roost Habitat Assessment*: In the 2013, an eastern small-footed bat habitat assessment was completed on the previous study area (as delineated in orange on the attached map) and resulted in the identification of 37 potential roost habitat areas. The habitat assessment was not conducted within the haul road or waste site areas associated with the project as the PGC had determined that eastern small-footed roost habitat assessment surveys were not warranted within the haul road or waste sites areas, as both areas do not appear to containing potential small-footed roost habitat (such as large rocks or boulders, talus or scree, rock outcrops, boulder fields, quarries, caves and associated passages, cliffs, abandoned highwalls and spoil piles from previous surface mining, abandoned deep mines, and existing road rock cuts). However, an eastern small-footed bat habitat assessment on the new study areas (as delineated in yellow on the attached map) is necessary as these areas have not been previously surveyed. All rocky habitat that may offer suitable roost sites for eastern small-footed bat should be completely delineated (GIS shapefiles preferred) and photo-documented. All identified rocky habitat that is not considered to be suitable eastern small-footed bat roost habitat should also be photo-documented and a written narrative provided describing the reason(s) for its non-

suitability. Results of the habitat assessment should be submitted to the PGC for review and will be used to determine if emergence counts are needed on the locations identified.

- *Bat Roost Emergence Counts:* In order to determine, how much mitigation is necessary for impacts to eastern small-footed bat roost habitat, emergence counts are to be conducted by a qualified bat consultant at all potential roost sites (both in the previous study area and new study areas) to be impacted by the selected alignment for a minimum of three nights per year: one night in mid-June, one night the second week of July, and a third night during the last week in July. The surveys are to begin ½-hour before sunset and continue for two hours each night and PGC datasheets must be completed for each roost for each night that a survey is conducted. Results of all surveys requested are to be submitted to the PGC by December 31 of the year the survey(s) were conducted.

Allegheny Woodrat: An Allegheny woodrat habitat assessment was conducted on the previous study area (delineated in orange in the attached map) in 2012. The survey identified six locations as having the characteristics essential for potential habitat use by Allegheny woodrats, however, no sign of woodrat activity or presence was noted at any of the six locations. In the PGC's previous PNDI response letter dated 2013, the PGC stated that based on those results of the 2012 survey, that the six potential habitat areas identified be avoided and minimized to the greatest extent possible to avoid impacting Allegheny woodrats. The new study areas (as delineated in yellow in the attached map) were not surveyed during the 2012 Allegheny Woodrat Assessment. Therefore, Allegheny woodrat habitat assessments should be performed within the new study areas (as delineated in yellow in the attached map) and within 300 feet of these areas. The survey should be conducted following protocols described in the enclosed *PGC Woodrat Guidance Document*. An experienced woodrat surveyor must conduct the survey and complete the required PGC datasheets for all potential habitat and activity sites. Results of the woodrat survey will be used to determine how to best avoid and minimize direct and indirect impacts to woodrats and evaluate the potential for habitat enhancement/mitigation measures.

Next Steps: In addition to the hibernacula investigations, eastern small-footed bat roost habitat assessment, emergence counts, and Allegheny woodrat habitat assessments that are necessary for the new study areas, the PGC requests the following information so that a more accurate determination can be made regarding impacts to species and resources under the PGC's jurisdiction:

- Location and details of any subsurface impacts (i.e. blasting) to occur on each of the proposed alignments within ½ mile of each bat hibernacula and within ½ mile of eastern small-footed bat roost habitat.

- An alternative comparison matrix of all proposed alignments that includes the amount of impacts to resources and their associated habitats for the species under the PGC's jurisdiction listed above. The matrix should include, but not be limited to, the following information for each of the proposed alignments:

    - Amount and location of proposed impacts to wetlands, including the amount of each type of wetland to be impacted.

- Amount and location of proposed impacts to other aquatic resources (streams, rivers, creeks, tributaries, etc.) impacts, as well as total amount of loss of each.

- Total acres of impacts of forested habitat including location of, species composition, size (dbh), and age of trees to be impacted. Include the amount of contiguous forested habitat to be fragmented by each of the proposed alignments.

- Total acres of impacts to threatened and endangered species habitat (Allegheny woodrat habitat, eastern small-footed bat roost habitat, bat hibernacula, Indiana bat habitat, etc.).

- Impacts to wildlife migration corridors associated with each alignment. Including information regarding any proposed wildlife crossings associated with each alignment (both tunnel and cut) as well as how the location of each proposed wildlife crossings were determined.

- The PGC strongly recommends the following are incorporated into the design of the project:

  - The overall footprint of the project be minimized to the greatest extent possible to avoid any unnecessary impacts.

  - The six potential Allegheny woodrat habitat areas identified within the project area be avoided and minimized to the greatest extent possible.

  - Other rocky habitat within the project area that maybe used by wildlife be avoided and minimized to the greatest extent possible.

  - Fragmentation of the large continuous forest blocks found within the project area be avoided and minimized to the greatest extent possible.

  - Habitat removal and/or disturbance within 1,000 feet of all identified hibernacula be avoided and minimized to the greatest extent possible.

  - Tree removal within the project area be avoided and minimized to the greatest extent possible. If any tree removal is necessary, it shall be done be removed between November 15 and March 31, when bats are hibernating.

  - All eastern small-footed bat roost habitat that needs to be removed to facilitate the construction of this project be removed when the bat are not using it, between November 15 and March 31.

  - Adverse impacts to wetlands and other aquatic resources be avoided and minimized to the greatest extent possible and where possible, riparian buffers of at least 50 feet are maintained.

This response represents the most up-to-date summary of the PNDI data files and is valid for two (2) years from the date of this letter. An absence of recorded information does not necessarily imply actual conditions on site. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered.

Should the proposed work continue beyond the period covered by this letter, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative and accurate map). If the proposed work has not changed and no additional information concerning listed species is found, the project will be cleared for PNDI requirements under this agency for two additional years.

This finding applies to impacts to birds and mammals only. To complete your review of state and federally-listed threatened and endangered species and species of special concern, please be sure that the U.S. Fish and Wildlife Service, the PA Department of Conservation and Natural Resources, and/or the PA Fish and Boat Commission have been contacted regarding this project as directed by the online PNDI ER Tool found at www.naturalheritage.state.pa.us.

Sincerely,

Tracey Librandi Mumma

Tracey Librandi Mumma
Wildlife Biologist
Division of Environmental Planning & Habitat Protection
Bureau of Wildlife Habitat Management
Phone: 717-787-4250, Extension 3614
Fax: 717-787-6957
E-mail:tlibrandi@pa.gov

A PNHP Partner

Pennsylvania Natural Heritage Program

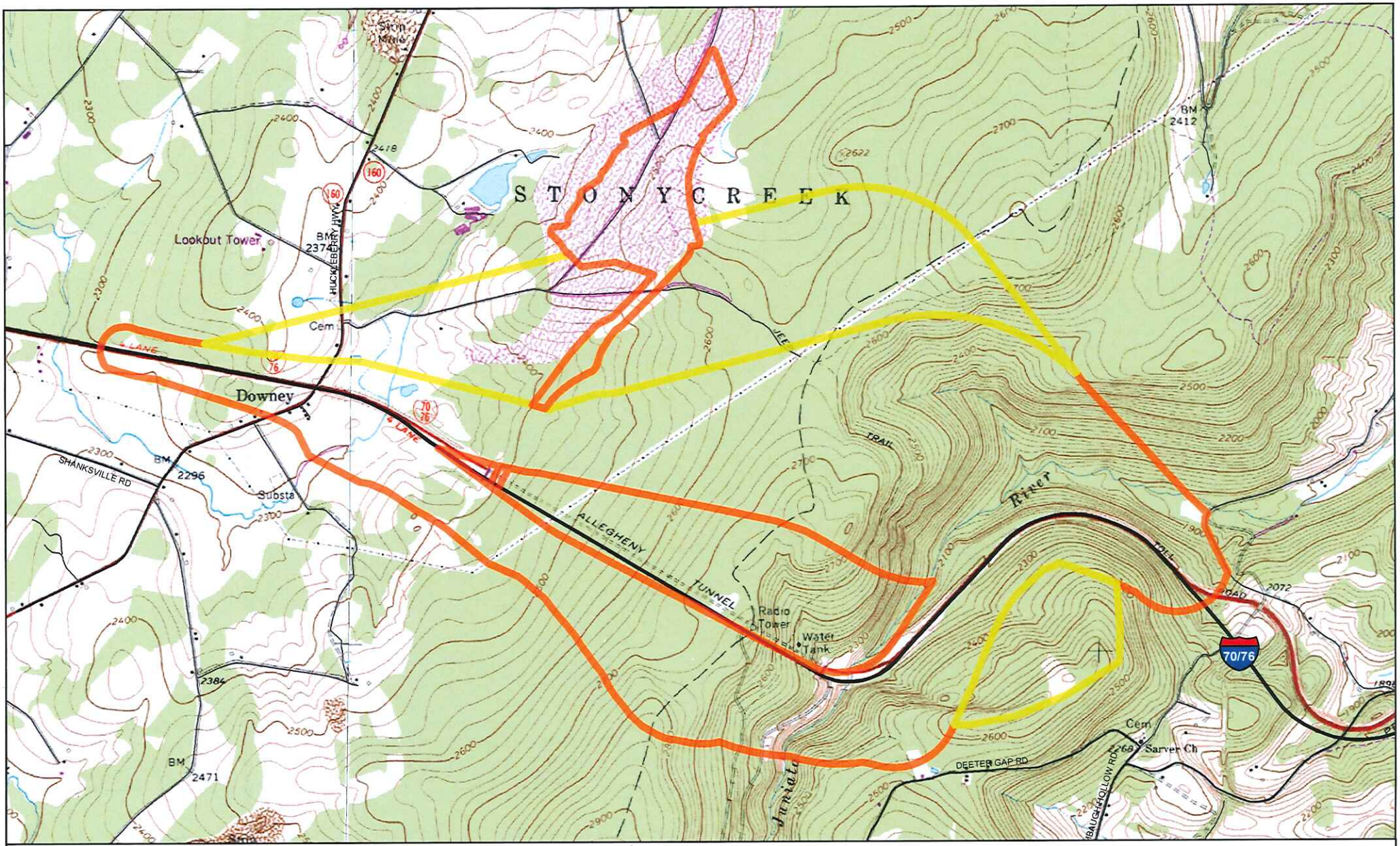
TLM/tlm

Attachments:
Allegheny Tunnel Transportation Improvement Project Updated Study Area (August 2015)
PGC Protocol for Assessing Abandoned Mines/Caves for Bat Surveys
PGC Allegheny Woodrat Guidance Document

cc: Robert Anderson, U.S. Fish & Wildlife Service
Laroche
Brauning
Turner
W. Anderson
Trusso
Lucas
File

Pennsylvania Turnpike Commission

Allegheny Tunnel Transportation Improvement Project Updated Study Area



CDI® L.R. Kimball

August 2015

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N

New Study Area

Previous Study Area

0 0.25 0.5 1 Miles

ALLEGHENY tunnel

Transportation Improvement Project

ALLEGHENY WOODRAT
(*Neotoma magister*)

THE ENVIRONMENTAL REVIEW PROCESS
for
PENNSYLVANIA

Prepared
By

Pennsylvania Game Commission
Bureau of Wildlife Habitat Management
& Bureau of Wildlife Management

June 2008

CONTENTS

APPENDIX

Allegheny Woodrat

Allegheny woodrats inhabit steep rocky/talus slopes, boulder fields, or caves in a forest interior matrix in the Appalachian mountain areas of Pennsylvania. The woodrat is less a "rat" then a large, native mouse living in areas sparsely populated by humans. The following guidelines have been developed to: ensure the protection of active woodrat colonies across the state of Pennsylvania, provide consistency during the impact assessment process, establish best management practices, and enhance & create habitat for the species.

STATUS

The woodrat has been declining over much of its historic range. The decline is thought to be a result of a combination of habitat variables including: reduced acorn crops in areas severely impacted by gypsy moth, fragmentation of forest habitat, and an increase in raccoon populations that act a vectors of an internal parasite fatal to woodrats. The woodrat is officially listed as a Pennsylvania threatened species. The Pennsylvania Game Commission (PGC) has jurisdiction over state listed birds and mammals and is mandated by Title 34 (Game and Wildlife Code) to protect the species.

