SECTION 1 - 8

PENNSYLVANIA NATURAL DIVERSITY INVENTORY (PNDI)

PennEast has completed surveys for threatened and endangered species in Luzerne County. The species that may be impacted by the Project in Luzerne County include northern long-eared bat (*Myotis septentrionalis,* federal threatened), eastern small-footed bat (*M. leibii*, state threatened), timber rattlesnake (*Crotalus horridus*, delisted), and sundial lupine (*Lupinus pernnis*, state rare). A summary of the surveys conducted and PNDI resolutions for these species is included below.

The Pennsylvania Department of Conservation and Natural Resources (PADCNR) and Pennsylvania Fish and Boat Commission (PFBC) have provided clearance letters for the Project dated August 24, 2018 and October 11, 2018, respectively. These letters are provided in JPA Section G-1. On November 28, 2017, the US Fish and Wildlife Service (USFWS) issued a Biological Opinion (BO) for impacts that the Project may have on the northern long-eared bat and bog turtle. In its cover letter to the Federal Energy Regulatory Commission (FERC), the USFWS stated that the Project is not likely to adversely affect the dwarf wedgemussel, Indiana bat, or the northeastern bulrush. USFWS has since recommended that FERC re-initiate consultation to modify the 2017 BO under the minor change process. Re-initiation will result in a consultation update letter which addresses route amendments and updated survey results. The recommendation of re-initiation was made due to the changed action area resulting from proposed route modifications.

PennEast continues to coordinate with the Pennsylvania Game Commission (PGC) and USFWS to resolve PNDI potential conflicts. PennEast anticipates that coordination will be complete within a couple of months; PennEast therefore requests that the PADEP utilize a sequential review of the PNDI coordination in accordance with the PADEP's *Policy for PNDI Coordination during Permit Review and Evaluation* (Document Number 021-0200-001), which allows for a concurrent review of the permit application while the permit applicant completes PNDI coordination.

A summary of agency consultations to date is provided in JPA Section G-1 along with copies of the relevant correspondence. Communications that contain information that may reveal the location of protected species are provided in a separate, Privileged Volume as JPA Section G-2. Information in the Privileged Volume should not be released.

SECTION 1 - 8

PENNSYLVANIA NATURAL DIVERSITY INVENTORY (PNDI)

PennEast has completed surveys for threatened and endangered species in Carbon County. The species that may be impacted by the Project in Carbon County include northern long-eared bat (*Myotis septentrionalis*, federal threatened), bog turtle, eastern small-footed bat (*Myotis leibii*, state threatened), timber rattlesnake (*Crotalus horridus*, delisted), Allegheny woodrat (*Neotoma magister*, state threatened), northern flying squirrel (*Glaucomys sabrinus macrotis*, state endangered) northern cricket frog, variable sedge, northern panic grass (*Dicanthelium boreale*, state status tentatively undetermined), rough-leaved aster, thread rush (*Juncus filiformis*, state species of concern), Appalachian climbing fern (*Lygodium palmatum*, state species of concern), white fringed orchid, and Torrey's bulrush (*Schoenoplectus torreyi*, state endangered). A summary of the surveys conducted and PNDI resolutions for these species is included below.

The Pennsylvania Department of Conservation and Natural Resources (PADCNR) and Pennsylvania Fish and Boat Commission (PFBC) have provided clearance letters for the Project dated August 24, 2018 and October 11, 2018, respectively. These letters are provided in the agency correspondence in JPA Section G-1. On November 28, 2017, the US Fish and Wildlife Service (USFWS) issued a Biological Opinion (BO) for impacts that the Project may have on the northern long-eared bat and bog turtle. In its cover letter to the Federal Energy Regulatory Commission (FERC), the USFWS stated that the Project is not likely to adversely affect the dwarf wedgemussel, Indiana bat, or the northeastern bulrush. USFWS has since recommended that FERC re-initiate consultation to modify the 2017 BO under the minor change process. Re-initiation will result in a consultation update letter which addresses route amendments and updated survey results. The recommendation of re-initiation was made due to the changed action area resulting from proposed route modifications.

PennEast continues to coordinate with the Pennsylvania Game Commission (PGC) and USFWS to resolve PNDI potential conflicts. PennEast anticipates that the coordination will be complete within a couple of months, and therefore requests that the PADEP utilize a sequential review of the PNDI coordination in accordance with the PADEP's *Policy for PNDI Coordination during Permit Review and Evaluation* (Document Number 021-0200-001), which allows for a concurrent review of the permit application while the permit applicant completes PNDI coordination.

A summary of agency consultations to date is provided in JPA Section G-1 along with copies of the relevant correspondence. Communications that contain information that may reveal the location of protected species are provided in a separate, Privileged Volume as JPA Section G-2. Information in the Privileged Volume should not be released.

SECTION 1 - 8

PENNSYLVANIA NATURAL DIVERSITY INVENTORY (PNDI)

With the exception of one wetland complex in Northampton County for which Phase 2 bog turtle surveys are scheduled in Spring 2019, PennEast has completed all other threatened and endangered species surveys in Northampton County. The species that may be impacted by the Project in Northampton County include northern long-eared bat (*Myotis septentrionalis,* federal threatened), bog turtle (*Clemmys [Glyptemys] muhlenbergii*, federal threatened), eastern small-footed bat (*M. leibii*, state threatened), Allegheny woodrat (*Neotoma magister*) and timber rattlesnake (*Crotalus horridus*, delisted). A summary of the surveys conducted and PNDI resolutions for these species is included below.

The Pennsylvania Department of Conservation and Natural Resources (PADCNR) and Pennsylvania Fish and Boat Commission (PFBC) have provided clearance letters for the Project dated August 24, 2018 and October 11, 2018, respectively. These letters are provided in JPA Section G-1. On November 28, 2017, the US Fish and Wildlife Service (USFWS) issued a Biological Opinion (BO) for impacts that the Project may have on the northern long-eared bat and bog turtle. In its cover letter to the Federal Energy Regulatory Commission (FERC), the USFWS stated that the Project is not likely to adversely affect the dwarf wedgemussel, Indiana bat, or the northeastern bulrush. USFWS has since recommended that FERC re-initiate consultation to modify the 2017 BO under the minor change process. Re-initiation will result in a consultation update letter which addresses route amendments and updated survey results. The recommendation of re-initiation was made due to the changed action area resulting from proposed route modifications.

PennEast continues to coordinate with the Pennsylvania Game Commission (PGC) and USFWS to resolve PNDI potential conflicts. PennEast anticipates that coordination will be complete within a couple of months; PennEast therefore requests that the PADEP utilize a sequential review of the PNDI coordination in accordance with the PADEP's *Policy for PNDI Coordination during Permit Review and Evaluation* (Document Number 021-0200-001), which allows for a concurrent review of the permit application while the permit applicant completes PNDI coordination.

A summary of agency consultations to date is provided in JPA Section G-1 along with copies of the relevant correspondence. Communications that contain information that may reveal the location of protected species are provided in a separate, Privileged Volume as JPA Section G-2. Information in the Privileged Volume should not be released.

SECTION 1 - 8

PENNSYLVANIA NATURAL DIVERSITY INVENTORY (PNDI)

PennEast has completed surveys for threatened and endangered species in Bucks County. The species that may be impacted by the Project in Bucks County include the northern long-eared bat (*Myotis septentrionalis;* federal threatened), bog turtle, and eastern redbelly turtle. A summary of the surveys conducted and PNDI resolutions for these species is included below.

The Pennsylvania Department of Conservation and Natural Resources (PADCNR) and Pennsylvania Fish and Boat Commission (PFBC) have provided clearance letters for the Project dated August 24, 2018 and October 11, 2018, respectively. These letters are provided in JPA Section G-1. On November 28, 2017, the US Fish and Wildlife Service (USFWS) issued a Biological Opinion (BO) for impacts that the Project may have on the northern long-eared bat and bog turtle. In its cover letter to the Federal Energy Regulatory Commission (FERC), the USFWS stated that the Project is not likely to adversely affect the dwarf wedgemussel, Indiana bat, or the northeastern bulrush. USFWS has since recommended that FERC re-initiate consultation to modify the 2017 BO under the minor change process. Re-initiation will result in a consultation update letter which addresses route amendments and updated survey results. The recommendation of re-initiation was made due to the changed action area resulting from proposed route modifications.

PennEast continues to coordinate with the Pennsylvania Game Commission (PGC) and USFWS to resolve PNDI potential conflicts. PennEast anticipates that coordination will be complete within a couple of months; PennEast therefore requests that the PADEP utilize a sequential review of the PNDI coordination in accordance with the PADEP's *Policy for PNDI Coordination during Permit Review and Evaluation* (Document Number 021-0200-001), which allows for a concurrent review of the permit application while the permit applicant completes PNDI coordination.

A summary of agency consultations to date is provided in JPA Section G-1 along with copies of the relevant correspondence. Communications that contain information that may reveal the location of protected species are provided in a separate, Privileged Volume as JPA Section G-2. Information in the Privileged Volume should not be released.

Summary of Agency Consultations and Communication for Threatened and Endangered Species

Date	Correspondence Type	Subject
NATIONAL MARINE FISHERIES SERVICE (NMFS)		
August 12,2014	AECOM Consultation Request	Project Review for rare, candidate, threatened, and endangered species request
September 18, 2014	NMFS Consultation Response	Seasonal limitations for in-water work recommended from March 1 to June 30 to protect migratory fishes
January 14, 2015	AECOM Project Update	Route Update
March 30, 2015	AECOM Project Update	Route Update
July 24, 2015	AECOM Project Update	Route Update
December 8, 2015	Email Correspondence	NMFS confirmation of in-water work restrictions
December 17, 2015	AECOM Project Update	Route Update
February 23, 2016	AECOM Project Update	Route Update
September 26, 2016	AECOM Project Update	Route Update
PENNSYLVANIA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES (PADCNR)		
August 12,2014	AECOM Consultation Request	Large Project Pennsylvania Natural Diversity Inventory (PNDI) review update request
September 17, 2014	PADCNR Consultation Response	Species determined by PFBC to occur within range of the project
October 24, 2014	AECOM Project Update	Route Update
November 03, 2014	PADCNR Email Correspondence	Email regarding Pennsylvania's Right-of-Way guidelines; attachment with guidelines are available if requested
January 14, 2015	AECOM Project Update	Route Update
February 20, 2015	PADCNR Consultation Response	Species determined by PADCNR to occur within range of the project; Updated to reflect updated route

March 18, 2015	PADCNR Pre-Survey Meeting	Concerns regarding pipelines effect on resources within state parks
March 30, 2015	AECOM Project Update	Route Update
April 6, 2015	PADCNR Consultation Response	Species determined by PADCNR to occur within range of the project; Updated to reflect updated route
April 8, 2015	PADCNR Certificate to Survey	Lists requested surveys and species to be surveyed for within state parks effected by the route
April 14, 2015	PADCNR Email Correspondence	Additional language that was not included in the original Certificate to Survey
July 24, 2015	AECOM Project Update	Route Update
October 7, 2015	PADCNR Technical Reports	Provided RTE plant survey results
October 22, 2015	PADCNR Consultation Response	Species determined by PADCNR to occur within range of the project; updated to reflect updated route; no Impact determination
November 5, 2015	PADCNR Email Correspondence	Results of RTE plant surveys discussed
December 17, 2015	AECOM Project Update	Route Update
January 14, 2016	PADCNR Email Correspondence	Response letter from Dave Mong regarding Route Update provided by PennEast in December
February 23, 2016	AECOM Project Update	Route Update
September 26, 2016	AECOM Project Update	Route Update
October 13, 2016	Technical Report	AECOM submitted a Botanical Survey report
October 31, 2016	AECOM Consultation Request	Route update and submission of Botanical Survey Report
January 10, 2017	PADCNR Consultation Response	Species determined by PADCNR to potentially occur within the Project area; surveys requested.
April 19, 2018	AECOM Consultation Update	AECOM submitted a Botanical Survey Report, rare plant mitigation plan, and a summary and kmz file of the updated consultation area.
May 22, 2018	PADCNR Consultation Response	PADCNR concurred with survey responses, requested modifications to rare plant mitigation plan
July 9, 2018	Rare Plant Report	Notification of incidental observation of a rare plant species
August 15, 2018	AECOM Consultation update	Rare plant survey report, rare plant mitigation plan

August 24, 2018	PADCNR Consultation Response	Final clearance received from PADCNR
PENNSYLVANIA FISH AND BOAT COMMISSION (PFBC)		
August 12, 2014	AECOM Consultation Request	Project Review for rare, candidate, threatened, and endangered species request
September 8, 2014	PFBC Consultation Response	Species determined by PFBC to occur within range of the project; Attached were guidelines for multiple species habitat assessments, available upon request
October 24, 2014	AECOM Project Update	Route Update
November 4, 2014	Meeting of multiple parties, including PFBC	Meeting Minutes
November 10, 2014	PFBC Consultation Response	Species determined by PFBC to occur within range of the project; Updated to reflect updated route
January 14, 2015	AECOM Project Update	Route Update
January 23, 2015	PFBC Consultation	Species determined by PFBC to occur within range of the project; Updated to reflect updated route
March 30, 2015	AECOM Project Update	Route Update
April 22, 2015	PFBC Consultation Response	Species determined by PFBC to occur within range of the project; Updated to reflect updated route
July 15, 2015	AECOM Record of Conversation	Discussion of T&E Species Surveys
July 16, 2015	PFBC Email Correspondence	T&E Species Surveys updates
July 24, 2015	AECOM Project Update	Route Update
August 10, 2015	AECOM Email Correspondence	Strategy question regarding timber rattlesnake dens in project area
August 12, 2015	PFBC Consultation Response	Species determined by PFBC to occur within range of the project; Updated to reflect updated route
August 20, 2015	PFBC Consultation Response	Species determined by PFBC to occur within range of the project; Updated to reflect updated route
October 7, 2015	AECOM Technical Reports	Provided northern cricket frog and timber rattlesnake survey results
November 5, 2015	PFBC Consultation Response	Species determined by PFBC to occur within range of the project; Updated to reflect updated route, No impact clearance received for

		Northern Cricket Frog
November 10, 2015	AECOM Technical Reports	Provided technical reports supplements
December 10, 2015	PFBC Consultation Response	Species determined by PFBC to occur within range of the project; Updated to reflect updated route
December 17, 2015	AECOM Project Update	Route Update
January 5, 2016	PFBC Consultation Response	Species determined by PFBC to occur within range of the project; Updated to reflect updated route
February 23, 2016	AECOM Project Update	Route Update
June 13, 2016	AECOM Consultation Request	Request to identify impact by county
June 15, 2016	PFBC Consultation Response	Status update to specifically identify impact by county
August 01, 2016	AECOM Technical Reports	Timber Rattlesnake Phase II Survey Report
August 31, 2016	PFBC Consultation Response	PGBC provided a summary of impacts/recommendations related to Timber Rattlesnake
September 26, 2016	AECOM Project Update	Route Update
October 24, 2016	PFBC Consultation Response	Species determined by PFBC to occur within range of the project; Updated to reflect updated route
October 31, 2016	AECOM Consultation Request	Large Project Pennsylvania Natural Diversity Inventory (PNDI) review update request for staging areas, access roads, compressor station
April 19, 2018	AECOM Consultation Update	AECOM submitted an AT/PPL timber rattlesnake habitat assessment and presence/absence survey report (available on request), a figure illustrating avoidance of impacts to timber rattlesnake denning habitat, and a summary and shapefile of the updated consultation area, including the newly proposed AT/PPL alternative and Blue Mountain Lateral.
May 17, 2018	PFBC Consultation Response	PFBC requested additional surveys for eastern redbelly turtle and northern cricket frog, additional information regarding access roads near timber rattlesnake habitat.
September 13, 2018	AECOM Consultation Update	AECOM submitted a northern cricket frog survey report, eastern redbelly turtle survey report, demonstrated access road plans near

		rattlesnake habitat, and reported incidental observation of a timber rattlesnake during wetland surveys.
October 11, 2018	PFBC Consultation Response	PFBC concurred with technical reports, and concluded that environmental review is complete for all species and areas except for bog turtles on the proposed Appalachian Trail PPL Realignment modification.
PENNSYLVANIA GAME COMMISSION (PGC)		
August 12, 2014	AECOM Consultation Request	Project Review for rare, candidate, threatened, and endangered species request
September 22, 2014	PGC Consultation Response	Species determined by PGC to occur within range of the project
September 24, 2014	PGC Consultation Response	Species determined by PGC to occur within range of the project, updated to account for mistake in 1st edition; included Allegheny woodrat biology and survey methods attachment
October 24, 2014	AECOM Project Update	Route Update
December 17, 2014	PGC Consultation Response	Species determined by PGC to occur within range of the project; revised to reflect route changes
January 14, 2015	AECOM Project Update	Route Update
January 28, 2015	PGC Consultation Response	Species determined by PGC to occur within range of the project; Revised to reflect route changes
March 30, 2015	AECOM Project Update	Route Update
May 5, 2015	PGC Consultation Response	Species determined by PGC to occur within range of the project; Revised to reflect route changes
May 15, 2015	PGC Consultation Response	Changes to Bat Survey Protocols in Pennsylvania; (Available upon request)
July 24, 2015	AECOM Project Update	Route Update
August 13, 2015	PGC Consultation Response	Species determined by PGC to occur within range of the project; Revised to reflect route changes
October 7, 2015	AECOM Technical Reports	Provided Eastern small-footed bat and Allegheny Woodrat technical reports
October 26, 2015	PGC Consultation Response	Species determined by PGC to occur within range of the project; Revised to reflect route changes

November 10, 2015	AECOM Technical Reports	Provided technical report supplements
December 17, 2015	AECOM Project Update	Route Update
February 23, 2016	AECOM Project Update	Route Update
September 26, 2016	AECOM Project Update	Route Update
October 31, 2016	AECOM Consultation Request	Large Project Pennsylvania Natural Diversity Inventory (PNDI) review update request for staging areas, access roads, compressor station
November 03, 2016	PGC Consultation Response	Species determined by PGC to occur within range of the project; Updated to reflect updated route
April 19, 2018	AECOM Consultation Update	AECOM submitted a northern flying squirrel impact minimization plan, AT/PPL bat mist netting report, AT/PPL eastern small-footed bat habitat and emergence survey report, AT/PPL Allegheny woodrat habitat survey report, and a summary and shapefile of the updated consultation area, including the newly proposed AT/PPL alternative and Blue Mountain Lateral. Reports available on request.
June 25, 2018	PGC Consultation Response	PGC provided questions and comments regarding AECOM's April 19th update letter, and requested clarification prior to issuing an official PNDI response
September 5, 2018	PGC Meeting	AECOM, PennEast, and PGC met to review the PGC's questions and comments, committed to providing a response package with requested information and materials
October 19, 2018	AECOM Consultation Update	AECOM provided the materials and information requested by PGC at the September 5th meeting, including several species survey reports, digital maps, revised northern flying squirrel plan, and figures.
November 2, 2018	Email Correspondence	PGC requested clarification on some of the materials submitted October 19, 2018
November 9, 2018	Email Correspondence	AECOM provided answers to the PGC's November 2, 2018 questions as well as an updated copy of the revised northern flying squirrel plan
U.S. FISH AND WILDLIFE SERVICE – PENNSYLVANIA OFFICE		
August 12,2014	AECOM Consultation Request	Project Review for rare, candidate, threatened, and endangered species request

September 30, 2014	USFWS Consultation Response	Species determined by USFWS to occur within range of the project
October 24, 2014	AECOM Project Update	Route Update
January 14, 2015	AECOM Project Update	Route Update
March 30, 2015	AECOM Project Update	Route Update
July 1, 2015	USFW Consultation Response	Species information following listing of northern long-eared bat as federally threatened
July 24, 2015	AECOM Project Update	Route Update
October 7, 2015	AECOM Project Update	Route Update, technical reports for bats, northeastern bulrush, and bog turtle
December 17, 2015	AECOM Project Update	Route Update
February 23, 2016	AECOM Project Update	Route Update
September 26, 2016	AECOM Project Update	Route Update
October 31, 2016	AECOM Project Update	Route Update, additional consultation
October 31, 2017	AECOM Project Update	Technical reports – northeastern bulrush
November 3, 2017	AECOM Project Update	Technical report – fall portal bat survey (winter hibernacula)
November 28, 2017	USFWS Opinion	USFWS issued a Biological Opinion for the Project
April 19, 2018	AECOM Consultation Update	Route update and technical report – bat surveys
August 31, 2018	AECOM Data Submission	AECOM submitted plans to USFWS for the proposed crossing methodologies at bog turtle wetlands
October 10, 2018	Email Correspondence	USFWS concurred that AECOM's plans for crossing bog turtle wetlands are consistent with the November 2017 Opinion

NATIONAL MARINE FISHERIES SERVICE CORRESPONDENCE

August 12, 2014

Ms. Mary Colligan
Assistant Regional Administrator

NATIONAL MARINE FISHERIES SERVICE
Protected Resources Division
55 Great Republic Drive
Gloucester, MA 01931-2298

Re: Project Review
PennEast Pipeline Company, LLC - PennEast Pipeline Project
Luzerne, Carbon, Northampton, and Bucks Counties, Pennsylvania
Hunterdon and Mercer Counties, New Jersey

Dear Ms. Colligan:

The PennEast Pipeline Company, LLC (PennEast), is a partnership with UGI Energy Services (UGIES), AGL Resources, NJR Pipeline Company, and South Jersey Industries. The PennEast Pipeline Project (Project) proposes to construct a new 100-mile, 30-inch pipeline to deliver natural gas from northeast Pennsylvania to other markets in Pennsylvania and New Jersey. This new supply of natural gas will bring lower cost supplies to residents and businesses in Pennsylvania and New Jersey, while enhancing pipeline system flexibility and reliability for the local gas utilities.

PennEast intends to file its certificate application for the PennEast Pipeline Project with the Federal Energy Regulatory Commission (FERC) in mid-2015, and anticipates receiving authorization and starting construction in 2017. Permit applications with other federal, state, and local agencies will be submitted within similar timeframes as the certificate application. The permit proceedings conducted by these agencies will provide additional opportunities for public input and involvement. FERC's determination of public convenience and necessity includes a thorough, comprehensive environmental review of proposed projects, working closely with federal, state, and local agencies and in accordance with the National Environmental Policy Act (NEPA).

On behalf of PennEast, URS Corporation (URS) is requesting a Project Review for rare, candidate, threatened, and endangered species under the jurisdiction of the National Marine Fisheries Service (NMFS) for the PennEast Pipeline Project. A critical issues analysis was conducted for multiple routes using readily available secondary source data to select the **Least**

URS Corporation
625 W. Ridge Pike, Suite E-100
Conshohocken, PA 19428
Phone: 610.832.3500
Fax: 610.832.3501

Environmentally Damaging Practicable Alternative (LEDPA) route. Mapping depicting the environmental features evaluated for the preferred alternative is enclosed. We are asking for your review prior to the initiation of wetland and watercourse field surveys to be conducted this fall. We hope to concurrently identify any habitat for species under your agencies' jurisdiction at this time. The environmental study area will be a 400-foot corridor centered on the approximately 100-mile alignment. The anticipated permanent right-of-way (ROW) and temporary construction work area will be approximately 100-feet. The study area is wider than the disturbance area to allow for minor alignment shifts to avoid any sensitive resources that may be identified during the environmental field investigations.

The following are enclosed to facilitate your review:

- PennEast Project Fact Sheet; and
- CD containing:
    - shapefiles of the alignment;
    - USGS 7.5 minute quadrangle maps with project alignment; and
    - detailed maps depicting the project areas and known secondary source resources

If you have any questions or require additional information regarding this request, please contact me at 610.832.1810 or bernard.holcomb@urs.com.

Sincerely,

Bernard Holcomb
Pipeline Environmental Services Manager
Enclosures (2)

cc: Mr. Anthony Cox (UGI)
Mr. Dante D'Alessandro (UGI)

URS Corporation
625 W. Ridge Pike, Suite E-100
Conshohocken, PA 19428
Phone: 610.832.3500
Fax: 610.832.3501

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northeast Fisheries Science Center
James J. Howard Marine Sciences Laboratory
74 Magruder Road
Highlands, New Jersey 07732

September 18, 2014

TO: Bernard Holcomb
Pipeline Environmental Services Manager
URS Corporation
625 W. Ridge Pike, Suite E-100
Conshohocken, PA 19428

SUBJECT: PennEast Pipeline Company, LLC.
PennEast Pipeline Project
Luzerne, Carbon, Northampton and Bucks Counties, PA
Hunterdon and Mercer Counties, New Jersey

Karen Greene
(Reviewing Biologist)

We have reviewed the information provided to us regarding the above subject project. We offer the following preliminary comments pursuant to the Fish and Wildlife Coordination Act and the Magnuson-Stevens Fishery Conservation and Management Act:

Endangered Species Act

No threatened or endangered species under the jurisdiction of the NMFS are known to occur in the project area. As a result, further consultation by the federal action agency will not be necessary as part of the federal permit process. However, if project plans change that would alter the basis for this determination, or if new species or critical habitat is designated, consultation should be reinitiated.

Fish and Wildlife Coordination Act

The Delaware River and its tributaries are a migratory pathways and a spawning, nursery and forage habitat for anadromous fishes including striped bass, alewife, blueback herring and American shad. Because landing statistics and the number of fish observed on annual spawning runs indicate a drastic decline in alewife and blueback herring populations throughout much of their range since the mid-1960's they have designated as a Species of Concern by NOAA. Any in-water work in these waterways should be avoided from March 1 to June 30 of each year to minimize adverse effects on migrating and spawning anadromous fishes. Wetland impacts should be avoided and minimized to the maximum extent practicable and compensatory mitigation should be provided for unavoidable wetland impacts. Any wetlands impacted temporarily should be restored. If project plans change that would alter the basis for this determination, consultation should be reinitiated.

Magnuson-Stevens Fishery Conservation and Management Act
Essential Fish Habitat

No essential fish habitat (EFH) has been designated in the project area. As a result, further EFH consultation by the federal action agency will not be necessary as part of the federal permit process. If project plans change that would alter the basis for this determination, or if new species or EFH is designated, consultation should be reinitiated. For a listing of EFH and further information, please go to our website at: www.greateratlantic.fisheries.noaa.gov/habitat. If you wish to discuss this further, please call me at (7320 872-3023 or e-mail karen.greene@noaa.gov.

January 14, 2015

Ms. Karen Greene
National Marine Fisheries Service
74 Magruder Road
Highlands, NJ 07732

Dear Ms. Greene:

On behalf of PennEast Pipeline Company, LLC, we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; Texas Eastern Transmission, LP; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

As an interstate natural gas pipeline, PennEast will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015.

Over the past months, PennEast has worked to refine a preferred alternative route and to obtain permissions to survey. To that end, we must inform you that the preferred alternative route has been adjusted to account for engineering, environmental, and land use constraints that have been identified since we last provided your agency with detailed project mapping on October 24, 2014. In Pennsylvania, the preferred alternative route has been re-routed for approximately 2.5 miles to the north side of State Route 33 near Bethlehem, PA. In New Jersey, the preferred alternative route has been re-routed for approximately 21 miles, from M.P. 90 (approximate) to the southern project terminus. This re-route has also necessitated a 1.3-mile, 36-inch lateral near Lambertville, NJ to transport gas to Algonquin and Texas Eastern Transmission systems. USGS topographic maps showing just the new route adjustments and updated shapefiles for the entire new preferred alternative route are being provided to aide in your review and analysis of the project.

We look forward to working with you and your colleagues on this important project. Please contact me if you have any questions.

Sincerely,

Bernie Holcomb

Pipeline Environmental Services Manager
URS Corporation 625 West Ridge Pike, Suite E-100 ; Conshohocken, PA 19428
Direct: 610 832 1810; Cell: 215 275-7956 ; Fax: 610-832-3501 bernard.holcomb@urs.com

March 30, 2015

Ms. Karen Greene
National Marine Fisheries Service
74 Magruder Road
Highlands, NJ 07732

Dear Ms. Greene:

On behalf of PennEast Pipeline Company, LLC, we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; Spectra Energy Partners; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

As an interstate natural gas pipeline, PennEast will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015. Over the past months, PennEast has worked to refine a preferred alternative route and to obtain permissions to survey. To that end, we must inform you that the preferred alternative route has again been adjusted to account for engineering, environmental, and land use constraints that have been identified since we last provided your agency with detailed project mapping on January 14, 2015.

Following feedback from FERC's scoping meetings and numerous conversations with landowners, state and local agencies, and other various stakeholders, PennEast has revised and refined various portions of the preferred alternative route. The largest variations to the previously released route are related to the location of the crossing of the Bethlehem Authority water supply mainline (MP 44 and MP 45), Appalachian Trail crossing (between MP 46 and MP 55), and accommodating future subdivision and housing development plans. Additional field data gained over the last month has helped make smaller adjustments related to environmental surveys and individual discussions with landowners.

In addition to the route variations noted above, an additional interconnect was needed for the Gilbert Power Generation facility in Holland Township, New Jersey, which is fed by a small lateral (12 inches) to supply natural gas to the facility. The previously located interconnection with Elizabethtown Gas was relocated so that both interconnects can be co-located within the power station's industrial property to minimize additional above-ground impacts.

A summary of the significant route variations is provided below:

- In Towamensing Township in Carbon County, PA, less than one mile of the alignment has been re-routed ¼-mile to the east as a result of consultations with the Bethlehem Authority (Authority). The alignment has been re-routed between mileposts 44 and 45 to cross the Authority's water supply mainline in a location where it is deeper in an effort to maximize protection of the Authority's resources.

- Straddling the Carbon – Northampton County line in PA, approximately 8 miles of the alignment between mileposts 46 and 55 has been re-routed up to 1 mile to the west of the previous route in an effort to refine the crossing location of the Appalachian Trail.

- In Northampton County, PA, approximately 2.5 miles of the alignment has been re-routed less than ½-mile to the north of the previous route as a result of consultations with private landowners and local officials. The alignment has been re-routed between mileposts 59 and 62 to accommodate current and future land use plans in the area.

- In Holland Township, Hunterdon County, NJ, a new 12-inch lateral is needed to run from milepost 76.6 on the mainline pipeline route approximately ½-mile south to an interconnect with Elizabethtown Gas and the Gilbert Power Generation facility. The previously located interconnection with Elizabethtown Gas was relocated so that both interconnects can be co-located within the power station's industrial property to minimize additional above-ground impacts.

- In Holland Township, Hunterdon County, NJ, approximately two miles of the alignment has been re-routed less than ½-mile to the south of the previous route to accommodate a future private development planned for the area.

- In West Amwell Township, Hunterdon County, NJ, approximately 1 mile of the alignment has been re-routed up to 1,000 feet east of the previous route to avoid a newly constructed home that was identified by a landowner.

Updated GIS shapefiles for the entire new preferred alternative route are being provided to aide in your review and analysis of the project.

We look forward to continuing to work with you and your colleagues on this important project. Please contact me if you have any questions.

Sincerely,

Bernie Holcomb
Pipeline Environmental Services Manager

URS Corporation 625 West Ridge Pike, Suite E-100; Conshohocken, PA 19428
Direct: 610 832 1810; Cell: 215 275-7956; Fax: 610-832-3501 bernard.holcomb@urs.com

Poppel, Deborah

From: Poppel, Deborah
Sent: Friday, July 24, 2015 11:44 AM
To: 'karen.greene@noaa.gov'
Cc: West, Jonathan; Binckley, Sarah
Subject: PennEast Reroutes- Official Notice
Attachments: PennEast Proposed Route (July 15, 2015).kmz; PennEast_ProjectShapefiles_July2015

On behalf of PennEast Pipeline Company, LLC, we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; Spectra Energy Partners; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

As an interstate natural gas pipeline, PennEast will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015. PennEast filed Draft Resource Reports with FERC in April 2015. Since the Preliminary Draft Resource Report filing in April 2015, PennEast has continued to evaluate potential alternatives to the proposed pipeline alignment based on comments received during the formal Scoping process, ongoing dialogue with federal, state, regional and local agencies, land owners, and the findings from field surveys and engineering analyses. In the April filing we provided an overview of the ongoing assessments for 3 major alternatives and over 70 minor route variations.

In the past 3 months the overall alignment has been adjusted within the 400 foot survey corridor to avoid and/or minimize impacts to wetlands and waterbodies, cultural resources, agricultural lands and other sensitive habitats. In Pennsylvania, 2 reroutes and more than 40 minor route variations have been evaluated. The 2 reroutes evaluate alternative ways of crossing the Appalachian Trail and nearby PA State Game Lands, and avoid active quarrying operations. These alternatives and reroutes have gone through the same detailed assessment as those assessed in the April filing. Updated GIS shapefiles for the entire new preferred alternative route are attached to aide in your review and analysis of the Project. (To open the shapefiles, please add a ".zip" extension to the file and then extract the files.)

Significant reroutes include:

- In Plains Township and Laflin Borough in Luzerne County, approximately 3.6 miles of the alignment has been rerouted one mile to the east to avoid active quarrying operations (new mileposts 8.4 to 12.3).
- In Towamensing Township and Lower Towamensing Township in Carbon County, approximately 2 miles of the alignment has been rerouted approximately 2 miles to the west. This reroute addresses a request for a new Interconnect as well as concerns related to the Appalachian Trail and PA State Game Lands (new mileposts 48.9 to 53.6)

We look forward to continuing to work with you and your colleagues on this important Project. Please contact me if you have any questions.

Sincerely,

Deborah Poppel, CWB
Senior Ecologist / Project Manager
Environment - Impact Assessment & Permitting Dept.
Design & Consulting Services, Philadelphia Metro Region
D 1-610-832-3597 C 1-215-833-0566
Deborah.poppel@aecom.com

AECOM

From: Karen Greene - NOAA Federal [mailto:karen.greene@noaa.gov]
Sent: Tuesday, December 08, 2015 4:18 PM
To: Poppel, Deborah
Subject: Re: as discussed- tributaries to Delaware River crossed by PennEast project

Hi Deborah,

In general, most diadromous species will not be found in the UNTs. American eel may be the exception, but I don't have much data about the exact waterways they use.