IDENTIFYING CHARACTERISTICS

Woodrats are a buffy gray above, with white underparts and paws and long whiskers. The adult averages just over a pound, and 17 inches in length, including an 8 inch tail. Its ears are large and may appear naked. The eastern woodrat is distinguished from the Norway rat by its hairy, bicolored tail: the Norway rat has a hairless tail (Wild Resources Conservation Fund, 1995).

LIFE HISTORY

The nest of the woodrat is usually found near an entrance on a dry cave floor, on narrow ledges along cave passages, or in inaccessible crevices of large rocks. The nest consist of shredded bark in a round/oval shape that is roughly 18 inches wide (Genoways and Benner, 1995). The breeding season runs from February until September, during which time up to three litters containing two or three young each may be produced (Wild Resources Conservation Fund).

The diet consists of a wide diversity of plant parts including ferns, fungi, fruits, and soft and hard mast (acorns). They also store food in midden-caches that are located in dry ledges or crevices. A telltale sign that woodrats are storing food is the accordian folded herbaceous plants that are within the food cache. The caches can also contain all sorts of items including bottle caps, plastic, and numerous shiny items.

Food Cache

Folded Vegetation

Woodrats use "toilet areas" where large quantities of droppings collect. The toilet areas are typically located below an overhanging rock in close proximity to their denning area. The toilet areas can contain dozens to thousands of droppings.

Toilet Area

The first phase of impact assessment involves an initial office review or Environmental Review (www.naturalheritage.state.pa.us) to determine if any potential exists for woodrat habitat. The office review involves a review of the type of project, existing woodrat data and modeling for potential habitat. If potential habitat exists the PGC may request photographs, a habitat assessment (Appendix A), or a field view to determine the presence of habitat.

The second phase involves surveying potential habitat for woodrat sign (toilet areas, food caches, and nests). The survey needs to be conducted by a qualified biologist with experience surveying and locating woodrat sign. The survey involves a detailed search by the lead biologist and several assistants for all potential habitat in the project area and within 200 meters of the project area. The project area includes all facilities, roads, utility lines, etc. For linear or point projects the distance from the project site to survey will be determined by the PGC based on site specific conditions. The survey data must be recorded on the PGC standardized survey form (Appendix B).

The third phase takes place if woodrat sign is found during phase II or if the habitat is present and could be re-colonized by known woodrat populations in the surrounding area. Phase III follows the pattern of avoiding, minimizing, and as a last resort (if possible) mitigating for impacts to woodrat habitat or their travel corridors. Avoidance and minimizing impacts can involve shifting the project to another location, modification of the project design, or maintaining/enhancing travel corridors.

MONITORING

On some projects the PGC will request monitoring of the woodrat population to determine if the avoidance, minimization, or mitigation efforts are successful at maintaining the post-construction woodrat population. The monitoring information will assist the PGC to further refine and assess the viability of the avoidance, minimization, and mitigation efforts. Monitoring may include a determination of presence of the species or may involve population estimates pre and post-construction.

BEST MANAGEMENT PRACTICES
for
OCCUPIED WOODRAT HABITAT

Primary Allegheny woodrat habitat consists of activity centers, supporting landscape, and dispersal corridors. Following are three management zones based on the woodrats primary habitat components and the Best Management Practices (BMP) for each zone (modified from the PGC Woodrat Management Plan):

ZONE 1

CORE HABITAT consists of the overtop or near subsurface core habitat that supports the species nesting and denning sites. Activity centers are characterized by observable woodrat sign in the form of toilet area (s) and midden-cache(s) (food cache) linked in most cases to a complex of surface rocks and fissures or to a cave/mine entrance zone.

Best Management Practices

No disturbance to the Core Habitat including but not limited to:

1) No hard mast tree harvesting or salvage of downed trees.
2) No temporary or permanent haul roads, cell towers, buildings, pipelines, etc.

Enhancements *

1) Release cuts around hard mast producing trees is favorable.

2) Red Maple is a lower value seed producer; kill or hinge-cut red maple.

3) In areas lacking canopy closure find, fertilize and fence (if necessary) hard mast producing seedlings or saplings.

4) Plantings of grape vines (summer grape *Vitis aestivalis*) or Virginia creeper provides a valuable food source and cover.

5) Evergreens, particularly hemlock, represent food, cover, and water to woodrats. If a suitable location exists a limited number can be planted.

7) Additional plantings of grape, gooseberry, red elderberry, Hercules club, mountain sumac, serviceberry, sassafras, mountain ash, dwarf chestnut oak, and American chestnut hybrids (if available) are beneficial.

8) If the woodrats are using caves or old mine openings they should be examined for the potential of gating.

*Some enhancement techniques may be difficult to accomplish in the Core Habitat due to the dominance of rock and lack of suitable soil.

ZONE 2

SUPPORTING LANDSCAPE is the area that extends 200 meters from the edge of the Core Habitat polygon. The Supporting Landscape typically consists of mature forest that provides food sources to the woodrat.

Apply the same Best Management Practices and enhancements as Zone 1. The enhancements should be easier to apply within Zone 2 than in Zone 1 due to the potential increase in suitable soil that would support the plantings.

ZONE 3

GENERAL LANDSCAPE is the area extending from the edge of the supporting landscape for a 1.25 mile distance. Generally this zone should be maintained in a forested condition with minimal to no permanent fragmentation.

Best Management Practices

1) Limit permanent haul roads, cell towers, buildings, pipelines, etc.
2) Temporary haul roads and timber harvest are acceptable. The timber harvest should focus on maintaining hard mast producing trees.

DISPERSAL CORRIDORS

Occupied, recently occupied, and potential woodrat habitat needs to be connected in order to provide dispersal corridors from one known woodrat location to another. When dispersal corridors are fragmented it increases the chances of existing populations to die off and not be reoccupied.

1) Dispersal corridors should be a minimum of 100 meters wide when connecting core habitat areas within 500 m of each other.

2) Forestry operations can occur within the corridor provided the corridor is maintained in pole size or larger trees.

4) No new permanent fragmentation to the corridor should occur from logging roads, developments, utility lines, etc. that breaks the corridor and would reduce the ability of woodrats to disperse and or would increase their mortality.

5) In some instances, breaks in the travel corridor (Ex. highways) can be improved by providing various forms of wildlife passages.

HABITAT CREATION

Habitat creation for the Allegheny woodrat (*Neotoma magister*) involves the construction of large boulder fields with numerous rock ledges and overhangs that provide deep fissures that provide protection from predators and the weather.

The following criteria should be used to determine if woodrat habitat should be created:

1) The area is in a forest interior setting with acorn producing species present.

2) The area is within 3 miles of an active woodrat population that is connected to the creation site by a travel corridor.

3) The area has a steep slope with supporting talus slopes and rock outcrops immediately adjacent to the site.

4) No major forest fragmentation (highways, developments, etc.) is within 1.25 miles.

The woodrat habitat creation should adhere to the following criteria:

1) Enough material is present to create a minimum of 1 acre of core habitat. The largest and flatest rock material should be stored and stockpiled from the entire work area. Core habitat consists of boulders with a minimum diameter of 3 feet with larger boulders being better. The boulders are placed in a manner to create the highest amount of openings that extend as far as possible under ground level. If possible, underground openings should be created that have the boulders placed on top to create the deepest caverns as possible. Smaller boulders are placed on the outside edges of the core habitat.

Typically woodrats locate there toilet areas and food caches on larger and flatter boulders with over hanging rocks above that shelter them from the weather and/or predators. The best woodrat habitat has numerous flat ledges leading to underground caverns and as many of them as possible should be created.

2) A biologist with experience surveying for woodrats should be hired to oversee the creation of woodrat habitat.

3) A planting plan needs to be developed for the site that includes trees, shrubs, and vines that provide overhead cover and food. Following are examples of beneficial plants that can be included in the planting plan: drape grape, Virginia creeper, gooseberry, red elderberry, serviceberry, mountain sumac, sassafras, mountain ash, dwarf chestnut oak, hemlock and all hard mast producing species such as chestnut oak, red oak, and white oak.

CONCLUSIONS

The PGC follows a process of determining if habitat is present, determining the presence or absence of the species, and working to avoid and minimize potential impacts. In order to accomplish this task the PGC may require additional information and review projects in the field. The information collected will be used by the PGC to determine what actions (if any) need to be taken in regards to a particular project. The determinations of potential impacts and the recommendations on how to avoid and minimize such impacts are specific to each project.

The Pennsylvania Game Commission, Bureau of Wildlife Habitat Management, should be contacted at the following address to coordinate reviews and impact assessments for the Allegheny woodrat.

Pennsylvania Game Commission
Division of Environmental
Planning and Habitat Protection
Bureau of Wildlife Habitat Management
2001 Elmerton Avenue
Harrisburg, PA 17110
Phone (717) 783-5957

REFERENCES

Genoways, H.H., and F.J. Benner, 1985. Species of Special Concern in Pennsylvania. Trustees of Carnegie Institute, pp. 316-318.

Pennsylvania Game Commission, 2006. Woodrat Management Plan.

Wild Resources Conservation Fund, 1995. Endangered and Threatened Species of Pennsylvania. p. 13.

APPENDIX A

ALLEGHENY WOODRAT HABITAT ASSESSMENT

In Pennsylvania Allegheny woodrats (*Neotoma magister*) are primarily forest interior species that occupy rocky islands embedded in a forested matrix. Their habitat in Pennsylvania can be categorized as 1) den sites consisting primarily of an island and/or corridor of rocks surrounded and typically overtopped by tree canopy; 2) foraging habitat that may extend greater than 100 meters beyond rocks (Wright and Hall 1996); and 3) forested dispersal habitat (between colony areas) that is often absent of surface rocks.

Den site size is a limiting factor for woodrats. The den site is a core area (s) within a rocky island of rocks and boulders with an abundance of large deep crevices characterized by tree canopy cover.

1) Den site size

Den site size is less than 1.0 acres	0.1
Den site size is 1.0 - 2.5 acres	0.3
Den site size is 2.5-3.5 acres	0.7
Den site size is greater than 3.5 acres	1.0

2) Percent of tree canopy within 300 meters of den site.

Tree canopy cover 25% or less	0.1
Tree canopy cover 26%-50%	0.4
Tree canopy cover 51%-75%	0.7
Tree canopy cover 76%-100%	1.0

3) Distance to major forest fragmentation (paved highway, large agriculture fields, large housing and commercial developments, etc.)

Fragmentation within 0.25 miles	0.0
Fragmentation between 0.25 to 0.75 mile	0.4
Fragmentation between 0.75 to 1.0 mile	0.8
No major fragmentation within 1.0 mile	1.0

4) Dispersal corridors are forested tracts of land (>200 feet wide) that connect to other rock outcrop areas

No dispersal corridors exist	0.0
One travel corridor exists	0.5
Multiple corridors exist	1.0

Appendix B

Allegheny Woodrat (*Neotoma magister*)

Site Survey form

and

Code Manual

PENNSYLVANIA GAME COMMISSION

WILDLIFE DIVERSITY SECTION

ALLEGHENY WOODRAT HABITAT SITE SURVEY

CODE MANUAL

This manual provides instructions, definitions and codes for completing the Allegheny Woodrat Habitat Site Survey

The Allegheny Saxicole or

THE ĀSAX

Saxicole: Dwelling in stony places; something that lives on or among rocks; a saxicolous species.

Chittering and twittering,
Chompin and stompin,
The āsax is home.
In the shadow of stone

PENNSYLVANIA GAME COMMISSION Revision Date: 2
May 2006

WOODRAT HABITAT SITE SURVEY

Use the accompanying Woodrat Survey Code Booklet to complete this form.