Swan Creek and UNTs - no info found but probably no.
Jacobs Creek and UNTs - yes.
Fiddlers Creek and UNTs - yes

PA

The Lehigh River - yes confirmed to r km 39 with potential for anadromous fish to rkm 170.
Frye Run - no
Delaware Canal – yes

NJ

Hakihokake Creek - yes to rkm 1.6
Several UNTs to Delaware - no
Nishisakawick Creek - no
Copper Creek - yes
Lockatong Creek - yes
Wickecheoke Creek - no
Alexauken Creek -no
Moores Creek - no
Wooley Brook - no info found but probably no.
I hope this helps.

I'll be out of the office until Monday, but I'll be checking my e-mails.

Karen Greene
Mid-Atlantic Field Offices Supervisor
National Marine Fisheries Service
Habitat Conservation Division
James J. Howard Marine Sciences Laboratory
74 Magruder Rd.
Highlands, NJ 07732
732 872-3023 (office)
732 872-3077 (fax)
karen.greene@noaa.gov

On Tue, Dec 8, 2015 at 10:09 AM, Poppel, Deborah <deborah.poppel@aecom.com> wrote:

Here is the second attachment and a couple of NJ tribs that I missed in my first email include:

Swan Creek and UNTs

Jacobs Creek and UNTs

Fiddlers Creek and UNTs

Thanks Karen!

Deborah Poppel

(610) 832-3597 (office)

(215) 833-0566 (cell)

From: Poppel, Deborah
Sent: Tuesday, December 08, 2015 9:52 AM
To: 'karen.greene@noaa.gov'
Subject: as discussed- tributaries to Delaware River crossed by PennEast project

Hi Karen-

The following are a list of Delaware River tributaries crossed by the PennEast project:

PA

The Lehigh River
Frye Run
Delaware Canal
NJ
Hakihokake Creek
Several UNTs to Delaware
Nishisakawick Creek
Copper Creek
Lockatong Creek
Wickecheoke Creek
Alexauken Creek
Moores Creek
Wooley Brook

The attached set of USGS maps of the relevant area is from the FERC filing in Sept. I will send a second email (due to file size constraints) with the remainder of the project USGS maps.

Please advise which of these waterbodies may also have the in-water work restriction between March 1 and June 30 to protect anadramous fishes.

Thank you.

Deborah Poppel, CWB
Senior Ecologist/Project Manager

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T +1-610-832-3500
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Poppel, Deborah

From: Poppel, Deborah
Sent: Thursday, December 17, 2015 11:15 AM
To: 'karen.greene@noaa.gov'
Subject: PennEast update notice
Attachments: PennEast_ProposedRoute_20151214.kmz; PENNEAST_SHAPEFILES_ToDistribute.zip

On behalf of PennEast Pipeline Company (PennEast), thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company; PSEG Power; SJI Midstream; Spectra Energy Partners; and UGI Energy Services.

As an interstate natural gas pipeline, PennEast Pipeline will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015. PennEast filed Certificates of Public Convenience and Necessity and Related Authorizations with FERC on September 24, 2015. Since the September 24 filing, PennEast has evaluated several additional route alternatives based on discussions with landowners, regulatory agencies and other stakeholders, as well as comments filed in this proceeding. In light of those evaluations, PennEast has adopted five minor deviations from the route proposed in the September 24 Filing:

Deviation No. 1005 is located between mileposts ("MP") 9.07 and 12.10 in Luzerne County, Pennsylvania. PennEast adopted this deviation to address landowner concerns and to improve constructability of the proposed Project route. The landowner and quarry operators affected by this portion of the proposed Project route indicated that the proposed route in the September 24 Filing has the potential to adversely affect quarry operations. Additionally, this portion of the route in the September 24 Filing route presented a challenging crossing of Mill Creek. Deviation No. 1005 addresses both of these concerns. In addition, this deviation reduces the overall length of the Project and increases the route's co-location with existing utility easements.

Deviation No. 1400 is located between MP 43.95 and 44.55 in Carbon County, Pennsylvania. This deviation has been adopted based on feedback that PennEast received in collaboration with the Bethlehem Authority, which operates a water supply system in Carbon and Northampton Counties, Pennsylvania. Deviation No. 1400 provides a means of crossing the Bethlehem Authority waterline by a trenchless method and avoids the need to locate temporary workspace near the waterline. This deviation also includes a single HDD crossing of Beltzville Lake, instead of the two crossings that were proposed in the September 24 Filing, which minimizes impacts to the Beltzville State Park.

Deviation No. 1701 is located between MP 79.10 and 81.60 in Hunterdon County, New Jersey. This deviation has been adopted to optimize the Project route and is based on feedback that PennEast received in collaboration with the New Jersey Department of Environmental Protection. Deviation No. 1701 minimizes impacts to the New Jersey Natural Lands Trust's Gravel Hill Preserve by increasing co-location with existing utility easements and impacting fewer parcels within the Gravel Hill Preserve. In addition, this deviation allows the proposed route to be in closer proximity to the proposed NRG REMA, LLC/Elizabethtown Gas delivery meter station, and it also relocates a proposed mainline valve from a residential area to an industrial area.

Deviation No. 1802 is located between MP 84.68 and 86.54 in Hunterdon County, New Jersey. This deviation has been adopted to optimize the Project route to avoid crossing a federally preserved farm. PennEast considered different alternatives to avoid this crossing, and the adopted Deviation No. 1802 minimizes land use impacts and overall land requirements to avoid this crossing.

Deviation No. 1900 is located between MP 91.91 and 93.55 in Hunterdon County, New Jersey. This deviation has been adopted to incorporate a route optimization that avoids crossing the Lockatong Creek three times with an open cut. This deviation now allows the Project route to cross the Lockatong Creek using a trenchless method. Deviation No. 1900 also avoids impacts to both a federally preserved farm and a New Jersey Green Acres Program protected parcel.

An updated Google Earth kmz file and GIS shapefiles for the proposed route are attached to aide in your review and analysis of the Project. (To open the shapefiles, please add a ".zip" extension to the file and then extract the files.) Please let us know if you have any difficulty opening the attached files.

Deborah Poppel, CWB
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Poppel, Deborah

From: Poppel, Deborah
Sent: Tuesday, February 23, 2016 12:15 PM
To: 'karen.greene@noaa.gov'
Subject: PennEast Pipeline- Project Update
Attachments: 400' CORRIDOR (200' EITHER SIDE OF CENTERLINE).kmz

On behalf of PennEast Pipeline Company (PennEast), thanks you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company; PSEG Power; SJI Midstream; Spectra Energy Partners; and UGI Energy Services.

As an interstate natural gas pipeline, PennEast Pipeline will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015. PennEast filed Certificates of Public Convenience and Necessity and Related Authorizations with FERC on September 24, 2015. Since the September 24 filing, PennEast has evaluated several additional route alternatives based on discussions with landowners, regulatory agencies and other stakeholders, as well as comments filed in this proceeding. In light of those evaluations, PennEast has adopted seven (7) additional deviations from the route proposed in the September 2015 Application, as modified by the route deviations filed on December 14, 2015, and is providing supplemental information regarding these additional adopted route deviations for your review.

Description of Adopted Deviations

PennEast has adopted the following seven route deviations: Deviation Nos. 1704, 1808, 1907, 1913, and 2000 in Hunterdon County, New Jersey, and Deviation Nos. 2100 and 2102 in Mercer County, New Jersey.

Deviation No. 1704 is located between mileposts (MP) 78.7 and 79.7 in Hunterdon County, New Jersey. PennEast adopted this deviation to address feedback from resource agencies received during a route review meeting on January 11, 2016. This deviation avoids crossing a category one (C1) waterway, associated mapped forested wetlands on both sides of Dogwood Drive, and a preserved farmland. Additionally, Deviation No. 1704 allows the route to follow a ridge and alleviates side slope areas that would have existed at the crossing of Dogwood Drive. Landowners associated with Deviation No. 1704 were included on the landowner list provided in the September 2015 Application as abutters. Additionally, three (3) landowners not previously identified as abutters have small amounts of temporary workspace on their property as a result of adopting Deviation No. 1704. Such landowners have been identified in the updated affected landowner list provided as part of the February Data Responses.

Deviation No. 1808 is located between MP 86.6 and 87.1 in Hunterdon County, New Jersey. PennEast adopted this deviation to minimize impact to environmentally sensitive areas raised as a concern by resource agencies during the January 11 route review meeting. Deviation No. 1808 avoids crossing a parcel with a Green Acres conservation easement. Landowners associated with Deviation No. 1808 were included on the landowner list provided in the September 2015 Application as abutters.

Deviation No. 1907 is located between MP 89.6 and 90.8 in Hunterdon County, New Jersey. PennEast adopted this deviation to minimize impact to environmentally sensitive areas raised as a concern by resource agencies during the January 11 route review meeting. Deviation No. 1907 avoids crossing a Green Acres encumbered parcel and minimizes the impact to forested areas and wetland crossings. Landowners associated with Deviation No. 1907 were included on the landowner list provided in the September 2015 Application as abutters.

Deviation No. 1913 is located between MP 99.0 and 101.0 in Hunterdon County, New Jersey. PennEast adopted this deviation to minimize impact to environmentally sensitive areas raised as a concern by resource agencies during the January 11 route review meeting and to implement a trenchless crossing of several roadways, third-party utilities, and several C1 waterways, including Alexauken Creek. Deviation No. 1913 also avoids paralleling a C1 waterway and forested riparian area and minimizes forestland impacts. Another result of adopting Deviation No. 1913 is that this route deviation allows for the crossing of one (1) C1 waterway by dry crossing methodology in a location that appears to have been previously crossed by farm equipment. The dry crossing methodology will further minimize the impacts to the riparian buffer on both sides of the crossing. Additionally, Deviation No. 1913 optimizes co-location opportunities with the adjacent overhead utility corridor. This route deviation requires relocating the Lambertville Launcher Site to the trenchless crossing workspace. The new site area accommodates post-construction stormwater management design elements and optimizes pipeline design. Landowners associated with Deviation No. 1913 were included on the landowner list provided in the September 2015 Application as abutters.

Deviation No. 2000 is located between MP 101.3 and 101.7 in Hunterdon County, New Jersey. PennEast adopted this route deviation by moving to the opposite side of the existing overhead utility corridor and providing separation from the paralleling waterbody and forested wetland. Deviation No. 2000 reduces forest clearing while maintaining co-location with existing utility corridors. Deviation No. 2000 does not require any additional landowners to be crossed by the Project.

Deviation No. 2100 is located between MP 112.9 and 113.5 in Mercer County, New Jersey. PennEast adopted this route deviation as a route optimization that corresponds to proposed land development plans for the applicable parcels crossed. PennEast collaborated with the landowner to improve co-location with existing natural gas pipelines and to minimize impacts from the proposed route with the development plans for the applicable parcels. Additionally, Deviation No. 2100 avoids crossing a Green Acres encumbered parcel. Deviation No. 2100 does not require any additional landowners to be crossed by the Project.

Deviation No. 2102 is located between MP 112.0 and 112.7 in Mercer County, New Jersey. PennEast adopted this deviation based upon feedback and field information received from the affected property owners. Deviation No. 2102 is a route optimization that would remove interference with proposed housing and commercial land use development plans on the applicable parcels. Hopewell Township has plans to develop low income housing on this parcel in the area originally crossed by the Project. Deviation No. 2102 would avoid impacts to the housing development plan and to future commercial development plans adjacent to New Jersey State Route 31 by co-locating with the existing natural gas pipelines on the parcel. Deviation No. 2102 does not require any additional landowners to be crossed by the Project.

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Poppel, Deborah

From: Poppel, Deborah
Sent: Monday, September 26, 2016 2:53 PM
To: 'karen.greene@noaa.gov'
Subject: PennEast September 2016 Route Update
Attachments: PennEast_Project_KMZ_20160926.kmz; PENNEAST_PIPELINE_PROJECT_PROJECT_SHAPEFILES_Sept2016.zip

Importance: High

On behalf of PennEast Pipeline Company (PennEast), thank you for your continued collaboration on the proposed PennEast Pipeline Project (Project). As an interstate natural gas pipeline, the Project is under the jurisdictional, multi-year review of the Federal Energy Regulatory Commission (FERC).

PennEast filed its Application for a Certificate of Public Convenience and Necessity and Related Authorizations with FERC September 24, 2015. PennEast filed route modifications with FERC February 22, 2016, and FERC issued a Draft Environmental Impact Statement (EIS) for the Project July 22, 2016. Since the February 22, 2016 route update and issuance of the draft EIS, PennEast has studied an additional 33 minor route deviations to reduce impacts on endangered species and wetlands, increase co-location with existing utilities, and address feedback from collaborative discussions with landowners and regulatory agencies.

On September 23, 2016, PennEast filed with FERC the 33 route modifications and an updated project route, which is provided in the attached Google Earth kmz file and shapefiles for your review. A narrative describing each modification and the explanation for the proposed changes is available on the FERC eLibrary (http://elibrary.ferc.gov/idmws/docket_search.asp) under Docket Number CP15-558-000.

Signed- Deborah Poppel on behalf of

Sarah Binckley, PWS
Project Manager
Direct: 1-610-832-2713 Cell: 1-757-943-4484
sarah.binckley@aecom.com

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www.aecom.com

PENNSYLVANIA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
CORRESPONDENCE

August 12, 2014

Ms. Rebecca Bowen
Chief, Ecological Services Section

PENNSYLVANIA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552
Harrisburg, PA 17105

Re: Large Project PNDI Review
PennEast Pipeline Company, LLC - PennEast Pipeline Project
Luzerne, Carbon, Northampton, and Bucks Counties, Pennsylvania

Dear Ms. Bowen:

The PennEast Pipeline Company, LLC (PennEast), is a partnership with UGI Energy Services (UGIES), AGL Resources, NJR Pipeline Company, and South Jersey Industries. The PennEast Pipeline Project (Project) proposes to construct a new 100-mile, 30-inch pipeline to deliver natural gas from northeast Pennsylvania to other markets in Pennsylvania and New Jersey. This new supply of natural gas will bring lower cost supplies to residents and businesses in Pennsylvania and New Jersey, while enhancing pipeline system flexibility and reliability for the local gas utilities.

PennEast intends to file its certificate application for the PennEast Pipeline Project with the Federal Energy Regulatory Commission (FERC) in mid-2015, and anticipates receiving authorization and starting construction in 2017. Permit applications with other federal, state, and local agencies will be submitted within similar timeframes as the certificate application. The permit proceedings conducted by these agencies will provide additional opportunities for public input and involvement. FERC's determination of public convenience and necessity includes a thorough, comprehensive environmental review of proposed projects, working closely with federal, state, and local agencies and in accordance with the National Environmental Policy Act (NEPA).

On behalf of PennEast, URS Corporation (URS) is requesting a Large Project Pennsylvania Natural Diversity Inventory (PNDI) review update for rare, candidate, threatened, and endangered species under the jurisdiction of the Pennsylvania Department of Conservation and Natural Resources for the PennEast Pipeline Project. A critical issues analysis was conducted for multiple routes using readily available secondary source data to select the **Least**

URS Corporation
625 W. Ridge Pike, Suite E-100
Conshohocken, PA 19428
Phone: 610.832.3500
Fax: 610.832.3501

Environmentally Damaging Practicable Alternative (LEDPA) route. Mapping depicting the environmental features evaluated for the preferred alternative is enclosed. We are asking for your review prior to the initiation of wetland and watercourse field surveys to be conducted this fall. We hope to concurrently identify any habitat for species under your agencies' jurisdiction at this time. The environmental study area will be a 400-foot corridor centered on the approximately 100-mile alignment. The anticipated permanent right-of-way (ROW) and temporary construction work area will be approximately 100-feet. The study area is wider than the disturbance area to allow for minor alignment shifts to avoid any sensitive resources that may be identified during the environmental field investigations.

The following are enclosed to facilitate your review:

- Large Project PNDI Form;
- PennEast Project Fact Sheet; and
- CD containing:
    - shapefiles of the alignment;
    - USGS 7.5 minute quadrangle maps with project alignment; and
    - detailed maps depicting the project areas and known secondary source resources

If you have any questions or require additional information regarding this request, please contact me at 610.832.1810 or bernard.holcomb@urs.com.

Sincerely,

Bernard Holcomb
Pipeline Environmental Services Manager
Enclosures (3)

cc: Mr. Anthony Cox (UGI)
Mr. Dante D'Alessandro (UGI)

URS Corporation
625 W. Ridge Pike, Suite E-100
Conshohocken, PA 19428
Phone: 610.832.3500
Fax: 610.832.3501

Pennsylvania Natural Diversity Inventory
LARGE PROJECT FORM

How to Use the PNDI Large Project Form

If your Project is a "Large Project"— too large/long to search on the online system
Projects are considered "Large Projects" when the ENTIRE project is:

- Linear/Large Projects that exceed the PNDI online project size limits of 10 miles in length or 5165 acres
- Township-wide, Countywide or Statewide Projects. Examples: Act 537 Sewage Plans, Wind Farms, Roadway Improvements exceeding map limits above.

Due to system limitations and agency requirements, projects should not be submitted piecemeal. The entire project area including roads and infrastructure should be submitted as a single unit.

What to Send to Jurisdictional Agencies

Send the following information to all of the agencies listed on the Large Project Form.

Check-list of Minimum Materials to be submitted:
____Completed Large Project Form
____Supplemental project narrative with a description of the overall project, the work to be performed, current physical characteristics of the site and acreage to be impacted.
____USGS 7.5-minute Quadrangle with project boundary clearly indicated, and quad name on the map

The inclusion of the following information may expedite the review process.
____GIS shapefiles depicting the project extent
____A basic site plan (particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)
____Color photos keyed to the basic site plan (i.e. showing on the site plan where and in what direction each photo was taken and the date of the photos)
____Information about the presence and location of wetlands in the project area, and how this was determined (e.g., by a qualified wetlands biologist), if wetlands are present in the project area, provide project plans showing the location of all project features, as well as wetlands and streams

PNDI Large Project Form Definitions

***Applicant*:** Person that owns the property or is proposing the project or activity

Contact Person: Person to receive response if different than applicant (e.g. Consultant)

Project Name: Descriptive title of project (e.g. Twin Pines Subdivision, Miller Bridge Replacement)

***Proposed Activity*:** Include ALL earth disturbance activities for project (e.g. for a timber sale—include stream crossings, cutting areas and new roadway accesses). Also include Current Conditions (e.g. housing, farmland, current land cover), and how Construction/Maintenance Activity is to be accomplished

Total Acres of Property: Entire site acreage (e.g. timber sale property—including road access (200 acres)

Acreage to be Impacted: Disturbance acreage (e.g. timber sale—if the property is 200 acres, but only 100 acres will be disturbed, for example: cutting on 90 acres, a road impacting 10 acres); include all temporary and permanent activities

Pennsylvania Natural Diversity Inventory
LARGE PROJECT FORM

This form provides site information necessary to perform an Environmental Review for special concern species and resources listed under the Endangered Species Act of 1973, the Wild Resource Conservation Act, the Pennsylvania Fish and Boat Code or the Pennsylvania Game and Wildlife Code.

Applicant Information

Name: Penneast Pipeline Company, LLC
Address: One Meridian Blvd., Suite 2c01 Wyomissing, PA 19610

Phone Number: 844-347-7119 Fax Number:

Contact Person Information - if different from applicant

Name: Bernie Holcomb
Address: 625 W. Ridge Pike, Suite E-100 Conshohocken, Pa 19428
Phone Number: 610-832-1810 Fax Number: 610-832-3501
Email: bernard.holcom

Project Information

Project Name: Penneast Pipeline Project
Project Reference Point (center point of project): Latitude: Longitude: Datum:
Municipality: Multiple County: Luzerne -- Bucks
☒ Attach a copy of a U.S.G.S. 7 ½ Minute Quadrangle Map with Project Boundaries clearly marked.
U.S.G.S. Quad Name: Multiple
Provide GIS shapefiles showing the project boundary (strongly recommended)

Project Description

Proposed Project Activity (including ALL earth disturbance areas and current conditions)

The PennEast Pipeline Project (Project) proposes to construct a new 100-mile, 30-inch pipeline to deliver natural gas from northeast Pennsylvania to other markets in Pennsylvania and New Jersey. This new supply of natural gas will bring lower cost supplies to residents and businesses in Pennsylvania and New Jersey, while enhancing pipeline system flexibility and reliability for the local gas utilities.

Total Acres of Property: 5118 Acreage to be Impacted: 1283

1. Will the entire project occur in or on an existing building, parking lot, driveway, road, maintained road shoulder, street, runway, paved area, railroad bed, or maintained lawn? Yes ☐ No ☒
2. Are there any waterways or waterbodies (intermittent or perennial rivers, streams, creeks, tributaries, lakes or ponds) in or near the project area, or on the land parcel? If so, how many feet away is the project?
   Yes ☒ Within Feet No ☐
3. Are wetlands located in or within 300 feet of the project area? Yes ☒ No ☐ If No, is this the result of a wetland delineation? Tbd
4. How many acres of tree removal, tree cutting or forest clearing will be necessary to implement all aspects of this project? Tbd

Dept. of Conservation and Natural Resources
Bureau of Forestry, Ecological Services Section
400 Market St., PO Box 8552
Harrisburg, PA 17105
fax: 717-772-0271

PA Game Commission
Bureau of Wildlife Habitat Management
Division of Environmental Planning & Habitat Protection
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

PA Fish and Boat Commission
Natural Diversity Section
450 Robinson Lane
Bellefonte, PA 16823

US Fish and Wildlife Service
Endangered Species Biologist
315 South Allen St., Suite 322
State College, PA 16801
no faxes please

September 17, 2014 **PNDI Number: 22372**

Deboran Poppel
URS Corporation
Email: Deborah.poppel@urs.com (hard copy will NOT follow)

Re: PennEast Pipeline
New 100-mile 30-inch Pipeline
Luzerne, Carbon, Northampton, and Bucks Counties, PA

Dear Ms. Poppel,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt Number **22372** 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.

The current proposed alignment will affect State Park Lands. If you have not already done so please contact Stephanie Livelsberger at slivelsberger@pa.gov or 717.783.3308 to facilitate coordination with DCNR Bureau of State Parks. This letter applies to PNDI impacts only and does not authorize the initiation of any work on State Park Land.

Potential Impact Anticipated

PNDI records indicate species or resources under DCNR's jurisdiction 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.

Survey Request
There are species known nearby that use habitat type may be present on the site; therefore, we are requesting a qualified botanist conduct a survey for the species in the attached chart at *the appropriate time of year and then submitted to our office for review.* In the attached excel file "22372_PennEast_ResourceLists" the worksheet tab "Species Targets by Municipality" lists all resources in project vicinity and can be sorted by resource or township. The "Plant and Lepidoptera Info" tab provides habitat and flowering time information from *The Plants of Pennsylvania, 2nd Edition*, by Rhoads and Block and information about Lepidoptera gathered from the internet. Plant community information can be found under the "Community Info" worksheet tab.

Please note that the Lepidoptera species and communities noted are listed for informational purposes and are not targets for a survey. If these resources are observed onsite DCNR suggests voluntary avoidance and minimization, except on DCNR land where it may be required.

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. 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 review of the PNDI data files and is valid for two years. 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 contact Emilee Boyer Euker, Ecological Information Specialist at 717.787.7067 or c-eboyer@pa.gov.

Sincerely,

Rebecca H. Bowen

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

Resources in the vicinity of the PennEast Pipeline project, PNDI # 22372.

Species Name	Common Name	Species Name	Common Name
Ageratina aromatica	Small White-snakeroot	*Lycaena epixanthe* *	Bog Copper
Arabis hirsuta	Western Hairy Rock-cress	*Myrica gale*	Sweet-gale
Bartonia paniculata	Screw-stem	*Myriophyllum heterophyllum*	Broad-leaved Water-milfoil
Carex brevior	A Sedge	*Myriophyllum sibiricum*	Northern Water-milfoil
Carex disperma	Soft-leaved Sedge	*Papaipema sp. 1* *	Flypoison Borer Moth
Carex longii	Long's Sedge	*Phlox pilosa*	Downy Phlox
Carex paupercula	Bog Sedge	*Piptatherum pungens*	Slender Mountain-ricegrass
Carex polymorpha	Variable Sedge	Pitch pine - rhodora - scrub oak woodland *	
Carex sprengelii	Sedge	*Platanthera blephariglottis*	White Fringed-orchid
Cuscuta cephalanthi	Button-bush Dodder	*Poa languida*	Drooping Bluegrass
Cuscuta compacta	Dodder	*Poa paludigena*	Bog Bluegrass
Cyperus schweinitzii	Schweinitz's Flatsedge	*Polygonum careyi*	Carey's Smartweed
Cystopteris tennesseensis	Bladder Fern	*Potamogeton confervoides*	Tuckerman's Pondweed
Dicentra eximia	Wild Bleeding-hearts	*Potamogeton pulcher*	Spotted Pondweed
Eleocharis intermedia	Matted Spike-rush	*Prunus pumila var. depressa*	
Ellisia nyctelea	Ellisia	*Prunus pumila var. susquehanae*	
Ephemeral/fluctuating natural pool *		*Ranunculus aquatilis var. diffusus*	White Water-crowfoot
Epilobium palustre	Marsh Willow-herb	Red spruce palustrine woodland *	
Eurybia radula	Rough-leaved Aster	*Rosa virginiana*	Virginia Rose
Gaultheria hispidula	Creeping Snowberry	*Schoenoplectus subterminalis*	Water Bulrush
Hemipachnobia monochromatea *	Sundew Cutworm Moth	*Scirpus ancistrochaetus*	Northeastern Bulrush
Herbaceous vernal pond *		*Sedum rosea*	Roseroot Stonecrop
Iris cristata	Crested Dwarf Iris	*Solidago speciosa var. speciosa*	Showy Goldenrod
Juncus dichotomus	Forked Rush	*Sparganium angustifolium*	Bur-reed
Leatherleaf - cranberry peatland *		*Symphyotrichum ericoides*	White Heath Aster
Lupinus perennis	Lupine	*Utricularia cornuta*	Horned Bladderwort

* Please note that the Lepidoptera species and plant communities noted are listed for informational purposes and are not targets for a survey. If these resources are observed onsite DCNR suggests voluntary avoidance and minimization, except on DCNR land where it may be required.

Species Name	Common Name	Dallas Twp.	Kingston Twp.	West Wyoming Boro.	Wyoming Boro.	Jenkins Twp.	Plains Twp.
Ageratina aromatica	Small White-snakeroot						
Arabis hirsuta	Western Hairy Rock-cress						
Bartonia paniculata	Screw-stem						
Carex brevior	A Sedge						
Carex disperma	Soft-leaved Sedge	x	x	x			
Carex longii	Long's Sedge						x
Carex paupercula	Bog Sedge						
Carex polymorpha	Variable Sedge						
Carex sprengelii	Sedge						
Cuscuta cephalanthi	Button-bush Dodder						
Cuscuta compacta	Dodder						
Cyperus schweinitzii	Schweinitz's Flatsedge						
Cystopteris tennesseensis	Bladder Fern						
Dicentra eximia	Wild Bleeding-hearts						
Eleocharis intermedia	Matted Spike-rush						
Ellisia nyctelea	Ellisia						
Ephemeral/fluctuating natural pool *							
Epilobium palustre	Marsh Willow-herb						
Eurybia radula	Rough-leaved Aster						
Gaultheria hispidula	Creeping Snowberry						
Hemipachnobia monochromatea *	Sundew Cutworm Moth						
Herbaceous vernal pond *							
Iris cristata	Crested Dwarf Iris						
Juncus dichotomus	Forked Rush						
Leatherleaf - cranberry peatland *							
Lupinus perennis	Lupine						x
Lycaena epixanthe *	Bog Copper						
Myrica gale	Sweet-gale						
Myriophyllum heterophyllum	Broad-leaved Water-milfoil						
Myriophyllum sibiricum	Northern Water-milfoil						
Papaipema sp. 1 *	Flypoison Borer Moth						
Phlox pilosa	Downy Phlox						
Piptatherum pungens	Slender Mountain-ricegrass						
Pitch pine - rhodora - scrub oak woodland *							
Platanthera blephariglottis	White Fringed-orchid						

Poa languida	Drooping Bluegrass	
Poa paludigena	Bog Bluegrass	
Polygonum careyi	Carey's Smartweed	
Potamogeton confervoides	Tuckerman's Pondweed	
Potamogeton pulcher	Spotted Pondweed	
Prunus pumila var. depressa		
Prunus pumila var. susquehanae		x
Ranunculus aquatilis var. diffusus	White Water-crowfoot	
Red spruce palustrine woodland *		
Rosa virginiana	Virginia Rose	
Schoenoplectus subterminalis	Water Bulrush	
Scirpus ancistrochaetus	Northeastern Bulrush	
Sedum rosea	Roseroot Stonecrop	
Solidago speciosa var. speciosa	Showy Goldenrod	
Sparganium angustifolium	Bur-reed	
Symphyotrichum ericoides	White Heath Aster	
Utricularia cornuta	Horned Bladderwort	x

* Please note that the Lepidoptera species and communities noted are listed for informational purposes and are be required.

Bear Creek Twp.	Kidder Twp.	Penn Forest Twp.	Towamensing Twp.	Lower Towamensing Twp.	Moore Twp.	East Allen Twp.	Upper Nazareth Twp.	Lower Nazareth Twp.	Bethlehem Twp.
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not targets for a survey. If these resources are observed onsite DCNR suggests voluntary avoidance and minimi

Lower Saucon Twp.	Williams Twp.	Durham Twp.	Riegelsville Boro.
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x	x	x
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ization, except on DCNR land where it may

October 24, 2014

Ms. Emilee Boyer Euker
Pennsylvania DCNR
400 Market Street, P.O. Box 8552
Harrisburg, PA 17105

Dear Ms. Euker:

On behalf of PennEast Pipeline Company, LLC, we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

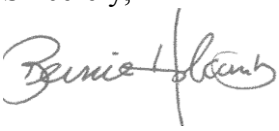
As an interstate natural gas pipeline, PennEast will be regulated by the Federal Energy Regulatory Commission (FERC). FERC approved PennEast for the pre-filing review process on October 8. The pre-filing process creates the framework for the environmental analysis and a formal structure for stakeholders along the proposed route to provide input and opinions regarding the project. The pre-filing application is available online at http://elibrabry.ferc.gov, docket PF15-1-000.

At this time we would like to invite the Pennsylvania Department of Conservation and Natural Resources to become a cooperating agency in the FERC process, and to actively engage with FERC's designated Environmental Project Manager for the PennEast Pipeline Project, Medha Kochhar. Ms. Kochhar can be contacted at (202) 502-8964. As a cooperating agency, FERC and/or PennEast may request your participation in bi-weekly project status calls and direct or interagency coordination meetings, as appropriate.

Only in the second month of a comprehensive, approximately three-year process, PennEast still is working to refine a preferred alternative route and to obtain permissions to survey. To that end, we must inform you that the preferred alternative route has been adjusted to account for engineering, environmental, and land use constraints that have been identified since we initially provided your agency with detailed project information. In Pennsylvania, the preferred alternative route has been shifted approximately three-to-four miles to the northeast between mileposts 11 and 35 in Luzerne and Carbon counties. Other route adjustments have also been made in an effort to maximize co-location with existing utility easements. Overall, approximately 41 miles have been re-routed in Pennsylvania. Please note, however, that the current preferred alternative route remains in the same counties and townships as identified in our initial notification. Shapefiles for the adjusted preferred alternative route are being provided to aide in your review and analysis of the project.

We look forward to working with you and your colleagues on this important project. Please contact me if you have any questions.

Sincerely,



Bernie Holcomb
Pipeline Environmental Services Manager

URS Corporation 625 West Ridge Pike, Suite E-100 ; Conshohocken, PA 19428
Direct: 610 832 1810; Cell: 215 275-7956 ; Fax: 610-832-3501 bernard.holcomb@urs.com

From: Boyer, Emilee <c-eboyer@pa.gov>
Sent: Monday, November 03, 2014 9:09 AM
To: Poppel, Deborah
Cc: Livelsberger, Stephanie; Mong, David E (DCNR)
Subject: FW: large project review (PennEast Pipeline Project)
Attachments: dcnr_003513-Guidelines for ROW.pdf; dcnr_003516 - Siting Criteria.pdf; dcnr_003528 - How To Apply.pdf; dcnr_003527 - Illustration of Project Review.pdf

Hi Deborah, I'm sharing information on behalf on the Right-of-Way project team here in DCNR. Because the proposed pipeline will cross multiple State Parks, the PennEast project will be required by DCNR to follow the same process as any ROW on State Forest as outlined in our Application for Right of Way Review Process at http://www.dcnr.state.pa.us/forestry/rightofways/index.htm. The information at this link outlines the steps the applicant will need to take to have the project reviewed by the Large Projects Committee. Please be aware that our meeting tomorrow is intended to be an project introduction meeting and not the meeting to initiate the ROW review process. The meeting will also not grant approval to survey any DCNR lands; that comes after the project is approved by the ROW/Large Projects Committee.

If you have a proposed agenda to pass along for tomorrow's meeting, that would be helpful for us to prepare.

Please let me know if you have any questions. I look forward to the meeting tomorrow.

Regards,

Emilee C. Boyer | Ecological Information Specialist
Bureau of Forestry | PA Natural Heritage Program
Phone: 717.787.7067| Fax: 717.772.0271
www.dcnr.state.pa.us | www.iConservePA.org

January 14, 2015

Ms. Deb Fisler
Pennsylvania Natural Heritage Program
Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552
Harrisburg, PA 17105

Dear Ms. Fisler:

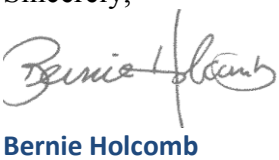
On behalf of PennEast Pipeline Company, LLC, we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; Texas Eastern Transmission, LP; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

As an interstate natural gas pipeline, PennEast will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015.

Over the past months, PennEast has worked to refine a new preferred alternative route and to obtain permissions to survey. To that end, we must inform you that the preferred alternative route has been adjusted to account for engineering, environmental, and land use constraints that have been identified since we last provided your agency with detailed project mapping on October 24, 2014. In Pennsylvania, the preferred alternative route has been re-routed for approximately 2.5 miles to the north side of State Route 33 near Bethlehem, PA. In New Jersey, the preferred alternative route has been re-routed for approximately 21 miles, from M.P. 90 (approximate) to the southern project terminus. This re-route has also necessitated a 1.3-mile, 36-inch lateral near Lambertville, NJ to transport gas to Algonquin and Texas Eastern Transmission systems. USGS topographic maps showing just the new route adjustments in Pennsylvania and updated shapefiles for the entire new preferred alternative route are being provided to aide in your review and analysis of the project.

We look forward to working with you and your colleagues on this important project. Please contact me if you have any questions.

Sincerely,



Bernie Holcomb

Pipeline Environmental Services Manager

URS Corporation 625 West Ridge Pike, Suite E-100 ; Conshohocken, PA 19428
Direct: 610 832 1810; Cell: 215 275-7956 ; Fax: 610-832-3501 bernard.holcomb@urs.com

pennsylvania
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

BUREAU OF FORESTRY

February 20, 2015 **PNDI Large Project Number: 022407**

Bernie Holcomb
URS Corporation
625 West Ridge Pike, Suite E-100
Conshohocken, PA 19428
Email: Bernard.holcomb@urs.com (hard copy not to follow)

Re: PennEast Pipeline Project
Multiple Municipalities, Luzerne, Carbon, Northampton and Bucks Counties

Dear Mr. Holcomb,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Large Project # **022407** 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	Township, County-GIS Area of concern (AOC), Approximate but not exact GPS Coordinates
Platanthera blephariglottis	White-fringed orchid	Not listed	Endangered and ***sensitive species***	**Area 5**:Penn Forest Township, Carbon County, west of Mud Swamp- several occurrences documented within proposed pipeline
Carex polymorpha	Variable sedge	Endangered	Threatened	**Area 3**: Penn Forest Township, Carbon County, Keipers Run, Hickory Run SP- [redacted] **Area 6** : Penn Forest Township, Carbon County, Weiser State Forest,

				[redacted] documented within proposed pipeline
Bartonia paniculata	Screw-stem	Rare	Rare	**Area 3**: SGL 129 and just south: - [redacted] occurrences documented within proposed pipeline corridor- **Area 5**: Penn Forest Township, Carbon County, Mud Swamp, Hickory Run SP- [redacted] occurrence documented within proposed pipeline- **Area 6**- Penn Forest Township, Carbon County, Weiser State Forest, [redacted] documented within proposed pipeline
Carex collinsii	Collin's sedge	Endangered	Threatened	**Area 5**:Penn Forest Township, Carbon County, west of Mud Swamp- [redacted] potential habitat
Eurybia radula	Rough-leaved aster	Not listed	Threatened	**Area 6**:Penn Forest Township, Carbon County, Weiser State Forest, [redacted] documented within proposed pipeline
Gaultheria hispidula	Creeping snowberry	Rare	Rare	**Area 1**: Mud Pond-Mosey Wood Pond, Kidder Township, Carbon County- [redacted] suitable habitat **Area 2**: West of SGL 129, [redacted] suitable habitat
Myrica gale	Sweet gale	Threatened	Threatened	**Area 1**:Mud Pond-Mosey Pond,

				Kidder Township, Carbon County- [redacted] suitable habitat
Carex paupercula	Bog sedge	Threatened	Rare	**Area 1**: Mud Pond-Mosey Pond, Kidder Township, Carbon County- [redacted] suitable habitat
Dicentra exima	Wild-bleeding hearts	Endangered	Endangered	**Area 7**: Towamensing Township, Carbon County, Beltzville State Park- [redacted] suitable habitat

Survey Request

DCNR requests a **survey** for the following species only if timber harvest/shrub/herbaceous cutting will occur within the next two years from this letter:

- *Plathanthera blephariglottis* (white-fringed orchid)–habitat is bogs, peaty wetlands and swamps, particularly on floating sphagnum moss mats surrounding bog pools–locally documented at the bottom of an open slope in saturated to wet mesic soil–just outside the boundary of Hickory Run SP- flowers in June-August–for more information, please see http://www.naturalheritage.state.pa.us/factsheets/15445.pdf.
- *Carex polymorpha* (Variable sedge)–habitat is typically moist, peaty acidic areas where the forest is dominated by *Quercus alba* or *Acer rubrum* and the canopy is 70-90%.–locally documented along a small stream in a forested valley—also documented in a mixed red-maple-red oak-hemlock open woods along Pinoak Run with seepy sphagnum areas–flowering stems first appear in May and remain intact through the summer with the fruits persisting in place–for more information, please see http://www.naturalheritage.state.pa.us/factsheets/15108.pdf.
- *Bartonia paniculata* (screw-stem)–habitat is bogs and peaty bog margins–locally documented as a small population on the border of Hickory Run SP and SGL # 129 and found within two small areas along the pipeline ROW, mostly in the ruts of the access road–locally documented in a forested valley along a small stream–also documented within a pipeline ROW with well-drained and poorly drained sections as well as sandy soil, Yellow Run area of Hickory Run SP area-flowers in August–October-
- *Carex collinsi* (Collin's sedge)–habitat is sphagnum moss in acidic swamps and wet woods, often where conifers are a prominent part of the canopy–locally documented in a red maple-hemlock-highbush blueberry sphagnum peat forest of Mud Swamp–locally documented from late June – mid August–for more information, please see http://www.naturalheritage.state.pa.us/factsheets/15018.pdf.
- *Carex collinsi* (Collin's sedge)–habitat is sphagnum moss in acidic swamps and wet woods, often where conifers are a prominent part of the canopy–locally documented in a red maple-hemlock-highbush blueberry sphagnum peat forest of Mud Swamp–locally documented from late June – mid August–for more information, please see http://www.naturalheritage.state.pa.us/factsheets/15018.pdf.
- *Eurybia radula* (rough-leaved aster)–habitat is wet woods, swamps, seeps, bogs, and along streams–locally documented along a pipeline right-of-way with well drained and poorly drained sections as well as sandy soil–flowers in July-September-for more information, please see http://www.naturalheritage.state.pa.us/factsheets/13027.pdf.
- *Gaultheria hispidula* (creeping snowberry)–habitat is sphagnum dominated areas on decaying logs, stumps, moss hummocks in bogs, peaty wetlands, and swamps–locally documented in a moist palustrine hemlock forest in a sphagnum hummock substrate–flowers in June, fruits in September, but evergreen foliage is identifiable all times of the year without significant snow cover–for more information, please see http://www.naturalheritage.state.pa.us/factsheets/13724.pdf.

- *Myrica gale* (sweet gale)–habitat is boggy wetlands and along shorelines of lakes and streams–locally documented on a narrow fringe of bog mat in a small acidic glacial lake–flowers in May before leaves emerge but can be identified throughout the growing season–for more information, please see http://www.naturalheritage.state.pa.us/factsheets/14167.pdf.
- *Carex paupercula* (bog sedge)–habitat is bogs and peaty wetlands–locally documented within boggy wetlands along Fourth Run in a forest matrix–flowers in May-July, fruits in June-August– for more information, please see http://www.naturalheritage.state.pa.us/factsheets/15160.pdf.
- *Dicentra eximina* (wild bleeding-hearts)–habitat is rich woods and cliffs–locally documented in open woods on fairly level land 2 miles of Forest Inn in Beltsville State Park-has not been seen since 1967 but suitable habitat still exists-flowers in June-July–
- 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.
- If vegetation disturbance will not occur as the result of the proposed forest stewardship plan within the next two years of this letter, please contact me at the above email address or phone number and I can reissue a no impact letter.

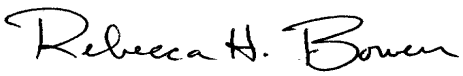
IMPORTANT: To assist with your botanical survey efforts, we are providing ArcMAP shapefiles of GIS Areas of Concern (AOCs). These polygons are based on known locations or potential habitat of DCNR-regulated species or natural communities. Required surveys may be restricted to these AOCs. The survey may be further refined to suitable habitat within areas of anticipated disturbance. For example, if work is restricted to an existing open right-of-way, a survey for a forest-dwelling species would be unnecessary.

PROJECTS ON STATE FOREST LANDS:
A portion of this project takes place on the Weiser State Forest (District 18). The DCNR Bureau of Forestry's *State Forest Resource Management Plan* sets forth guidelines for ecologically-sound management of State Forest Lands and resources including protection of wetlands, wildlife, native wild plants and invasive species management. As such, the DCNR Bureau of Forestry may request additional surveys in association with this project. **This letter applies to PNDI impacts only and does not authorize the initiation of any work on State Forest Lands. Further coordination with the Bureau of Forestry is required.** If you have not already done so, please contact Tim Ladner, District Forester for Weiser State Forest, at 570-875-6450 for additional information.

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

PennEast Pipeline Company LLC (PennEast)
PennEast Pipeline Project

Pennsylvania Department of Conservation and Natural Resources (DCNR)
Summary of Initial Concerns
For a Pre-Survey Meeting March 18, 2015
Weiser State Forest – Forest District Office

1) ***Justification of Need***

DCNR - Bureau of Forestry

The Conservation and Natural Resources Act (act of June 28, 1995, P.L. 89, No. 18) provides DCNR with the authority to grant rights-of-way for pipelines or transmission corridors "… when it shall appear to the department that the grant of a right-of-way will not so adversely affect the land as to interfere with its usual and orderly administration, and when it shall appear that the interests of the Commonwealth and its citizens will be promoted by such grant."

Please indicate how the right of way request addresses both of the above conditions.

DCNR - Bureau of State Parks

The Administrative Code of 1929, Section 514 (AC 1929) provides DCNR with the authority to grant rights-of-way for pipelines or transmission corridors across State Park boundaries for public service utility lines regulated by PA Public Utility Commission (PUC).

Please indicate how the right of way request would meet the above condition.

Pursuant to the Conservation and Natural Resources Act, part of the Bureau's primary mission is to maintain, improve and preserve State parks as public natural resources. In managing State parks, the Bureau is to make available natural areas of unusual scenic beauty to promote healthful outdoor recreation and education and to provide facilities necessary for such purposes, while attempting to conceal the hand of man.

Please indicate how the right of way request would address the mission of the state parks system as outlined above.

As outlined in the *Departments Guidelines for Right of Way Development on PA State Forest and State Park Lands*, DCNR considers all State Parks, Natural and Wild Areas undesirable sites for ROW.

What efforts would PennEast be willing to undertake to minimize impacts or to enhance the unique values that state parks systems provide?

2) ***Route Planning***

FRANCES SLOCUM, HICKORY RUN, BELTZVILLE, DELAWARE BUREAU OF STATE PARKS (BUREAU)

To preserve the natural setting, soundscapes and viewsheds of state parks, the Bureaus goal is to limit the impacts to State Park natural, historical, cultural, educational, and recreational resources from the extraction of oil and gas resources, pipeline right-of-ways and seismic surveys. While the Bureau respects the extraction and development of oil and gas resources and the rights of mineral holders, all alternative pipeline routes that circumvent Pennsylvania State Parks should be considered.

a) Land and Water Conservation Fund

The Land and Water Conservation Fund (LWCF) requires the land be retained for public outdoor recreation. Conversions are prohibited, EXCEPT for "underground utility easements that do not have significant impacts upon the recreational utility of the park" (LWCF Grants Manual, ch, 675.9, Par 3(A)(5)(a)). Generally, LWCF has considered utilities construction periods of less than 12 months as not constituting any sort of conversion. **Therefore, provided PennEast's construction timeline is under 12 months, and there are no permanent surface structures, LWCF restrictions would not be applicable.**

i) PennEast would need to provide detailed construction plans to the Bureau of State Parks to include time line.

ii) LWCF would apply to Frances Slocum, Hickory Run and Beltzville State Parks.

<u>*Frances Slocum State Park*</u> - The proposed preferred alignment does not fall within an existing right of way (ROW). The proposed pipeline would require a new greenfield corridor further fragmenting and segmenting these areas of the park. The Bureau will seek land of equivalent value to the park to replace the land utilized for the pipeline project unless PennEast utilizes a ROW that was in existence when the park land was acquired.

What other alternate route(s) have been considered in terms of new greenfield corridor off of DCNR lands; collocation within or in paralleling existing right of way corridors?

<u>*Hickory Run State Park*</u> - The proposed preferred alignment collocates within or parallels an existing ROW. If PennEast would require an expansion of the ROW or create a new greenfield ROW (further fragmenting and segmenting these areas of the park), the Bureau will seek land of equivalent value to the park to replace the land utilized for the pipeline project unless PennEast utilizes a ROW that was in existence when the park land was acquired.

<u>*Beltzville State Park*</u> - The Bureau of State Parks is a lessee of the land from ACOE and does not have the authority to grant a ROW.

a. *What alternate route(s) have been considered in terms of collocating with existing right of way facilities?*
b. *What alternate route(s) have been considered in Beltzville in terms of parallel existing corridors?*
c. What major or minor reroutes is PennEast willing to consider in terms of in or outside of the 400 ft. study corridor?

b) WEISER STATE FOREST - PENN FOREST TRACT (PFT)

i) Assessments of disturbance acreage have been identified for the preferred route of 4.33 acres (50ft.) and 8.85 acres (100 ft.) for the PFT.

a. *What alternate route(s) have been considered in terms of collocating with existing right of way facilities?*
b. *What alternate route(s) have been considered on the PFT in terms of parallel existing corridors?*
c. What major or minor reroutes is PennEast willing to consider in terms of in or outside of the 400 ft. study corridor?

ii) Are there any currently known influences that may cause route deviations, whether major or minor, from the preferred alignment of the PFT? If so, what influence(s) would it have on the PFT portions or nearby private lands?

3) Design and Construction

Please present a brief description or overview of the PennEast pipeline construction process.

a) PennEast is encouraged to employ long-term planning and consider pipeline installation which will accommodate current and future needs. PennEast identifies having executed long-term binding precedent agreements with eight (8) shippers for 78% of firm transportation as a result of this project. As indicated many of the shippers have provided rationale in terms of committing to Project capacity, thank you for supplying this detail.
i) Have additional shippers, electricity generators or local distribution companies signed binding agreements since the last August Open Season?
ii) Please provide the current status of the proposed pipeline facilities full capacity subscription.
iii) In the longer term, if a need arises to increase capacity transport ("Future Expansion"), what pipeline infrastructure design or siting options would PennEast consider or be willing to explore?

b) The minimization of the right-of-way project footprint, temporary construction workspace and legal "operational or maintained" corridor widths are of importance to DCNR. DCNR needs more clarity on the proposed footprint.
   i) *How close is PennEast willing to site the proposed pipe near existing utility lines (pipelines, overhead electric lines, etc.)?*
   ii) *In reference to 100 feet of total workspace requested, how much of an existing right of way corridor space will PennEast be willing to use as workspace?*
   iii) *What is the projected acreage amount of new forest clearing necessary to achieve the 50 ft. operational width?*
   iv) *What relationships with other operators have been established by PennEast in terms of siting infrastructure adjacent to other existing utility right of way corridors or specific utility facilities?*
   v) *What would be the burial depth and fill material depth above the pipeline for the open trench segments and, the planned burial depth for Directional Drilling Areas?*

c) The use of additional temporary workspace associated with stream crossings, wetland crossings or in negotiating other sensitive features in conjunction with right of way construction must be justified and minimized to the extent where safety and workability are not jeopardized.

d) Above ground infrastructure
   i) Compressor stations are predominately incompatible with State Forest or State Park resources, uses and values; and as such, are preferred to be located off of State Forest and State Park land. The sole Compression Station serving the pipeline is currently planned to be located off of DCNR lands. The proposed site for the UGI HAZ Delivery Point-Compressor Station is approximately 9,000 feet from the Hickory Run State Park. Additionally it is in very close proximity to state game lands for in which unique public land uses and values also exist. There is a reasonable expectation that state of the art measures will be employed to not alter the park user experience and retain the wild character of the rural forested area:

   (1) What noise sensitive methods, technologies or state of the art measures will be utilized to minimize noise or keep noise levels low?
   (2) Reference is made to alternate Compressor Station sites between MP 25.2 and 27; this would be much closer to the nearby Hickory Run SP. What is the status of the one sole compressor station siting location?

   ii) Pipeline facility siting can be intrusive to the ecosystem, natural wild character, aesthetic value and potentially impacts the recreational park or forest users, etc., their siting remains important to DCNR:
   (1) Are there any known location changes of the proposed facilities?

(2) Although associated valve, launcher and receivers are planned to site within the as-built pipeline corridor itself, are any of these facilities planned to site on the DCNR segments of the pipeline corridor?
(3) Pipe yards have not yet been identified in terms of their location to DCNR property. Would the pipe yards site in relation to the right of way corridor or access roads on DCNR lands, and if so, are there any updates available of their planned locations?
(4) If the expressed cathodic protection system is planned for DCNR land segments, we desire to be informed of the anode bed and test station locations perhaps coincident with the Draft Filing to FERC.

e) *How will industrial wastes and toxic substances be managed?*

f) *Are there any updates to the overall project acreage impacts in regards to total area disturbance and an as built operational acreage footprint?*

g) If blasting is anticipated during construction state and federal safety standards are expected to be followed; State Park Managers and/or the District Forester must receive 14 days advance notice.

4) Recreational Impacts

a) The following roads, trails or unique areas appear to be impacted by the proposal.

FRANCES SLOCUM STATE PARK

i) The proposed pipeline impacts Moconaquah Trail, a highly used mountain bike trail.
ii) Construction activities should not restrict visitor access.

HICKORY RUN STATE PARK

Hickory Run State Park and the Boulder Field are highly used recreational areas. The Boulder Field is a National Natural Landmark.

i) An aesthetic buffer, limiting tree removal, should be maintained at 300 feet from the Boulder Field.
ii) Construction activities should not restrict visitor access.

BELTZVILLE STATE PARK

The proposed route crosses Christman Trail, Cove Ridge Trail, Falls Trail, the Waterfall Area and Wild Creek Cove, all are highly used recreational areas.

i) A 300 ft recreational and aesthetic buffer should be maintained at the trail.
ii) All tops, brush and debris shall be pulled back on either side of the trail corridor.
iii) Seasonal restrictions are a consideration.
iv) Construction activities should not restrict visitor access.

DELAWARE CANAL STATE PARK
The Delaware Canal, established as the Delaware & Lehigh National Heritage Corridor, is a Registered National Historic Landmark and its towpath is a National Recreation Trail. BMPs for trail crossings must be employed.

i) The best options for crossing must be explored. Whether open cut, directional drilling or a boring method is chosen, the method must be discussed with the State Park Manager prior to commencing construction for this crossing.

ii) If the HDD method is utilized, equipment staging areas, entrance and exit pit locations or surface drilling rig footprint areas must be presented to and first discussed with DCNR State Park Manager prior to permitting and construction.

WEISER STATE FOREST – Penn Forest Tract

(1) Stoney Mountain Road (Township paved road)
(2) Sawmill Trail Road (Z3 administrative road)
(3) Penn Forest Trail Road (Z3 administrative road)
(4) Rebold Trail Haul Road (Z3 administrative road)

The operator must notify the Department in writing when work is expected to begin in these areas and the anticipated operational period. The operator will provide notices of temporary changes and closures to the Department who will notify trail associations and local media.

b) Aesthetics management zones are applied to State Forest or State Park lands where connectivity and aesthetics are among primary values. As such, the following setbacks apply wherein all woody debris (ex. stumps, brush, slash, tree tops, etc.) must be pulled back from each side of the identified resource:

FEATURE	**SETBACK DISTANCE** WOODY DEBRIS	**SPECIAL CONDITION** (in addition to setback distance)
District Trail	25 Feet	
Boundary Line (State Forest/Park)	25 Feet	No tree tops or slash-woody debris shall be left in, on, or within a DCNR boundary line.
State Park Trail	50 Feet	No tree tops or slash-woody debris shall be left in, on, or within a state park trail or its corridor (*hiking, biking, etc*.).
Public Use Road (Z1)	(a) 50 Feet - setback (b) 100 Feet - lopping	Tree tops, brush, slash or woody debris within 100 feet of the resource feature must be lopped to three inches in diameter and scattered evenly over the ground.

c) Unauthorized use of ROW corridors by off-road vehicles is a constant struggle to enforce. *What measures would PennEast undertake to minimize this problem?*

d) PennEast should be aware that the resulting pipeline corridor may be utilized for approved recreational trails to include motorized recreation such as snowmobiles.

5) Operational Impacts

a) Please identify all State Forest/State Park Roads which are anticipated to be utilized during construction and any potential access routes for future operational maintenance.

i) State Forest Road Use Agreements must be secured for this activity.

ii) State Forest Roads utilized during construction may require improvements/upgrade.

(1) The District Forester/State Park Manager typically develops specifications regarding necessary improvements (culverts, grading, road material, gates/barricades, etc.); such details are communicated in a License exhibit, and/or a Road Use Agreement, provided by the District Forester or State Park Manager and further addressed during a Pre-Construction Work Meeting with DCNR.

FRANCES SLOCUM STATE PARK:

The proposed pipeline would cross Green Road at the park boundary, allowing for an increased potential for illegal access to the park by ATV traffic. DCNR would require closure of any access points to the park.

(2) Road access within the pending right-of-way or in any existing right of way being collocated may also require improvements and acceptable Revegetation or site restoration efforts.

iii) State Parks are high recreational use areas, and pipeline construction work schedule(s) may incur seasonal restrictions based on recreational use. Construction activities should not restrict public access to the park. Written approval must be obtained from the Park Manager prior to conducting operations in the park. It is also important to maintain the aesthetic value of trails and other use areas.

b) Please identify all proposed access roads requiring new construction.

i) Roads must be constructed according to State Forest road building specifications.

ii) Gates, barricades or a combination of both may need to be installed and according to State Forest specifications at the discretion of the District Forester/Park Manager.

iii) It is recommended to consult with the District Forester/Park Manager regarding potential locations of available road building materials.

c) DCNR Road – Right-of-Way Pipeline Crossings:

i) PennEast must notify the DCNR in writing prior to commencing work in those areas where pipeline construction involves crossing a state forest/park road.

ii) The operational period must be expressed and a willingness to work together to reduce associated forest/park user conflicts is expected.

iii) PennEast must provide notices of temporary changes and closures to the DCNR who will notify forest or park user groups such as the *Pocono Whitewater, Keystone Trail Association, PA Snowmobile Association, etc. and* other impacted lessees, licensees and local media.

iv) The operator must provide the necessary security, safety, and signage measures during these operations at its own expense.

v) The following guidance would apply:

(1) State Forest Public Roads (Z1):
A trenchless method for crossing Public Use Roads should be considered; written permission from the District Forester/Park Manager must be obtained prior to utilizing an open cut method.

(2) State Forest Drivable Trails (Z2) or Administrative Roads (Z3):
Crossings of Drivable Trails and Administrative Roads may be made by open trench method unless otherwise specified in writing by the District Forester/Park Manager or designee.

d) DCNR Road Closures:
Appropriate safety measures must be utilized wherever possible to protect the usage of the forest/park roadways (Z1 and Z2) by recreation-based user groups (hiking, biking, horseback riding, hunters, etc.).

i) PennEast must provide the necessary security, safety, and signage measures during these operations at its own expense.

ii) PennEast must notify DCNR in writing when work is expected to begin and identify the intended operational period.

iii) PennEast must provide notices of temporary changes or closures to DCNR, who will notify user groups such as the *Pocono Whitewater Keystone Trail Association, PA Snowmobile Assoc., etc.* and other impacted lessees, licensees and local media.

e) PennEast must provide padded pipeline crossings at locations identified by the District Forester/Park Manager.

f) Routine or periodic entry on to DCNR administered lands for operational maintenance purposes is anticipated during the life of the right of way corridor.

i) What on-the-ground markers are anticipated in terms of aircraft flight inspections?

ii) What would be the anticipated mowing schedule for the proposed pipeline?

iii) A 30 ft. cleared area over the pipe is planned for non-wetland areas; the District Forester or Park Manager may request that a narrower clearing be maintained in sensitive areas, special species of concern areas or to retain a particular habitat component.

iv) The DCNR District Forester and/or State Park Manager will require notification in writing well in advance of scheduled ground entry for routine facility or vegetative right of way maintenance.

6) ***Silvicultural Impacts***

a) The limits of disturbance need to be clearly identified in the field to facilitate valuation of timber damages.

b) Timber damages will be assessed at double stumpage value or on a flat per-acre rate basis; final determination will be made by the District Forester/Park Manager.

i) Upon payment of the timber invoice, timber rights would be vested in the applicant.

ii) If the timber is not removed from the site within 60 days, timber rights would then revert to the Commonwealth. The 60-day reversion period may be extended at the discretion of the District Forester/Park Manager.

iii) Timber must be decked/landed at a location approved by the District Forester/Park Manager.

(1) The engagement utilization of local wood producers and consumers is highly encouraged.

(2) It is also recommended that forest products removed during construction are completely utilized.

c) *Please identify an anticipated stump/slash/debris management plan.*

d) Invasive species plant management is expected to be addressed by PennEast and meet the DCNR's administrative protocol and guidelines.

7) Water Quality Impacts

a) DCNR has adopted aquatic habitat buffers to assure water resources receive adequate protection. While the DCNR is cognizant that complete avoidance of aquatic resources is sometimes impractical, encroachment upon these resources will require mitigation and a waiver request. Avoidance or mitigation measures should be discussed during the planning phase of the project. The waiver, if necessary, is addressed and justified as part of the State Forest Environmental Review. Future pipeline maintenance will be expected to adhere to our buffer guidance.

b) The following streams may be impacted by the project:

i) **WEISER STATE FOREST**

(1) The small tributary, Yellow Run, originating from the Yellow Run Barrens portion of the Penn Forest Tract is a part of the Stoney Creek basin – an Exceptional Value (EV) water.

(2) The small tributary, Engler Run, originating from the south-south eastern portion of the Penn Forest Tract is a part of the Wild Creek basin – an Exceptional Value (EV) water.

The Bureau of Forestry requires a 135-foot buffer between disturbance and EV streams. DCNR expects that the width of the ROW be reduced to the greatest extent possible within 135 feet of the stream crossing. Special riparian restoration would be required within 135 feet of the stream crossing.

(3) The Penn Forest Tract contains portions of two County Natural Heritage Areas as defined in the Carbon County Comprehensive and Greenway Plan – the *Yellow Run Barrens* and a portion of the *Penn Forest/Wild Creek Reservoir*.

Further consultation would be expected by PennEast with the Carbon County - Office of Planning and Development in relation to the Carbon County Comprehensive and Greenway Plan.

ii) **HICKORY RUN STATE PARK**

The proposed route crosses Mud Run and Stony Creek.

(1) Mud Run is a designated HQ-CWF (High Quality Cold Water Fishery) stream.

DCNR requires a 30-foot no disturbance buffer and an additional 105-foot minimal-disturbance buffer on HQ streams. The DCNR expects that the width of the ROW be reduced to the greatest extent possible within 135 feet of the stream crossing. Special riparian restoration would be required within 135 feet of the stream crossing.

(2) The Stony Creek is designated EV (Exceptional Value).

DCNR requires a 135-foot buffer between disturbance and EV streams. The DCNR expects that the width of the ROW be reduced to the greatest extent possible within 135 feet of the stream crossing. Special riparian restoration would be required within 135 feet of the stream crossing.

iii) **BELTZVILLE STATE PARK**

The proposed route crosses one special protection Exceptional Value (EV), Pohopoco Creek. The crossing at Pohopoco Creek and Beltzville Lake are inside the park boundaries.

DCNR requires a 135-foot buffer between disturbance and EV streams. The DCNR expects that the width of the ROW be reduced to the greatest extent possible within 135 feet of the stream crossing. Special riparian restoration would be required within 135 feet of the stream crossing.

iv) **DELAWARE CANAL STATE PARK**

(1) *Both pre-boring and post-boring canal and canal structure condition reports will be required for 1 mile north and 1 mile south of the crossing site. These condition reports are to be completed by a qualified*

independent company approved by DCNR. DCNR must be notified of the approved depth of the bore prior to construction.

(2) PennEast is required to present a plan, timelines and project details to the *Delaware Canal Advisory Committee.*

c) DCNR should be involved and informed in the planning process for all stream crossings, including a discussion of the most appropriate method for the crossing (e.g., whether by open cut trenching or the directional boring method (HDD), etc., share findings of geotechnical survey results). This consultation should occur - before necessary stream crossing permits are submitted to the appropriate jurisdictional authority and prior to construction commencement.
   i) PennEast should provide the Department with their BMPs on stream crossing practices and planned crossing methodology.
   ii) If the HDD method is utilized, equipment staging areas, entrance and exit pit locations or surface drilling rig footprint areas must be presented to and first discussed with DCNR prior to permitting and construction.

d) Wetlands are a critical resource and should be avoided. DCNR expects every effort to be made to avoid impacting wetlands, including riparian wetlands and vernal ponds. However, in cases when complete avoidance is not possible, DCNR requests a summary of anticipated wetland impacts along with a description of any avoidance, minimization, or mitigation measures that were considered in the planning process or as identified during pending survey work. This information should be incorporated in the responses to the SFER

   (1) The DCNR expects a 200-foot no-disturbance buffer from any wetland, vernal pool, spring seep, other wet areas or any other body of water. In addition, DCNR expects a 300-feet no-disturbance buffer from a wetland, vernal pool, spring seep or other wet areas with threatened and endangered species and species of special concern. These buffers are as described in DCNR's Guidelines for Administering Oil and Gas Activity on State Forest Lands.

   (2) The results of wetland delineations should be provided to the DCNR as part of the SFER submittal (ArcGIS shapefile preferred).

      (a) Wetland delineations are typically required for the limits of disturbance by the jurisdictional authority. In order to be protective of established buffers, DCNR requests additional delineations extending 200-feet beyond the limit of disturbance given the presence of either hydric soils or soils with hydric components (NRCS Soil Survey) or National Wetland Inventory (NWI) classified wetlands (USFWS). Due to potential inaccuracy in the mapping of hydric soils or NWI wetlands, delineations should extend 100 feet beyond the hydric

soils/NWI wetland boundaries or where any other wetland indicators are revealed through a desktop review or field investigation. Wetland delineations should be conducted using the Army Corp of Engineers protocol by qualified individuals.

(3) Anticipated wetland crossing construction methods should be identified for each wetland and discussed with DCNR before necessary wetland crossing permits are submitted to the appropriate jurisdictional authority and prior to construction commencement.

(4) In addition to addressing jurisdictional wetland impacts for the appropriate jurisdictional authority, DCNR may require PennEast to conduct additional mitigation in association with any temporary wetland impacts that would occur on DCNR lands. Specific mitigation measures would be at the discretion of the Department.

8) Other Ecological Concerns

a) Please provide updates regarding correspondence with the following PNDI jurisdictional authorities and describe requested surveys/actions:
   i) US FWS
   ii) DCNR
   iii) PGC
   iv) PF&BC

b) As the land manager for State Forest and Park lands, DCNR may request surveys for species and/or their associated habitats which exceed those required by the jurisdictional agency. DCNR may have concerns for species under the jurisdictional authority of other agencies in regards to this proposal. Depending on the updates provided by PennEast on PNDI correspondence, DCNR may request additional surveys.

FRANCES SLOCUM; BELTZVILLE; AND DELAWARE CANAL STATE PARKS

- *The proposed pipeline would cross an ecological buffer for PNDI species of concern. DCNR may require additional surveys.*

HICKORY RUN STATE PARK

- *The proposed pipeline will cross Mud Run, Boulder Field and Mud Swamp Natural Areas, additional surveys may be required.*
- *The proposed pipeline would cross an ecological buffer for PNDI species of concern. DCNR may require additional surveys.*
- Hickory Run State Park is one of the largest tracts of un-fragmented or contiguous forested areas in the Pocono Plateau. Hickory Run State Park

is designated as an Important Bird Area (IBA's) for its significance to migratory birds and birds requiring deep forest habitat. IBA's are the most critical regions in the Commonwealth for conserving bird diversity and abundance, and are the primary focus of Audubon Pennsylvania's conservation efforts. Construction and maintenance of the ROW should minimize effects on birds and bird habitat.

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DELAWARE CANAL STATE PARK

- *The DELAWARE CANAL - As a national Historic Landmark, DCNR requires PennEast to submit and review the project with federal and state historic and archeological agencies and include DCNR on all correspondence.*
- *DCNR may require additional surveys.*

WEISER STATE FOREST

- *The proposed pipeline will cross the Penn Forest Tract, which includes a Public Wild Plant Sanctuary and crosses several ecological buffers for PNDI species of concern as well as Appalachian climbing fern. This is a species of some conservation concern but is not a PNDI species.*
- *DCNR may require additional surveys.*
- The Yellow Run Barrens is a unique wild plant sanctuary; DCNR may have additional restoration and reclamation requirements, for instance, such as the application of a specific native seed mix during a specific time of year - April/May.
- *Golden winged warblers* occur on the Penn Forest Tract in the Yellow Run Barrens. The DCNR and its sister agency the PA Game Commission desire to improve habitat for the Golden winged warbler.
  - *If awarded a license agreement, PennEast should anticipate conducting Golden wing warbler habitat enhancement and/or perform measures to protect its habitat during pipeline construction or in performing future right of way maintenance activities.*

c) Invasive species are of high concern to DCNR during construction and for the long-term usage of right of way corridors. PennEast should conduct BMPs to limit the introduction of invasive species, such as:

i) Washing equipment prior to bringing on state forest land,
ii) Planning work sequence such that areas known to be infested with invasive species are worked in after non-infested areas,
iii) Using certified weed-free seed,
iv) Using certified weed-free mulch, gravel, and fill.
v) Japanese Stilt Grass is an invasive species expected to be encountered on the Weiser State Forest, how does PennEast typically treat invasive species?
vi) The ROW agreement would include special provisions for the post-construction monitoring and control of invasive species which will be PennEast's responsibility.

vii) DCNR has final approval of invasive species management plans, vegetation management, and restoration/rehabilitation efforts. DCNR uses vegetation that is native to the park/forest or immediate surrounding area. Any exceptions require explanation and approval by DCNR.

d) Several species of bats utilize state forests and parks as habitat. Due to white-nose syndrome, many bat species have experienced over 90% mortality. The northern long-eared bat is under consideration by the U.S. Fish and Wildlife Service for Federally-listing.
   i) In addition to tracking Indiana bats, DCNR requests that any northern long-eared bats that are captured on DCNR land be radio-tracked to locate roosts, as is typically requested for Federally-listed species.
   ii) DCNR requests that any state-listed bat species be radio-tracked as well. These would include the silver-haired bat (candidate-rare), evening bat (candidate-rare) and the eastern small-footed bat (PA-threatened).
   iii) At least one emergence count should be conducted at identified roosts.
   iv) Data should be collected in accordance with FWS and PGC guidelines.

f) The DCNR may request additional habitat enhancement for the S*nowshoe Hare, Northern Flying Squirrel, etc*.