Habitat Site Name: _____ Trap-site Number: _____
Date: _____

Ownership (circle one): Public, Private, Both Access (Name, Address Telephone):
_____

Location: _____ N or _____S and _____E or _____W of:
_____

Surveyors:
_____

Effort: # of surveyors x survey minutes =_____minutes. Was the site(s) previously surveyed? Yes No

Conservation Mgmt. Area (4 letters, see Appendix 1): _____ Habitat Site Code (if known): _____

County: _____ Quadrangle: _____ Map Photocopy attached? Yes No

Habitat Site Size (m): Longest Length: _____ Average Width: _____ Width range: _____

Activity Extent (m): Longest Length: _____ Average Width: _____ Width range: _____
(Estimate the length & width of rectangle that would include all Activity Centers within Habitat Site)

Latitude_____º----_____'---- _____" & Longitude_____º----_____'----
_____"
(Center of Habitat Site in Degrees, Minutes and Seconds, NAD27)

Elevation Range: _____to_____ meters. Percent Slope: _____%
to_____ %

Aspects (degrees): southerly aspects: _____% _____º northerly aspects:
_____% _____º
(135°-225°) *(315°-45°)*

easterly aspects: _____% _____º westerly aspects: _____% _____º
(45°-135°) *(225°-315°)*

Topography (ridge/valley-side, ridge top, river gorge, water gap, etc.):_____

Surface Rock Habitat Types: List the four most common surface rock habitat types (and estimate the percent coverage of each) starting with the most common (see Table 1):

1) Code #_____ %_____, 2) Code #_____ %_____,

3) Code #_____ %_____, 4) Code #_____ %_____

Geological formation:
_____

Nearest mapped water: Name: _____ Distance to: _____m

FORM PGC 4150 wdrat

Forest Fragmentation Code: _____ Two-digit Habitat Disturbance code: _____ _____ _____

Anderson Level III cover code on site: _____ and adjacent to site: _____

Tree canopy coverage overtop Habitat Site: _____%

Vegetation on and within 100 meters of the Habitat Site:

Trees Species (list most common first and least common last):
_____
_____
_____

Shrub, Vine and Briar (Rubus) Species:
_____

Herbaceous Species:
_____
_____

General Description of Surrounding Habitat (>100m & <500m):_____
_____

If applicable: this Habitat Site replaces (merges) the following Sites (enter the Site names):

_____

Comments, e.g. threats to site, unusual tree mortality, large population of porcupines (tally number of dens), snake species observed, droppings of predators noted etc.

ACTIVITY CENTERS or POTENTIAL ACTIVITY CENTERS (circles with a 15m radius)

Establish up to 10 ACs and/or PACs for every 1 km of Habitat Site length.

No.	GPS Latitude	GPS Longitude	# Toilet Areas		# Midden-caches		#Nests/Hutches		Rock Code	% Canopy Coverage
			Fresh	Old	Fresh	Old	Fresh	Old		
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
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13										
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17										
18										
19										
20										
21										
22										
23										
24										
25										
		TOTAL =								

MIDDEN-CACHE CONTENTS COMBINED FOR ALL ACTIVITY CENTERS	
Green Vegetation & Buds	
Ferns	
Hard Mast	
Soft Mast	
Other Seeds	
Fungi & Lichens	
Misc. (Sticks etc.)	
Raccoon Feces	

WOODRAT HABITAT SITE SURVEY CODE BOOKLET

This booklet will help you to complete the accompanying woodrat site survey form. Some questions are self-explanatory and therefore not covered here. The site survey form should be completed for all initial surveys, resurveys, and trapping surveys of suitable rocky habitat even if no woodrats were found.

Important Definitions:

Activity Center: Activity centers are overtop or near subsurface woodrat nesting or denning sites. Activity centers are characterized by observable woodrat sign in the form of toilet area(s) and midden-cache(s) linked in most cases to a complex of surface rocks and fissures or to a cave/mine entrance zone. The estimated center of activity is GPSed. Then all toilet areas and midden-caches within a 15 m radius of this GPS point are tallied. Multiple Activity Centers within the same Habitat Site should not overlap. Repeatedly or perennially used Activity Centers likely consist of an adult female and her young. Older daughters are tolerated nearby. In essence, Activity Centers (previously referred to as den sites) contain a breeding assemblage. Males disperse from, visit, travel through, or occasionally occupy vacant activity centers. Generally, prime den sites or Activity Centers are defended and are rarely closer than 30 m to one another.

Potential Activity Center: Some areas look like good woodrat habitat but fail to have any sign of being used by woodrats. In these survey instances, the most complex surface rock found, characterized by rock overhangs, ledges, small caves and numerous fissures, can be defined as a Potential Activity Center.

Habitat Site: A Habitat Site is a variable sized area of more or less contiguous surface rock without a break in the surface rock of 200 m or more. A Habitat Site is an island or a "patch" of rock (sometimes referred to as a rock pile) or a cluster of islands. A Habitat Site and its adjacent fringing apron (ecotone) of rock and non-rock surface area has all the necessary resources for the persistence of a local subpopulation, and it is separated by unsuitable denning habitat from other Habitat Sites. At any given time, a Habitat Site may be occupied or empty. Adjacent Habitat Sites are separated by at least 200 m of non-surface rock habitat or by a substantial barrier in the form of a major, hardtop road or wide stream. Habitat Sites contain one or more Activity Centers or Potential Activity Centers. An active Habitat Site contains a woodrat subpopulation which may be as small as a single breeding assemblage or contain multiple breeding assemblages. The most common kinds of movements by woodrat are foraging forays within and on the fringe of the Habitats Site, den shifts within a Habitat Site, and short distance dispersal within larger Habitat Sites. See Figure 2.

Metapopulation Area: Metapopulation Areas are separated from the nearest, adjacent Metapopulation Area by at least 10 km of non-woodrat habitat or a significant barrier to dispersal, e.g. a river or farmed valley bottom. A Metapopulation Area contains at least one but usually numerous topographically related woodrat Habitat Sites; some Habitat Sites may not be occupied. A Metapopulation Area contains a metapopulation defined as a set of subpopulations (one per active Habitat Site) where typically migration from one subpopulation to at least some other subpopulations (Habitat Sites) is possible. The

subpopulations are able to exchange individuals and recolonize Habitat Sites in which the species has recently become extinct.

Conservation Management Unit: A Conservation Management Unit contains physiographically related Metapopulation Areas. Administratively, a Conservation Management Unit represents an economy of scale; and different Metapopulation Areas within a Conservation Management Unit are likely to be impacted similarly regarding regional threats and public land management.

INSTRUCTIONS FOR COMPLETING FORM PGC 4150 wdrat

Habitat Site Name: Give each site a short individual name consisting of no more than two words. Group names (e.g. Big Mountain #4) may also be appropriate. Resurveys of previous Sites may require these Sites to me merged under a new name because previous adjacent Sites may not have the required ≥ 200m of non-surface rock between them. The ≥ 200 m rule is new as of the year 2006. For example, Ellendale 1 through Ellendale 17 (absent ≥ 200 between adjacent Sites) would be merged into a single Habitat Site renamed Ellendale Merged or Ellendale A.

Trap-site Number: Enter if known otherwise leave blank, a number will be assigned later.

Location: Miles or kilometers due north or south and due east and west of nearest town on the topographic map.

Conservation Management Unit: Use only the approved name or abbreviation from Appendix I and Figure 1.

Habitat Site Code: Enter if known, otherwise leave blank and a code will be assigned later.

Habitat Site size: See definition of Habitat Site. The longest length is measured along or close to the contour. Find the end of surface rock adjacent to an area spanning at least 200 m of mostly non-surface rock. The longest length of the surface rock island, without a break of 200 m or more, is estimated to the nearest 50 m, but not zero. Habitat Sites longer than 2 km (about a mile) should be GPSed at both ends and the longest length should be taken off of a topographic map rather than visually estimated. The width of a surface rock island is usually but not always at right angles to the contour, i.e. downhill or uphill. The average width in a few instances will be longer than the length. Estimate the average width of the Habitat Site to the nearest 25 m but not zero. The width range is the shortest and widest width of the surface rock island.

Area of Occupancy or Activity Extent: Estimate the length and width of a rectangle that includes all Activity Centers that have evidence (new and/or old) of being used by woodrats.

Latitude and Longitude: On the contour, estimate the middle of the Habitat Site and GPS this point.

Elevation Range, Example: 332' to 610' **Percent Slope, Example** (%):10% to 15%.

Aspects (degrees), Example: southerly aspects: 100 % 180º; in this example 100% of the Habitat Site was facing due south.

northerly aspects	clockwise 315º to 45º
southerly aspects	clockwise 135º to 225º
easterly aspects	clockwise 45º to 135º
westerly aspects	clockwise 225º to 315º

Note: numerous ridgetop sites will have contrasting aspects.

Classification of Rocky Habitat: This code can be determined with the use of Appendix II. Key down from column 1 to column 3; the number in the third column is the code number(s) to use. Spaces are available for only the four most common rocky habitat types.

Geological formation: This data comes from the Preliminary Atlas of Geologic Quadrangles for
Pennsylvania, Map 61 from the Pennsylvania Geological Survey; refer to the DCNR website. If not available, briefly describe rock (limestone outcrop, sandstone talus, etc.).

Nearest mapped water: Provide the distance to and name of the nearest stream or other body of water taken from the 7.5' quadrangle map.

Forest Fragmentation: This is a basic distance code to measure massive encroachment of agricultural/urban areas into the forest cover type. For this reason consider only agricultural/urban areas >100 hectares. Usually this entry will be the closest measurement from the Habitat Site to the edge of the forest cover type where it meets the expansive, developed, cleared land of the valley.

Code Number	Distance from >100 ha opening	Code Number	Distance from >100 ha opening
1	On site	**5**	>1km to 2km
2	≤ 100m	**6**	>2km to 3km
3	>100m to 500m	**7**	>3km to 5 km
4	>500m to 1km	**8**	>5km

Normally the measurement can be taken off a 7.5 minute topographic map (closest distance to edge of white areas >100 hectares). However, this is not always the case. For example, large housing developments (>100ha.) in a forested site may still be colored green on a topographic map.

Linear agricultural/urban areas >100 hectares should be considered. Example: an agricultural/urban river bottom that measures 250m x 5,000m would qualify for this entry.

For this code, do not measure the distance to small housing developments, strip mines, clearcuts, forest clearings or other small disturbances <100 hectares. These smaller site disturbances should be recorded in the following "Two-digit Habitat Disturbance Codes."

Two-digit Habitat Disturbance Code: Disturbance code that may affect the Habitat Site. Space is available to list up to 3 disturbance codes. Get from Appendix IV.

Anderson Level III land cover code: Determine from Appendix III. Key down from column 1 to column 3; use the 3 digit number (code number) in the third column.

Tree canopy coverage overtop Habitat Site: Estimate to nearest 10%.

ACTIVITY CENTERS and POTENTIAL ACTIVITY CENTERS (PAC): (see definitions) this is a major change compared to previous (pre-2006) surveys.

Within Habitat Sites, Activity Centers are over-top or near subsurface woodrat nesting or denning sites. Activity Centers are characterized by observable woodrat sign in the form of toilet area(s) and midden-cache(s) linked in most cases to a complex of surface rocks and fissures or to a cave/mine entrance zone. Some areas look like good woodrat habitat but fail to have any sign of being used by woodrats. In these survey instances, the most complex surface rock found, characterized by rock overhangs, ledges, small caves and numerous fissures, can be defined as a Potential Activity Center (PAC). The estimated center of activity (actual or potential) is GPSed. Then, if present, all toilet areas and midden-caches within a 15 m radius of this GPS point are tallied. Multiple Activity Centers and/or PACs within the same Habitat Site

should not overlap. Establish up to 10 Activity Centers and/or PACs for every 1 km of Habitat Site length.

- Step 1: Starting at either end of the Habitat Site's "longest length," look for the closest Activity Center or Potential Activity Center. GPS the Activity Center or PAC.