9) Other

a) All right-of-way applicants must provide DCNR with electronic ArcGIS shape files of all data collected, including but not limited to:
   i) wetland delineations
   ii) aquatic resources
   iii) species/natural community surveys
   iv) potential habitat for species of concern
   v) invasive plant species inventories
   vi) pipeline centerline, permanent legal right of way width(s), temporary workspace, and additional temporary workspace.

This information would need to be submitted prior to, and is a requirement for, the drafting of a pending *License for ROW Agreement*.

b) Project status updates are requested on other areas of the project off of DCNR lands so that DCNR may be aware of the project's timeline and other issues affecting the project.

PennEast Pipeline Project

MEETING MINUTES

PA DCNR Meeting
March 18, 2015
Rachel Carson State Office Building, Harrisburg, PA
Date: March 18, 2015

Attendees:

Stephanie Livelsberger, DCNR Bureau of State Parks
Dave Mong, DCNR Bureau of Forestry, State Forests
Dan Murphy, WLS
John Spencer, WLS
Deborah Poppel, URS
Dante D'Allesandro, PennEast
Alisa Harris, PennEast

Summary

DCNR was provided a project overview (see agenda) which included a purpose and need for the project, a description of the proposed facilities, and the status of environmental surveys and other activities. It was mentioned by Mr. Mong that "Certificates of Survey" will be issued within 21 business days of this Pre-Survey Meeting.

The Bureau of State Parks and Forestry representatives noted that it is "undesirable to have right-of-way easements on the State Parks" and they are concerned with the recreational and social impacts due to construction, even if temporary. The highest concentrations of visitors to the Parks are concurrent to when the proposed construction phase would take place (beginning spring 2017) and the Bureau would like to maintain the visitor's experience.

The Bureau expressed specific issues of concern for each of the State Parks. In regards to Frances Slocum State Park, the relevance of Section 6(f)(3) of the Land and Water Conservation Fund Act on the conversion of federally funded lands to other than public outdoor recreation uses was noted. The adaptation will not be considered an official "conversion" if the construction phase lasts for less than 12 months. The Park contains 3 adjacent pipeline and utility right-of-way easements that they would prefer we attempt to co-locate with.

In regards to Hickory Run State Park, the Bureau is satisfied with our current co-location within existing right-of-way easements through the Park. The Park is home to a Boulder

Field that is a National Natural Landmark and they request that the compressor station be located as far from this features as possible.

In regards to Beltzville State Park, the Bureau would like to suggest alternatives that utilize the existing utility line corridor. Mr. Azeles, the Park Manager at Beltzville, would like to be put in contact with our point of contact at USACE.

In regards to Delaware Canal State Park, no concerns were raised.

In regards to Weiser State Forest, the Bureau requests PennEast keeps the right-of-way easement corridors as narrow as possible.

Ms. Harris noted that PennEast is willing to consider specific areas that DCNR identifies to be avoided, but those discussions need to take place immediately. A teleconference can be orchestrated with DCNR in order to review alternatives throughout the Parks on Google Earth.

DCNR representatives were provided with hard copies of the USGS maps illustrating alternatives. They have requested a more detailed alternative analysis for the State Park and Bureau of Forestry lands in the July filing of Resource Report 10 – Alternatives.

DCNR requires equal compensation for the value of timber that is lost, and consequently, PennEast will be receiving a “timber invoice”.

New shapefiles are anticipated by the DCNR in 3 weeks (4/27) and are expected to include reroutes on federal lands and the new lateral. Finally, it is requested that PennEast attends an advisory committee meeting that convenes once a quarter (including March 2015).

Minutes Prepared by:

URS Corporation

March 30, 2015

Mr. Frederick Sechler, Jr.
Department of Conservation and Natural Resources
400 Market Street
P.O. Box 8552
Harrisburg, PA 17105

Dear Mr. Sechler:

On behalf of PennEast Pipeline Company, LLC, we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; Spectra Energy Partners; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

As an interstate natural gas pipeline, PennEast will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015. Over the past months, PennEast has worked to refine a preferred alternative route and to obtain permissions to survey. To that end, we must inform you that the preferred alternative route has again been adjusted to account for engineering, environmental, and land use constraints that have been identified since we last provided your agency with detailed project mapping on January 14, 2015.

Following feedback from FERC's scoping meetings and numerous conversations with landowners, state and local agencies, and other various stakeholders, PennEast has revised and refined various portions of the preferred alternative route. The largest variations to the previously released route are related to the location of the crossing of the Bethlehem Authority water supply mainline (MP 44 and MP 45), Appalachian Trail crossing (between MP 46 and MP 55), and accommodating future subdivision and housing development plans. Additional field data gained over the last month has helped make smaller adjustments related to environmental surveys and individual discussions with landowners.

In addition to the route variations noted above, an additional interconnect was needed for the Gilbert Power Generation facility in Holland Township, New Jersey, which is fed by a small lateral (12 inches) to supply natural gas to the facility. The previously located interconnection with Elizabethtown Gas was relocated so that both interconnects can be co-located within the power station's industrial property to minimize additional above-ground impacts.

A summary of the significant route variations in Pennsylvania is provided below:

- In Towamensing Township in Carbon County, PA, less than one mile of the alignment has been re-routed ¼-mile to the east as a result of consultations with the Bethlehem Authority (Authority). The alignment has been re-routed between mileposts 44 and 45 to cross the Authority's water supply mainline in a location where it is deeper in an effort to maximize protection of the Authority's resources.

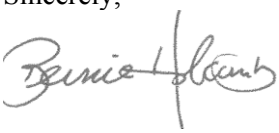
- Straddling the Carbon – Northampton County line in PA, approximately 8 miles of the alignment between mileposts 46 and 55 has been re-routed up to 1 mile to the west of the previous route in an effort to refine the crossing location of the Appalachian Trail.

- In Northampton County, PA, approximately 2.5 miles of the alignment has been re-routed less than ½-mile to the north of the previous route as a result of consultations with private landowners and local officials. The alignment has been re-routed between mileposts 59 and 62 to accommodate current and future land use plans in the area.

Updated GIS shapefiles for the entire new preferred alternative route are being provided to aide in your review and analysis of the project.

We look forward to continuing to work with you and your colleagues on this important project. Please contact me if you have any questions.

Sincerely,



Bernie Holcomb
Pipeline Environmental Services Manager

URS Corporation 625 West Ridge Pike, Suite E-100; Conshohocken, PA 19428
Direct: 610 832 1810; Cell: 215 275-7956; Fax: 610-832-3501 bernard.holcomb@urs.com

March 30, 2015

Mr. David Mong
Department of Conservation and Natural Resources
Bureau of Forestry, Ecological Services Section
400 Market Street
P.O. Box 8552
Harrisburg, PA 17105

Dear Mr. Mong:

On behalf of PennEast Pipeline Company, LLC, we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; Spectra Energy Partners; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

As an interstate natural gas pipeline, PennEast will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015. Over the past months, PennEast has worked to refine a preferred alternative route and to obtain permissions to survey. To that end, we must inform you that the preferred alternative route has again been adjusted to account for engineering, environmental, and land use constraints that have been identified since we last provided your agency with detailed project mapping on January 14, 2015.

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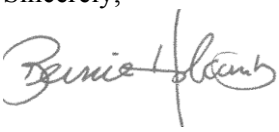
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Updated GIS shapefiles for the entire new preferred alternative route are being provided to aide in your review and analysis of the project.

We look forward to continuing to work with you and your colleagues on this important project. Please contact me if you have any questions.

Sincerely,



Bernie Holcomb
Pipeline Environmental Services Manager

URS Corporation 625 West Ridge Pike, Suite E-100; Conshohocken, PA 19428
Direct: 610 832 1810; Cell: 215 275-7956; Fax: 610-832-3501 bernard.holcomb@urs.com

pennsylvania
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

BUREAU OF FORESTRY

April 6, 2015 **PNDI Large Project Number: 022426**

Bernie Holcomb
URS Corporation
625 West Ridge Pike, Suite E-100
Conshohocken, PA 19428
Email: Bernard.holcomb@urs.com (hard copy not to follow)

Re: PennEast Pipeline Reroute (update)
Multiple Municipalities, Luzerne, Carbon, Northampton and Bucks Counties

Dear Mr. Holcomb,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Large Project # **022426** 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**	**Township, County-GIS Area of concern (AOC), Approximate but not exact GPS Coordinates**
Platanthera blephariglottis	White-fringed orchid	Not listed	Endangered and ***sensitive species***	**Area 5**:Penn Forest Township, Carbon County, west of Mud Swamp- several occurrences documented within proposed pipeline
Carex polymorpha	Variable sedge	Endangered	Threatened	**Area 3**: Penn Forest Township, Carbon County, Keipers Run, Hickory Run SP- [redacted] **Area 6** : Penn Forest Township, Carbon County, Weiser State Forest,

				-[redacted], documented within proposed pipeline
Bartonia paniculata	Screw-stem	Rare	Rare	**Area 3**: SGL 129 and just south: -[redacted] occurrences documented within proposed pipeline corridor- **Area 5**: Penn Forest Township, Carbon County, Mud Swamp, Hickory Run SP-[redacted]- occurrence documented within proposed pipeline- **Area 6-** Penn Forest Township, Carbon County, Weiser State Forest, -[redacted], documented within proposed pipeline
Carex collinsii	Collin's sedge	Endangered	Threatened	**Area 5**:Penn Forest Township, Carbon County, west of Mud Swamp-[redacted]- potential habitat
Eurybia radula	Rough-leaved aster	Not listed	Threatened	**Area 6**:Penn Forest Township, Carbon County, Weiser State Forest, [redacted], documented within proposed pipeline
Gaultheria hispidula	Creeping snowberry	Rare	Rare	**Area 1**: Mud Pond-Mosey Wood Pond, Kidder Township, Carbon County-[redacted]- suitable habitat **Area 2**: West of SGL 129, -[redacted]-suitable habitat
Myrica gale	Sweet gale	Threatened	Threatened	**Area 1**:Mud Pond-Mosey Pond,

				Kidder Township, Carbon County- [redacted]- suitable habitat
Carex paupercula	Bog sedge	Threatened	Rare	**Area 1**: Mud Pond-Mosey Pond, Kidder Township, Carbon County- [redacted] suitable habitat
Dicentra exima	Wild-bleeding hearts	Endangered	Endangered	**Area 7**: Towamensing Township, Carbon County, Beltzville State Park- [redacted]- suitable habitat
Potamogeton pulcher	Spotted pondweed	Endangered	Endangered	**Area 8:** Moore Township, Northampton County, SGL 168- [redacted] suitable habitat

Survey Request

DCNR requests a **survey** for the following species only if timber harvest/shrub/herbaceous cutting will occur within the next two years from this letter:

- *Plathanthera blephariglottis* (white-fringed orchid)–habitat is bogs, peaty wetlands and swamps, particularly on floating sphagnum moss mats surrounding bog pools–locally documented at the bottom of an open slope in saturated to wet mesic soil–just outside the boundary of Hickory Run SP- flowers in June-August–for more information, please see http://www.naturalheritage.state.pa.us/factsheets/15445.pdf.
- *Carex polymorpha* (Variable sedge)–habitat is typically moist, peaty acidic areas where the forest is dominated by *Quercus alba* or *Acer rubrum* and the canopy is 70-90%.–locally documented along a small stream in a forested valley—also documented in a mixed red-maple-red oak-hemlock open woods along Pinoak Run with seepy sphagnum areas–flowering stems first appear in May and remain intact through the summer with the fruits persisting in place–for more information, please see http://www.naturalheritage.state.pa.us/factsheets/15108.pdf.
- *Bartonia paniculata* (screw-stem)–habitat is bogs and peaty bog margins–locally documented as a small population on the border of Hickory Run SP and SGL # 129 and found within two small areas along the pipeline ROW, mostly in the ruts of the access road–locally documented in a forested valley along a small stream–also documented within a pipeline ROW with well-drained and poorly drained sections as well as sandy soil, Yellow Run area of Hickory Run SP area-flowers in August–October-
- *Carex collinsi* (Collin's sedge)–habitat is sphagnum moss in acidic swamps and wet woods, often where conifers are a prominent part of the canopy–locally documented in a red maple-hemlock-highbush blueberry sphagnum peat forest of Mud Swamp–locally documented from late June – mid August–for more information, please see http://www.naturalheritage.state.pa.us/factsheets/15018.pdf.
- *Carex collinsi* (Collin's sedge)–habitat is sphagnum moss in acidic swamps and wet woods, often where conifers are a prominent part of the canopy–locally documented in a red maple-hemlock-highbush blueberry sphagnum peat forest of Mud Swamp–locally documented from late June – mid August–for more information, please see http://www.naturalheritage.state.pa.us/factsheets/15018.pdf.
- *Eurybia radula* (rough-leaved aster)–habitat is wet woods, swamps, seeps, bogs, and along streams–locally documented along a pipeline right-of-way with well drained and poorly drained sections as well as sandy

soil–flowers in July-September-for more information, please see http://www.naturalheritage.state.pa.us/factsheets/13027.pdf.

- *Gaultheria hispidula* (creeping snowberry)–habitat is sphagnum dominated areas on decaying logs, stumps, moss hummocks in bogs, peaty wetlands, and swamps–locally documented in a moist palustrine hemlock forest in a sphagnum hummock substrate–flowers in June, fruits in September, but evergreen foliage is identifiable all times of the year without significant snow cover–for more information, please see http://www.naturalheritage.state.pa.us/factsheets/13724.pdf.

- *Myrica gale* (sweet gale)–habitat is boggy wetlands and along shorelines of lakes and streams–locally documented on a narrow fringe of bog mat in a small acidic glacial lake–flowers in May before leaves emerge but can be identified throughout the growing season–for more information, please see http://www.naturalheritage.state.pa.us/factsheets/14167.pdf.
- *Carex paupercula* (bog sedge)–habitat is bogs and peaty wetlands–locally documented within boggy wetlands along Fourth Run in a forest matrix–flowers in May-July, fruits in June-August– for more information, please see http://www.naturalheritage.state.pa.us/factsheets/15160.pdf.
- *Dicentra eximina* (wild bleeding-hearts)–habitat is rich woods and cliffs–locally documented in open woods on fairly level land 2 miles of Forest Inn in Beltsville State Park-has not been seen since 1967 but suitable habitat still exists-flowers in June-July–
- *Potamogeton pulcher* (spotted pondweed)–habitat is shallow, acidic streams, vernal ponds, in swamps, and on muddy shores–locally documented in a vernal pond-flowers from June – September, Fruits from August–October–for more information, please see http://www.naturalheritage.state.pa.us/factsheets/15786.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.
- If vegetation disturbance will not occur as the result of the proposed forest stewardship plan within the next two years of this letter, please contact me at the above email address or phone number and I can reissue a no impact letter.

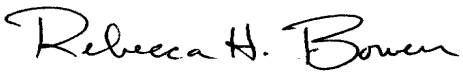
IMPORTANT: To assist with your botanical survey efforts, we are providing ArcMAP shapefiles of GIS Areas of Concern (AOCs). These polygons are based on known locations or potential habitat of DCNR-regulated species or natural communities. Required surveys may be restricted to these AOCs. The survey may be further refined to suitable habitat within areas of anticipated disturbance. For example, if work is restricted to an existing open right-of-way, a survey for a forest-dwelling species would be unnecessary.

PROJECTS ON STATE FOREST LANDS:
A portion of this project takes place on the Weiser State Forest (District 18). The DCNR Bureau of Forestry's *State Forest Resource Management Plan* sets forth guidelines for ecologically-sound management of State Forest Lands and resources including protection of wetlands, wildlife, native wild plants and invasive species management. As such, the DCNR Bureau of Forestry may request additional surveys in association with this project. **This letter applies to PNDI impacts only and does not authorize the initiation of any work on State Forest Lands. Further coordination with the Bureau of Forestry is required.** If you have not already done so, please contact Tim Ladner, District Forester for Weiser State Forest, at 570-875-6450 for additional information.

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

April 8, 2015

PennEast Pipeline Company, LLC (PennEast)
c/o URS Corporation
625 West Ridge Pike, Suite 100
Conshohoken, PA 19428

ATTN: Jon West

Re: PennEast Pipeline Project
Certificate to Survey

Dear Mr. West:

Thank you and your staff for attending the Pre-Survey Meeting for the *PennEast Pipeline Project* on March 18, 2015. PennEast has demonstrated acceptable project planning and has satisfactorily justified project need and expressed a willingness to consider alternatives and minimize disturbances to reduce project footprint on both State Parks and State Forest lands and sufficiently adhered to established siting guidelines and criteria.

As such, PennEast is hereby provided this *Certificate to Survey* and is authorized to conduct the necessary civil, environmental, cultural resource and geotechnical surveys associated with the proposed project on the Department of Conservation and Natural Resources (DCNR) State Forest and State Park lands.

As PennEast conducts the necessary surveys, DCNR encourages PennEast to explore all alternatives that avoid State Parks. If surveys determine that avoidance is not possible, PennEast is encouraged to consider all options that minimize the impacts to these highly utilized recreational resources and ecologically sensitive areas, including Horizontal Directional Drill (HDD). Specific areas of consideration include:

- Hickory Run State Park: The proposed pipeline will cross Mud Run, Boulder Field and Mud Swamp Natural Areas. The Bureau of State Parks encourages PennEast to evaluate all available routes to avoid impact to Natural Areas.
    - Pa. Code Chapter 17. State Parks Natural Areas- Statement of Policy
      17.3 General management guideline- The protection of Natural Areas will be guided by the need to maintain their significant ecologic values. Generally, physical and biological processes will not be subject to direct human intervention. Activities which interfere with these processes or threaten to degrade the inherent values of these areas will be

prohibited. Management of surrounding lands may not adversely impact these areas. 17.4 (e) Mineral leases and development will be prohibited.

- Beltzville State Park: The proposed pipeline would cross Beltzville at Christman Trail, Cove Ridge Trail, Falls Trail, the Waterfall Area and Wild Creek Cove. This area is the most highly used recreational area of the park that provides a natural setting with unusual scenic beauty. The mission Bureau of State Parks is to promote healthful outdoor recreation and education and to provide facilities necessary for such purposes, while attempting to conceal the hand of man. The Bureau encourages PennEast to survey the existing right-of-ways through Beltzville.

DCNR grants PennEast permission to conduct surveys for all plant and wildlife species of concern identified in PNDI coordination with DCNR, PA Game Commission, PA Fish & Boat Commission and U.S. Fish & Wildlife Survey. Also for the DCNR administered lands, PennEast also agrees to adhere to the following special survey requirements for the following species of concern:

- Wetland Delineation - PennEast has requested and been granted permission for a 400-foot study corridor. Wetland delineations are typically required for the limits of disturbance by the jurisdictional authority. In order to be protective of the established buffers, DCNR requests additional delineations extending 200-feet beyond the limit of disturbance given the presence of either hydric soils or soils with hydric components (NRCS Soil Survey) or National Wetland Inventory (NWI) classified wetlands (USFWS).

- Weiser State Forest: In addition to screw-stem (*Bartonia paniculata*), rough-leaved aster (*Eurybia radula*), and variable sedge (*Carex polymorpha*) which were target species for PNDI surveys in Weiser State Forest (known onsite of the proposed ROW), DCNR requests a survey for Appalachian climbing fern (*Lygodium palmatum*), a local species of conservation interest (but was not listed as a target for a PNDI species survey). Appalachian climbing fern is a species which is uncommon on Weiser State Forest and the forest district desires to protect its population. Appalachian climbing fern is found in moist thickets, barrens, and edges of swampy, open woods in acidic, peaty soil (FACW).
- Beltzville State Park: In addition to surveys for wild bleeding hearts (*Dicentra eximia*) requested by DCNR through the PNDI process, there is also a historic occurrence of matted spike rush (*Eleocharis intermedia*), a wetland species. As a historic occurrence, it was not a target for a PNDI species survey, however, if this species is identified during wetland delineations or other surveys, please report this information to DCNR as well.
- Hickory Run State Park: Targeted survey areas of concern were provided through the PNDI process for creeping snowberry (*Gaultheria hispidula*, found in wet woods and bogs), screw-stem (*Bartonia paniculata*, an obligate aquatic species found in bogs, known onsite of proposed ROW), variable sedge (*Carex polymorpha*, a more upland species), white-fringed orchid (*Platanthera blephariglottis*, known onsite of proposed ROW), and Collin's sedge (*Carex collinsii*). If these species are observed in potential habitat during wetland delineations or other surveys, in areas outside of the targeted areas of concern, please report this information to DCNR. Several of these species are known within the proposed ROW.
- Frances Slocum State Park: No specific survey is requested for soft-leaved sedge (*Carex disperma*); however it is a bog species nearby within the park. It is unlikely that potential habitat is present within the ROW in the park, however please be aware that nearby is a species which utilizes sensitive bog habitat.

- Delaware Canal State Park: The Delaware Canal, established as the Delaware & Lehigh National Heritage Corridor, is a Registered National Historic Landmark and its towpath is a National Recreational Trail. PennEast should provide all historical and archeological reviews to DCNR.
- Bat species: In addition to federally-listed bat species, all state-listed bat species captured on all DCNR lands during mist net and acoustic surveys should be radio tracked to locate roosts. This includes federally-endangered Indiana bat and the newly listed federally-threatened northern long-eared bat, as well as state listed silver-haired bat (candidate-rare), evening bat (candidate-rare) and the eastern small-footed bat (PA-threatened). At least one emergence count should be conducted at identified roosts. Data should be collected in accordance with USFWS and PGC guidelines and submitted to DCNR as well.

The facts and data collected through such surveys will be used, in part, to influence on-the-ground decision making and will serve as the basis for PennEast's completion of the *State Forest Environmental Review* (SFER); a copy of the SFER is attached.

When submitting responses to the SFER to DCNR, PennEast is reminded to also submit copies of PNDI clearance letters, permits obtained to-date and survey reports. The submittal of this data is request as one package; piecemeal data submission is discouraged.

Please avoid conducting surveys during the *Saturdays of Spring Gobbler Hunting Season*, the *traditional rifle Bear Hunting Season* and from *Thanksgiving Day thru the first two week days and the two Saturdays of the traditional deer rifle hunting seasons,* or other special events as identified by the District Forester or Park Manager(s).

[Reference: http://www.portal.state.pa.us/portal/server.pt?open=514&objID=968783&mode=2]

Survey activity on state forest lands and state park lands must be coordinated with the applicable District Forester or State Park Managers; a five (5) day advance notice prior to survey commencement is requested.

Weiser State Forest
Tim Ladner, District Forester
Weiser State Forest District
P.O. Box 315
Aristes, PA 17920
Phone: 570-875-6450

Bureau of State Park Managers
Mr. Brian Taylor, Park Manager
Frances Slocum State Park
565 Mount Olivet Rd.
Wyoming, PA 18644
Phone: 570-696-3525

Mr. Dave Madl, Park Manager
Hickory Run State Park
RR 1 Box 81
White Haven, PA 18661
Phone: 570-443-0400

Mr. Devin Buzard, Park Manager
Beltzville State Park
2950 Pohopoco Dr.
Leighton, PA 18235
Phone: 610-377-0045

Mr. Rick Dalton, Park Manager
Delaware Canal State Park
11 Lodi Hill Road
Upper Black Eddy, PA 18972
Phone: 610-982-5560

The DCNR will continue its due diligence regarding the project to assure consistency with state forest and state park management and the resources, uses and values associated with these lands as the project progresses through the formal DCNR Application for Right of Way Review Process.

Sincerely,

John Hallas
Assistant Bureau Director, Bureau of State Parks

Matthew Beaver
Chief, Division of Operations and Recreation, Bureau of Forestry

Cc: File
Weiser State Forest District
Hickory Run State Park
Delaware Canal State Park
Beltzville State Park
Frances Slocum State Park
Park Region 4
Park Region 5
BSP, RMPD
BSP, POMD
BOF, Division of Operations and Recreation

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
BUREAU OF STATE PARKS

SUMMARY OF PENNSYLVANIA STATE PARKS RULES AND REGULATIONS

WELCOME—ENJOY YOUR VISIT. Please be considerate of those who will use the facilities in this state park after you. To help ensure your safety and pleasure, please observe state park rules and regulations.

I. This is a summary of the official Pennsylvania Rules and Regulations pertaining to State Parks. The official text is found in its entirety at 17 Pa. Code Chapter 11. This summary is therefore not complete and does not reproduce or represent the full official Code text. We have included here a number of provisions that are of more general or immediate importance to state park visitors. The complete rules and regulations are posted at the park office and an official copy of the Pa. Code Pamphlet is available for inspection at any state park office.

II. All day-use areas are open to the public between sunrise and sunset throughout the year, unless otherwise posted.

III. In the event of hazardous conditions endangering life or property, a state park or facility may be closed to public use at the discretion of the Park Manager.

IV. The laws, rules, and regulations of the Pennsylvania Game Commission and Pennsylvania Fish and Boat Commission apply to fishing, hunting, and boating except where modification of such laws, rules and regulations is determined necessary by the Department for the use and protection of resources under its jurisdiction.

V. **GENERAL**

A. Alcoholic beverages are not permitted except with written permission of the Department.

B. Trash, garbage, and all other litter shall be placed in containers provided for this purpose and are limited to litter accumulated during use of the state park.

C. Edible fruits, nuts, berries, and fungi may only be gathered in reasonable amounts for personal or family consumption. Exceptions include native wild plants listed as threatened, endangered, rare or vulnerable. Gathering dead and down wood is permitted for use in a fireplace or grill in the state park.

D. Open fires are permitted only in fireplaces, grills, stoves or other facilities designated by the Department for campfires. Disposal of hot charcoal from grills is permitted only in facilities designated by the Department. Leaving a fire unattended is prohibited.

E. Soliciting for any purpose or posting of signs is not permitted. The distribution, sale, servicing, or rental of any supplies, equipment, material, or commodity is restricted to authorized concessions.

F. Operators of licensed motor vehicles shall obey posted official traffic-control devices and use only roads and parking areas open to public traffic unless otherwise designated by the park manager. The operation of other motorized vehicles is not permitted on state park roads, lanes, trails, and areas unless otherwise designated. Excessive speed or noise and reckless, careless, or negligent operation are prohibited. Commercial traffic is allowed on state park roads only when authorized by the Department.

G. Horseback riding is permitted on the right (side) berm of roads open to public vehicles and designated trails and areas. This activity is not permitted on camping or cabin area roads or picnic, swimming, or cooking areas.

H. Use or discharge of an airgun, slingshot, or explosive is prohibited. Target shooting with such devices is prohibited, except in areas designated by the Department for this purpose and in accordance with posted requirements and restrictions.

I. Firearms and archery equipment may be uncased and ready for use by licensed hunters only in authorized hunting areas and during seasons state parks are open to hunting or under special conditions which may be established by the Department.

J. Wildlife shall not be hunted, pursued, molested, or intentionally disturbed except that hunting and trapping are permitted within authorized hunting areas during the established Pennsylvania Game Commission seasons. Groundhog hunting is prohibited. The training of dogs is permitted from the day following Labor Day through March 31 in authorized hunting areas.

K. Outdoor recreational activity in state parks is restricted to locations where physical improvement or posting designates the appropriate purpose and use. Swimming is only permitted in designated swimming areas.

L. Pets are permitted in state parks if they are on a leash not exceeding the posted maximum length or in a cage or crate. Pets must be attended and under physical control at all times. Pets are not permitted in swimming areas. Pets are prohibited in overnight areas unless that area is designated for pets by the Department.

M. The use of an electric generator causing unreasonable or excessive noise and the use of a chainsaw are prohibited without a permit from the Department.

N. Unorganized or organized instruction, exhibition, competition, demonstration, or special events require written application and approval from the Department.

VI. **SWIMMING AREAS**

A. Swimming is permitted between the hours of 11 a.m. and 7 p.m. (unless otherwise posted) from Saturday of Memorial Day Weekend through Labor Day. Certain areas may be available for open swimming during posted hours. Swimming at other than posted hours or outside of designated swimming areas is prohibited.

B. Use of underwater breathing apparatus or a snorkel is prohibited. With permission of the Department, this equipment may be used by an emergency or rescue unit conducting a rescue operation or training or by a diver certified by an organization approved by the Department.

C. Beach and pool areas are provided for swimming and sunbathing. For the safety and enjoyment of all park visitors, other activities may be prohibited.

D. Possessing or using a glass or breakable container or utensil in a designated swimming area is prohibited.

E. Only appropriate swimming attire is permitted in state park swimming pools. The following are prohibited: Cut-off pants and attire which may damage the filtration system or pool surface or may otherwise cause damage or endanger the facility or visitors, clothing that is not leak-proof on an infant or on a child who is not toilet-trained, and clothing that displays lifeguard lettering or insignia.

F. All children under 10 years of age must be accompanied and supervised competently and effectively in state park swimming areas by a responsible person at least 14 years of age. One responsible person shall supervise no more than five children.

STATE PARK WATERCRAFT REGULATIONS

1. The launching or mooring of watercraft on Department waters requires that the appropriate valid DCNR watercraft permit be properly displayed. However, a Pennsylvania Fish and Boat Commission number and current certificate of watercraft registration permits daily launching only. Launching of trailered watercraft is permitted at designated launching areas only.
2. Storage of watercraft during the winter season may be permitted at approved locations for a fee. Contact the park office for information on facilities offered at specific parks.
3. (A) In state parks having a horsepower limitation of 20 or less, larger internal combustion engines may be mounted on the boat but not used.

   (B) In state parks designated as electric motors only, internal combustion engines may be mounted on the boat but not used.
4. Pennsylvania Fish and Boat Commission and U.S. Coast Guard regulations apply to boating on state park waters.
5. The following types of watercraft are PROHIBITED on state park waters including frozen water:

   (A) Watercraft propelled by air propellers.

   (B) Seaplanes. Seaplanes may be taxied at a slow minimum-height-swell speed in the waters of Presque Isle State Park for the purpose of access to and egress from the park.

   (C) Non-seaworthy watercraft.

   (D) Inflatable devices, except those that are seven feet in length and have more than one separate buoyancy chamber.

   (E) Equipment which is not constructed for the primary purpose of transportation on the water.
6. (A) The use of inner tubes, body boards, surfboards, air mattresses and other similar non-watercraft devices is permitted in creeks, streams and rivers. Children 12 years of age and under shall wear United States Coast Guard-approved personal flotation devices while engaged in this activity.

   (B) The use of body boards and surfboards at Presque Isle State Park is permitted only at locations where posting states that this activity is permitted. Personal flotation devices are not required.
7. Swimming or diving from watercraft is not permitted.
8. Operation of watercraft is not permitted within 100 feet of swimming areas or within areas marked by buoys.
9. Requests for watercraft races, regattas, tournaments, and exhibitions held on state park waters require 30 days prior approval of the Pennsylvania Fish and Boat Commission and must be submitted on Form PFBC 500 “Application for Permit-Special Activities.“
10. The following are PROHIBITED:

    a. Operation of a watercraft which endangers a person, watercraft, property, or unnecessarily interferes with the use of the water by other persons.

    b. Operation of a watercraft while under the influence of alcohol or drugs.

    c. Overnight sleeping aboard watercraft except where authorized by the Department.

VII. **A COMPLETE SET OF RULES AND REGULATIONS IS POSTED AT THE STATE PARK OFFICE AND AN OFFICIAL COPY OF THE PA CODE PAMPHLET IS AVAILABLE FOR INSPECTION**

Violation of state park rules and regulations could result in cancellation of a camping permit, removal from the state park, as well as criminal prosecution.

West, Jonathan

From: Livelsberger, Stephanie <slivelsber@pa.gov>
Sent: Tuesday, April 14, 2015 1:51 PM
To: West, Jonathan; Alisa Harris (aharris@ugies.com) (aharris@ugies.com)
Subject: FW: PA DCNR - PennEast Project - Certificate to Survey
Attachments: PA DCNR - Certificate To Survey -PennEast.pdf

Jon,
The State Parks Natural Areas Pa Code language included in the Certificate to Survey was incomplete. (pages 1-2 of the attached)
Please see the complete language as below. (yellow highlighted text)

Pa. Code Chapter 17. State Parks Natural Areas- Statement of Policy
17.3 General management guideline- The protection of Natural Areas will be guided by the need to maintain their significant ecologic values. Generally, physical and biological processes will not be subject to direct human intervention. Activities which interfere with these processes or threaten to degrade the inherent values of these areas will be prohibited. Management of surrounding lands may not adversely impact these areas.
17.4 (e) Mineral leases and development will be prohibited. New rights-of-way will also be prohibited.

Thank you,
Stephanie

Stephanie Livelsberger | Resources Management
Department of Conservation & Natural Resources
Bureau of State Parks
Phone: (717)783-3308 | Fax: (717)787-8817
www.dcnr.state.pa.us | www.iConservePA.org

From: Mong, David E (DCNR)
Sent: Wednesday, April 08, 2015 2:38 PM
To: 'jonathan.west@urs.com'; 'aharris@ugies.com'
Cc: Bowen, Rebecca; Beaver, Matthew; Szuch, Ryan; Maul, Karl; Livelsberger, Stephanie; Lord, Rex; Ladner, Timothy; Zulli, Nicola R; Wagoner, Rachel
Subject: PA DCNR - PennEast Project - Certificate to Survey

Jon,

We appreciate PennEast meeting with us at the Pre-Survey Meeting held this past March; the dialogue and cooperative spirit is greatly appreciated.

Please find attached the DCNR Certificate to Survey for the subject project.

State Forest and State Park Rules and Regulations are attached too; hardcopies will be sent in the mail.

Please feel free to contact us any time.

Sincerely,

Dave Mong, Forest Program Specialist - Right of Way Administration
Department of Conservation & Natural Resources
Bureau of Forestry/Central Office
Office Phone: 717-783-7947
www.dcnr.state.pa.us

Poppel, Deborah

From: Poppel, Deborah
Sent: Friday, July 24, 2015 11:42 AM
To: 'damong@pa.gov'; 'c-frsechle@pa.gov'
Cc: West, Jonathan; Binckley, Sarah
Subject: PennEast Reroutes- Official Notice
Attachments: PennEast Deviation MP 22.4 to 23.2_072315.pdf; PennEast Deviation MP 48.9 to 53.5_072315.pdf; PennEast Deviation MP 61.7 to 62.7_072315.pdf; PennEast Deviation MP 70.1 to 70.6_072315.pdf; PennEast Reroute MP 6.5 to 11.8_072315.pdf; PennEast Proposed Route (July 15, 2015).kmz; PennEast_ProjectShapefiles_July2015

On behalf of PennEast Pipeline Company, LLC, we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; Spectra Energy Partners; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

As an interstate natural gas pipeline, PennEast will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015. PennEast filed Draft Resource Reports with FERC in April 2015. Since the Preliminary Draft Resource Report filing in April 2015, PennEast has continued to evaluate potential alternatives to the proposed pipeline alignment based on comments received during the formal Scoping process, ongoing dialogue with federal, state, regional and local agencies, land owners, and the findings from field surveys and engineering analyses. In the April filing we provided an overview of the ongoing assessments for 3 major alternatives and over 70 minor route variations.

In the past 3 months the overall alignment has been adjusted within the 400 foot survey corridor to avoid and/or minimize impacts to wetlands and waterbodies, cultural resources, agricultural lands and other sensitive habitats. In Pennsylvania, 2 reroutes and more than 40 minor route variations have been evaluated. The 2 reroutes evaluate alternative ways of crossing the Appalachian Trail and nearby PA State Game Lands, and avoid active quarrying operations. These alternatives and reroutes have gone through the same detailed assessment as those assessed in the April filing. Updated GIS shapefiles for the entire new preferred alternative route are attached to aide in your review and analysis of the Project. (To open the shapefiles, please add a ".zip" extension to the file and then extract the files.)

Significant reroutes include:

- In Plains Township and Laflin Borough in Luzerne County, approximately 3.6 miles of the alignment has been rerouted one mile to the east to avoid active quarrying operations (new mileposts 8.4 to 12.3).
- In Towamensing Township and Lower Towamensing Township in Carbon County, approximately 2 miles of the alignment has been rerouted approximately 2 miles to the west. This reroute addresses a request for a new Interconnect as well as concerns related to the Appalachian Trail and PA State Game Lands (new mileposts 48.9 to 53.6)

We look forward to continuing to work with you and your colleagues on this important Project. Please contact me if you have any questions.

PA agencies- We have also attached PNDIs of the primary deviations and reroutes for your information purposes, although we understand these are not to be used for permitting as this is a large project.

Sincerely,

Deborah Poppel, CWB

Senior Ecologist / Project Manager
Environment - Impact Assessment & Permitting Dept.
Design & Consulting Services, Philadelphia Metro Region
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Twitter I Facebook I LinkedIn I Google+

AECOM and URS have joined together as one company.

October 7, 2015

Ms. Rebecca H. Bowen
PA Department of Conservation and Natural Resources
Bureau of Forestry, Ecological Services Section
400 Market St, 6th Floor
PO Box 8552
Harrisburg, PA 17105-8552

RE: PennEast Pipeline Project
Privileged and Confidential
(PNDI) Environmental Large Project # 022426
Rare Plant Survey results

Dear Ms. Bowen:

On behalf of PennEast Pipeline Company, LLC (PennEast), we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project (Project). PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

In accordance with coordination with your office, PennEast contracted with qualified botanist Janet Ebert to conduct surveys for the rare plant species identified by Pennsylvania Department of Conservation and Natural Resources (DCNR). These surveys were conducted in those locations identified by your office, most recently in correspondence dated April 6, 2015. Janet Ebert conducted the required surveys in accordance with state-specified guidelines. The Botanical Survey Report and associated Data Forms documenting the results of these surveys are enclosed for your review. Several protected species were identified during the botanical surveys, and a table that summarizes the locations of these species and proposed mitigation measures is provided below.. In addition to the mitigation measures suggested in the table below, these habitat areas the topsoil containing seeds, roots and rhizomes will be carefully segregated from subsoils and restored to the same topography following construction. No herbicides will be used during the operation and maintenance of the pipeline right-of-way (ROW). There are no above ground facilities proposed in these areas.

Common Name	Scientific Name	Milepost(s)	State Status	Impact Minimization Recommendation
Variable sedge	*Carex polymorpha*		PA Endangered	The population is dispersed and cannot be avoided completely. Seed collection and replanting may be feasible.
Northern panic grass	*Dichanthelium boreale*		Tentatively Undetermined	This species can come back after a disturbance if native seed is used for restoration.

URS Corporation 625 West Ridge Pike, Suite E-100 ; Conshohocken, PA 19428
Direct: 610 832 1810; Cell: 215 275-7956 ; Fax: 610-832-3501 bernard.holcomb@urs.com

Common Name	Scientific Name	Milepost(s)	State Status	Impact Minimization Recommendation
Rough-leaved aster	*Eurybia radula*	• [redacted]	PA Endangered	A sensitive species that will likely be lost if ROW is disturbed. Seed collection and replanting may be feasible, if pipeline shift cannot be made.
Thread rush	*Juncus filiformis*	• [redacted]	PA Rare	If impacts to existing wetland are limited this plant will not be adversely affected. Additional disturbance may actually create new habitat.
Appalachian climbing fern	*Lygodium palmatum*	• [redacted]	PA Rare	Mitigation to be developed with DCNR during permitting. Avoidance and/or transplantation may be options.
White-fringed orchid	*Platanthera blephariglottis*	• [redacted]	PA Endangered	Habitat for plants is dependent upon existing hydrologic patterns on existing ROW.
Torrey's bulrush	*Schoenoplectus torreyi*	• [redacted]2	PA Endangered	Mitigation to be developed with DCNR during permitting. Seed collection may be feasible.

Please advise if the mitigation suggestions PennEast proposes are acceptable to DCNR. We look forward to our continuing consultation with you on this important Project. Please contact Deb Poppel or me if you have any questions.

Sincerely,

Bernie Holcomb
Pipeline Environmental Services Manager

cc: Dave Mong, DCNR

URS Corporation 625 West Ridge Pike, Suite E-100 ; Conshohocken, PA 19428
Direct: 610 832 1810; Cell: 215 275-7956 ; Fax: 610-832-3501 bernard.holcomb@urs.com

pennsylvania
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

BUREAU OF FORESTRY

October 22, 2015 **PNDI Large Project Number: 022426**

Bernie Holcomb
URS Corporation
625 West Ridge Pike, Suite E-100
Conshohocken, PA 19428
Email: Bernard holcomb@urs.com (hard copy not to follow)

Re: PennEast Pipeline Reroute (update)
Multiple Municipalities, Luzerne, Carbon, Northampton and Bucks Counties

Dear Mr. Holcomb,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Large Project # **022426** 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 avoidance, minimization of impacts, mitigation measures

PNDI records indicate species or resources under DCNR's jurisdiction are located in the vicinity of the project. A botanical survey was requested by DCNR for ten PA Threatened and Endangered plant species and PA plant species of concern on April 6, 2015. Janet Ebert and Jack Holt conducted botanical surveys in June/July of 2015 for the ten plant species within the seven polygons delineated by DCNR. Five PA T & E and PA plant species of concern, *Juncus filiformis* (thread rush), *Platanthera blephariglottis* (white-fringed orchid), *Carex polymorpha* (variable sedge), *Eurybia radula* (rough-leaved aster), *Dicanthelium boreale* (panic-grass), were found within the seven delineated polygons. A sixth PA plant species of concern, *Lygodium palmatum* (Hartford fern), was found within 2 polygons, but this species status has been downgraded to SP (special population protected).

Below is a summary of DCNR's recommendations (by species) for avoidance and/or mitigation measures for this project:

1—***Juncus filiformis* (thread rush)**–This Pennsylvania Rare plant species of concern was found in a large open bog with patches of wet scrub-shrub thickets. Due to the ecological significance of this large open bog and its sensitivity to disturbance, it is strongly recommended that PennEast Pipeline avoid significant impacts to this wetland. If minimal disturbances will not impact the population of *J. filiformis*, then DCNR will determine that no impact is likely to *J. filiformis*.

2—***Platanthera blephariglottis (white-fringed orchid)***–This Pennsylvania proposed Endangered plant species was found within the right-of-way. The existing hydrological conditions of this part of the ROW should be avoided of impacts, as the habitat is dependent on a hydrological configuration that probably would not be recreated by a new disturbance. DCNR recommends shifting the proposed pipeline on the west side of the road, which may lessen impacts to the *P. blephariglottis* population and the hydrologically sensitive habitat. However, if shifting is not an option, then mitigation would be strongly recommended. However, mitigation by transplanting of *P. blephariglottis* individuals is not recommended, as success rates are probably extremely low.

3—***Carex polymorpha* (variable sedge)**–This Pennsylvania Endangered plant species was found to be widespread within "Polygon 6", within, and outside Weiser State Forest, growing in moist edges of the ROW, in oak-maple woods with various ferns and ericaceous shrubs, usually in ground "openings where ferns-woody vegetation is not too dense. The population of *C. polymorpha* can't be entirely avoided with this project, but the population is large enough that it will probably be able to stay viable and potentially repopulate a new disturbance if there is suitable habitat. DCNR recommends assessing the potentially impacted population and compare the impacted numbers to the individuals of the population that will not be impacted. This assessment will determine if the impacts from the project will potentially negatively affect this *C. polymorpha* population. If the population is large enough to sustain itself despite the impacts, DCNR will determine that no impact is likely if the population is avoided of impacts as much as feasibly possible. It should be mentioned that *C. polymorpha* is globally ranked as G3 (vulnerable). And Pennsylvania contains a large percentage of the global population of this species, and Pennsylvania

regarded as the center of the species range. Therefore, it is of paramount importance that PennEast Pipeline avoids impacts to this population as feasibly possible.

4—***Eurybia radula (rough-leaved aster)***–This Pennsylvania proposed Threatened plant species was found in a ROW on relatively high ground between wet ruts. If the existing ROW is disturbed, then this population is vulnerable and would probably be lost. Shifting the pipeline to the west could save the *E. radula* population, but would also sacrifice a portion of the *C. polymorpha* population. DCNR recommends assessing the potential loss of the *C. polymorpha* population if the pipeline is shifted west to save the *E. radula* population. If the *C. polymorpha* population is not negatively affected overall, then DCNR recommends shifting the new pipeline to the west to protect *E. radula* from direct impacts. If this mitigation measure is implemented, then DCNR also recommends collecting seeds from the impacted *E. radula* individuals that would be lost due to shifting the pipeline to the west, and re-planting these plants to suitable habitat.

DCNR also recommends that the above mentioned ecologically sensitive areas are flagged along the right–of-way to alert PPL personnel. Based on this information and if above recommendations are implemented upon satisfaction, DCNR has determined that no impact is likely. No further coordination with our agency will be needed for this project.

DCNR recommends the following steps to help prevent the spread of invasive plant species and to encourage the use of native plants:

- If possible, please clean all construction equipment and vehicles thoroughly (especially the undercarriage and wheels) before they are brought on site, this will remove invasive plant seeds from the equipment and undercarriages of the vehicles that may have been picked up at other sites.
- Avoid using seed mixes that include invasive plant species if the project requires re-vegetating the area. Please also attempt to use weed-free straw or hay mixes when possible. A complete list of all Pennsylvania invasive plant species can be found here: http://www.dcnr.state.pa.us/forestry/wildplant/invasivelist.aspx.
- The area of disturbance should be minimized to the fullest extent that would allow for the PPL project; this will help to lessen the area of indirect disturbance to adjacent wetland and forested areas.

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

Poppel, Deborah

From: Sechler, Frederick <c-frsechle@pa.gov>
Sent: Thursday, November 05, 2015 10:23 AM
To: Poppel, Deborah
Subject: RE: PennEast- survey report from Rick Mellon

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Deborah,

Thanks for the report. I had already sent a letter regarding Janet Ebert's recommendations on the state listed plants that she encountered for the PennEast Project.

Will *Schoenoplectus torreyi* (Torrey's bulrush) be impacted by this project? I see there were 51-100 plants found within the area. This species is currently listed as endangered, so if there will be impacts to the population, mitigation will likely be required. Perhaps Rick Mellon could suggest potential recommendations for this plant's population if impacts are to occur.

Thanks so much,

Frederick

Frederick C. Sechler Jr| Ecological Information Specialist
PA Department of Conservation & Natural Resources
Bureau of Forestry | Natural Heritage Section
400 Market Street | Harrisburg, PA 17105
Phone: 717.705.2819 | Fax: 717.772.0271
E-mail: c-frsechle@pa.gov

From: Poppel, Deborah [mailto:deborah.poppel@aecom.com]
Sent: Wednesday, November 04, 2015 2:00 PM
To: Sechler, Frederick
Subject: PennEast- survey report from Rick Mellon

Hi there- I am not sure if you received a copy of this report that was completed by Rick Mellon. Rick conducted surveys for Northeastern bulrush on the PennEast project, and also supplemental rare plant surveys in these areas, additional to those conducted by Janet Ebert.

Rick identified one plant not included in Janet' report, which was Torrey's bulrush (*Schoenoplectus torreyi*). This was located in the vicinity of MP 26.5. Please advise if additional coordination or mitigation will be required for this plant.

Thank you for your continued assistance with this project.

Deborah Poppel, CWB
Senior Ecologist/Project Manager
Impact Assessment & Permitting
Environment- Philadelphia Region
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Poppel, Deborah

From: Poppel, Deborah
Sent: Thursday, December 17, 2015 11:27 AM
To: 'damong@pa.gov'
Subject: PennEast update notice
Attachments: PennEast_ProposedRoute_20151214.kmz; PENNEAST_SHAPEFILES_ToDistribute.piz

On behalf of PennEast Pipeline Company (PennEast), thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company; PSEG Power; SJI Midstream; Spectra Energy Partners; and UGI Energy Services.

As an interstate natural gas pipeline, PennEast Pipeline will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015. PennEast filed Certificates of Public Convenience and Necessity and Related Authorizations with FERC on September 24, 2015. Since the September 24 filing, PennEast has evaluated several additional route alternatives based on discussions with landowners, regulatory agencies and other stakeholders, as well as comments filed in this proceeding. In light of those evaluations, PennEast has adopted five minor deviations from the route proposed in the September 24 Filing:

Deviation No. 1005 is located between mileposts ("MP") 9.07 and 12.10 in Luzerne County, Pennsylvania. PennEast adopted this deviation to address landowner concerns and to improve constructability of the proposed Project route. The landowner and quarry operators affected by this portion of the proposed Project route indicated that the proposed route in the September 24 Filing has the potential to adversely affect quarry operations. Additionally, this portion of the route in the September 24 Filing route presented a challenging crossing of Mill Creek. Deviation No. 1005 addresses both of these concerns. In addition, this deviation reduces the overall length of the Project and increases the route's co-location with existing utility easements.

Deviation No. 1400 is located between MP 43.95 and 44.55 in Carbon County, Pennsylvania. This deviation has been adopted based on feedback that PennEast received in collaboration with the Bethlehem Authority, which operates a water supply system in Carbon and Northampton Counties, Pennsylvania. Deviation No. 1400 provides a means of crossing the Bethlehem Authority waterline by a trenchless method and avoids the need to locate temporary workspace near the waterline. This deviation also includes a single HDD crossing of Beltzville Lake, instead of the two crossings that were proposed in the September 24 Filing, which minimizes impacts to the Beltzville State Park.

Deviation No. 1701 is located between MP 79.10 and 81.60 in Hunterdon County, New Jersey. This deviation has been adopted to optimize the Project route and is based on feedback that PennEast received in collaboration with the New Jersey Department of Environmental Protection. Deviation No. 1701 minimizes impacts to the New Jersey Natural Lands Trust's Gravel Hill Preserve by increasing co-location with existing utility easements and impacting fewer parcels within the Gravel Hill Preserve. In addition, this deviation allows the proposed route to be in closer proximity to the proposed NRG REMA, LLC/Elizabethtown Gas delivery meter station, and it also relocates a proposed mainline valve from a residential area to an industrial area.

Deviation No. 1802 is located between MP 84.68 and 86.54 in Hunterdon County, New Jersey. This deviation has been adopted to optimize the Project route to avoid crossing a federally preserved farm. PennEast considered different alternatives to avoid this crossing, and the adopted Deviation No. 1802 minimizes land use impacts and overall land requirements to avoid this crossing.

Deviation No. 1900 is located between MP 91.91 and 93.55 in Hunterdon County, New Jersey. This deviation has been adopted to incorporate a route optimization that avoids crossing the Lockatong Creek three times with an open cut. This deviation now allows the Project route to cross the Lockatong Creek using a trenchless method. Deviation No. 1900 also avoids impacts to both a federally preserved farm and a New Jersey Green Acres Program protected parcel.

An updated Google Earth kmz file and GIS shapefiles for the proposed route are attached to aide in your review and analysis of the Project. (To open the shapefiles, please add a ".zip" extension to the file and then extract the files.) Please let us know if you have any difficulty opening the attached files.

Deborah Poppel, CWB
Senior Ecologist/Project Manager
Impact Assessment & Permitting, Environment
D +1-610-832-3597
M +1-215-833-0566
deborah.poppel@aecom.com

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Poppel, Deborah

From: Poppel, Deborah
Sent: Thursday, December 17, 2015 11:27 AM
To: 'rebbowen@pa.gov'
Subject: PennEast update notice
Attachments: PennEast_ProposedRoute_20151214.kmz; PENNEAST_SHAPEFILES_ToDistribute.piz

On behalf of PennEast Pipeline Company (PennEast), thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company; PSEG Power; SJI Midstream; Spectra Energy Partners; and UGI Energy Services.

As an interstate natural gas pipeline, PennEast Pipeline will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015. PennEast filed Certificates of Public Convenience and Necessity and Related Authorizations with FERC on September 24, 2015. Since the September 24 filing, PennEast has evaluated several additional route alternatives based on discussions with landowners, regulatory agencies and other stakeholders, as well as comments filed in this proceeding. In light of those evaluations, PennEast has adopted five minor deviations from the route proposed in the September 24 Filing:

Deviation No. 1005 is located between mileposts ("MP") 9.07 and 12.10 in Luzerne County, Pennsylvania. PennEast adopted this deviation to address landowner concerns and to improve constructability of the proposed Project route. The landowner and quarry operators affected by this portion of the proposed Project route indicated that the proposed route in the September 24 Filing has the potential to adversely affect quarry operations. Additionally, this portion of the route in the September 24 Filing route presented a challenging crossing of Mill Creek. Deviation No. 1005 addresses both of these concerns. In addition, this deviation reduces the overall length of the Project and increases the route's co-location with existing utility easements.

Deviation No. 1400 is located between MP 43.95 and 44.55 in Carbon County, Pennsylvania. This deviation has been adopted based on feedback that PennEast received in collaboration with the Bethlehem Authority, which operates a water supply system in Carbon and Northampton Counties, Pennsylvania. Deviation No. 1400 provides a means of crossing the Bethlehem Authority waterline by a trenchless method and avoids the need to locate temporary workspace near the waterline. This deviation also includes a single HDD crossing of Beltzville Lake, instead of the two crossings that were proposed in the September 24 Filing, which minimizes impacts to the Beltzville State Park.

Deviation No. 1701 is located between MP 79.10 and 81.60 in Hunterdon County, New Jersey. This deviation has been adopted to optimize the Project route and is based on feedback that PennEast received in collaboration with the New Jersey Department of Environmental Protection. Deviation No. 1701 minimizes impacts to the New Jersey Natural Lands Trust's Gravel Hill Preserve by increasing co-location with existing utility easements and impacting fewer parcels within the Gravel Hill Preserve. In addition, this deviation allows the proposed route to be in closer proximity to the proposed NRG REMA, LLC/Elizabethtown Gas delivery meter station, and it also relocates a proposed mainline valve from a residential area to an industrial area.

Deviation No. 1802 is located between MP 84.68 and 86.54 in Hunterdon County, New Jersey. This deviation has been adopted to optimize the Project route to avoid crossing a federally preserved farm. PennEast considered different alternatives to avoid this crossing, and the adopted Deviation No. 1802 minimizes land use impacts and overall land requirements to avoid this crossing.

Deviation No. 1900 is located between MP 91.91 and 93.55 in Hunterdon County, New Jersey. This deviation has been adopted to incorporate a route optimization that avoids crossing the Lockatong Creek three times with an open cut. This deviation now allows the Project route to cross the Lockatong Creek using a trenchless method. Deviation No. 1900 also avoids impacts to both a federally preserved farm and a New Jersey Green Acres Program protected parcel.

An updated Google Earth kmz file and GIS shapefiles for the proposed route are attached to aide in your review and analysis of the Project. (To open the shapefiles, please add a ".zip" extension to the file and then extract the files.) Please let us know if you have any difficulty opening the attached files.

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625 West Ridge Pike

pennsylvania
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

January 14, 2016

PennEast Pipeline Company, LLC (PennEast)
One Meridian Blvd., Suite 2C01
Wyomissing, PA 19610

ATTN: Jeff England, Project Manager

Re: PennEast Pipeline Project – 12/17/2015 emailed data
Beltzville State Park and ***Pinchot State Forest proposed alignment changes***

Dear Mr. England:

This letter is in reference to the correspondence of the PennEast email of December 17, 2015, and acts as follow up to the DCNR emailed response of December 17, 2015.

Luzerne County, PA – Pinchot State Forest
From the December 17, 2015 email, it appears that the proposed crossing of the Pinchot State Forest would return to the same alignment as originally proposed on the June 18, 2015 application for right of way filing to DCNR. That proposal entailed 2,477.90 feet in length (the sum distance total of two spans) by 100 foot width of corridor crossing. Unless the distance, width or location to be crossed is different from the June 18, 2015 original application, there is no need to provide an updated application at this time. At a minimum, include the December 17, 2015 emailed information or explanations within the responses being prepared for *the State Forest Environmental Review* (DCNR SFER).

The DCNR is seeking for PennEast to establish viable long-term access into the portion of the Pinchot State Forest between mile posts 11.6 thru 12.6 as this is recently acquired state forest land. The access desired includes securing public access from the north and southeast to the state forest land parcels and access across the existing railroad grade. Establishing access for DCNR would enhance land administration and public recreational opportunities.

As a reminder, the local contact of the Pinchot State Forest is:

Pinchot State Forest
Nicholas Lylo, District Forester
Pinchot State Forest District Office
1839 Abington Rd., North Abington Twp., PA 18414
Phone: 570-945-7133

Carbon County, PA - Beltzville State Park

In reference to the December 17, 2015 email, it appears that one HDD crossing would be proposed or that core bore samples are being taken for evaluation as a potential viable option; this potential option is being considered along with the original proposed option of two HDD segments through the state park. As a part of PennEast's responses to the DCNR SFER, please be sure to include the intended distance of the one HDD span, staging area locations, entrance and exit pit locations - submission of this data via GIS shape files as included in the SFER mailing packet would be appreciated. Include the December 17, 2015 emailed information or explanations within the responses being prepared for the DCNR SFER.

In reference to the mentioned current core bore sampling at the Beltzville State Park, please be sure that further correspondence is achieved with the local park manager in terms of warranting site restoration as a result of the disturbances associated with the boring activity.

As a reminder, the local contact of the Beltzville State Park is:

Beltzville State Park
Devin Buzzard, Park Manager
2950 Pohopoco Drive
Lehighton, PA 18235-8905
Phone: 610-377-0045

Sincerely,

Matthew Beaver
Chief, Division of Operations and Recreation, Bureau of Forestry

Matthew Azeles
Chief, Division of Conservation Resource Management Planning, Bureau of State Parks

Cc: File
Jon West, AECOM
Nicholas Lylo, District Forester, Pinchot State Forest
John Maza, Assistant District Forester, Pinchot State Forest
Rachel Reese, Chief, Resource Management and Field Services Section, Bureau of State Parks
Devin Buzzard, Park Manger, Beltzville State Park
BOF, Division of Operations and Recreation

Poppel, Deborah

From: Poppel, Deborah
Sent: Tuesday, February 23, 2016 12:14 PM
To: 'rebbowen@pa.gov'
Subject: PennEast Pipeline- Project Update
Attachments: 400' CORRIDOR (200' EITHER SIDE OF CENTERLINE).kmz

On behalf of PennEast Pipeline Company (PennEast), thanks you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company; PSEG Power; SJI Midstream; Spectra Energy Partners; and UGI Energy Services.

As an interstate natural gas pipeline, PennEast Pipeline will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015. PennEast filed Certificates of Public Convenience and Necessity and Related Authorizations with FERC on September 24, 2015. Since the September 24 filing, PennEast has evaluated several additional route alternatives based on discussions with landowners, regulatory agencies and other stakeholders, as well as comments filed in this proceeding. In light of those evaluations, PennEast has adopted seven (7) additional deviations from the route proposed in the September 2015 Application, as modified by the route deviations filed on December 14, 2015, and is providing supplemental information regarding these additional adopted route deviations for your review.

Description of Adopted Deviations

PennEast has adopted the following seven route deviations: Deviation Nos. 1704, 1808, 1907, 1913, and 2000 in Hunterdon County, New Jersey, and Deviation Nos. 2100 and 2102 in Mercer County, New Jersey.

Deviation No. 1704 is located between mileposts (MP) 78.7 and 79.7 in Hunterdon County, New Jersey. PennEast adopted this deviation to address feedback from resource agencies received during a route review meeting on January 11, 2016. This deviation avoids crossing a category one (C1) waterway, associated mapped forested wetlands on both sides of Dogwood Drive, and a preserved farmland. Additionally, Deviation No. 1704 allows the route to follow a ridge and alleviates side slope areas that would have existed at the crossing of Dogwood Drive. Landowners associated with Deviation No. 1704 were included on the landowner list provided in the September 2015 Application as abutters. Additionally, three (3) landowners not previously identified as abutters have small amounts of temporary workspace on their property as a result of adopting Deviation No. 1704. Such landowners have been identified in the updated affected landowner list provided as part of the February Data Responses.

Deviation No. 1808 is located between MP 86.6 and 87.1 in Hunterdon County, New Jersey. PennEast adopted this deviation to minimize impact to environmentally sensitive areas raised as a concern by resource agencies during the January 11 route review meeting. Deviation No. 1808 avoids crossing a parcel with a Green Acres conservation easement. Landowners associated with Deviation No. 1808 were included on the landowner list provided in the September 2015 Application as abutters.

Deviation No. 1907 is located between MP 89.6 and 90.8 in Hunterdon County, New Jersey. PennEast adopted this deviation to minimize impact to environmentally sensitive areas raised as a concern by resource agencies during the January 11 route review meeting. Deviation No. 1907 avoids crossing a Green Acres encumbered parcel and minimizes the impact to forested areas and wetland crossings. Landowners associated with Deviation No. 1907 were included on the landowner list provided in the September 2015 Application as abutters.

Deviation No. 1913 is located between MP 99.0 and 101.0 in Hunterdon County, New Jersey. PennEast adopted this deviation to minimize impact to environmentally sensitive areas raised as a concern by resource agencies during the January 11 route review meeting and to implement a trenchless crossing of several roadways, third-party utilities, and several C1 waterways, including Alexauken Creek. Deviation No. 1913 also avoids paralleling a C1 waterway and forested riparian area and minimizes forestland impacts. Another result of adopting Deviation No. 1913 is that this route deviation allows for the crossing of one (1) C1 waterway by dry crossing methodology in a location that appears to have been previously crossed by farm equipment. The dry crossing methodology will further minimize the impacts to the riparian buffer on both sides of the crossing. Additionally, Deviation No. 1913 optimizes co-location opportunities with the adjacent overhead utility corridor. This route deviation requires relocating the Lambertville Launcher Site to the trenchless crossing workspace. The new site area accommodates post-construction stormwater management design elements and optimizes pipeline design. Landowners associated with Deviation No. 1913 were included on the landowner list provided in the September 2015 Application as abutters.

Deviation No. 2000 is located between MP 101.3 and 101.7 in Hunterdon County, New Jersey. PennEast adopted this route deviation by moving to the opposite side of the existing overhead utility corridor and providing separation from the paralleling waterbody and forested wetland. Deviation No. 2000 reduces forest clearing while maintaining co-location with existing utility corridors. Deviation No. 2000 does not require any additional landowners to be crossed by the Project.

Deviation No. 2100 is located between MP 112.9 and 113.5 in Mercer County, New Jersey. PennEast adopted this route deviation as a route optimization that corresponds to proposed land development plans for the applicable parcels crossed. PennEast collaborated with the landowner to improve co-location with existing natural gas pipelines and to minimize impacts from the proposed route with the development plans for the applicable parcels. Additionally, Deviation No. 2100 avoids crossing a Green Acres encumbered parcel. Deviation No. 2100 does not require any additional landowners to be crossed by the Project.

Deviation No. 2102 is located between MP 112.0 and 112.7 in Mercer County, New Jersey. PennEast adopted this deviation based upon feedback and field information received from the affected property owners. Deviation No. 2102 is a route optimization that would remove interference with proposed housing and commercial land use development plans on the applicable parcels. Hopewell Township has plans to develop low income housing on this parcel in the area originally crossed by the Project. Deviation No. 2102 would avoid impacts to the housing development plan and to future commercial development plans adjacent to New Jersey State Route 31 by co-locating with the existing natural gas pipelines on the parcel. Deviation No. 2102 does not require any additional landowners to be crossed by the Project.

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Poppel, Deborah

From: Poppel, Deborah
Sent: Tuesday, February 23, 2016 12:14 PM
To: 'damong@pa.gov'
Subject: PennEast Pipeline- Project Update
Attachments: 400' CORRIDOR (200' EITHER SIDE OF CENTERLINE).kmz

On behalf of PennEast Pipeline Company (PennEast), thanks you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company; PSEG Power; SJI Midstream; Spectra Energy Partners; and UGI Energy Services.

As an interstate natural gas pipeline, PennEast Pipeline will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015. PennEast filed Certificates of Public Convenience and Necessity and Related Authorizations with FERC on September 24, 2015. Since the September 24 filing, PennEast has evaluated several additional route alternatives based on discussions with landowners, regulatory agencies and other stakeholders, as well as comments filed in this proceeding. In light of those evaluations, PennEast has adopted seven (7) additional deviations from the route proposed in the September 2015 Application, as modified by the route deviations filed on December 14, 2015, and is providing supplemental information regarding these additional adopted route deviations for your review.

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Deviation No. 1808 is located between MP 86.6 and 87.1 in Hunterdon County, New Jersey. PennEast adopted this deviation to minimize impact to environmentally sensitive areas raised as a concern by resource agencies during the January 11 route review meeting. Deviation No. 1808 avoids crossing a parcel with a Green Acres conservation easement. Landowners associated with Deviation No. 1808 were included on the landowner list provided in the September 2015 Application as abutters.

Deviation No. 1907 is located between MP 89.6 and 90.8 in Hunterdon County, New Jersey. PennEast adopted this deviation to minimize impact to environmentally sensitive areas raised as a concern by resource agencies during the January 11 route review meeting. Deviation No. 1907 avoids crossing a Green Acres encumbered parcel and minimizes the impact to forested areas and wetland crossings. Landowners associated with Deviation No. 1907 were included on the landowner list provided in the September 2015 Application as abutters.

Deviation No. 1913 is located between MP 99.0 and 101.0 in Hunterdon County, New Jersey. PennEast adopted this deviation to minimize impact to environmentally sensitive areas raised as a concern by resource agencies during the January 11 route review meeting and to implement a trenchless crossing of several roadways, third-party utilities, and several C1 waterways, including Alexauken Creek. Deviation No. 1913 also avoids paralleling a C1 waterway and forested riparian area and minimizes forestland impacts. Another result of adopting Deviation No. 1913 is that this route deviation allows for the crossing of one (1) C1 waterway by dry crossing methodology in a location that appears to have been previously crossed by farm equipment. The dry crossing methodology will further minimize the impacts to the riparian buffer on both sides of the crossing. Additionally, Deviation No. 1913 optimizes co-location opportunities with the adjacent overhead utility corridor. This route deviation requires relocating the Lambertville Launcher Site to the trenchless crossing workspace. The new site area accommodates post-construction stormwater management design elements and optimizes pipeline design. Landowners associated with Deviation No. 1913 were included on the landowner list provided in the September 2015 Application as abutters.

Deviation No. 2000 is located between MP 101.3 and 101.7 in Hunterdon County, New Jersey. PennEast adopted this route deviation by moving to the opposite side of the existing overhead utility corridor and providing separation from the paralleling waterbody and forested wetland. Deviation No. 2000 reduces forest clearing while maintaining co-location with existing utility corridors. Deviation No. 2000 does not require any additional landowners to be crossed by the Project.