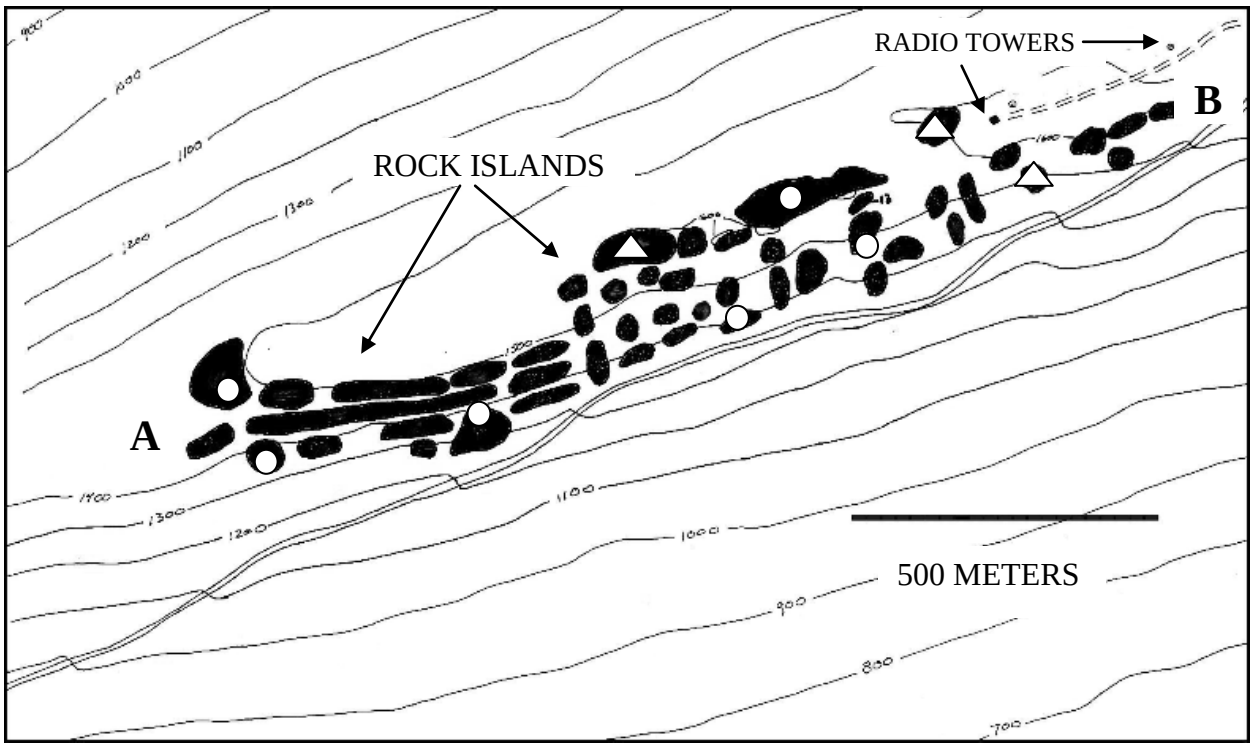
- Step 2: Tally all toilet areas and midden-caches within 15m of the GPSed spot. Also note the rock type (Appendix 2) within and the tree canopy coverage over-top the Activity Center or PAC.

- Step 3: Look for the next closest, non-overlapping (≥30 m from nearest other Activity Center or PAC) Activity Center or PAC and continue in the fashion until no more qualifying Activity Center or PACs exist on the Habitat Site. Note, for every 1 km of Habitat Site length, the Centers (from 1 to 10) can be: 1) all Activity Centers with fresh and/or old signs of woodrat activity; **or** they can be: 2) all Potential Activity Centers with qualifying surface rock but no sign of ever being used by woodrats, **or** 3**)** very likely they will be a combination of 1 and 2. Ten is the maximum number of Centers to GPS within any 1 km stretch of Habitat Site.

Midden-cache contents: List by indicated category. Be as specific as possible, i.e. sassafras leaves, blackberry twigs, tulip poplar fruits, hay-scented ferns. If you are not sure of the identity of an item, collect it and have it identified.

Vegetation: Be specific. Note anything that is exceptionally abundant such as large patches of fern or blueberries.

Figure 1. Example: The Ellendale Towers Habitat Site.



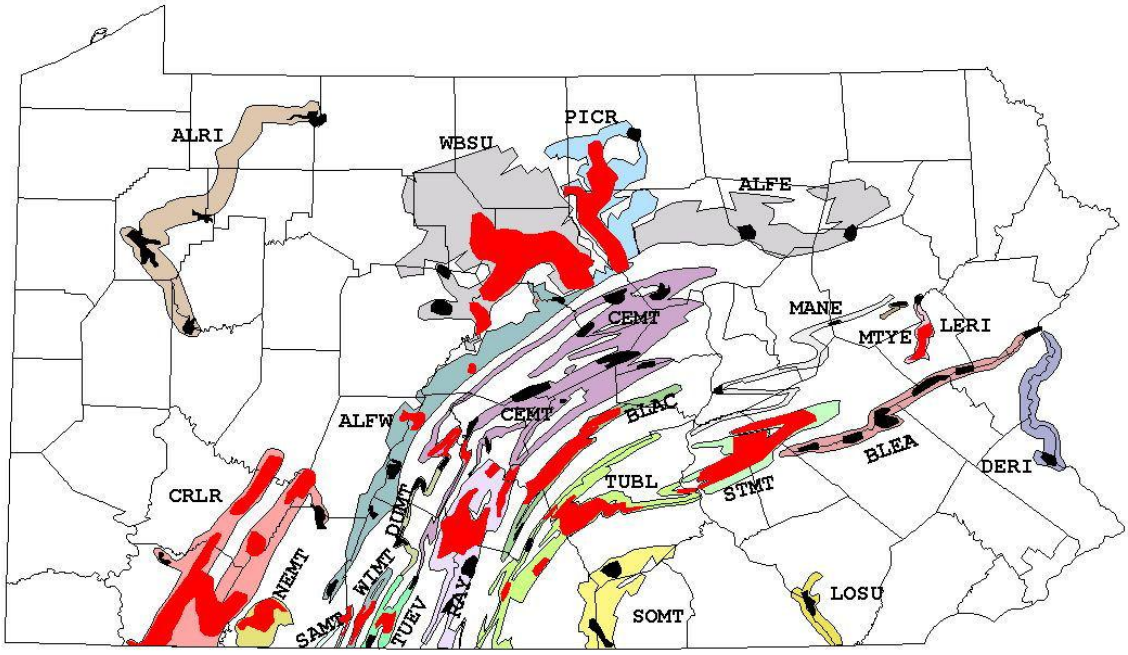
○ = Activity Center with fresh and/or old woodrat sign

Δ = Potential Activity Center with "good" rock

Explanation:

- Ellendale Towers (the Habitat Site Name) is a cluster of rock islands treated as a single Habitat Site because each island is within 200 m of one or more adjacent islands.
- The Habitat Site Length is measured from A to B.
- Proceeding from A towards B, 7 Activity Centers and 1 Potential Activity Center were GPSed in the first kilometer. Two Activity Centers and 2 Potential Activity Centers were GPSed in the next 500 meters.

Figure 2. A 2006 map illustrating 23 Conservation Management Units and 78 Metapopulation Areas.



Metapopulation Areas
- Active (N=29)
- Inactive (N=49)
- PA Countys

Conservation Management Areas
- ALFE=Allegheny Front East
- ALFW=Allegheny Front West
- ALRI=Allegheny River
- BLAC=Blacklog Mountain
- BLEA=Blue Mountain East
- CEMT=Central Mountains
- CRLR=Chestnut/Laurel Ridges
- DERI=Delaware River
- DUMT=Dunning Mountain
- LERI=Lehigh River
- LOSU=Lower Susquehanna R.
- MANE=Mahantango/Nescopck Mt.
- MTYE=Mount Yerger
- NEMT= Negro Mountain
- PICR=Pine Creek
- RAYS=Raystown Branch
- SAMT=Savage Mountain
- SOMT=South Mountain
- STMT=Stony Mountain
- TUBL=Tuscarora/Blue Mts.
- TUEV=Tussey/Evitts Mts.
- WBSU=W. Br. Susquehanna
- WIMT=Wills Mountain

Table 1. Classification of surface rock habitat.

Enter as a three digit code from the following table.

HABITAT TYPE	QUALITY OF HABITAT	SIZE OF ROCK
1 talus	11 bare rock, deep interstices	111 blocks less than 1 meter 112 blocks 1-3 meters 113 blocks 3-5 meters
	12 bare rock, shallow interstices	121 blocks less than 1 meter 122 blocks 1-3 meters 123 blocks 3-5 meters
	13 rock covered by organic material including humus, leaves, moss, with deep interstices	131 blocks less than 1 meter 132 blocks 1-3 meters 133 blocks 3-5 meters
	14 rock covered by organic material including humus, leaves, moss, with shallow interstices	141 blocks less than 1 meter 142 blocks 1-3 meters 143 blocks 3-5 meters
2 rock city, large float blocks	21 numerous overhangs, crevices, and "caves" 22 few or no overhangs, crevices, and "caves"	211 blocks 5-10 meters 212 blocks 10 meters+ 221 blocks 5-10 meters 222 blocks 10 meters+
3 cliffs, rock outcrops	31 numerous overhangs, crevices, and "caves" 32 few or no overhangs, crevices, and "caves"	311 less than 3 meters high 312 3+ meters high 321 less than 3 meters high 322 3+ meters high
4 Cave or mine entrance zone	41 rarely visited, may be gated 42 occasionally visited 43 active, heavily visited or commercialized	411 entrance 0-2 meters 412 entrance 2+ meters 421 entrance 0-2 meters 422 entrance 2+ meters 431 entrance 0-2 meters 432 entrance 2+ meters
Quarry or mine pit	51 highwall with numerous crevices, boulders, etc. 52 highwall with few or no crevices, boulders, etc.	511 less than 3 meters high 512 3+ meters high 521 less than 3 meters high 522 3+ meters high
6 Other man made rocky habitat such as stone walls, railroad and road cuts, buildings, etc.	61 few or no suitable crevices, overhangs, or other interstices 62 numerous suitable crevices, overhangs, or other interstices	611 less than 3 meters high 612 3+ meters high 621 less than 3 meters high 622 3+ meters high

Table 2. Anderson Level III Land-cover Codes Pertinent To Woodrat Habitat

4 Forest Land	41 deciduous forest	411 sapling stage: shrub land layer moderate to dense 412 sapling stage: grazed and/or shrub layer sparse 413 pole stage: shrub layer moderate to dense 414 pole stage: grazed and/or shrub layer sparse 415 mature stage shrub layer moderate to dense 416 mature stage: grazed and/or shrub layer sparse
	42 evergreen forest land	421 sapling stage: shrub land layer moderate to dense 422 sapling stage: grazed and/or shrub layer sparse 423 pole stage: shrub layer moderate to dense 424 pole stage: grazed and/or shrub layer sparse 425 mature stage shrub layer moderate to dense 426 mature stage: grazed and/or shrub layer sparse
	43 mixed forest land	431 sapling stage: shrub land layer moderate to dense 432 sapling stage: grazed and/or shrub layer sparse 433 pole stage: shrub layer moderate to dense 434 pole stage: grazed and/or shrub layer sparse 435 mature stage shrub layer moderate to dense 436 mature stage: grazed and/or shrub layer sparse
7 Barren land	74 bare exposed rock 75 strip mines, quarries and grade pits 76 transitional areas 77 mixed barren land	740 bare exposed rock 750 strip mines, quarries and grade pits 760 transitional areas 770 mixed barren land

Table 3. Classification of Habitat Disturbance.

Use the category(s) that best defines the site:

Code Number	PROXIMITY OF DISTURBANCE	Code Letter	TYPE OF DISTURBANCE
1	On-site	A	Dumping
2	<100m	B	Party spot
3	100m to 500m	C	Buildings
4	>500m to 1km	D	Agriculture
5	>1km to 2km	E	Utility rights-of-way
6	No significant disturbance	F	Railroad rights-of-way
		G	Improved roads
		H	Unimproved roads
		I	Recreation area
		J	Mining
		K	Fire
		L	Main logging haul road
		M	Concentrated tree mortality
		N	No significant disturbance

Example 1: Pastureland approximately 600 meters from suitable rocky habitat would be coded as **4D.**

Example 2: A rock outcrop/cliff used for beer parties would be coded **1B.**

Example 3: Excellent rocky habitat surrounded by uninterrupted forest for 2 or more kilometers in every direction would be coded **6N.**

Example 4: A main logging haul road and log loading site within 300 meters of the edge of the Habitat Site would be coded **3L.**

Eismont, Kelly

From: Librandi Mumma, Tracey <tlibrandi@pa.gov>
Sent: Thursday, April 27, 2017 9:43 AM
To: Cassol, Ashley
Subject: PTC Allegheny Tunnel NEMA and MYLE survey reports

Hi Ashley,

The PGC received and reviewed both the Allegheny Woodrat and Eastern Small-footed Bat Habitat Assessment survey report and have no additional questions or comments on the reports at this time.

Thanks,

Tracey Librandi Mumma
Wildlife Biologist / Habitat Protection Section Chief
Environmental Planning & Habitat Protection Division
Bureau of Wildlife Habitat Management
Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, PA 17110
717-787-4250 ext 3614
Fax 717-787-6957
tlibrandi@pa.gov

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA GAME COMMISSION
2001 Elmerton Avenue
Harrisburg, PA 17110-9797
Wildlife Habitat Management
(717) 787-6818

January 23, 2020

Ms. Kelly Eismont
L. R. Kimball – A CDI Company
Frick Building, Suite 812
437 Grant Street
Pittsburgh, PA 15219

Project Search ID: PNDI-695090
PNDI Receipt: *project_receipt_allegheny_tunnel_transpor_695090_FINAL_1.pdf*
Re: PA Turnpike Commission – Allegheny Tunnel Transportation Improvement Project
Allegheny and Stonycreek Townships, Somerset County, PA

Dear Ms. Eismont,

Thank you for submitting the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt *project_receipt_allegheny_tunnel_transpor_695090_FINAL_1.pdf* for review. The Pennsylvania Game Commission (PGC) screened this project for potential impacts to species and resources of concern under PGC responsibility, which includes birds and mammals only.