Deviation No. 2100 is located between MP 112.9 and 113.5 in Mercer County, New Jersey. PennEast adopted this route deviation as a route optimization that corresponds to proposed land development plans for the applicable parcels crossed. PennEast collaborated with the landowner to improve co-location with existing natural gas pipelines and to minimize impacts from the proposed route with the development plans for the applicable parcels. Additionally, Deviation No. 2100 avoids crossing a Green Acres encumbered parcel. Deviation No. 2100 does not require any additional landowners to be crossed by the Project.

Deviation No. 2102 is located between MP 112.0 and 112.7 in Mercer County, New Jersey. PennEast adopted this deviation based upon feedback and field information received from the affected property owners. Deviation No. 2102 is a route optimization that would remove interference with proposed housing and commercial land use development plans on the applicable parcels. Hopewell Township has plans to develop low income housing on this parcel in the area originally crossed by the Project. Deviation No. 2102 would avoid impacts to the housing development plan and to future commercial development plans adjacent to New Jersey State Route 31 by co-locating with the existing natural gas pipelines on the parcel. Deviation No. 2102 does not require any additional landowners to be crossed by the Project.

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Poppel, Deborah

From: Poppel, Deborah
Sent: Monday, September 26, 2016 3:00 PM
To: 'rebbowen@pa.gov'
Subject: PennEast September 2016 Route Update
Attachments: PennEast_Project_KMZ_20160926.kmz; PENNEAST_PIPELINE_PROJECT_PROJECT_SHAPEFILES_Sept2016.piz

Importance: High

On behalf of PennEast Pipeline Company (PennEast), thank you for your continued collaboration on the proposed PennEast Pipeline Project (Project). As an interstate natural gas pipeline, the Project is under the jurisdictional, multi-year review of the Federal Energy Regulatory Commission (FERC).

PennEast filed its Application for a Certificate of Public Convenience and Necessity and Related Authorizations with FERC September 24, 2015. PennEast filed route modifications with FERC February 22, 2016, and FERC issued a Draft Environmental Impact Statement (EIS) for the Project July 22, 2016. Since the February 22, 2016 route update and issuance of the draft EIS, PennEast has studied an additional 33 minor route deviations to reduce impacts on endangered species and wetlands, increase co-location with existing utilities, and address feedback from collaborative discussions with landowners and regulatory agencies.

On September 23, 2016, PennEast filed with FERC the 33 route modifications and an updated project route, which is provided in the attached Google Earth kmz file and shapefiles for your review (**rename as "zip" file before opening**). A narrative describing each modification and the explanation for the proposed changes is available on the FERC eLibrary (http://elibrary.ferc.gov/idmws/docket_search.asp) under Docket Number CP15-558-000.

Signed- Deborah Poppel on behalf of

Sarah Binckley, PWS
Project Manager
Direct: 1-610-832-2713 Cell: 1-757-943-4484
sarah.binckley@aecom.com

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625 West Ridge Pike, Suite E-100 Conshohocken, Pennsylvania 19428
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Poppel, Deborah

From: Poppel, Deborah
Sent: Monday, September 26, 2016 2:57 PM
To: 'damong@pa.gov'
Subject: PennEast September 2016 Route Update
Attachments: PennEast_Project_KMZ_20160926.kmz; PENNEAST_PIPELINE_PROJECT_PROJECT_SHAPEFILES_Sept2016.piz

Importance: High

On behalf of PennEast Pipeline Company (PennEast), thank you for your continued collaboration on the proposed PennEast Pipeline Project (Project). As an interstate natural gas pipeline, the Project is under the jurisdictional, multi-year review of the Federal Energy Regulatory Commission (FERC).

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Signed- Deborah Poppel on behalf of

Sarah Binckley, PWS
Project Manager
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October 13, 2016

Ms. Rebecca Bowen
Pennsylvania DCNR
400 Market Street, P.O. Box 8552
Harrisburg, PA 17105

Dear Ms. Bowen:

On behalf of PennEast Pipeline Company, LLC, we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

On September 26, 2016, your office received a Project Update email with shapefiles included for the most recent route filed with the Federal Energy Regulatory Commission (FERC). With this letter, we would like to request endangered species consultation with your agency on project workspace associated with the September 2016 route, as well as access roads, staging areas, compressor station, and water withdrawal locations. We have enclosed a CD that contains shapefiles with the relevant information, as well as rare plant survey location data.

Additionally, we are including a copy of a botanical survey report completed by Janet Ebert. This report documents additional surveys that were conducted in the summer of 2016 upon request for further information by your office (letter from Frederick Sechler, DCNR, October 22, 2015). A summary of the plant survey results and anticipated impacts from the project is provided below:

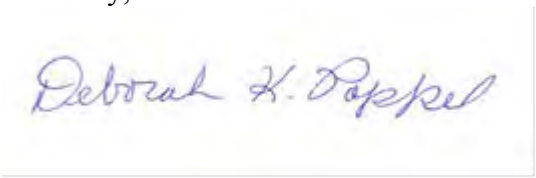
Common Name	Scientific Name	Milepost(s)	RR3 Impact Minimization Recommendation	DCNR Required Mitigation (10/22/10)	Impact assessment per September 2016 route
Thread rush	*Juncus filiformis*	• [redacted]	If impacts to existing wetland are limited, this plant will not be adversely affected. Additional disturbance may actually create new habitat.	- Flag site location - Avoid wetland where this plant exists	Plants are avoided (outside of workspace limits)

Common Name	Scientific Name	Milepost(s)	RR3 Impact Minimization Recommendation	DCNR Required Mitigation (10/22/10)	Impact assessment per September 2016 route
White-fringed orchid	*Platanthera blephariglottis*	[redacted]	Habitat for plants is dependent upon existing hydrologic patterns on existing ROW.	- Flag site location - Shift pipeline to west side of existing ROW, if feasible, to minimize impacts to existing population. - transplantation not likely to succeed; if shift cannot be accomplished another mitigation measure will need to be negotiated.	Plants at [redacted] and are avoided. Plants between [redacted] and are within workspace. Wetland impact minimization measures should protect plant habitat. Habitat will be restored post-construction.
Variable sedge	*Carex polymorpha*	[redacted]	The population is dispersed and cannot be avoided completely. Seed collection and replanting may be feasible.	- Further assessment of the population by qualified botanist is required by DCNR (see enclosed report). If population deemed large enough and sustainable, then "no impact" may be determined. - Flag location	[redacted] site avoided. Plants at [redacted] and [redacted] on edge of workspace, will be flagged for avoidance. Plants at [redacted] in workspace. Other plants widely scattered between [redacted] and some within workspace and some outside

Common Name	Scientific Name	Milepost(s)	RR3 Impact Minimization Recommendation	DCNR Required Mitigation (10/22/10)	Impact assessment per September 2016 route
					workspace
Rough-leaved aster	*Eurybia radula*	• [redacted]	A sensitive species that will likely be lost if ROW is disturbed. Seed collection and replanting may be feasible.	- Flag location - Shift pipeline to west to avoid this plant.	Plant within workspace. Will be flagged for avoidance.
Appalachian climbing fern	*Lygodium palmatum*	• [redacted]	Mitigation to be developed with DCNR during permitting.	- Flag location - Consultation with Weiser State Forest ongoing.	
Northern panic grass	*Dichanthelium boreale*	• [redacted]	This species can come back after a disturbance if native seed is used for restoration.	- Use native seed for restoration - No further action required	No impact-outside work space. No further action.
Torrey's bulrush	*Schoenoplectus torreyi*	• [redacted]	Mitigation to be developed with DCNR during permitting. Seed collection may be feasible.	- Flag location - This plant was identified by Rick Mellon.	Plant is avoided (outside of workspace)

We look forward to continued collaboration with you and your colleagues on this important project. Please contact me if you have any questions.

Sincerely,



Deborah K. Poppel, CWB
Senior Ecologist

October 31, 2016

Ms. Rebecca Bowen
Pennsylvania DCNR
400 Market Street, P.O. Box 8552
Harrisburg, PA 17105

Dear Ms. Bowen:

On behalf of PennEast Pipeline Company, LLC, we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project (Project). PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

On September 26, 2016, your office received a Project Update email with shapefiles of the most recent route centerline filed with the Federal Energy Regulatory Commission (FERC). With this letter, we would like to request an endangered species consultation with your agency on project workspace associated with the September 2016 route, which includes access roads, staging areas, and the Kidder Compressor Station. We have enclosed a CD with Project workspace shapefiles and rare plant survey location data.

Areas crossed by the September 2016 route which were not part of prior study corridors in Pennsylvania are represented by the following mileposts. The specific locations of access roads, staging areas, and the compressor station were not part of prior consultation requests. Please advise if any additional surveys for rare plants will be required in these or the following areas:

- 4.2R2-4.8R2
- 6.3R2-6.6R2
- 9R2-9.4 R2
- 11R2-11.3R2
- 39.5R2-40.8
- 42.1R2-42.5R2
- 48.7R2-49.6R2
- 50R2-50.3R2
- 51.1R2-52.1R2
- 53.1R2-53.2R2
- 57.8R2-58.4R2
- 61.9R2-62.2R2
- 73.3R2-74R2

Additionally, we are including a copy of a botanical survey report completed by Janet Ebert. This report documents additional surveys that were conducted in the summer of 2016 upon request for further information by your office (letter from Frederick Sechler, DCNR, October 22, 2015). A summary of the plant survey results and anticipated Project impacts is provided below:

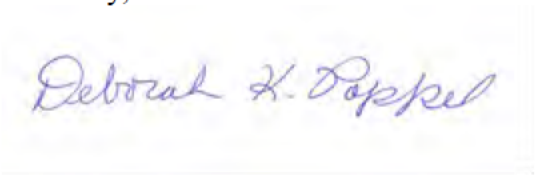
Common Name	Scientific Name	Milepost(s)	RR3 Impact Minimization Recommendation	DCNR Required Mitigation (10/22/15)	Impact Assessment per September 2016 Route
Thread rush	*Juncus filiformis*	• 27.1R2 (former 26.98)	If impacts to existing wetlands are prevented, this plant will not be adversely affected. Additional disturbance may actually create new habitat.	- Flag site location. - Avoid wetland where this plant exists.	Plants are avoided (outside of workspace limits). No impacts anticipated.
White-fringed orchid	*Platanthera blephariglottis*	• 27.15R2 • 27.35R2 • 34.6R2-34.8R2	Habitat for plants is dependent upon existing hydrologic patterns on existing ROW.	- Flag site location. - Shift pipeline to west side of existing ROW, if feasible, to minimize impacts to existing population. -Transplant-ation not likely to succeed; if shift cannot be accomplished, another mitigation measure will need to be negotiated.	Plants at 27.15R2 and 27.35R2 are avoided. Plants between 34.6 R2 and 34.8R2 are within workspace. Wetland contours will be restored post-construction, and native seed mix will be used for stabilization.
Variable sedge	*Carex polymorpha*	• 36.2 • 36.45 • 36.75 • 36.85	The population is dispersed and cannot be avoided completely. Seed	- Further assessment of the population by qualified	36.2 site avoided. Plants at 36.45

Common Name	Scientific Name	Milepost(s)	RR3 Impact Minimization Recommendation	DCNR Required Mitigation (10/22/15)	Impact Assessment per September 2016 Route
		• 36.9	collection and replanting may be feasible.	botanist is required by DCNR (see enclosed report). If population deemed large enough and sustainable, then "no impact" may be determined. - Flag location.	and 36.75 on edge of workspace, will be flagged to accommodate impact minimization. Plants at 36.85 in workspace. Other plants widely scattered between 36.85 and 36.95, some within workspace and some outside workspace.
Rough-leaved aster	*Eurybia radula*	• 36.8	A sensitive species that will likely be lost if ROW is disturbed. Seed collection and replanting may be feasible.	- Flag location. - Shift pipeline to west to avoid this plant.	Plant within workspace. Will be flagged to accommodate impact minimization.
Appalachian climbing fern	*Lygodium palmatum*	• 36.7	Mitigation to be developed with DCNR during permitting.	- Flag location. - Consultation with Weiser State Forest ongoing.	
Northern panic grass	*Dichanthelium boreale*	• 34.55 • 37.5	This species can come back after a disturbance if native seed is used for	- Use native seed for restoration. - No further	No impact-outside work space. No further action.

Common Name	Scientific Name	Milepost(s)	RR3 Impact Minimization Recommendation	DCNR Required Mitigation (10/22/15)	Impact Assessment per September 2016 Route
			restoration.	action required.	
Torrey's bulrush	*Schoenoplectus torreyi*	• 26.52	Mitigation to be developed with DCNR during permitting. Seed collection may be feasible.	- Flag location. - This plant was identified by Rick Mellon.	Plant is avoided (outside of workspace).

We look forward to continued collaboration with you and your colleagues on this important project. Please contact me if you have any questions.

Sincerely,



Deborah K. Poppel, CWB
Senior Ecologist

pennsylvania
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

BUREAU OF FORESTRY

January 10, 2017 **PNDI Number: PNDI-617219**

Deborah Poppel
AECOM, Inc.
625 West Ridge Pike, Suite E-100
Conshohocken, PA 19428
Email: Deborah.Poppel@aecom.com (hard copy not to follow)

Re: Manual_PennEast Pipeline_update
Multiple Townships, Bucks, Carbon, Luzerne, Northampton Counties, PA

Dear Ms. Poppel,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt Number **PNDI-617219** 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 (*for milepost areas* [redacted], *and* [redacted])
No impact Anticipated for remainder of milepost areas and all access roads, staging areas, and Kidder Compressor Station

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
Ageratina aeromatica	Small white snakeroot	Not listed	Rare
Potamogeton pulcher	Spotted pondweed	Endangered	Endangered

Survey Request
DCNR requests a survey for the following species:

- ***Ageratina aeromatica* (small white snakeroot)**–habitat is various types of well drained openings and open woods, especially in serpentine barrens in the southeastern part of the state–locally documented along a roadside just west of the area between **milepost** [redacted] –Please focus on this area for the botanical survey–flowers from August – October–for more information, please see http://www naturalheritage.state.pa.us/factsheets/13290.pdf. \
- ***Potamogeton pulcher* (spotted pondweed)**–habitat is shallow, acidic streams, vernal ponds, and on muddy shores–locally documented in vernal ponds in the area between **milepost** [redacted] –Please focus on this area for the botanical survey which appears to contain a potential vernal pond–flowers from June – August–for more information, please see http://www.naturalheritage.state.pa.us/factsheets/15786.pdf.
- **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

April 17, 2018
Ms. Rebecca Bowen
Pennsylvania Department of Conservation and Natural Resources
400 Market Street, P.O. Box 8552
Harrisburg, PA 17105

Re: PennEast Pipeline Project
PNDI-617219
Agency Review Summary and Update

Dear Ms. Bowen:

On behalf of PennEast Pipeline Company, LLC (PennEast), we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project (Project). On January 19, 2018, the Federal Energy Regulatory Commission (FERC) released its order issuing Certificates for Public Convenience and Necessity for the Project under Parts 157 and 284 of the FERC's regulations. PennEast continues to work through the regulatory processes to obtain the federal permits and approvals necessary to construct the Project.

The purpose of this update letter is to summarize the current status of surveys for protected plant species and consultations under the jurisdiction of the Pennsylvania Department of Conservation and Natural Resources (PADCNR), as well as provide information regarding Project changes, including a new alternative route that PennEast is evaluating at the request of the Bethlehem Water Authority (BWA), National Park Service (NPS) and the Pennsylvania Game Commission (PGC).

Summary of Previous Consultations and Survey Statuses

- October 24, 2014 - PennEast initiated consultation with the PADCNR.
- February 20, 2015 - PADCNR requested botanical surveys for nine Pennsylvania threatened, endangered, or plant species of concern in seven polygons delineated by PADCNR (PNDI # 022407).
- April 6, 2015 – PADCNR responded to PennEast's March 30, 2015 Project update and requested surveys for one additional species in a new polygon in addition to the surveys requested in February 2015 (PNDI # 022426). This eighth polygon was not surveyed due to route adjustments which avoided the area. However, this polygon is now once again within the September 2016 FERC-certificated alignment (approximate milepost 53.5), and will be surveyed in the 2018 summer season.
- June and July 2015 – the seven polygons were that were delineated by PADCNR were surveyed by qualified botanists.
- October 7, 2015 – AECOM submitted the PennEast Rare Plant Survey Report, prepared by Janet Ebert, documenting the 2015 survey results for the originally requested nine species and seven survey polygons. Part of one survey polygon (polygon 6) was unable to be surveyed due to lack of access permission.

- October 22, 2015 – PADCNR responded to PennEast's October 12, 2015 Project update, recommending avoidance and minimization measures for four threatened and endangered species that may be impacted by the Project). It was determined that the other five species addressed would not be impacted. *Potamogeton pulcher* was not addressed by PADCNR in this letter because Polygon 8 was not expected to be impacted.
- October 31, 2016 – AECOM submitted the Botanical Survey Report documenting the results of surveys completed in summer 2016, including areas requested in the October 22, 2015 consultation response letter and the portion of Polygon 6 which was unable to be accessed in the 2015 season. This report was also prepared by Janet Ebert. The cover letter summarized Project updates, potential impacts, and PADCNR-requested avoidance and minimization measures.
- January 10, 2017 – PADCNR responded to PennEast's October 31, 2016 submittal, requesting additional surveys for two species (one of which was a new species – *Ageratina aromatica*) in new areas around mileposts [redacted] and [redacted] (PNDI-617219).
- November 2, 2017 – Site visit with PADCNR and PennEast personnel was conducted at Weiser State Forest, where avoidance and minimization measures were discussed.

Since our January 10, 2017 correspondence, additional surveys were conducted in September 2017 by Janet Ebert in response to the PADCNR's January 2017 request. The results of the September 2017 survey are included in the enclosed PennEast Pipeline Reroute – Blue Mountain Report. No protected plant species were found; however, there is one area near milepost [redacted] that was not surveyed in 2017. It will be surveyed during the 2018 growing season.

Area	Date Requested	Species Requested	Year Surveyed
Polygon 1	2/20/2015	*Carex paupercula, Gaultheria hispidula, Myrica gale*	2015
Polygon 2	2/20/2015	*Gaultheria hispidula*	2015
Polygon 3	2/20/2015	*Bartonia paniculata*	2015
Polygon 4	2/20/2015	*Carex polymorpha*	2015
Polygon 5	2/20/2015	*Bartonia paniculata, Carex collinsii, Platanthera belphariglottis*	2015
Polygon 6	2/20/2015	*Bartonia paniculata, Carex polymorpha, Eurybia radula*	2015/2016
Polygon 7	2/20/2015	*Dicentra exima*	2015
Polygon 8	4/6/2015	*Potamogeton pulcher*	NA*
MP 51.1R2 – 52.1R2	1/10/2017	*Ageratina aeromatica*	2017
MP 53.1R2 – 53.2R2	1/10/2017	*Potamogeton pulcher*	2017
***Planned for 2018 growing season**			

PennEast has also drafted a Pennsylvania Rare Plant Mitigation Plan that outlines future survey, avoidance, and minimization efforts that PennEast commits to implement before and during construction. This plan was submitted to the PADCNR Bureau of Forestry Operations Division on March

16, 2018, as part of the State Forest Environmental Review Process. PennEast has not yet received comments from the Operations Division, and understands that potential impacts to protected plant species within State Forests and State Parks must be coordinated with both the Natural Heritage Section and the Operations Division. The enclosed plan addresses potential impacts to protected plant species in Pennsylvania, which includes property not owned or managed by the PADCNR.

Consultation on Project Changes

Potential Appalachian Trail/PPL Route Alternative

The Appalachian Trail PPL Alternative (AT/PPL Alternative), is a potential 4.98-mile route deviation that PennEast is considering from MP 48.6R2 to MP 54.7R2 (See Enclosed Route Alternative Figure). It crosses Lower Towamensing Township in Carbon County, Eldred Township in Monroe County, and Moore Township in Northampton County, Pennsylvania. This modification was implemented to address concerns from a multitude of agencies, specifically BWA, NPS and the PGC. This route would be co-located with an approximately 100-foot wide high voltage power line, reducing visual impacts across the Appalachian Trail and reducing the overall Project length. This crossing location has been approved by the PGC, NPS, and Appalachian Trail Conservancy (ATC). This Alternative would be fully co-located with existing ROW, and the abutting ROW has been utilized for workspace to the maximum extent practicable to reduce tree clearing. Within State Game Land (SGL) 168, the construction ROW width has been reduced to 75 feet, wherever feasible, to minimize earth disturbance.

PennEast used the Pennsylvania Natural Heritage Program (PNHP)'s Pennsylvania Natural Diversity Inventory (PNDI) Project Environmental Review Tool to obtain information on potential federal- and state-listed species impacts along the AT/PPL Alternative. The PNDI stated that there are no known impacts, and no further review by PADCNR is required. PennEast has assumed no additional surveys are necessary for this Alternative, but respectfully requests PADCNR's review and concurrence.

Potential Blue Mountain Interconnect Change and Associated Lateral Pipeline

If the AT/PPL Alternative is incorporated in the Project design, the Blue Mountain Interconnect that was previously proposed at MP 50.9R2 would be relocated to MP 49.8R3 along the AT/PPL Alternative (See Enclosed Route Alternative Figure). The station would be connected to the PennEast mainline pipeline with approximately 0.5 mile of 4-inch diameter lateral pipeline (Blue Mountain Lateral). The new location of the Blue Mountain Interconnect is adjacent to an existing PPL powerline corridor and utilizes an existing access road.

Other Project Changes

Since PennEast's October 2016 consultation, PennEast has incorporated several minor Project changes (please refer to shapefiles on enclosed CD) to avoid and minimize impacts to sensitive resources and address landowner and constructability concerns. All of these proposed minor workspace changes are within 0.25 mile of the workspace on which PennEast has previously consulted, and none have extended outside of the botanical survey area within the eight polygons previously provided by the PADCNR.

Conclusion:

PennEast has completed all PADCNR requested rare plant surveys for the Pennsylvania portion of the Project with the exception of one survey site that remains for the 2018 survey season near milepost [redacted] In order to conclude consultation with PADCNR regarding the Project, PennEast understands that the following items are required:

- PADCNR review of the enclosed 2017 Botanical Survey Report;
- PADCNR review and approval of the enclosed Pennsylvania Rare Plant Mitigation Plan;
- PennEast completion of botanical surveys near milepost [redacted] and submittal of a 2018 Botanical Survey Report; and
- PADCNR review of the newly considered AT/PPL Route Alternative and associated Blue Mountain Lateral, and input regarding any additional survey needs.

PennEast looks forward to working with you and your colleagues on this important project. At this time, we request that the PADCNR respond with their concurrence regarding this characterization of PennEast's consultation status, or with corrections if the PADCNR disagrees.

We also request information about surveys that may be required along the AT/PPL Alternative, so that any necessary surveys can be scheduled during the 2018 growing season. If you have any questions, I can be reached by phone at (610) 832-2457 or by email at brian.cooper@aecom.com.

Sincerely,

Brian L. Cooper

Brian Cooper
Environmental Scientist
AECOM
Enclosures

1. 2017 Botanical Survey Report
2. Pennsylvania Rare Plant Mitigation Plan
3. Route Alternative Figure
4. Updated consultation area shapefiles

CC: Amber Holly, UGI Energy Services

pennsylvania
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

BUREAU OF FORESTRY

May 22, 2018

PNDI Number: 617219
Version: Manual

Brian Cooper
AECOM, Inc.
625 West Ridge Pike
Conshohocken, PA 19428
Email: brian.cooper@aecom.com (hard copy will not follow)

Re: PennEast Pipeline Reroute – Blue Mountain
Lehigh Township, Northampton County, PA

Dear Mr. Cooper,

Thank you for the submission of your field survey for Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt Number 617219 (Manual) 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.

No Impact Anticipated per Survey (Milepost [redacted] and Milepost [redacted])

PNDI records indicate species or resources under DCNR's jurisdiction are located in the vicinity of the project. DCNR requested a botanical survey for *Ageratina aromatica* (small white snakeroot; proposed PA Rare) and *Potamogeton pulcher* (spotted pondweed; proposed PA Endangered) on January 10, 2017 for project areas between Mileposts [redacted] and [redacted] and Mileposts [redacted] and [redacted]. A survey was conducted by Janet Ebert, Jack Holt, and Emily Genuardi (from AECOM) on August 11, 2017.

The target species were not identified on site. However, two state watchlist species were documented on or near the right-of-way: hidden-fruit sedge (*Carex abscondita*) and butternut (*Juglans cinerea*). If possible, please voluntarily avoid these populations. Otherwise, no additional avoidance or mitigation measures are requested at this time.

NOTE: In a letter dated October 22, 2015 (referencing the previous PNDI Number 022426), DCNR requested avoidance and/or mitigation measures for multiple species documented elsewhere along the proposed pipeline route (between MP [redacted] and [redacted] during botanical field surveys conducted in June 2015 and in June 2016). PennEast and AECOM are coordinating with DCNR to develop a mitigation plan for these species. In addition, one area near milepost [redacted] is scheduled for survey during the 2018 field season. Our office looks forward to receiving the resulting botanical survey report.

Our office also reviewed the proposed Appalachian Trail/PPL Route Alternative and Blue Mountain Lateral, which received a No Known Impact and No Further Review Required response with our agency on the associated PNDI receipt. DCNR concurs with the determination of No Impact Anticipated for this route deviation.

Additional Recommended Actions:

- Design the project to minimize the area of disturbance to the fullest extent that would allow for construction. This will help to lessen the area of soil and vegetation disturbance associated with this project.
- Clean boot treads, construction equipment, and vehicles thoroughly (especially the undercarriage and wheels) before they are brought on site. This will remove invasive plant seeds and invasive earthworms/cocoons that may have been picked up at other sites.
- Do not transport unsterilized leaves, mulch, compost, or soil to the site from another location.
- Do not use seed mixes that include invasive species. Please also use weed-free straw or hay mixes. More information about invasive species in Pennsylvania can be found at the following link: http://www.dcnr.pa.gov/Conservation/WildPlants/InvasivePlants/Pages/default.aspx
- Use habitat appropriate seed mixes. For example, when reseeding along a waterway, utilize a riparian seed mix. The Bureau of Forestry Planting & Seeding Guidelines can be found here for recommendations: http://www.docs.dcnr.pa.gov/cs/groups/public/documents/document/dcnr_20031083.pdf
- Report occurrences of invasive species to iMapInvasives at https://www.imapinvasives.org/. Focus on large infestations and species that are not yet well established in the region or in Pennsylvania (https://www.paimapinvasives.org/be-on-the-lookout).

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 Jason Ryndock, Ecological Information Specialist, by phone (717-705-2822) or via email (c-jryndock@pa.gov).

Sincerely



Greg Podniesinski, Section Chief
Natural Heritage Section

Cooper, Brian

Subject: PennEast Pipeline - Sundial Lupine (Lupinus perennis) documentation memo
Attachments: PADCNR Sundial Lupine Memo.pdf

From: Cooper, Brian
Sent: Monday, July 09, 2018 9:46 AM
To: c-jryndock@pa.gov
Cc: Binckley, Sarah; Amber Holly; Anderson, William (Harrisburg)
Subject: PennEast Pipeline - Sundial Lupine (Lupinus perennis) documentation memo

Hi Jason,

As we discussed on the phone a few weeks ago, we documented presence of Sundial Lupine (*Lupinus perennis*) within the study corridor of the PennEast pipeline while on a site visit with the USACE. These populations are outside the proposed workspace. Please find attached a memo which includes a botanical survey form, mapping, and photo documentation of the identified populations. This species will be added to the revised rare plant mitigation plan as well.

Please let me know if you have any additional questions or comments – I am available by email or either phone number listed below.

Thanks,
Brian

Brian Cooper, AECOM
Environmental Scientist, USFWS Qualified Bat Surveyor
Impact Assessment & Permitting
D +1-610-832-2457
M +1-717-304-0578
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pennsylvania
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

BUREAU OF FORESTRY

August 24, 2018

PNDI Number: 617219
Version: Manual

Brian Cooper
AECOM, Inc.
625 West Ridge Pike
Conshohocken, PA 19428
Email: brian.cooper@aecom.com (hard copy will not follow)

Re: PennEast Pipeline Project – Rare Plant Mitigation Plan
Bucks, Carbon, Luzerne, and Northampton Counties, PA

Dear Mr. Cooper,

Thank you for the submission of your revised (August 2018) Pennsylvania Rare Plant Mitigation Plan for review. Numerous rare plant populations were documented during botanical surveys conducted within the proposed PennEast Pipeline project footprint. PennEast coordinated with DCNR to develop a suitable mitigation strategy.

Pre-construction surveys will be performed to identify, flag, and further refine the locations of rare plant populations located within the project workspaces. A decision matrix will be used to determine appropriate species-specific avoidance, minimization, and mitigation measures, including fencing, translocation, topsoil segregation, and seed collection. Upon completion of project construction, the rare plant populations will be monitored annually for a period of three (3) years. A report detailing the monitoring results will be submitted to DCNR following each monitoring event.

DCNR concurs with the mitigation and monitoring procedure outlined in this plan and looks forward to receiving monitoring reports in the future.

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 Jason Ryndock, Ecological Information Specialist, by phone (717-705-2822) or via email (c-jryndock@pa.gov).

Sincerely

Greg Podniesinski

Greg Podniesinski, Section Chief
Natural Heritage Section

pennsylvania
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

BUREAU OF FORESTRY

August 24, 2018

PNDI Number: 617219
Version: Manual

Brian Cooper
AECOM, Inc.
625 West Ridge Pike
Conshohocken, PA 19428
Email: brian.cooper@aecom.com (hard copy will not follow)

Re: PennEast Pipeline Project - Blue Mountain Reroute, Botanical Report Addendum
Lehigh Township, Northampton County, PA

Dear Mr. Cooper,

Thank you for the submission of your field survey for Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt Number 617219 (Manual) 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.

No Impact Anticipated per Survey (Mile [redacted] to Mile [redacted])

PNDI records indicate species or resources under DCNR's jurisdiction are located in the vicinity of the project. DCNR requested a botanical survey for *Ageratina aromatica* (small white snakeroot; proposed PA Rare) and *Potamogeton pulcher* (spotted pondweed; proposed PA Endangered) on January 10, 2017 for project areas between Mileposts [redacted] and [redacted] and Mileposts [redacted] and [redacted]. A survey was conducted by Janet Ebert, Jack Holt, and Emily Genuardi (from AECOM) on August 11, 2017. The target species were not identified on site and DCNR issued a No Impact per Survey letter (see DCNR's determination letter, dated May 22, 2018).

An additional survey was performed on July 25, 2018 between Mile [redacted] and Mile [redacted]. One state watchlist species was documented: hidden-fruit sedge (*Carex abscondita*). If possible, please voluntarily avoid this population. Otherwise, no further avoidance or mitigation measures are requested at this time.

NOTE: In a letter dated October 22, 2015 (referencing the previous PNDI Number 022426), DCNR requested avoidance and/or mitigation measures for multiple species documented elsewhere along the proposed pipeline route (between MP [redacted] and [redacted] during botanical field surveys conducted in June 2015 and in June 2016). An additional species was observed in May, 2018 between MP [redacted] and [redacted]. PennEast and AECOM are coordinating with DCNR to develop a mitigation plan for these species.

Additional Recommended Actions:

- Design the project to minimize the area of disturbance to the fullest extent that would allow for construction. This will help to lessen the area of soil and vegetation disturbance associated with this project.
- Clean boot treads, construction equipment, and vehicles thoroughly (especially the undercarriage and wheels) before they are brought on site. This will remove invasive plant seeds and invasive earthworms/cocoons that may have been picked up at other sites.

- Do not transport unsterilized leaves, mulch, compost, or soil to the site from another location.
- Do not use seed mixes that include invasive species. Please also use weed-free straw or hay mixes. More information about invasive species in Pennsylvania can be found at the following link: http://www.dcnr.pa.gov/Conservation/WildPlants/InvasivePlants/Pages/default.aspx
- Use habitat appropriate seed mixes. For example, when reseeding along a waterway, utilize a riparian seed mix. The Bureau of Forestry Planting & Seeding Guidelines can be found here for recommendations: http://www.docs.dcnr.pa.gov/cs/groups/public/documents/document/dcnr_20031083.pdf
- Report occurrences of invasive species to iMapInvasives at https://www.imapinvasives.org/. Focus on large infestations and species that are not yet well established in the region or in Pennsylvania (https://www.paimapinvasives.org/be-on-the-lookout).

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 Jason Ryndock, Ecological Information Specialist, by phone (717-705-2822) or via email (c-jryndock@pa.gov).

Sincerely



Greg Podniesinski, Section Chief
Natural Heritage Section

PENNSYLVANIA FISH AND BOAT COMMISSION CORRESPONDENCE

August 12, 2014

Mr. Chris Urban
Chief, Natural Diversity Section

PENNSYLVANIA FISH AND BOAT COMMISSION
Division of Environmental Services
450 Robinson Lane
Bellefonte, PA 16823

Re: Large Project PNDI Review
PennEast Pipeline Company, LLC - PennEast Pipeline Project
Luzerne, Carbon, Northampton, and Bucks Counties, Pennsylvania

Dear Mr. Urban:

The PennEast Pipeline Company, LLC (PennEast), is a partnership with UGI Energy Services (UGIES), AGL Resources, NJR Pipeline Company, and South Jersey Industries. The PennEast Pipeline Project (Project) proposes to construct a new 100-mile, 30-inch pipeline to deliver natural gas from northeast Pennsylvania to other markets in Pennsylvania and New Jersey. This new supply of natural gas will bring lower cost supplies to residents and businesses in Pennsylvania and New Jersey, while enhancing pipeline system flexibility and reliability for the local gas utilities.

PennEast intends to file its certificate application for the PennEast Pipeline Project with the Federal Energy Regulatory Commission (FERC) in mid-2015, and anticipates receiving authorization and starting construction in 2017. Permit applications with other federal, state, and local agencies will be submitted within similar timeframes as the certificate application. The permit proceedings conducted by these agencies will provide additional opportunities for public input and involvement. FERC's determination of public convenience and necessity includes a thorough, comprehensive environmental review of proposed projects, working closely with federal, state, and local agencies and in accordance with the National Environmental Policy Act (NEPA).

On behalf of PennEast, URS Corporation (URS) is requesting a Large Project Pennsylvania Natural Diversity Inventory (PNDI) review update for rare, candidate, threatened, and endangered species under the jurisdiction of the Pennsylvania Fish and Boat Commission for the PennEast Pipeline Project. A critical issues analysis was conducted for multiple routes using readily available secondary source data to select the **Least Environmentally Damaging**

URS Corporation
625 W. Ridge Pike, Suite E-100
Conshohocken, PA 19428
Phone: 610.832.3500
Fax: 610.832.3501

Practicable Alternative (LEDPA) route. Mapping depicting the environmental features evaluated for the preferred alternative is enclosed. We are asking for your review prior to the initiation of wetland and watercourse field surveys to be conducted this fall. We hope to concurrently identify any habitat for species under your agencies' jurisdiction at this time. The environmental study area will be a 400-foot corridor centered on the approximately 100-mile alignment. The anticipated permanent right-of-way (ROW) and temporary construction work area will be approximately 100-feet. The study area is wider than the disturbance area to allow for minor alignment shifts to avoid any sensitive resources that may be identified during the environmental field investigations.

The following are enclosed to facilitate your review:

- Large Project PNDI Form;
- PennEast Project Fact Sheet; and
- CD containing:
    - shapefiles of the alignment;
    - USGS 7.5 minute quadrangle maps with project alignment; and
    - detailed maps depicting the project areas and known secondary source resources

If you have any questions or require additional information regarding this request, please contact me at 610.832.1810 or bernard.holcomb@urs.com.

Sincerely,

Bernard Holcomb
Pipeline Environmental Services Manager
Enclosures (3)

cc: Mr. Anthony Cox (UGI)
Mr. Dante D'Alessandro (UGI)

URS Corporation
625 W. Ridge Pike, Suite E-100
Conshohocken, PA 19428
Phone: 610.832.3500
Fax: 610.832.3501

Pennsylvania Natural Diversity Inventory
LARGE PROJECT FORM

How to Use the PNDI Large Project Form

If your Project is a "Large Project"— too large/long to search on the online system
Projects are considered "Large Projects" when the ENTIRE project is:

- Linear/Large Projects that exceed the PNDI online project size limits of 10 miles in length or 5165 acres
- Township-wide, Countywide or Statewide Projects. Examples: Act 537 Sewage Plans, Wind Farms, Roadway Improvements exceeding map limits above.

Due to system limitations and agency requirements, projects should not be submitted piecemeal. The entire project area including roads and infrastructure should be submitted as a single unit.

What to Send to Jurisdictional Agencies

Send the following information to all of the agencies listed on the Large Project Form.

Check-list of Minimum Materials to be submitted:
____Completed Large Project Form
____Supplemental project narrative with a description of the overall project, the work to be performed, current physical characteristics of the site and acreage to be impacted.
____USGS 7.5-minute Quadrangle with project boundary clearly indicated, and quad name on the map

The inclusion of the following information may expedite the review process.
____GIS shapefiles depicting the project extent
____A basic site plan (particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)
____Color photos keyed to the basic site plan (i.e. showing on the site plan where and in what direction each photo was taken and the date of the photos)
____Information about the presence and location of wetlands in the project area, and how this was determined (e.g., by a qualified wetlands biologist), if wetlands are present in the project area, provide project plans showing the location of all project features, as well as wetlands and streams

PNDI Large Project Form Definitions

***Applicant*:** Person that owns the property or is proposing the project or activity

Contact Person: Person to receive response if different than applicant (e.g. Consultant)

Project Name: Descriptive title of project (e.g. Twin Pines Subdivision, Miller Bridge Replacement)

***Proposed Activity*:** Include ALL earth disturbance activities for project (e.g. for a timber sale—include stream crossings, cutting areas and new roadway accesses). Also include Current Conditions (e.g. housing, farmland, current land cover), and how Construction/Maintenance Activity is to be accomplished

Total Acres of Property: Entire site acreage (e.g. timber sale property—including road access (200 acres)

Acreage to be Impacted: Disturbance acreage (e.g. timber sale—if the property is 200 acres, but only 100 acres will be disturbed, for example: cutting on 90 acres, a road impacting 10 acres); include all temporary and permanent activities

Pennsylvania Natural Diversity Inventory
LARGE PROJECT FORM

This form provides site information necessary to perform an Environmental Review for special concern species and resources listed under the Endangered Species Act of 1973, the Wild Resource Conservation Act, the Pennsylvania Fish and Boat Code or the Pennsylvania Game and Wildlife Code.

Applicant Information

Name: Penneast Pipeline Company, LLC
Address: One Meridian Blvd., Suite 2c01 Wyomissing, PA 19610

Phone Number: 844-347-7119 Fax Number:

Contact Person Information - if different from applicant

Name: Bernie Holcomb
Address: 625 W. Ridge Pike, Suite E-100 Conshohocken, Pa 19428
Phone Number: 610-832-1810 Fax Number: 610-832-3501
Email: bernard.holcom

Project Information

Project Name: Penneast Pipeline Project
Project Reference Point (center point of project): Latitude: Longitude: Datum:
Municipality: Multiple County: Luzerne -- Bucks
☒ Attach a copy of a U.S.G.S. 7 ½ Minute Quadrangle Map with Project Boundaries clearly marked.
U.S.G.S. Quad Name: Multiple
Provide GIS shapefiles showing the project boundary (strongly recommended)

Project Description

Proposed Project Activity (including ALL earth disturbance areas and current conditions)

The PennEast Pipeline Project (Project) proposes to construct a new 100-mile, 30-inch pipeline to deliver natural gas from northeast Pennsylvania to other markets in Pennsylvania and New Jersey. This new supply of natural gas will bring lower cost supplies to residents and businesses in Pennsylvania and New Jersey, while enhancing pipeline system flexibility and reliability for the local gas utilities.

Total Acres of Property: 5118 Acreage to be Impacted: 1283

1. Will the entire project occur in or on an existing building, parking lot, driveway, road, maintained road shoulder, street, runway, paved area, railroad bed, or maintained lawn? Yes ☐ No ☒
2. Are there any waterways or waterbodies (intermittent or perennial rivers, streams, creeks, tributaries, lakes or ponds) in or near the project area, or on the land parcel? If so, how many feet away is the project?
   Yes ☒ Within Feet No ☐
3. Are wetlands located in or within 300 feet of the project area? Yes ☒ No ☐ If No, is this the result of a wetland delineation? Tbd
4. How many acres of tree removal, tree cutting or forest clearing will be necessary to implement all aspects of this project? Tbd

Dept. of Conservation and Natural Resources
Bureau of Forestry, Ecological Services Section
400 Market St., PO Box 8552
Harrisburg, PA 17105
fax: 717-772-0271

PA Game Commission
Bureau of Wildlife Habitat Management
Division of Environmental Planning & Habitat Protection
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

PA Fish and Boat Commission
Natural Diversity Section
450 Robinson Lane
Bellefonte, PA 16823

US Fish and Wildlife Service
Endangered Species Biologist
315 South Allen St., Suite 322
State College, PA 16801
no faxes please

Pennsylvania Fish & Boat Commission
established 1866

Division of Environmental Services
Natural Gas Section
450 Robinson Lane
Bellefonte, PA 16823

September 8, 2014

IN REPLY REFER TO
SIR# 43063

URS CORPORATION
Bernie Holcomb
625 W. Ridge Pike
Conshohocken, Pennsylvania 19428

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No.
PennEast Pipeline Project.
BUCKS County: - CARBON County: - LUZERNE County: - NORTHAMPTON County:

Dear Bernie Holcomb:

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 (PFBC) jurisdiction (fish, reptiles, amphibians, aquatic invertebrates only) using the 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.

Based on review, the PFBC is concerned the project will have an impact on the following species of special concern:

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.

Given the proximity of the project to known critical timber rattlesnake habitat, we recommend that a timber rattlesnake habitat assessment be conducted in three areas (Table 1) 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.

Table 1. Timber Rattlesnake habitat assessment areas.

Area	Mile Post Northern Edge	Mile Post Southern Edge
1	[redacted]	[redacted]
2		
3		

Northern Cricket Frog (*Acris crepitans*, Endangered)

The Northern cricket frog is a small (less than 2") frog species found in a wide variety of habitats including permanent bodies of water such as slow-moving streams, ponds, lakes, marshes, bogs, and swamps, but also semi-permanent ponds and seasonal forest pools. Breeding occurs from May to August with metamorphosed froglets emerging July to September. The Northern cricket frog occurs in small, isolated populations in eastern Pennsylvania. These small populations are threatened by pollution, and filling/clearing of wetlands and breeding habitat.

If wetlands, vernal pools, open water areas, streams, or ponds or the area within 300ft of these water features are to be disturbed from the project activity, additional evaluations are necessary to confirm whether or not the project site contains habitat and to determine the potential for adverse impacts to this species. Therefore, we request completion of a **habitat assessment** of the project buffer area located in Hickory Run State Park between **Mile Post** [redacted] **and Mile Post** [redacted] to characterize and determine if potential habitat exists within the vicinity of the proposed project area.

A qualified biologist, who possesses the necessary Scientific Collector's Permit issued by the PFBC, must conduct this habitat assessment. A list of biologists recognized as qualified by the PFBC to perform this assessment is enclosed. Items **such as:** basic project plans, project narrative, general habitat descriptions, and color photographs keyed to a site map or diagram of the project area, wetlands identification and delineation, stream characterization (flow velocity, width, depth, substrate type, pools and riffles, identification of basking areas, logs, woody debris, presence of aquatic vegetation) would expedite our review process. Pending the review of information, a survey targeting the presence of the species of concern may be warranted.

If, however, wetlands, vernal pools, or water bodies or the area within 300ft of these water features are not to be disturbed in any way by the proposed activity, and provided that best management practices are employed and strict erosion and sedimentation measures are maintained, I do not foresee any adverse impacts to the Northern Cricket Frog (*Acris crepitans*) from the proposed project.

Freshwater Mussels

Rare or protected freshwater mussel species are known from the vicinity of the North Branch Susquehanna River crossing. Freshwater mussels are the most imperiled taxonomic group in North America. Nearly 20% of the species historically known to occur in the Commonwealth are now extirpated (locally extinct). Additionally 60% of Pennsylvania's remaining species are of conservation concern. We are concerned about direct and indirect (i.e., runoff) effects that the proposed project may have on the species of concern. The freshwater mussel species known from the project area are especially vulnerable to physical (dredging, rip-rap, etc.) and chemical (pH, dissolved oxygen, temperature, heavy metals and organic contaminants) changes to their aquatic environment. Therefore, **we recommend using directional boring** rather than open cutting for the **North Branch Susquehanna River crossing**. Open cutting will most likely adversely impact the species of concern. Work should be conducted from the bank (e.g., no in-stream disturbance). Likewise, no erosion or sediment should be allowed to enter into the river (e.g., strict erosion and sedimentation control measures need to be employed).

Provided that directional boring methodology is used, in-stream work is avoided, strict E&S control measures are maintained, and best management practices are employed, we do not foresee any significant adverse impacts from the proposed activity to the mussel species of special concern or any other rare or protected species under PFBC jurisdiction **provided that the applicant implement the following contingencies to prevent impacts to water quality from drilling/boring operations:**

- Have a designated environmental inspector on site for the duration of the entire crossing operation.
- Stop the bore/drill immediately if anyone on site observes an Inadvertent Return.
- Have a Vac Truck on site or on call (within three hours) to begin clean-up of the release in the stream channel to prevent downstream migration of drilling fluids.

Additionally, any release of sediment to the stream should be reason to initiate contact with the PFBC Bureau of Law Enforcement to address these issues (NE 570-477-5717). Any unauthorized disturbance, unpermitted discharge, or release of sediment(s) that is determined to be a pollution event (generally described http://www.fish.state.pa.us/fishpub/summary/reporting.html) per the Pennsylvania Fish and Boat Code will be subject to the appropriate legal enforcement action.

If, however, the work will necessitate any direct (e.g. equipment intrusion) or indirect impacts (e.g. runoff) to the North Branch Susquehanna River, a mussel survey & relocation should be conducted to avoid potential impacts to these rare mussel species. It is recommended that a qualified malacologist complete a mussel survey to identify any mussel species present and determine their abundance. Additionally, if mussels are encountered it is recommended that the mussels in the area of direct impact be relocated to suitable habitat outside of the disturbance area.

A list of qualified malacologists and a PFBC approved mussel survey protocol is enclosed for your convenience when arranging for a mussel survey. Prior to conducting a survey, qualified malacologist should submit a proposed survey and relocation plan to this office. Upon completion of the mussel survey and relocation, please send a copy of the final report to this office for further evaluation.

Atlantic Sturgeon (*Acipenser oxyrinchus*, Endangered)
Shortnose Sturgeon (*Acipenser brevirostrum*, Endangered)
Eastern Redbelly Turtle (*Pseudemys rubriventris*, Threatened)
Dwarf Wedgemussel (*Alasmidonta heterodon*, PA Endangered, Federal Endangered)

Rare or protected freshwater mussel, fish, and turtle species are known in the vicinity of the Delaware River crossing. The fish species known from the project area are especially vulnerable to physical (dredging, substrate modification, etc.) and chemical (turbidity, pH, dissolved oxygen, temperature, heavy metals and organic contaminants) changes to their aquatic environment. Although the mobile adults of these protected fish species may be capable of moving from the project area, their spawning grounds (including eggs, fry, and immature fish) are vulnerable to burial, crushing by equipment, and siltation from in-stream construction projects. We are concerned about potential impacts to the fish, eggs and the hatching fry from any in-stream work. Therefore, **we recommend using directional boring** rather than open cutting for the **Delaware River crossing**. Open cutting will most likely adversely impact the species of concern. Work should be conducted from the bank (e.g., no in-stream disturbance). Likewise, no erosion or sediment should be allowed to enter into the river (e.g., strict erosion and sedimentation control measures need to be employed).

If, however, the Delaware River work will necessitate any direct impacts such as in-stream work or open cut stream crossings, we will need more information to allow for a more thorough evaluation of potential adverse impacts from the proposed project. Items such as a detailed narrative accurately describing the crossing including possible in-stream work, sequence of activities, basic site plans and map, aerial maps of the general area, project alternatives, acreage to be impacted, general habitat descriptions or onsite color photographs (keyed to a site map) would expedite our review process. Pending the review of this information a survey for the species of concern may be warranted.

Bog Turtle (*Glyptemys muhlenbergii*, PA Endangered, Federal Threatened)

In an effort to streamline our threatened and endangered species environmental review process, reduce the redundancy in project reviews and ease our staff workload, the PFBC has delegated coordination/consultation of joint state/federally listed species impact reviews to the PA Field Office of the U.S. Fish and Wildlife Service (USFWS). Please send your project materials if you have not already done so to them at:

U.S. Fish and Wildlife Service, Endangered Species Section,
315 South Allen St., Suite 322
State College, PA 16801-4851

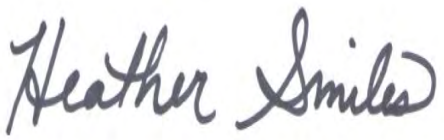
The PFBC appreciates the detailed information (maps and GIS shapefiles) provided for this review. Please note that the review was based on the 400-ft corridor. Any modification to this corridor could cause the review to change and contact should be initiated to determine the impact(s).

All habitat assessments should include the entire 400-ft corridor between the above referenced Mile Posts to account for minor pipeline realignments. Mile Posts were referenced for habitat assessments since GPS coordinates were not provided. In future correspondence, please provide GPS coordinates with habitat assessments to clarify mile posts and confirm survey locations.

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 Greg Lech at 570-477-3985 and refer to the SIR # 43063. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,



Heather A. Smiles, Chief
Natural Gas Section

HAS/GPL/dn

October 24, 2014

Ms. Heather Smiles
Pennsylvania Fish and Boat Commission
450 Robinson Lane
Bellefonte, PA 16823

Dear Ms. Smiles:

On behalf of PennEast Pipeline Company, LLC, we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

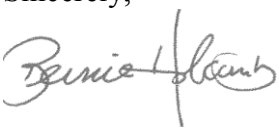
As an interstate natural gas pipeline, PennEast will be regulated by the Federal Energy Regulatory Commission (FERC). FERC approved PennEast for the pre-filing review process on October 8. The pre-filing process creates the framework for the environmental analysis and a formal structure for stakeholders along the proposed route to provide input and opinions regarding the project. The pre-filing application is available online at http://elibrabry.ferc.gov, docket PF15-1-000.

At this time we would like to invite the Pennsylvania Fish and Boat Commission to become a cooperating agency in the FERC process, and to actively engage with FERC's designated Environmental Project Manager for the PennEast Pipeline Project, Medha Kochhar. Ms. Kochhar can be contacted at (202) 502-8964. As a cooperating agency, FERC and/or PennEast may request your participation in bi-weekly project status calls and direct or interagency coordination meetings, as appropriate.

Only in the second month of a comprehensive, approximately three-year process, PennEast still is working to refine a preferred alternative route and to obtain permissions to survey. To that end, we must inform you that the preferred alternative route has been adjusted to account for engineering, environmental, and land use constraints that have been identified since we initially provided your agency with detailed project information. In Pennsylvania, the preferred alternative route has been shifted approximately three-to-four miles to the northeast between mileposts 11 and 35 in Luzerne and Carbon counties. Other route adjustments have also been made in an effort to maximize co-location with existing utility easements. Overall, approximately 41 miles have been re-routed in Pennsylvania. Please note, however, that the current preferred alternative route remains in the same counties and townships as identified in our initial notification. Shapefiles for the adjusted preferred alternative route are being provided to aide in your review and analysis of the project.

We look forward to working with you and your colleagues on this important project. Please contact me if you have any questions.

Sincerely,



Bernie Holcomb
Pipeline Environmental Services Manager

URS Corporation 625 West Ridge Pike, Suite E-100 ; Conshohocken, PA 19428
Direct: 610 832 1810; Cell: 215 275-7956 ; Fax: 610-832-3501 bernard.holcomb@urs.com

PennEast Pipeline Project

MEETING MINUTES

PA State Interagency Meeting
November 4, 2014
Rachel Carson State Office Building, Harrisburg, PA
Date: November 4, 2014

Attendees:

Gregory Lech, PA Fish and Boat Commission
Emilee Boyer, DCNR Bureau of Forestry, Natural Heritage
Stephanie Livelsberger, DCNR Bureau of State Parks
Dave Mong, DCNR Bureau of Forestry, State Forests
Rachel Wagner, DCNR Bureau of Forestry, State Parks
John Coughlin, Western Land Services
Chris Montanye, WLS
Deborah Poppel, URS
Jonathan West, URS

Summary

DCNR was provided with a folder including project maps. A project overview was provided (see agenda) which included a purpose and need for the project, a description of the proposed facilities, the FERC review process, and the status of environmental surveys and other activities. It was noted that biweekly update calls are held with FERC and the agencies were invited to become cooperating agencies during the pre-filing process.

During the meeting it was confirmed that PFBC did receive the shapefiles for the updated alignment; DCNR did not because of their internet security blocking certain files. (Subsequent to the meeting, the shapefiles were re-sent and confirmation was obtained for their receipt).

The DCNR representatives discussed the fact that they have a formalized process for PennEast or its contractors to obtain ROW permission. This includes all surveys (such as wetlands, civil, archeology, geotechnical) which must wait until the project application is submitted. The forms were provided to URS and WLS prior to the meeting via email. A pre-survey meeting is held and field surveys can commence if a certificate is granted. This includes additional surveys that the State Parks or State Forest may require (including botanical surveys).

The ROW application review process can take a few months from proposal to meeting plus 21 days to the survey permission. There are 4 main components to the application: 1) Application for ROW (form); 2) GIS shapefiles of the final route; 3) A project description and alternatives analysis (can be RR1 and RR10), and 4) PNDI review results (does not need to have the clearance letters).

Because these are public lands, we are free to access the lands to become familiar with the areas but they will not grant formal permission to survey; there is a form for "preliminary survey" work which can be processed fairly quickly. Chris Montanye said that he would complete and submit the one-page preliminary survey form ASAP.

It was noted that 85% of state parks are open to hunting. Currently it is archery season; rifle season starts December 1.

Ms. Boyer expressed concern over the draft Resource Reports being submitted May 1 (missing field seasons) when surveys may not be completed. It was explained that final reports would not be submitted until July and that it was expected that most, if not all, field work would be completed by that time. She noted that DCNR review may not be completed before the late summer or early fall of 2015 (and therefore clearance letters for permit applications will be pending). If habitat assessments rule out areas for survey, she requested that we let her know early. She prefers one report document for the whole alignment rather than "piecemeal" reports.

Mr. Lech from PFBC asked about the major river crossing techniques, for which it was noted that HDD is proposed.

Mr. Mong provided a powerpoint presentation of the DCNR ROW application process (printout included) at the conclusion of the meeting. It was agreed that URS Deputy PM Jon West would be the single point-of-contact for DCNR for the project.

Minutes Prepared by:

URS Corporation

Pennsylvania Fish & Boat Commission
established 1866

Division of Environmental Services
Natural Gas Section
450 Robinson Lane
Bellefonte, PA 16823

November 10, 2014

IN REPLY REFER TO
SIR# 43063

URS CORPORATION
Bernie Holcomb
625 W. Ridge Pike
Conshohocken, Pennsylvania 19428

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No.
PennEast Pipeline Project.
BUCKS County: - CARBON County: - LUZERNE County: - NORTHAMPTON County:

Dear Bernie Holcomb:

This is a response to your updated submission for the PennEast Pipeline Project, received on October 24, 2014. The Pennsylvania Fish and Boat Commission (PFBC) sent an initial response letter dated September 8, 2014. Since that time your project has changed and you initiated further contact with PFBC. Furthermore, the PFBC attended a meeting on November 4, 2014 in Harrisburg, PA, with project representatives and PA DCNR to discuss the project.

Based on the updated pipeline route and discussions from the meeting the PFBC is concerned the project will have an impact on the following species of special concern:

Timber rattlesnake (*Crotalus horridus*, PA candidate)

The September 8, 2014 letter requested habitat assessments for three areas along the pipeline route. The alternate route removed these three areas from impact. With the new route, the PFBC recommends that a timber rattlesnake habitat assessment be conducted in SEVEN areas (Table 2) by a qualified rattlesnake surveyor (a list of qualified surveyors and survey protocol was previously provided).

Table 2. Timber Rattlesnake habitat assessment areas.[1]

Area	Mile Post Northern Edge	Mile Post Southern Edge
1-3	Removed	Removed
4	[redacted]	[redacted]
5		
6		
7	[redacted]	[redacted]
8	[redacted]	[redacted]
9	[redacted]	[redacted]
10	[redacted]	[redacted]

[1]Updated for 10/24/2014 Route.

Northern Cricket Frog (*Acris crepitans*, Endangered)

The September 8, 2014 letter requested a habitat assessment of the project buffer area located in Hickory Run State Park. The alternate route modified this area. With the new route, the PFBC recommends a habitat assessment be conducted of the project buffer located in the **Hickory Run watershed (between Mile Post** [redacted] to characterize and determine if potential habitat exists (a list of qualified surveyors was previously provided).

Freshwater Mussels

In the September 8, 2014 letter the PFBC recommended **using directional boring** rather than open cutting for the **North Branch Susquehanna River crossing**. At the November 4, 2014 meeting, it was discussed that the North Branch Susquehanna River crossing will be crossed via HDD. Therefore the PFBC concurs with the crossing method provided the following conditions are implemented:

- Have a designated environmental inspector on site for the duration of the entire crossing.
- Stop the bore/drill immediately if anyone on site observes an Inadvertent Return.
- Have a Vac Truck on site or on call (within three hours) to begin clean-up of the release in the stream channel to prevent downstream migration of drilling fluids.
- Conduct a geotechnical investigation near the proposed bore crossing to adequately identify operating parameters (e.g., depth, pressure) to minimize the probability of an Inadvertent Return.

Atlantic Sturgeon (*Acipenser oxyrinchus*, Endangered)
Shortnose Sturgeon (*Acipenser brevirostrum*, Endangered)
Eastern Redbelly Turtle (*Pseudemys rubriventris*, Threatened)
Dwarf Wedgemussel (*Alasmidonta heterodon*, PA Endangered, Federal Endangered)

In the September 8, 2014 letter the PFBC recommended **using directional boring** rather than open cutting for the **Delaware River crossing**. In the November 4, 2014 meeting, it was discussed that the Delaware River crossing will be crossed via HDD. Therefore the PFBC concurs with the crossing method provided the conditions listed above are implemented.

Additionally, any release of sediment to the stream should be reason to initiate contact with the PFBC Bureau of Law Enforcement (NE 570-477-5717; SE 717-626-0228) to address these issues. Any

unauthorized disturbance, unpermitted discharge, or release of sediment(s) that is determined to be a pollution event (generally described http://www.fish.state.pa.us/fishpub/summary/reporting.html) per the Pennsylvania Fish and Boat Code will be subject to the appropriate legal enforcement action.

If, however, the work will necessitate any direct (e.g., equipment intrusion) or indirect impacts (e.g., runoff) to the waterway, this SIR must be resubmitted to this office for further review before work commences. With the resubmission, please include items such as detailed project plans, a description of the proposed work, aerial photographs of the general area, mapped areas that are to be impacted, stream characterizations and descriptions, and color photographs would expedite our review process. A mussel survey to assess areas of direct and indirect effects may be warranted.

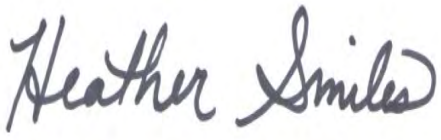
NEW PROPOSED 24" HELLERTOWN LATERAL

During the November 4, 2014 meeting, URS provided information on a new section of pipeline, known as the Hellertown Lateral. This project was reviewed and **no impacts to species of special concern** are anticipated in the vicinity of the new proposed Hellertown Lateral.

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 Greg Lech at 570-477-3985 and refer to the SIR # 43063. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,



Heather A. Smiles, Chief
Natural Gas Section

HAS/GPL/dn

January 14, 2015

Mr. Gregory Lech
Pennsylvania Fish and Boat Commission, Oil and Gas Section
450 Robinson Lane
Bellefonte, PA 16823

Dear Mr. Lech,

On behalf of PennEast Pipeline Company, LLC, we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; Texas Eastern Transmission, LP; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

As an interstate natural gas pipeline, PennEast will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015.

Over the past months, PennEast has worked to refine a new preferred alternative route and to obtain permissions to survey. To that end, we must inform you that the preferred alternative route has been adjusted to account for engineering, environmental, and land use constraints that have been identified since we last provided your agency with detailed project mapping on October 24, 2014. In Pennsylvania, the preferred alternative route has been re-routed for approximately 2.5 miles to the north side of State Route 33 near Bethlehem, PA. In New Jersey, the preferred alternative route has been re-routed for approximately 21 miles, from M.P. 90 (approximate) to the southern project terminus. This re-route has also necessitated a 1.3-mile, 36-inch lateral near Lambertville, NJ to transport gas to Algonquin and Texas Eastern Transmission systems. USGS topographic maps showing just the new route adjustments in Pennsylvania and updated shapefiles for the entire new preferred alternative route are being provided to aide in your review and analysis of the project.

We look forward to working with you and your colleagues on this important project. Please contact me if you have any questions.

Sincerely,

Bernie Holcomb

Pipeline Environmental Services Manager
URS Corporation 625 West Ridge Pike, Suite E-100 ; Conshohocken, PA 19428
Direct: 610 832 1810; Cell: 215 275-7956 ; Fax: 610-832-3501 bernard.holcomb@urs.com

Pennsylvania Fish & Boat Commission
established 1866

Division of Environmental Services
Natural Gas Section
450 Robinson Lane
Bellefonte, PA 16823

January 23, 2015

IN REPLY REFER TO
SIR# 43063

URS CORPORATION
Bernie Holcomb
625 W. Ridge Pike
Conshohocken, Pennsylvania 19428

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No.
PennEast Pipeline Project – January 14, 2015 Re-route
NORTHAMPTON County:

Dear Bernie Holcomb:

This is a response to your updated submission for the PennEast Pipeline Project, received on January 14, 2015. This update was described by you as: In Pennsylvania, the preferred alternative route has been re-routed for approximately 2.5 miles to the north side of State Route 33 near Bethlehem, PA.

A review concluded, except for occasional transient species, rare, candidate, threatened or endangered species under our jurisdiction are not known to exist in the vicinity of the re-routed area. Should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered.

This response only regards the above referenced re-route. The PFBC is still concerned with potential impacts to the following species, as outlined in previous consultation letters:

Timber rattlesnake (*Crotalus horridus*, PA candidate)
Northern Cricket Frog (*Acris crepitans*, Endangered)
Freshwater Mussels
Atlantic Sturgeon (*Acipenser oxyrinchus*, Endangered)
Shortnose Sturgeon (*Acipenser brevirostrum*, Endangered)
Eastern Redbelly Turtle (*Pseudemys rubriventris*, Threatened)
Dwarf Wedgemussel (*Alasmidonta heterodon*, PA Endangered, Federal Endangered)

This response represents the most up-to-date summary of the Pennsylvania Natural Diversity Inventory (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 Greg Lech at 570-477-3985 and refer to the SIR # 43063. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,



Heather A. Smiles, Chief
Natural Gas Section

HAS/GPL/dn

March 30, 2015

Mr. Greg Lech
Pennsylvania Fish and Boat Commission; Oil and Gas Section
450 Robinson Land
Bellefonte, PA 16823

Dear Mr. Lech:

On behalf of PennEast Pipeline Company, LLC, we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; Spectra Energy Partners; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

As an interstate natural gas pipeline, PennEast will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015. Over the past months, PennEast has worked to refine a preferred alternative route and to obtain permissions to survey. To that end, we must inform you that the preferred alternative route has again been adjusted to account for engineering, environmental, and land use constraints that have been identified since we last provided your agency with detailed project mapping on January 14, 2015.

Following feedback from FERC's scoping meetings and numerous conversations with landowners, state and local agencies, and other various stakeholders, PennEast has revised and refined various portions of the preferred alternative route. The largest variations to the previously released route are related to the location of the crossing of the Bethlehem Authority water supply mainline (MP 44 and MP 45), Appalachian Trail crossing (between MP 46 and MP 55), and accommodating future subdivision and housing development plans. Additional field data gained over the last month has helped make smaller adjustments related to environmental surveys and individual discussions with landowners.

In addition to the route variations noted above, an additional interconnect was needed for the Gilbert Power Generation facility in Holland Township, New Jersey, which is fed by a small lateral (12 inches) to supply natural gas to the facility. The previously located interconnection with Elizabethtown Gas was relocated so that both interconnects can be co-located within the power station's industrial property to minimize additional above-ground impacts.

A summary of the significant route variations in Pennsylvania is provided below:

- In Towamensing Township in Carbon County, PA, less than one mile of the alignment has been re-routed ¼-mile to the east as a result of consultations with the Bethlehem Authority (Authority). The alignment has been re-routed between mileposts 44 and 45 to cross the Authority's water supply mainline in a location where it is deeper in an effort to maximize protection of the Authority's resources.

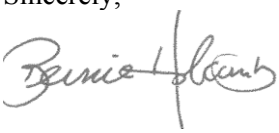
- Straddling the Carbon – Northampton County line in PA, approximately 8 miles of the alignment between mileposts 46 and 55 has been re-routed up to 1 mile to the west of the previous route in an effort to refine the crossing location of the Appalachian Trail.

- In Northampton County, PA, approximately 2.5 miles of the alignment has been re-routed less than ½-mile to the north of the previous route as a result of consultations with private landowners and local officials. The alignment has been re-routed between mileposts 59 and 62 to accommodate current and future land use plans in the area.

Updated GIS shapefiles for the entire new preferred alternative route are being provided to aide in your review and analysis of the project.

We look forward to continuing to work with you and your colleagues on this important project. Please contact me if you have any questions.

Sincerely,



Bernie Holcomb

Pipeline Environmental Services Manager

URS Corporation 625 West Ridge Pike, Suite E-100; Conshohocken, PA 19428
Direct: 610 832 1810; Cell: 215 275-7956; Fax: 610-832-3501 bernard.holcomb@urs.com

Pennsylvania Fish & Boat Commission
established 1866

Division of Environmental Services
Natural Gas Section
450 Robinson Lane
Bellefonte, PA 16823

April 22, 2015

IN REPLY REFER TO
SIR# 43063

URS CORPORATION
Bernie Holcomb
625 W. Ridge Pike
Conshohocken, Pennsylvania 19428

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No.
PennEast Pipeline Project.
BUCKS County: - CARBON County: - LUZERNE County: - NORTHAMPTON County:

Dear Bernie Holcomb:

This is a response to your updated submission for the PennEast Pipeline Project, received on March 31, 2015. This update was described by you as:

1) In Towamensing Township in Carbon County, PA, less than one mile of the alignment has been re-routed ¼-mile to the east as a result of consultations with the Bethlehem Authority (Authority). The alignment has been re-routed between mileposts 44 and 45 to cross the Authority's water supply mainline in a location where it is deeper in an effort to maximize protection of the Authority's resources.

2) Straddling the Carbon – Northampton County line in PA, approximately 8 miles of the alignment between mileposts 46 and 55 has been re-routed up to 1 mile to the west of the previous route in an effort to refine the crossing location of the Appalachian Trail.

3) In Northampton County, PA, approximately 2.5 miles of the alignment has been re-routed less than ½- mile to the north of the previous route as a result of consultations with private landowners and local officials. The alignment has been re-routed between mileposts 59 and 62 to accommodate current and future land use plans in the area.

Based on the updated pipeline route the Pennsylvania Fish and Boat Commission (PFBC) will **ONLY** modify our previous recommendation related to the **Timber Rattlesnake (*Crotalus horridus*)**. In a letter dated November 10, 2015, Table 2 was provided to summarize areas where habitat assessments were requested. **As a result of the update see Table 3 below**.