Potential Impact Anticipated

PNDI records indicate species or resources of concern are located in the vicinity of the project. The PGC has received and thoroughly reviewed the survey reports from the various surveys conducted on and in the vicinity of the updated study area, the previous PGC reviews for the project, as well as PNDI data, and has determined there are no impacts to state endangered upland sandpipers (*Bartramia longicauda*) associated with your project. However, potential impacts to the following endangered species may be associated with your project:

Scientific Name	Common Name	PA Status	Federal Status
Myotis sodalis	Indiana Bat	ENDANGERED	ENDANGERED
Myotis septentrionalis	Northern Long-eared Bat	ENDANGERD	THREATENED
Myotis lucifugus	Little Brown Bat	ENDANGERED	N/A
Perimyotis subflavus	Tri-colored Bat	ENDANGERED	N/A
Myotis leibii	Eastern Small-footed Bat	THREATENED	N/A
Neotoma magister	Allegheny Woodrat	THREATENED	N/A
N/A	Winter Bat Colony	SPECIAL CONCERN	N/A

Indiana Bat and Northern long-eared Bats: Indiana and northern long-eared bats are both federally listed species under the jurisdiction of the U.S. Fish and Wildlife Service. As a result,

our agency defers comments on potential impacts to both bat species to the U.S. Fish and Wildlife Service

Little Brown, Tri-colored, and Eastern Small-footed Bats:

- *Mist-netting and Telemetry:* Bat mist netting and telemetry based on the 2011 delineated study area was conducted in July 2012 and resulted in the capture of 262 bats of five species: big brown (*Eptesicus fuscus*), eastern red (*Lasiurus borealis*), northern long-eared, little brown, and eastern small-footed bats. The one eastern small-footed bat capture was a juvenile male indicting the presence of a maternity colony in the vicinity of the capture location. Since the mist net surveys were conducted over 5 years ago, additional bat species have been state listed, and the project area has been revised, mist netting surveys are requested for the entire 2019 project study areas.

- *Hibernacula Investigations*: Hibernacula investigations need to be conducted on and within ¼ mile of the 2019 project study area following the protocol found in Appendix B of both the enclosed *Pennsylvania Game Commission Little Brown Bat and Tri-colored Bat Environmental Review Guidance Document (10/3/19) and Pennsylvania Game Commission Eastern Small-footed Bat Environmental Review Guidance Document (revised 8/26/19)*. Any openings that have potential as bat hibernacula will need to be surveyed to determine the presence or absence of bat species. A special use permit will need to be obtained by the consultant in order to conduct such surveys that involve the handling of bats.

- *Roost Habitat Assessments*:
  - Little Brown and Tri-colored Bats: A Summer Roosting and Foraging Habitat Assessment following the protocol in Appendix A of the attached *Pennsylvania Game Commission Little Brown Bat and Tri-colored Bat Environmental Review Guidance Document* should be conducted on and within 1000 feet (¼ mile if blasting is proposed) of the project area. Potential roost habitat includes trees and human structures such as buildings, bridges, bat boxes, etc. and foraging habitat includes various aquatic resources. The Summer Roosting and Foraging Habitat Assessment is to be conducted between April 15th and October 15th and the PGC will use the results to determine if any additional surveys and if avoidance, minimization, and/or mitigation measures are necessary.
  - Eastern Small-footed Bats: In 2013, an eastern small-footed bat habitat roost assessment was completed on the 2011 project study area and resulted in the identification of 37 potential roost habitat areas. The habitat assessment was not conducted within the haul road or waste site areas associated with the project as the PGC had determined that eastern small-footed roost habitat assessment surveys were not warranted at that time within the haul road or waste sites areas, as both areas did not appear to containing potential small-footed roost habitat (such as large rocks or boulders, talus or scree, rock outcrops, boulder fields, quarries, caves and associated passages, cliffs, abandoned highwalls and spoil piles from previous surface mining, abandoned deep mines, and existing road rock cuts). Since the habitat assessment survey was conducted over 5 years ago and the project area has changed, a habitat

assessment, following the protocol found in Appendix A of the enclosed *PGC Eastern Small-footed Bat Environmental Review Guidance Document (revised 8/26/19),* should be redone to refresh previously identified areas as well as survey any areas on and within 300 feet the 2019 project study area that were not included in the 2013 survey. All rocky habitat on and within ¼ mile of the 2019 project study area that may offer suitable roost sites for eastern small-footed bat should be completely delineated (GIS shapefiles preferred) and photo-documented. All identified rocky habitat that is not considered to be suitable eastern small-footed bat roost habitat should also be photo-documented and a written narrative provided describing the reason(s) for its non-suitability. Results of the habitat assessment should be submitted to the PGC for review and will be used to determine if emergence counts are needed on the locations identified.

- *Bat Roost Emergence Counts:* In order to determine, use and what potential mitigation may be necessary for impacts to eastern small-footed bat roost habitat, emergence counts may be requested by the PGC based on the results of the roost habitat assessments. Emergence counts are to be conducted by a qualified bat consultant at all potential roost sites located within the 2019 to be impacted by the selected alignment for a minimum of three nights per year: one night in mid-June, one night the second week of July, and a third night during the last week in July. The surveys are to begin ½-hour before sunset and continue for two hours each night and PGC datasheets must be completed for each roost for each night that a survey is conducted. Results of all surveys requested are to be submitted to the PGC by December 31st of the year the survey(s) were conducted.

Allegheny Woodrat: An Allegheny woodrat habitat assessment was conducted in 2012 on the 2011 project study area and in 2016 on the 2015 updated study area. The survey identified several locations as having the characteristics essential for potential habitat use by Allegheny woodrats, however, no sign of woodrat activity or presence was noted at any of the locations. A habitat assessment should be redone to refresh previously identified areas as well as survey any areas on and within 300 feet the 2019 project study area that were not included in the 2012 or 2016 surveys. The survey should be conducted following protocols described in the enclosed *Pennsylvania Game Commission Allegheny Environmental Review Guidance Document*. An experienced woodrat surveyor must conduct the survey and complete the required PGC datasheets for all potential habitat and activity sites. Results of the woodrat survey will be used by the PGC to determine how to best avoid and minimize direct and indirect impacts to woodrats and evaluate the potential for habitat enhancement/mitigation measures.

Next Steps: In addition to the mist net surveys, hibernacula investigations, bat roost habitat assessments, emergence counts, and Allegheny woodrat habitat assessments that are necessary for the 2019 project study areas, the PGC requests the following information so that a more accurate determination can be made regarding impacts to species and resources under the PGC's jurisdiction:

- Location and details of any subsurface impacts (i.e. blasting) to occur on each of the proposed alignments within ¼ mile of each bat hibernacula and within ¼ mile of any bat roost.

- An updated alternative comparison matrix of all proposed alignments that includes the amount of impacts to resources and their associated habitats for the species under the PGC's jurisdiction listed above.

- Impacts to wildlife migration corridors associated with each alignment. Including information regarding any proposed wildlife crossings associated with each alignment (both tunnel and cut) as well as how the location of each proposed wildlife crossings were determined.

- The PGC strongly recommends the following are incorporated into the design of the project:
  - The overall footprint of the project be minimized to the greatest extent possible to avoid any unnecessary impacts.
  - The previously identified potential Allegheny woodrat habitat areas and potential eastern small-footed roost areas identified within the project area be avoided to the greatest extent possible.
  - Other rocky habitat within the project area that maybe used by wildlife be avoided and minimized to the greatest extent possible.
  - Fragmentation of the large continuous forest blocks found within the project area be avoided and minimized to the greatest extent possible.
  - Habitat removal and/or disturbance within 1,000 feet (¼ mile for blasting) of all identified hibernacula be avoided and minimized to the greatest extent possible.
  - Tree removal within the project area be avoided and minimized to the greatest extent possible. If any tree removal is necessary, it shall be done be removed between November 15th and March 31st, when bats are hibernating.
  - Adverse impacts to wetlands and other aquatic resources be avoided and minimized to the greatest extent possible and where possible, riparian buffers of at least 50 feet are maintained.

This response represents the most up-to-date summary of the PNDI data files and is valid for two (2) years from the date of this letter. An absence of recorded information does not necessarily imply actual conditions on site. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered.

Should the proposed work continue beyond the period covered by this letter, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative and accurate map). If the proposed work has not changed and no additional information concerning listed species is found, the project will be cleared for PNDI requirements under this agency for two additional years.

This finding applies to impacts to birds and mammals only. To complete your review of state and federally-listed threatened and endangered species and species of special concern, please be sure that the U.S. Fish and Wildlife Service, the PA Department of Conservation and Natural Resources, and/or the PA Fish and Boat Commission have been contacted regarding this project as directed by the online PNDI ER Tool found at www.naturalheritage.state.pa.us.

Sincerely,

Tracey Librandi Mumma

Tracey Librandi Mumma
Division of Environmental Planning & Habitat Protection
Bureau of Wildlife Habitat Management
Phone: 717-787-4250, Extension 73614
Fax: 717-787-6957
E-mail:tlibrandi@pa.gov

A PNHP Partner

Pennsylvania Natural Heritage Program

TLM/tlm

Enclosures:
Pennsylvania Game Commission Eastern Small-footed Bat Environmental Review Guidance Document (revised August 26, 2019)
Pennsylvania Game Commission Little Brown Bat and Tri-colored Bat Environmental Review Guidance Document (October 3, 2019)
Pennsylvania Game Commission Allegheny Environmental Review Guidance Document (June 2008)

cc: Pam Shellenberger, U.S. Fish & Wildlife Service
Schnupp
Brauning
Turner
Fazi
Tomlinson
Trusso
File

APPENDIX E-7
PFBC CORRESPONDENCE

established 1866

Pennsylvania Fish & Boat Commission

OCT 17 2011

Division of Environmental Services
Natural Diversity Section
450 Robinson Lane
Bellefonte, PA 16823-9620
(814) 359-5237 Fax: (814) 359-5175

October 13, 2011

IN REPLY REFER TO
SIR# 37260

TAMMY SHERWIN
L.R. KIMBALL
415 MOON CLINTON ROAD
CORAOPOLIS, PA 15108

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No. LARGE PROJECT REVIEW
ALLEGHENY TUNNEL IMPROVEMENT PROJECT
STONYCREEK, ALLEGHENY Townships, SOMERSET County, Pennsylvania

Dear Ms. SHERWIN:

I have reviewed the map accompanying your recent correspondence, which concerns the above-referenced project. Based on records maintained in the Pennsylvania Natural Diversity Inventory (PNDI) database and Pennsylvania Fish & Boat Commission (PFBC) files, the **timber rattlesnake (*Crotalus horridus*, PA candidate)** is known from the vicinity of the proposed project site. Timber rattlesnakes occur in the forested, mountainous regions of the Commonwealth. They prefer forested areas to forage for small mammals (e.g., mice and chipmunks) and southerly-facing slopes for hibernating and other thermoregulatory activities. The timber rattlesnake is threatened by habitat loss/alteration, wanton killing, and poaching.

Given the proximity of the project to known critical timber rattlesnake habitat, we request that a timber rattlesnake habitat assessment be conducted in the project area by *a PFBC recognized/qualified timber rattlesnake surveyor*. We have included the list of PFBC recognized/qualified surveyors and habitat assessment protocol for your convenience. Upon completion of the habitat survey, the qualified rattlesnake biologist is to submit a report to this office (Natural Diversity Section) for review and comment. The habitat survey report should include color photographs of the project area (keyed to a site map or diagram) and a description of habitats occurring within the immediate area to be developed (**including access roads**), as well as the surrounding area. Potential timber rattlesnake critical habitat (denning/gestating areas) should be photographed and mapped accordingly. In addition, the report should also include detailed project plans and maps with a description of the proposed work (including access roads), project impacts and alternatives. Pending the review of this information, a survey targeting the presence of the timber rattlesnake in the project area and/or other project modifications may be requested.

In any future correspondence with us regarding this specific project, please contact Kathy Gipe at 814-359-5186 and refer to the SIR number above. Thank you for your cooperation and attention to this matter of timber rattlesnake conservation.

Sincerely,

Christopher A. Urban, Chief
Natural Diversity Section

CAU/KDG/mr

Enclosures (2)

Pennsylvania Fish & Boat Commission

established 1866

Division of Environmental Services
Natural Diversity Section
450 Robinson Lane
Bellefonte, PA 16823-9620
(814) 359-5237 Fax: (814) 359-5175

February 6, 2013

IN REPLY REFER TO
SIR# 37260

STEVEN CRESCENZO
L.R. KIMBALL
FRICK BUILDING-SUITE 812
437 GRANT ST
PITTSBURGH, PA 15219

RE: Secondary Species Impact Review (SIR) 37260
PNDI Search Number:
ALLEGHENY TUNNEL IMPROVEMENT PROJECT
Stonycreek and Allegheny Townships, SOMERSET County, Pennsylvania

Dear Mr. CRESCENZO:

I have examined the map accompanying your recent correspondence, which shows the location for the above referenced project. Based on records maintained in the Pennsylvania Natural Diversity Inventory (PNDI) database and Pennsylvania Fish & Boat Commission (PFBC) files, the timber rattlesnake (*Crotalus horridus*, PA candidate) is known from the project vicinity.

In response to our prior correspondence, William Martin, a PFBC approved, qualified timber rattlesnake biologist, conducted a habitat assessment for the timber rattlesnake on the proposed project site in 2012. The survey results show potential denning and gestation habitat for timber rattlesnakes located within portions of the project area, and the presence of timber rattlesnakes was confirmed within the area. Given the terrain, timber rattlesnakes could be using the project area for den, basking and/or foraging habitat.

Due to this likelihood, we recommend that the project disturbance areas be routed to avoid direct disturbance to those areas designated as potential overwintering habitat in the habitat assessment. Recommendations specific to the project are below:

1) Any earth disturbance associated with the tunnel improvement project should be routed to avoid the habitats identified as potential denning sites. Efforts to avoid potential gestation sites are also warranted, but we will include recommendations for recreating gestation sites if avoidance is not possible. Please send detailed project plans of the project alignment showing these avoidance measures.

2) Although the nature of the timber rattlesnake is rather docile, it can be dangerous if cornered or handled. Therefore, the workers should be mindful of the presence of the snakes in the area. Rattlesnakes are attracted to open, rocky, log-strewn areas for basking and forested areas with

thick deciduous leaf litter that tend to support high populations of rodents. We recommend that the workers responsible for implementing this project be advised that timber rattlesnakes may be encountered and that avoidance is the best means of minimizing risks to personal safety. These workers should also be advised that the timber rattlesnake is a state protected species and is not to be harmed. Killing of timber rattlesnakes without a proper permit is prohibited by the Commission pursuant to 58 Pa. Code Section 79.6. If any timber rattlesnakes are observed on-site, please notify this office.

If avoidance of den areas is possible, please send us project plans that illustrate this so that we may complete our review. We look forward to reviewing this information. If you have questions about this letter, please contact Kathy Gipe at 814-359-5186 **and refer to the above SIR number in all correspondence**. Thank you for your cooperation and dedication to this matter of timber rattlesnake conservation and habitat protection.

Sincerely,

Christopher A. Urban, Chief
Natural Diversity Section

CAU/KDG/kn

Pennsylvania Fish & Boat Commission
established 1866

Division of Environmental Services
Natural Diversity Section
450 Robinson Lane
Bellefonte, PA 16823
814-359-5237

June 4, 2014

IN REPLY REFER TO
SIR# 42578

L.R. KIMBALL
Steven Crescenzo
437 Grant Street
Pittsburgh, Pennsylvania 15219

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No. 20140403445255, 20140218438640
Allegheny Tunnel Transportation Improvement Project
SOMERSET County: Allegheny Township, Stonycreek Township

Dear Steven Crescenzo:

This responds to your inquiry about a Pennsylvania Natural Diversity Inventory (PNDI) Internet Database search "potential conflict" or a threatened and endangered species impact review. These projects are screened for potential conflicts with rare, candidate, threatened or endangered species under Pennsylvania Fish & Boat Commission jurisdiction (fish, reptiles, amphibians, aquatic invertebrates only) using the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files. These species of special concern are listed under the Endangered Species Act of 1973, the Wild Resource Conservation Act, and the Pennsylvania Fish & Boat Code (Chapter 75), or the Wildlife Code.

According to this submission and our records there have been no changes in on-site biological information; therefore, the Commission's comments regarding potential impacts to rare, candidate, threatened, or endangered species under our jurisdiction, as detailed in our letter of February 6, 2013 for SIR# 37260, remain unchanged.

This response represents the most up-to-date summary of the PNDI data and our files and is valid for two (2) years from the date of this letter. An absence of recorded species information does not necessarily imply species absence. Our data files and the PNDI system are continuously being updated with species occurrence information. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered, and consultation shall be re-initiated.

If you have any questions regarding this review, please contact Kathy Gipe at 814-359-5186 and refer to the SIR # 42578. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,

Christopher A. Urban, Chief
Natural Diversity Section

CAU/KDG/dn

Division of Environmental Services
Natural Diversity Section
450 Robinson Lane
Bellefonte, PA 16823
814-359-5237

October 27, 2015

IN REPLY REFER TO
SIR# 45046

L.R. Kimball
Ashley Cassol
615 West Highland Avenue
Ebensburg, Pennsylvania 15931

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No. 20150824528640
Allegheny Tunnel Improvement Project
SOMERSET County: Allegheny Township, Stonycreek Township

Dear Ms. Cassol :

This responds to your inquiry about a Pennsylvania Natural Diversity Inventory (PNDI) Internet Database search "potential conflict" or a threatened and endangered species impact review. These projects are screened for potential conflicts with rare, candidate, threatened or endangered species under Pennsylvania Fish & Boat Commission jurisdiction (fish, reptiles, amphibians, aquatic invertebrates only) using the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files. These species of special concern are listed under the Endangered Species Act of 1973, the Wild Resource Conservation Act, and the Pennsylvania Fish & Boat Code (Chapter 75), or the Wildlife Code.

Timber rattlesnake (*Crotalus horridus*, PA candidate)

Timber rattlesnakes occur in the forested, mountainous regions of the Commonwealth. They prefer forested areas to forage for small mammals (e.g., mice and chipmunks) and southerly-facing slopes for hibernating and other thermoregulatory activities. The timber rattlesnake is threatened by habitat loss/alteration, wanton killing, and poaching.

In response to our prior correspondence, William Martin, a PFBC approved, qualified timber rattlesnake biologist, conducted a habitat assessment for the timber rattlesnake on the proposed project study area in 2012. The survey results showed potential denning and gestation habitat for timber rattlesnakes located within portions of the project area, and the presence of timber rattlesnakes was confirmed within the area.

Additional area has been included in the most recent study area. Given the proximity of the project to known critical timber rattlesnake habitat, we recommend that a timber rattlesnake habitat assessment be conducted in the new project area by a qualified timber rattlesnake surveyor.

We have included a list of qualified surveyors and habitat assessment protocol for your convenience. This list is not an exhaustive list of qualified rattlesnake surveyors in Pennsylvania as there may be qualified surveyors who have not asked to be placed on this list. It is not mandatory that you use someone on this list. Upon completion of the habitat survey, the qualified rattlesnake biologist is to submit a report to this office for review and comment. The habitat survey report should include color photographs of the project area (keyed to a site map or diagram) and a description of habitats occurring within the immediate area to be developed (including access roads), as well as the surrounding area. Potential timber rattlesnake critical habitat (denning/gestating areas) should be photographed and mapped accordingly. In addition, the report should also include detailed project plans and maps with a description of the proposed work (including access roads), project impacts and alternatives. Pending the review of this information, a survey targeting the presence of the timber rattlesnake in the project area and/or other project modifications may be requested.

Given the terrain, timber rattlesnakes could be using the project area for den, basking and/or foraging habitat. Due to this likelihood, we recommend that the project disturbance areas be routed to avoid direct disturbance to those areas designated as potential overwintering habitat in the habitat assessment. Recommendations specific to the project are below:

1) Any earth disturbance associated with the tunnel improvement project should be routed to avoid the habitats identified as potential denning sites. Efforts to avoid potential gestation sites are also warranted, but we will include recommendations for recreating gestation sites if avoidance is not possible. Please send detailed project plans of the project alignment showing these avoidance measures.

2) Although the nature of the timber rattlesnake is rather docile, it can be dangerous if cornered or handled. Therefore, the workers should be mindful of the presence of the snakes in the area. Rattlesnakes are attracted to open, rocky, log-strewn areas for basking and forested areas with thick deciduous leaf litter that tend to support high populations of rodents. We recommend that the workers responsible for implementing this project be advised that timber rattlesnakes may be encountered and that avoidance is the best means of minimizing risks to personal safety. These workers should also be advised that the timber rattlesnake is a state protected species and is not to be harmed. Killing of timber rattlesnakes without a proper permit is prohibited by the Commission pursuant to 58 Pa. Code Section 79.6. If any timber rattlesnakes are observed on-site, please notify this office.

If avoidance of den areas is possible, please send us project plans that illustrate this so that we may complete our review. This response represents the most up-to-date summary of the PNDI data and our files and is valid for two (2) years from the date of this letter. An absence of recorded species information does not necessarily imply species absence. Our data files and the PNDI system are continuously being updated with species occurrence information. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered, and consultation shall be re-initiated.

If you have any questions regarding this review, please contact Kathy Gipe at 814-359-5186 and refer to the SIR # 45046. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,

Christopher A. Urban, Chief
Natural Diversity Section

CAU/KDG/dn

PENNSYLVANIA FISH & BOAT COMMISSION
Division of Environmental Services
Natural Diversity Section
450 Robinson Lane
Bellefonte, PA 16823-9620

QUALIFIED TIMBER RATTLESNAKE SURVEYORS

The following list includes persons known to the Pennsylvania Fish and Boat Commission (PFBC) to possess skills and have experience in properly searching for and finding timber rattlesnakes (*Crotalus horridus*) and in identifying their critical habitat. This list is not an exhaustive list of qualified surveyors in Pennsylvania as there may be qualified surveyors who have not asked to be placed on the list. Placement on the list is not to be construed as an endorsement of individuals or firms by the PFBC or any of its employees.

Stan Boder
Wildlife Specialists, LLC
2780 Hills Creek Road
Wellsboro PA 16901
Office: 570-376-2255
Cell: 570-952-1169
E-mail: stan@wildlife-specialists.com

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Glenn Johnson, Ph.D.
Professor, Department of Biology
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Home: (315) 268-1649
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(304) 876-3219
E-Mail: whmartin@crotalus.org

B. Scott Fiegel, Howard K. Reinert Ph.D.
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PO Box 181
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Howard Reinert, Ph.D.
Professor, Biology Department
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Randy Stechert
Timber Rattlesnake Consultant
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E-mail: Rzappalort@aol.com

Phillip R. Dunning
WHM Group, Inc.
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State College, PA 16803
Office: (814) 689-1650 Cell: (215)815-9571
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Chris Camacho
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E-mail: christopherscamacho@gmail.com

Pennsylvania Fish & Boat Commission
established 1866

Division of Environmental Services
Natural Diversity Section
450 Robinson Lane
Bellefonte, PA 16823
814-359-5237

November 28, 2016

IN REPLY REFER TO
SIR# 45046

L.R. Kimball
Tammy Sherwin
615 West Highland Avenue
Ebensburg, Pennsylvania 15931

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No. 20150824528640
Allegheny Tunnel Improvement Project
SOMERSET County: Allegheny Township, Stonycreek Township

Dear Tammy Sherwin:

This responds to your inquiry about a Pennsylvania Natural Diversity Inventory (PNDI) Internet Database search "potential conflict" or a threatened and endangered species impact review. These projects are screened for potential conflicts with rare, candidate, threatened or endangered species under Pennsylvania Fish & Boat Commission jurisdiction (fish, reptiles, amphibians, aquatic invertebrates only) using the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files. These species of special concern are listed under the Endangered Species Act of 1973, the Wild Resource Conservation Act, and the Pennsylvania Fish & Boat Code (Chapter 75), or the Wildlife Code.

Timber Rattlesnake (*Crotalus horridus*, Species of Concern)

Timber rattlesnakes occur in the forested, mountainous regions of the Commonwealth. They prefer forested areas to forage for small mammals (e.g., mice and chipmunks) and southerly-facing slopes for hibernating and other thermoregulatory activities. The timber rattlesnake is threatened by habitat loss/alteration, wanton killing, and poaching. Efforts at maintaining critical habitats for this species will be essential elements of preventing decline and continuing conservation efforts.

You have obtained habitat assessments for timber rattlesnake critical habitat throughout the potential terrain within the project study area. Timber rattlesnakes have been documented as using parts of the project area for den, basking and/or foraging habitat. We have not yet received information as to the proposed route of the project, and we recommend that the project disturbance areas be routed to avoid direct disturbance to those areas designated as potential overwintering habitat in the habitat assessments. Recommendations specific to the project are below:

1) We recommend that any earth disturbance associated with the tunnel improvement project be routed to avoid the habitats identified as potential denning sites. Efforts to avoid potential gestation sites are also warranted, but we have included recommendations for recreating gestation sites if avoidance is not possible.

2) Although the nature of the timber rattlesnake is rather docile, it can be dangerous if cornered or handled. Therefore, the workers should be mindful of the presence of the snakes in the area. Rattlesnakes are attracted to open, rocky, log-strewn areas for basking and forested areas with thick deciduous leaf litter that tend to support high populations of rodents. We recommend that the workers responsible for implementing this project be advised that timber rattlesnakes may be encountered and that avoidance is the best means of minimizing risks to personal safety. These workers should also be advised that the timber rattlesnake is a state protected species and is not to be harmed. Killing of timber rattlesnakes without a proper permit is prohibited by the Commission pursuant to 58 Pa. Code Section 79.6. If any timber rattlesnakes are observed onsite, please notify this office.

As the project planning continues, please send us project plans that illustrate the application of the above avoidance measures so that we may complete our review. This response represents the most up-to-date summary of the PNDI data and our files and is valid for two (2) years from the date of this letter. An absence of recorded species information does not necessarily imply species absence. Our data files and the PNDI system are continuously being updated with species occurrence information. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered, and consultation shall be re-initiated.

If you have any questions regarding this review, please contact Kathy Gipe at 814-359-5186 and refer to the SIR # 45046. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,

Christopher A. Urban, Chief
Natural Diversity Section

CAU/KDG/dn

PENNSYLVANIA FISH & BOAT COMMISSION
Division of Environmental Services
Natural Diversity Section
450 Robinson Lane
Bellefonte, PA 16823-9620

Guidelines for Timber Rattlesnake Habitat Creation

(revised 3-5-2010)

Food Plots – Gas Well Openings – Access Roads – Pipelines

Timber rattlesnakes (C*rotalus horridus*) are declining across their range, mostly due to habitat destruction/alteration, wanton killing, and poaching. The Pennsylvania Fish & Boat Commission (PFBC) is the state agency charged with the protection of Pennsylvania's reptiles, and therefore, since the early 1980's has been involved in collecting information about the timber rattlesnake and its habitats in Pennsylvania. The PFBC is aware of numerous forest openings, access roads, and pipelines on private, State Forest, and State Game Lands across the state, that are used by gravid (pregnant) timber rattlesnakes on an annual basis. Gravid females use these sites mainly to bask for gestation (embryonic development) purposes. Through years of monitoring we have noted characteristics that will be helpful in guiding the future construction of effective timber rattlesnake gestation habitat. This memorandum describes these characteristics and makes recommendations for creation of critical timber rattlesnake habitat.

Life History

Timber rattlesnakes inhabit the forested, mountainous regions of Pennsylvania. Their active season is mid-April through mid-October. They prefer upland forested areas where they forage for small mammals (e.g., mice, and chipmunks). Talus and/or scree slopes, rocky ledges, outcrops, and boulder fields generally with southerly exposures contain the entrances to over-wintering dens. Dens usually have rocky crevices, or other features that provide access to ancestral underground chambers to which the snakes return yearly for hibernation. These sites generally have rocky habitat containing a semi-open canopy close by that is used by gravid females for gestation. Timber rattlesnakes begin emerging (egress) from their dens in mid to late April. Adult males may travel up to 3 to 5 miles away from the den before returning in the fall, unlike non-gravid females, which move approximately 1 to 3 miles from the den, and gravid females, which stay close to the den (100-400m). Timber rattlesnakes begin traveling towards their den sites in September and enter their dens (ingress) for winter dormancy in late September through October.

Distribution

The current range of the timber rattlesnake encompasses 31 states from Vermont and New Hampshire south to northern Florida, west to eastern Texas and then north through eastern Oklahoma, Kansas, and Nebraska, through Iowa into southeastern Minnesota. From southwestern Wisconsin the range retreats south, away from the Great Lakes, through western and southern Illinois and southern Indiana and Ohio.

In Pennsylvania the Allegheny Plateau and the Appalachians are encountered and the range goes north through New York back to southern Vermont and New Hampshire. Prior to European settlement, the range of the timber rattlesnake is thought to have spanned most of Pennsylvania. The current range of the timber rattlesnake is restricted to the more rugged, least accessible, and less populated regions of the Commonwealth. Today, timber rattlesnakes occur in forested, mountainous regions that encompass mainly the central and northeast region of Pennsylvania (e.g., Ridge and Valley Province, Laurel Highlands, Allegheny Plateau, and the Pocono Plateau).

Threats and Conservation

Given the slow maturity, low fecundity, and the many threats posed by the overexploitation of its habitat, the timber rattlesnake is vulnerable to decline. Presently, experts believe that the timber rattlesnake is

declining across its range, and in Pennsylvania particularly in the peripheral areas of its range. The decline of the timber rattlesnake is attributed mainly to human activities related to habitat alteration, highways, illegal/wanton killing, and poaching. To date, the timber rattlesnake is protected in over half of the states where it occurs. In Pennsylvania, it is currently listed as a candidate species (an animal that could achieve threatened or endangered status in the future). The timber rattlesnake is legally protected in Pennsylvania and the Pennsylvania Fish and Boat Commission's Natural Diversity Section comments statewide on development projects that have potential to adversely impact timber rattlesnake populations. The Natural Diversity Section is also involved with research projects on monitoring, inventory, and den viability that are being conducted on Pennsylvania timber rattlesnakes.

Critical Habitats

The PFBC considers two types of habitat used by timber rattlesnakes as extremely vital and thus refers to them as "Critical Habitat": over-wintering dens and gestation sites. The loss of either of these habitats will adversely impact the timber rattlesnake. Studies have shown that snakes cannot be successfully relocated and the loss of a den through destruction usually results in the loss of that particular den population, which may be critical to the local population (Reinert and Rupert 1999*). The key to understanding why a den exists in a specific location is the underground microclimate. Although attempts to predict specific den locations by researchers have proven difficult, temperature, humidity, and a water source appear to be critical to den site selection for timber rattlesnakes (H. Reinert, pers. comm..). **Efforts to create den habitat have not proven to be successful.** Recent telemetry studies have been useful in determining specific den location selection of timber rattlesnakes (H. Reinert and PFBC, pers. comm.). Dens are often located in obscure habitats, which on the surface appear no different than any other location on a particular mountain. (See Den Habitat Photos illustrating this point showing how few rocks or none may be present.) Generally, they are located in and around rocky habitat, not necessarily extremely rocky habitat, but on a slope, under tree canopy, and usually not in large rock outcrops. Because dens are difficult to locate without telemetry and there is such a short window of time to locate them, it is critical to protect the potential den habitat (rock areas) located on slopes having an exposure ranging from southeast to west (135° to 270°). **Simply put, in order to protect den sites, slopes in this degree range should be avoided**.

The other type of timber rattlesnake critical habitat is the gestation site. This is an area where gravid female rattlesnakes congregate for several months (June-September) for the sole purpose of gestating young and birthing. Gravid females require a higher body temperature for embryonic development than the other snakes in the local population, which spends most of the summer months foraging under the forest canopy. **Gestation habitat *can* be created** to improve the viability of the den populations over the long term. Well clearings, pipelines, and their associated access roads provide opportunities to create excellent gestation habitat, as detailed below.

Habitat Creation

<u>Placement and Engineering of Access Roads</u>

Based on the information we have concerning dens, it is best to avoid construction in rocky areas on slopes having an exposure ranging from southeast to west (135° to 270°). It is important to avoid any slope with that exposure**,** because some den entrances occur in relatively small ledges or simply a small opening or hole occurring on the ground under semi-open canopy that is used to access the underground over-wintering den. Despite our best efforts to route access roads through areas which appear devoid of rocks, large rocks will still be unearthed during the excavation of a road. **We recommend the large rocks be pushed to the north or east side of the roads and left lying flat in the open area between the tree line and the traveled portion of the road.** This manipulation of the rocks will optimize solar exposure and provide attractive basking habitat for gravid females. We recommend that these access roads be gated and locked, thus preventing many people from accessing the site and indirectly protecting the gestating snakes from excessive human disturbance. (See Access Road photos showing this habitat.)

Alternatively, if high use of these roads is expected during the summer months, then the margins should be completely cleared of all rocks, logs, and debris in order to *discourage* their use as gestation sites by rattlesnakes.

Habitat Creation in Clearings

There are opportunities at food plots, gas well clearings, and pipelines to create excellent gestation habitat by utilizing the larger rock slabs, which were unearthed during the excavation of the opening. Forest openings created in more remote areas or in areas only accessible by gated access roads should be the areas targeted for the creation of rattlesnake gestation habitat. The lack of disturbance is necessary, because rattlesnakes imprint to these locations and will arrive at the gestation rocks in late May or early June and remain there, without feeding, until early September. If the snakes are consistently disturbed they may abandon the location.

The important factor in creating excellent gestation habitat is the rock placement in a position so the rocks receive a daily minimum of 5 to 7 hours of direct sunlight. Rock placement is important. If it is done correctly, it enables the females the opportunity to bask and good rock placement also affords the snakes the opportunity to retreat to shade during intense sun which occurs in the middle of the day. The rocks absorb and hold the high heat during the day and make it possible for the gravid female to thermoregulate during the 18 hours a day the rock is not in the sun. **Large flat slabs (minimum of 4' x 6') should be placed on the north or east side of the well openings and food plots approximately 5 to 10 yards out into the opening from the existing tree line.**

Shade for the rattlesnakes can be provided by diverse vegetative cover, or by additional layers of rock. Seeding between the forest edge and the newly placed rocks should be avoided if possible in order to allow for colonization of local vegetation. Additionally, the required shade can be provided by placing the large flat rocks flat on the ground, approximately 5 to 10 yards from the tree line, leaving approximately two (2) feet between the slabs. A second layer of slabs can then be placed on top of the first layer covering the two (2) foot open space separating the base slabs and also leaving spacing between the top layer of rocks. Additional rows of rocks may be added, based on availability, but all rows of rocks should consist of not more than two layers. Any additional layers should be avoided because they prevent the base slab from warming to the required temperature needed by the snakes during the hours of the day without sun. In this type of structure the snakes will utilize the base slab and the shade created between the base slabs by the top layer of slabs. (See Forest Opening and Pipeline Edge photos showing this habitat.)

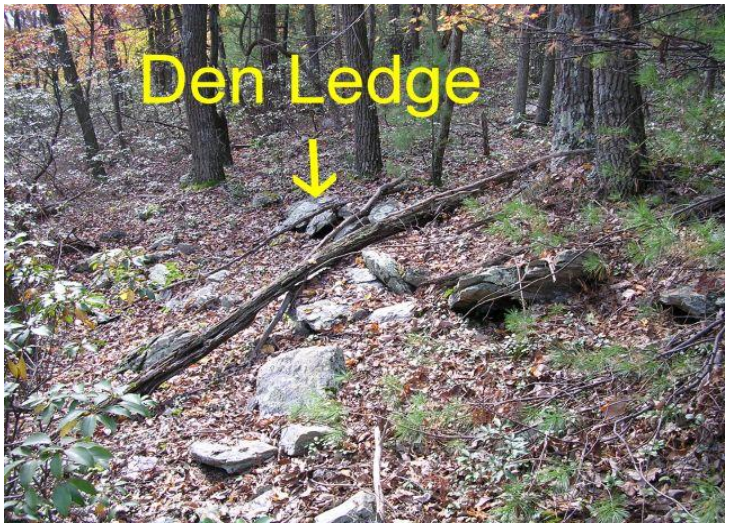
Monitoring

It is important to notify the Pennsylvania Fish and Boat Commission, Natural Diversity Section, 450 Robinson Lane, Bellefonte, PA 16823, (814)359-5237 of the location coordinates of all sites where habitat construction was performed in order for the PFBC to monitor the timber rattlesnake use of the created site over time. Once established, certain rocks within the created habitat area will be used annually by the females from one or multiple den populations and will aid in increasing the viability of that particular population.

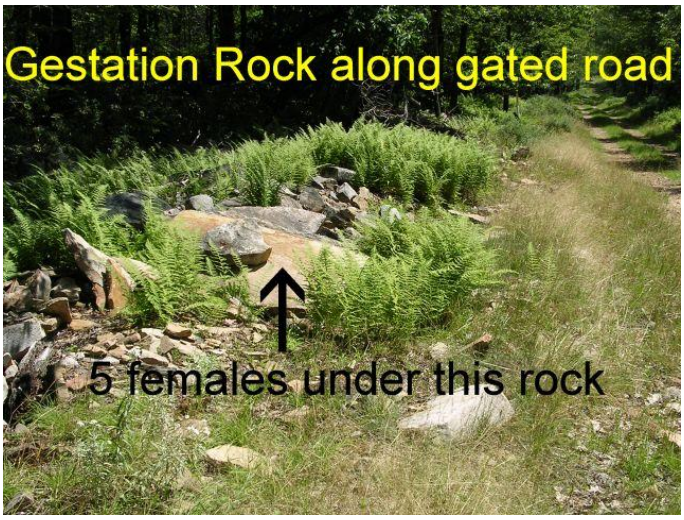
Through proper management, habitat creation, maintenance, research, and the continuing cooperative efforts of land managers, private landowners, and industry, the timber rattlesnake will continue to be a part of our forests and a reminder of our wilderness heritage. Thank you for your cooperation in this conservation effort.

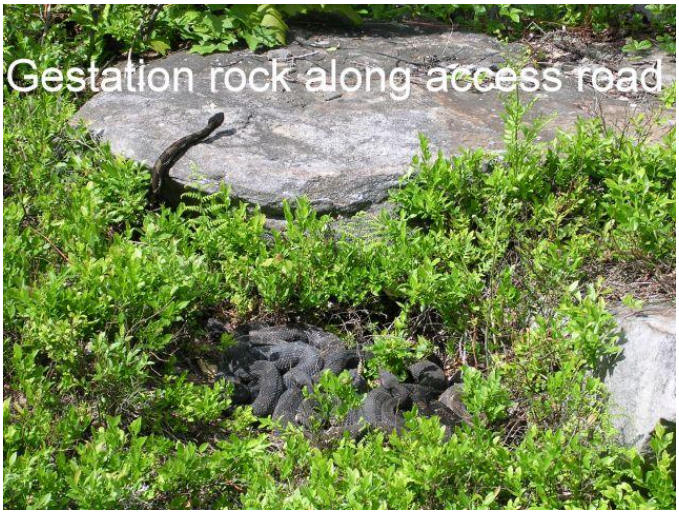
*Reinert, H. K. and R. R. Rupert, Jr. 1999. Impacts of translocation on behavior and survival of Timber Rattlesnakes, *Crotalus horridus*. Journal of Herpetology 33:45-61.

Examples of Den Habitat

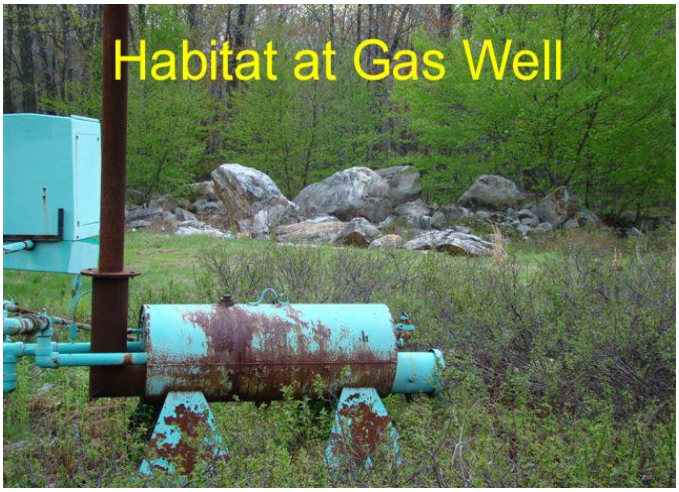


Examples of Habitat along Access Roads

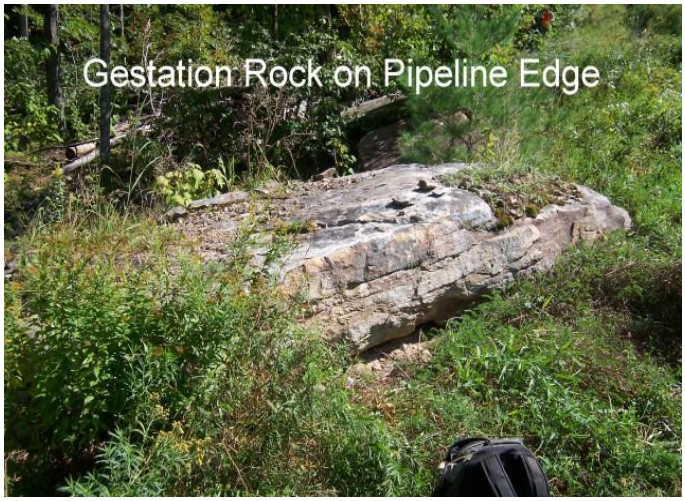


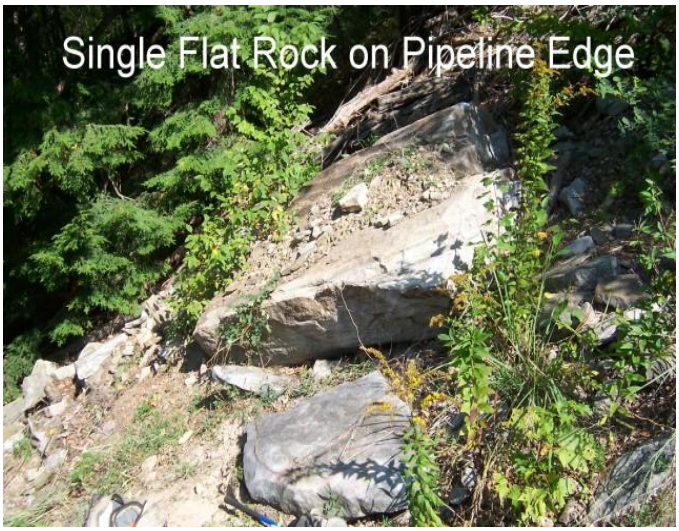


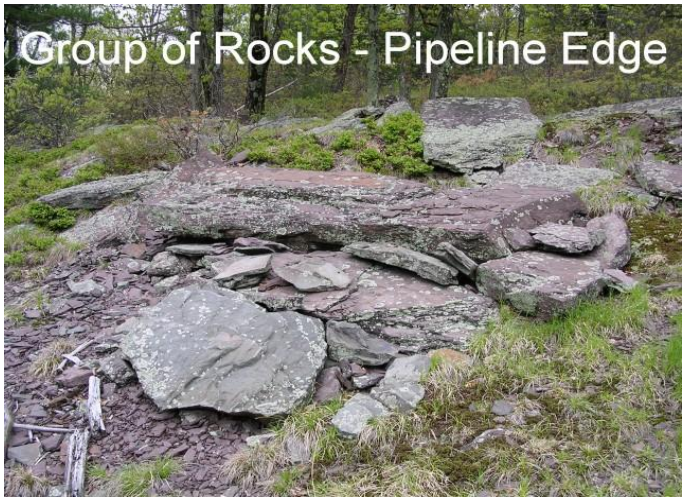
Examples of Habitat in Forest Openings

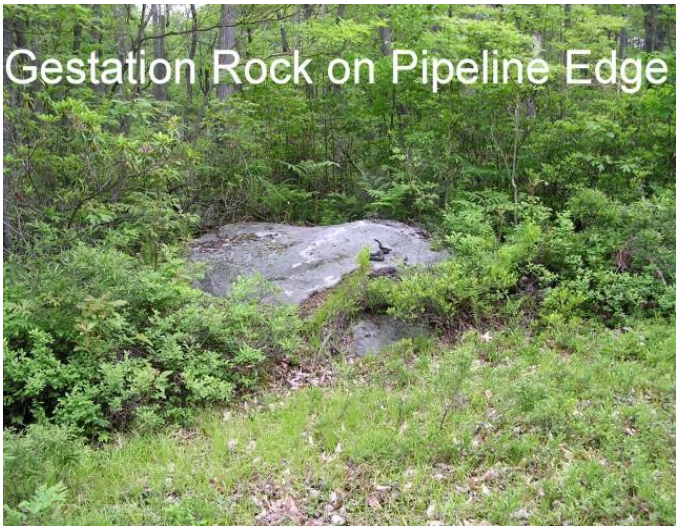


Examples of Habitat along Pipeline Edges









Pennsylvania Fish & Boat Commission
established 1866

Division of Environmental Services
Natural Diversity Section
595 E Rolling Ridge Dr.
Bellefonte, PA 16823
814-359-5237

January 7, 2020

IN REPLY REFER TO
SIR# 52373

L.R. Kimball
Kelly Eismont
437 Grant Street
Pittsburgh, Pennsylvania 15219

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No. 695090_2
Allegheny Tunnel Transportation Improvement Project
SOMERSET County: Allegheny Township, Stonycreek Township

Dear Kelly Eismont:

This responds to your inquiry about a Pennsylvania Natural Diversity Inventory (PNDI) Internet Database search "potential conflict" or a threatened and endangered species impact review. These projects are screened for potential conflicts with rare, candidate, threatened or endangered species under Pennsylvania Fish & Boat Commission jurisdiction (fish, reptiles, amphibians, aquatic invertebrates only) using the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files. These species of special concern are listed under the Endangered Species Act of 1973, the Wild Resource Conservation Act, and the Pennsylvania Fish & Boat Code (Chapter 75), or the Wildlife Code.

Timber Rattlesnake (*Crotalus horridus*, Species of Concern)

Timber Rattlesnakes occur in the forested, mountainous regions of the Commonwealth. They prefer forested areas to forage for small mammals (e.g., mice and chipmunks) and southerly-facing slopes for hibernating and other thermoregulatory activities. The Timber Rattlesnake is threatened by habitat loss/alteration, wanton killing, and poaching.

You have obtained habitat assessments for Timber Rattlesnake critical habitat throughout the potential terrain within the project study area. Timber Rattlesnakes have been documented as using parts of the project area for den, basking and/or foraging habitat. We have not yet received information as to the proposed route of the project, and we recommend that the project disturbance areas be routed to avoid direct disturbance to those areas designated as potential overwintering habitat in the habitat assessments. Recommendations specific to the project are below:

1) We recommend that any earth disturbance associated with the tunnel improvement project be routed to avoid the habitats identified as potential denning sites.

Efforts to avoid potential gestation sites are also warranted, but we have included recommendations for recreating gestation sites if avoidance is not possible.

2) Although the nature of the Timber Rattlesnake is rather docile, it can be dangerous if cornered or handled. Therefore, the workers should be mindful of the presence of the snakes in the area. Rattlesnakes are attracted to open, rocky, log-strewn areas for basking and forested areas with thick deciduous leaf litter that tend to support high populations of rodents. We recommend that the workers responsible for implementing this project be advised that Timber Rattlesnakes may be encountered and that avoidance is the best means of minimizing risks to personal safety. These workers should also be advised that the Timber Rattlesnake is a state protected species and is not to be harmed. Killing of Timber Rattlesnakes without a proper permit is prohibited by the Commission pursuant to 58 Pa. Code Section 79.6. If any Timber Rattlesnakes are observed onsite, please notify this office.

As the project planning continues, please send us project plans that illustrate the application of the above avoidance measures so that we may complete our review. This response represents the most up-to-date summary of the PNDI data and our files and is valid for two (2) years from the date of this letter. An absence of recorded species information does not necessarily imply species absence. Our data files and the PNDI system are continuously being updated with species occurrence information. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered, and consultation shall be re-initiated.

If you have any questions regarding this review, please contact Kathy Gipe at 814-359-5186 and refer to the SIR # 52373. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,

Christopher A. Urban, Chief
Natural Diversity Section

CAU/KDG/dn