Table 3. Timber Rattlesnake habitat assessment areas.[1,2]

Area	Mile Post Northern Edge	Mile Post Southern Edge
1-3	Removed	Removed
4		
5	3	
6		
7		
8		
9		
10	Removed	Removed
11		

[1]Updated for 10/24/2014 Route.
[2]Updated for 3/31/2015 Route.

In addition, the PFBC is still concerned with potential impacts to the following species, as outlined in previous consultation letters:

Northern Cricket Frog (*Acris crepitans*, Endangered)
Freshwater Mussels
Atlantic Sturgeon (*Acipenser oxyrinchus*, Endangered)
Shortnose Sturgeon (*Acipenser brevirostrum*, Endangered)
Eastern Redbelly Turtle (*Pseudemys rubriventris*, Threatened)
Dwarf Wedgemussel (*Alasmidonta heterodon*, PA Endangered, Federal Endangered)

This response represents the most up-to-date summary of the Pennsylvania Natural Diversity Inventory (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 Greg Lech at 570-477-3985 and refer to the SIR # 43063. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,

Heather Smiles

Heather A. Smiles, Chief
Natural Gas Section

HAS/GPL/dn

625 W. Ridge Pike, Suite E-100
Conshohocken, PA 19428

(610) 832-3500 – (610) 832-3501 (fax)

URS CORPORATION
RECORD OF CONVERSATION

Spoke With	
Name: Greg Lech	**Phone Number**: (570) 477-3985
Company: PA Fish & Boat commission	**Date**: July 15, 2015
Client: PennEast Pipeline	**Recorded By**: Deborah Poppel

Project Information & Routing	
Incoming: Outgoing: X	
Project Name: PennEast	
Billable to Project: 60414094.20000363.00029	

Item Discussed	T&E Species Surveys

I returned the call of Gregory Lech of PFBC who requested an update on the PFBC-requested special status species surveys. I provided the following update:

- Timber rattlesnake habitat surveys have been completed by Wildlife Specialists. Some potential denning and gestation habitat identified. Awaiting final technical report. One sighting of timber rattlesnake in a different location during wetland delineation surveys. Subsequently sent him email with the locational information and a photograph.
- Cricket frog habitat was identified in Hickory Run State Park, presence/absence surveys are currently taking place for this species by Marlin Corn who coordinated survey requirements with his office.
- No redbelly turtle surveys are planned because impacts will be avoided with seasonal timing restrictions on in-water work and/or construction methodology.

Greg said that the new timber rattler location (from sighting during wetland delineation) will require additional surveys because it is an uncharted area for them; he will send the specifics of this request in an email so that I can efficiently get the info out to Wildlife Specialists.

Greg seemed aware that update may be coming on AT reroute, I confirmed this. He therefore will hold off on a formal update letter until he gets our request.

Greg noted that state listed mussel species in Susquehanna River have "dropped off" list and therefore if we propose open cut of river no mussel surveys will be needed.

Lastly, Greg wanted clarification on the URS/AECOM relationship and who is working for PennEast; which I explained.

From: Poppel, Deborah
Sent: Thursday, July 16, 2015 1:52 PM
To: Chris@wildlife-specialists.com; stan@wildlife-specialists.com; West, Jonathan; Holcomb, Bernard
Subject: FW: PAFBC Species Update for PennEast Pipeline project SIR 43063

From: Lech, Gregory [glech@pa.gov]
Sent: Thursday, July 16, 2015 10:07 AM
To: Poppel, Deborah
Cc: Smiles, Heather A
Subject: PAFBC Species Update for PennEast Pipeline project SIR 43063

Ms. Poppel,

Thank you for the additional information you provided.

As discussed on July 15, the Pennsylvania Fish and Boat Commission (PAFBC) would like to update information related to species of special concern review related to the PennEast Pipeline project (Project). Our data files and the PNDI system are continuously being updated with species occurrence information. As such, the following updates are recommended and will be formally outlined in the next consultation letter.

Susquehanna River crossing – Previous letters recommended, depending on crossing methodology, a survey and possible relocation due to RARE freshwater mussel species in the vicinity of the project. This recommendation will be omitted in future correspondence.

Timber rattlesnake – Previous letters recommended habitat assessments along various sections of the Project. The PAFBC recommends additional sections be surveyed for habitat assessment, following previously outlined guidelines. These sections include:

Mile Post [redacted]
Mile Post
Mile Post

Please let me know if you need additional information or have any questions.

Regards,

Gregory Lech | Fisheries Biologist
PA Fish & Boat Commission | Division of Environmental Services
5566 Main Road | Sweet Valley, PA 18656
Phone: 570.477.3985 | Fax: 570.477.2621
www.fishandboat.com<http://www.fishandboat.com/>

Poppel, Deborah

From: Poppel, Deborah
Sent: Friday, July 24, 2015 11:41 AM
To: 'Lech, Gregory'
Cc: West, Jonathan; Binckley, Sarah
Subject: PennEast Reroutes- Official Notice
Attachments: PennEast Deviation MP 22.4 to 23.2_072315.pdf; PennEast Deviation MP 48.9 to 53.5_072315.pdf; PennEast Deviation MP 61.7 to 62.7_072315.pdf; PennEast Deviation MP 70.1 to 70.6_072315.pdf; PennEast Reroute MP 6.5 to 11.8_072315.pdf; PennEast Proposed Route (July 15, 2015).kmz; PennEast_ProjectShapefiles_July2015

On behalf of PennEast Pipeline Company, LLC, we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; Spectra Energy Partners; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

As an interstate natural gas pipeline, PennEast will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015. PennEast filed Draft Resource Reports with FERC in April 2015. Since the Preliminary Draft Resource Report filing in April 2015, PennEast has continued to evaluate potential alternatives to the proposed pipeline alignment based on comments received during the formal Scoping process, ongoing dialogue with federal, state, regional and local agencies, land owners, and the findings from field surveys and engineering analyses. In the April filing we provided an overview of the ongoing assessments for 3 major alternatives and over 70 minor route variations.

In the past 3 months the overall alignment has been adjusted within the 400 foot survey corridor to avoid and/or minimize impacts to wetlands and waterbodies, cultural resources, agricultural lands and other sensitive habitats. In Pennsylvania, 2 reroutes and more than 40 minor route variations have been evaluated. The 2 reroutes evaluate alternative ways of crossing the Appalachian Trail and nearby PA State Game Lands, and avoid active quarrying operations. These alternatives and reroutes have gone through the same detailed assessment as those assessed in the April filing. Updated GIS shapefiles for the entire new preferred alternative route are attached to aide in your review and analysis of the Project. (To open the shapefiles, please add a ".zip" extension to the file and then extract the files.)

Significant reroutes include:

- In Plains Township and Laflin Borough in Luzerne County, approximately 3.6 miles of the alignment has been rerouted one mile to the east to avoid active quarrying operations (new mileposts 8.4 to 12.3).
- In Towamensing Township and Lower Towamensing Township in Carbon County, approximately 2 miles of the alignment has been rerouted approximately 2 miles to the west. This reroute addresses a request for a new Interconnect as well as concerns related to the Appalachian Trail and PA State Game Lands (new mileposts 48.9 to 53.6)

We look forward to continuing to work with you and your colleagues on this important Project. Please contact me if you have any questions.

PA agencies- We have also attached PNDIs of the primary deviations and reroutes for your information purposes, although we understand these are not to be used for permitting as this is a large project.

Sincerely,

Deborah Poppel, CWB

From: Lech, Gregory <glech@pa.gov>
Sent: Monday, August 10, 2015 3:50 PM
To: Poppel, Deborah
Subject: RE: followup PennEast question

Deborah,

There is not a take permit similar to what the USFWS implements that I am aware of. If an active den is proposed to be impacted, we will ask for a re-route and request a 300-ft buffer from the project's Limit-of-Disturbance. Additionally, we may request a biologist be on-site during construction and that construction near an active den take place during the active season.

Let me know if you have any other questions.

Regards,

Gregory Lech | Fisheries Biologist
PA Fish & Boat Commission | Division of Environmental Services
5566 Main Road | Sweet Valley, PA 18656
Phone: 570.477.3985 | Fax: 570.477.2621
www.fishandboat.com

From: Poppel, Deborah [mailto:deborah.poppel@aecom.com]
Sent: Monday, August 10, 2015 3:09 PM
To: Lech, Gregory
Subject: followup PennEast question

Greg- Thanks for the information in our call. Just one more question; if we were to assume presence of a timber rattlesnake den (e.g. if occupied rattlesnake dens were within the project corridor) and it were to be impacted, what is the typical mitigation strategy? Or is there a take permit similar to what USFWS has?

Deborah Poppel, CWB
Senior Ecologist / Project Manager
Environment - Impact Assessment & Permitting Dept.
Design & Consulting Services, Philadelphia Metro Region
D 1-610-832-3597 C 1-215-833-0566
Deborah.poppel@aecom.com

AECOM
625 West Ridge Pike, Suite E-100 Conshohocken, PA 19428
T 1-610-832-3500 F 1-610-832-3501
www.aecom.com
Twitter I Facebook I LinkedIn I Google+

AECOM and URS have joined together as one company.

Pennsylvania Fish & Boat Commission
established 1866

Division of Environmental Services
Natural Gas Section
450 Robinson Lane
Bellefonte, PA 16823

August 12, 2015

IN REPLY REFER TO
SIR# 44756

AECOM
Bernie Holcomb
625 W. Ridge Pike
Suite E-100
Conshohocken, Pennsylvania 19428

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No.
PennEast Pipeline Project
LUZERNE County: - BUCKS County: - CARBON County: - NORTHAMPTON County:

Dear Bernie Holcomb:

This responds to your updated inquiry about a Pennsylvania Natural Diversity Inventory (PNDI) Internet Database search "potential conflict" or a threatened and endangered species impact review.

On July 24, 2015, an updated route was submitted for the PennEast Pipeline project (Project). Previous correspondence from this office, SIR#43063, revealed species of special concern exist within the Project area. The updated route has been reviewed under a new SIR #, **please reference SIR#44756** in future correspondence related to the Project.

Based on the latest review and previous correspondence, the Pennsylvania Fish and Boat Commission (PFBC) is concerned the project will have an impact on the following species of special concern:

Timber rattlesnake (*Crotalus horridus*, PA candidate)

Given the proximity of the Project to known critical timber rattlesnake habitat, we recommend that a timber rattlesnake habitat assessment be conducted in the project area by a qualified timber rattlesnake surveyor. Previous correspondence outlined areas by listing Mile Post (see previous Tables 1-3). Due to the July 24, 2015 reroute, these areas have been modified. Please use **Table 4** to identify areas in which a habitat assessment is requested.

Table 4. Timber Rattlesnake habitat assessment areas.[1,2,3]

Area	Mile Post Northern Edge	Mile Post Southern Edge	Comments
1-3	Previously	Removed	Outside Project corridor
4	-	Removed	Outside Project corridor
5	[redacted]	[redacted]	Mile Posts updated
6	[redacted]	[redacted]	Mile Posts updated
7	[redacted]	[redacted]	Mile Posts updated
8	[redacted]	[redacted]	Mile Posts updated
9	[redacted]	[redacted]	Mile Posts updated
10	Previously	Removed	Outside Project corridor
11	-	Removed	Outside Project corridor
12	[redacted]	[redacted]	New area
13	[redacted]	[redacted]	New area[4]
14	[redacted]	[redacted]	New area[4]
15	[redacted]	[redacted]	New area[4]
16	[redacted]	[redacted]	New area

[1]Updated for 10/24/2014 Route.
[2]Updated for 3/31/2015 Route.
[3]Updated for 7/24/2015 Route.
[4]Previously listed in email to D. Poppel on 7/16/2015; Mile Posts reflect new alignment.

Northern Cricket Frog (*Acris crepitans*, Endangered)

Previous correspondence dated, September 8, 2014, requested a habitat assessment of the project buffer area located in Hickory Run State Park. With the July 24, 2015 reroute, the correct Mile Posts for this survey area are between Mile Pos [redacted] to [redacted].

Freshwater Mussels

Previous letters recommended the **North Branch Susquehanna River** be crossed via Horizontal Directional Drill (HDD) as a result of freshwater mussel species in the vicinity. Additionally, should the crossing method be open-cut, a freshwater mussel survey and potential relocation should be conducted. Due to the PNDI continually being updated with species information, these additional measures will not be recommended if open-cut is the proposed method. However, the PFBC still supports HDD as a method to minimize impacts to aquatic resources and avoid recreational conflicts.

Atlantic Sturgeon (*Acipenser oxyrinchus*, Endangered)
Shortnose Sturgeon (*Acipenser brevirostrum*, Endangered)
Eastern Redbelly Turtle (*Pseudemys rubriventris*, Threatened)
Dwarf Wedgemussel (*Alasmidonta heterodon*, PA Endangered, Federal Endangered)

Previous letters listed rare or protected freshwater mussel, turtle, and fish species are known in the vicinity of the **Delaware River** crossing. Therefore we recommended using HDD rather than open-cutting. Through conversations with the applicant, HDD is proposed for the Delaware River crossing. Therefore previous recommendations should be implemented.

Bog Turtle (*Glyptemys muhlenbergii*, PA Endangered, Federal Threatened)

The Project occurs within counties known to contain bog turtles. As previously outlined, please continue to coordinate with the USFWS.

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 Greg Lech at 570-477-3985 and refer to the SIR # 44756. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,

Heather A. Smiles, Chief
Natural Gas Section

HAS/GPL/dn

cc: D. Poppel, AECOM

Pennsylvania Fish & Boat Commission
established 1866

Division of Environmental Services
Natural Gas Section
450 Robinson Lane
Bellefonte, PA 16823

August 20, 2015

IN REPLY REFER TO
SIR# 44756

AECOM
Bernie Holcomb
625 W. Ridge Pike
Suite E-100
Conshohocken, Pennsylvania 19428

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No.
PennEast Pipeline Project
LUZERNE County: - BUCKS County: - CARBON County: - NORTHAMPTON County:

Dear Bernie Holcomb:

This responds to your updated inquiry about a Pennsylvania Natural Diversity Inventory (PNDI) Internet Database search "potential conflict" or a threatened and endangered species impact review.

On July 24, 2015, an updated route was submitted for the PennEast Pipeline project (Project). Previous correspondence from this office, SIR#43063, revealed species of special concern exist within the Project area. The updated route has been reviewed under a new SIR #, **please reference SIR#44756** in future correspondence related to the Project.

Based on the latest review and previous correspondence, the Pennsylvania Fish and Boat Commission (PFBC) is concerned the project will have an impact on the following species of special concern:

Timber rattlesnake (*Crotalus horridus*, PA candidate)

Given the proximity of the Project to known critical timber rattlesnake habitat, we recommend that a timber rattlesnake habitat assessment be conducted in the project area by a qualified timber rattlesnake surveyor. Previous correspondence outlined areas by listing Mile Post (see previous Tables 1-3). Due to the July 24, 2015 reroute, these areas have been modified. Please use **Table 4** to identify areas in which a habitat assessment is requested.

Table 4. Timber Rattlesnake habitat assessment areas.[1,2,3]

Area	Mile Post Northern Edge	Mile Post Southern Edge	Comments
1-3	Previously	Removed	Outside Project corridor
4	-	Removed	Outside Project corridor
5	[redacted]	[redacted]	Mile Posts updated
6	[redacted]	[redacted]	Mile Posts updated
7	[redacted]	[redacted]	Mile Posts updated
8	[redacted]	[redacted]	Mile Posts updated
9	[redacted]	[redacted]	Mile Posts updated
10	Previously	Removed	Outside Project corridor
11	-	Removed	Outside Project corridor
12	[redacted]	[redacted]	New area
13	[redacted]	[redacted]	New area[4]
14	[redacted]	[redacted]	New area[4]
15	[redacted]	[redacted]	New area[4]
16	[redacted]	[redacted]	New area

[1]Updated for 10/24/2014 Route.
[2]Updated for 3/31/2015 Route.
[3]Updated for 7/24/2015 Route.
[4]Previously listed in email to D. Poppel on 7/16/2015; Mile Posts reflect new alignment.

Northern Cricket Frog (*Acris crepitans*, Endangered)

Previous correspondence dated, September 8, 2014, requested a habitat assessment of the project buffer area located in Hickory Run State Park. With the July 24, 2015 reroute, the correct Mile Posts for this survey area are between Mile Post [redacted] to [redacted].

Freshwater Mussels

Previous letters recommended the **North Branch Susquehanna River** be crossed via Horizontal Directional Drill (HDD) as a result of freshwater mussel species, in particular the yellow lampmussel, in the vicinity. Due to the PNDI continually being updated with species information, this recommendation is no longer recommended. Currently, there are no known occurrences of special concern species in the vicinity of the currently proposed **North Branch Susquehanna River** crossing.

Atlantic Sturgeon (*Acipenser oxyrinchus*, Endangered)
Shortnose Sturgeon (*Acipenser brevirostrum*, Endangered)
Eastern Redbelly Turtle (*Pseudemys rubriventris*, Threatened)
Dwarf Wedgemussel (*Alasmidonta heterodon*, PA Endangered, Federal Endangered)

Previous letters listed rare or protected freshwater mussel, turtle, and fish species are known in the vicinity of the **Delaware River** crossing. Therefore we recommended using HDD rather than open-cutting. Through conversations with the applicant, HDD is proposed for the Delaware River crossing. Therefore previous recommendations should be implemented.

Bog Turtle (*Glyptemys muhlenbergii*, PA Endangered, Federal Threatened)

The Project occurs within counties known to contain bog turtles. As previously outlined, please continue to coordinate with the USFWS.

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 Greg Lech at 570-477-3985 and refer to the SIR # 44756. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,

Heather A. Smiles, Chief
Natural Gas Section

HAS/GPL/dn

cc: D. Poppel, AECOM

October 7, 2015

Mr. Gregory Lech
Pennsylvania Fish and Boat Commission
Division of Environmental Services, Natural Gas Section
450 Robinson Lane
Bellefonte, PA 16823

RE: PennEast Pipeline Project
Privileged and Confidential
PFBC SIR Number: SIR# 44756
Timber Rattlesnake and Northern Cricket Frog survey results

Dear Mr. Lech:

On behalf of PennEast Pipeline Company, LLC (PennEast), we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project (Project). PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

In accordance with coordination with your office, PennEast contracted with Wildlife Specialists, LLC (Wildlife Specialists) to conduct habitat surveys for Timber Rattlesnake (*Crotalus horridus*), and with Ecological Associates to conduct habitat and presence/absence surveys for Northern cricket frog (*Acris crepitans*). These surveys were conducted in those locations identified by your office, most recently in correspondence dated August 20, 2015. Wildlife Specialists and Ecological Associates employ qualified biologists who conducted the required surveys in accordance with state-specified guidelines. Reports documenting the results of these surveys are enclosed for your review. For Timber Rattlesnake, the report only covers surveys completed as of early August; however additional areas from your most recent consultation have been surveyed aside from Area 12. The results of the additional surveys are noted within this letter, within Resource Report 3 as filed with FERC, and also on the enclosed Figure. A supplemental report from Wildlife Specialists will be provided as soon as it is completed.

As noted within, no cricket frogs were identified within the potential habitat in the Project area. Therefore, no adverse impacts to cricket frog are anticipated from the Project.

One timber rattlesnake observed during field surveys at milepost (MP) 39.2. Suitable denning and gestation habitat for timber rattlesnake was identified in certain areas (discussed below), therefore PennEast plans to conduct presence/absence surveys within those areas of potential denning habitat that may be impacted by the Project in the spring of 2016. Gestation habitat that is impacted by the Project will be re-created following Pennsylvania Fish and Boat Commission (PFBC) guidelines. Mitigation measures will include minor alignment shifts to avoid potential denning habitat in Survey areas 7, 8, 9 and 13. Potential denning habitat in Survey Areas 5, 6, 15 and 16 cannot be avoided by construction; therefore, spring presence/absence surveys for timber rattlesnake occurrence will be conducted in the Spring of 2016. Potential gestating habitat in Survey Areas 8, 9, 13, 15 and16 may be disturbed by construction and should be rebuilt. Survey results for Area 12 is pending access permission. A summary table below provides the survey results for all areas identified as of concern by PFBC.

URS Corporation 625 West Ridge Pike, Suite E-100 ; Conshohocken, PA 19428
Direct: 610 832 1810; Cell: 215 275-7956 ; Fax: 610-832-3501 bernard.holcomb@urs.com

PFBC Survey Site ID #	Old MP	New MP	Results	Recommendations
4	[redacted]	July route avoids	Potential gestation habitat 100' away from centerline; Potential den habitat crossed	Area Removed
5	[redacted]	[redacted]	Potential den habitat crossed	Spring presence surveys
6	[redacted]	[redacted]	Potential gestation habitat 60' away from centerline, Potential den habitat crossed	Spring presence surveys
7	[redacted]	[redacted]	Potential gestation habitat100' away from centerline, Potential den habitat 150' away from centerline	Avoid habitat during construction
8	[redacted]	[redacted]	Potential den habitat 100' from centerline, Potential gestation habitat 30' from centerline away on existing right-of-way (ROW)	Avoid denning habitat during construction, recreate gestation habitat following PFBC guidelines
9	[redacted]	[redacted]	Potential den habitat 50'-100' away from centerline, Potential gestation 30' away from centerline on existing ROW	Avoid denning habitat during construction, recreate gestation habitat following PFBC guidelines
11	[redacted]	July Route Avoids	Potential den habitat crossed	Area Removed
12	N/A	[redacted]	pending	Access needed
13	N/A	[redacted]	Potential den habitat 50'-100' away, potential gestation 30' away	Avoid denning habitat during construction, recreate gestation habitat following

URS Corporation 625 West Ridge Pike, Suite E-100 ; Conshohocken, PA 19428
Direct: 610 832 1810; Cell: 215 275-7956 ; Fax: 610-832-3501 bernard.holcomb@urs.com

PFBC Survey Site ID #	Old MP	New MP	Results	Recommendations
				PFBC guidelines
14	N/A	[redacted]	No potential critical TR habitat	
15	N/A	[redacted]	Potential den habitat crossed, Potential gestation crossed	Spring presence surveys, recreate gestation habitat following PFBC guidelines
16	N/A	[redacted]	Potential den habitat crossed, potential gestation crossed	Spring presence surveys, recreate gestation habitat following PFBC guidelines
Note: "Old MP" refers to the mileposts that are included within PFBC consultation correspondence through the end of July 2015. "New MP" refers to the current mileposting of the proposed route, in the same location unless a reroute is indicated.				

Please advise if PFBC is in concurrence with the recommended mitigation measures and additional necessary surveys.

We look forward to our continuing consultation with you on this important Project. Please contact Deb Poppel or me if you have any questions.

Sincerely,

Bernie Holcomb
Pipeline Environmental Services Manager

cc: Dave Mong, DCNR

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Direct: 610 832 1810; Cell: 215 275-7956 ; Fax: 610-832-3501 bernard.holcomb@urs.com

Pennsylvania Fish & Boat Commission
established 1866

Division of Environmental Services
Natural Gas Section
450 Robinson Lane
Bellefonte, PA 16823

November 5, 2015

IN REPLY REFER TO
SIR# 44756

AECOM
Bernie Holcomb
625 W. Ridge Pike
Suite E-100
CONSHOHOCKEN, Pennsylvania 19428

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No.
PennEast Pipeline Project
LUZERNE County: - BUCKS County: - CARBON County: - NORTHAMPTON County:

Dear Bernie Holcomb:

This responds to your recent correspondence related to the PennEast pipeline project (Project) in regards to a Pennsylvania Natural Diversity Inventory (PNDI) threatened and endangered species impact review.

On October 1, 2015, an updated route was submitted which outlined minor adjustments within the proposed 400-ft survey corridor. A review of this updated route revealed no new impacts to species of special concern under Pennsylvania Fish and Boat Commission (PFBC) jurisdiction.

On October 9, 2015, this office received species reports related to previously requested habitat assessments for species of special concern. The submitted reports were:

Timber Rattlesnake (*Crotalus horridus*) Habitat Assessment Report, PennEast Pipeline Project, dated August 2015. Prepared by Wildlife Specialists, LLC. Prepared for URS Corporation. (Report 1)

Habitat Assessment & Presence/Inferred Absence Survey Report For Northern Cricket Frog (*Acris crepitans*), PennEast Pipeline Project, dated September 16, 2015. Prepared by Marlin Corn, Ecological Associates, LLC. Prepared for Deborah Poppel, AECOM. (Report 2)

Furthermore, you discussed recommendations for continued consultation to avoid and/or minimize impacts as a result of the Project. Based on the latest review and previous correspondence, the PFBC is concerned the project will have an impact on the following species of special concern:

Timber rattlesnake (*Crotalus horridus*, PA candidate)

The PFBC consultation letter dated, August 20, 2015 recommended 10 areas for habitat assessment. The above referenced survey report (Report 1) provides results for Area 5, 6, 7, 8, and 9, while, a supplemental report being prepared for Areas 12, 13, 14, 15, and 16. Report 1 revealed potential denning and/or gestation habitat was identified throughout the survey areas.

Based on the findings, the PFBC concurs with PennEast's general recommendations: 1) conduct presence/absence surveys, in the spring 2016, within those areas of potential denning habitat that may be impacted by the Project; 2) re-create gestation habitat, following PFBC guidelines, that is impacted by the Project; 3) conduct minor alignment shifts to avoid potential denning habitat. The PFBC recommends a 300-foot buffer be established from the edge of the Project disturbance and the denning habitat that was identified in the habitat assessment.

For presence/absence surveys, it is important that biologists conducting the surveys have demonstrated experience in detecting timber rattlesnakes and their habitat, possess the skills necessary to handle this venomous species and possess the proper PFBC Scientific Collecting Permit. The surveyor will follow the Rattlesnake Presence-Absence Survey Guidelines (revised 2-27-2015) utilizing the procedures, survey times, and reporting criteria as contained therein. Because the target habitat type is potential hibernacula/den, the survey window is April 15-May 15. For your convenience, enclosed is a list of qualified rattlesnake surveyors. 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 this list. It is not mandatory that you use someone on this list.

The PFBC looks forward to continued consultation with PennEast to avoid impacts to timber rattlesnakes as a result of the Project. Additional information such as: an official report for Areas: 12,13,14,15, and 16; presence/absence surveys (where appropriate); and a defined area of disturbance will allow us to formulate more detailed recommendations.

Northern Cricket Frog (*Acris crepitans*, Endangered)

The PFBC consultation letter dated, August 20, 2015 recommended one area for habitat assessment. The above referenced survey report (Report 2) provided results of the habitat assessment and subsequent phase II Presence/Inferred-Absence survey. A phase II survey was conducted based on the presence of potential critical habitat identified in the Project area during the habitat assessment. According to Report 2, no species of concern were found and the site likely is not occupied by the Northern Cricket Frog. **We concur with the results of this evaluation; therefore, we do not foresee the proposed project resulting in adverse impacts to the Northern Cricket Frog.**

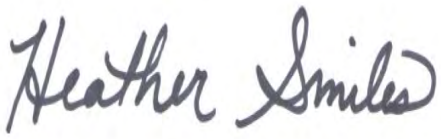
Atlantic Sturgeon (*Acipenser oxyrinchus*, Endangered)
Shortnose Sturgeon (*Acipenser brevirostrum*, Endangered)
Eastern Redbelly Turtle (*Pseudemys rubriventris*, Threatened)
Dwarf Wedgemussel (*Alasmidonta heterodon*, PA Endangered, Federal Endangered)
Bog Turtle (*Glyptemys muhlenbergii*, PA Endangered, Federal Threatened)

The PFBC appreciates PennEast's concise and clear reports. Specifically, the ability to maintain PFBC specific survey site IDs and current/past Mile Post markers allows for better understanding of critical areas identified during this dynamic project.

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 Greg Lech at 570-477-3985 and refer to the SIR # 44756. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,



Heather A. Smiles, Chief
Natural Gas Section

HAS/GPL/dn

cc: D. Poppel, AECOM

November 10, 2015

Mr. Gregory Lech
Pennsylvania Fish and Boat Commission
Division of Environmental Services, Natural Gas Section
450 Robinson Lane
Bellefonte, PA 16823

RE: PennEast Pipeline Project
Privileged and Confidential
PFBC SIR Number: SIR# 44756
Supplemental Timber Rattlesnake survey results

Dear Mr. Lech:

On behalf of PennEast Pipeline Company, LLC (PennEast), we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project (Project). PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

We are in receipt of PFBC's response letter dated November 5, 2015. PennEast acknowledges the habitat mitigation, additional survey requests, and impact assessments noted in the letter for timber rattlesnake and northern cricket frog. PennEast also requests clarification on the response for Atlantic Sturgeon, Shortnose Sturgeon, Eastern Redbelly Turtle, Dwarf Wedgemussel, and Bog Turtle as there was not relevant text associated with these species.

In accordance with coordination with your office, PennEast contracted with Wildlife Specialists, LLC (Wildlife Specialists) to conduct habitat surveys for Timber Rattlesnake (*Crotalus horridus).* These surveys were conducted in those locations identified by your office, most recently in correspondence dated August 20, 2015. Wildlife Specialists employs qualified biologists who conducted the required surveys in accordance with state-specified guidelines. A report documenting the results of these surveys was sent to your office in October. The results of the additional surveys as described in previous correspondence are provided within the enclosed supplemental report from Wildlife Specialists.

We look forward to our continuing consultation with you on this important Project. Please contact Deborah Poppel or me if you have any questions.

Sincerely,

Bernie Holcomb
Pipeline Environmental Services Manager

URS Corporation 625 West Ridge Pike, Suite E-100 ; Conshohocken, PA 19428
Direct: 610 832 1810; Cell: 215 275-7956 ; Fax: 610-832-3501 bernard.holcomb@urs.com

Pennsylvania Fish & Boat Commission
established 1866

Division of Environmental Services
Natural Gas Section
450 Robinson Lane
Bellefonte, PA 16823

December 10, 2015

IN REPLY REFER TO
SIR# 44756

AECOM
Bernie Holcomb
625 W. Ridge Pike
Suite E-100
Conshohocken, Pennsylvania 19428

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No.
PennEast Pipeline Project
LUZERNE County: - BUCKS County: - CARBON County: - NORTHAMPTON County:

Dear Bernie Holcomb:

This responds to your recent correspondence, dated November 10, 2015, related to the PennEast pipeline project (Project) in regards to a Pennsylvania Natural Diversity Inventory (PNDI) threatened and endangered species impact review.

Timber rattlesnake (*Crotalus horridus*, PA candidate)

On November 13, 2015, this office received a supplemental survey related to previously requested habitat assessments for species of special concern. The submitted report was:

> **Timber Rattlesnake (*Crotalus horridus*) Habitat Assessment Report, PennEast Pipeline Project, dated October 2015. Prepared by Wildlife Specialists, LLC. Prepared for URS Corporation.** (Report 3).

The Pennsylvania Fish and Boat Commission (PFBC) consultation letter dated, August 20, 2015 recommended 10 areas for habitat assessment (Areas: 5, 6, 7, 8, 9, 12, 13, 14, 15, and 16). The PFBC has received habitat assessments for 9 of 10 recommended areas, Area 12 is pending access.

The above referenced survey report (Report 3) provides results for Area 13, 14, 15, and 16, along with findings for Areas 5-9. Report 3 revealed potential denning and/or gestation habitat was identified throughout survey areas 13, 15, and 16, while Area 14 did not contain critical habitat.

Based on the findings, the PFBC reiterates the recommendations listed in the November 5, 2015 letter: 1) conduct presence/absence surveys, in the spring 2016, within those areas of potential denning habitat that may be impacted by the Project; 2) re-create gestation habitat, following PFBC guidelines, that is impacted by the Project; 3) conduct minor alignment shifts to avoid potential denning habitat. The PFBC recommends a 300-foot buffer be established from the edge of the Project disturbance and the denning habitat that was identified in the habitat assessment. A list of qualified surveyors was previously provided along with Rattlesnake Presence-Absence Survey Guidelines.

Northern Cricket Frog (*Acris crepitans*, Endangered)

According to previously submitted Report 2, **we do not foresee the proposed Project resulting in adverse impacts to the Northern Cricket Frog.**

Atlantic Sturgeon (*Acipenser oxyrinchus*, Endangered)
Shortnose Sturgeon (*Acipenser brevirostrum*, Endangered)
Eastern Redbelly Turtle (*Pseudemys rubriventris*, Threatened)
Dwarf Wedgemussel (*Alasmidonta heterodon*, PA Endangered, Federal Endangered)

Previous letters listed rare or protected freshwater mussel, turtle, and fish species are known in the vicinity of the **Delaware River crossing**. Provided horizontal directional drilling is the crossing method for the Delaware River, we do not foresee the proposed Project resulting in adverse impacts.

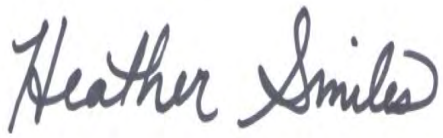
Bog Turtle (*Glyptemys muhlenbergii*, PA Endangered, Federal Threatened)

The Project occurs within counties known to contain bog turtles. As previously outlined, please continue to coordinate with the USFWS.

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 Greg Lech at 570-477-3985 and refer to the SIR # 44756. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,



Heather A. Smiles, Chief
Natural Gas Section

HAS/GPL/dn

Poppel, Deborah

From: Poppel, Deborah
Sent: Thursday, December 17, 2015 11:28 AM
To: 'glech@pa.gov'
Subject: PennEast update notice
Attachments: PennEast_ProposedRoute_20151214.kmz; PENNEAST_SHAPEFILES_ToDistribute.piz

On behalf of PennEast Pipeline Company (PennEast), thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company; PSEG Power; SJI Midstream; Spectra Energy Partners; and UGI Energy Services.

As an interstate natural gas pipeline, PennEast Pipeline will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015. PennEast filed Certificates of Public Convenience and Necessity and Related Authorizations with FERC on September 24, 2015. Since the September 24 filing, PennEast has evaluated several additional route alternatives based on discussions with landowners, regulatory agencies and other stakeholders, as well as comments filed in this proceeding. In light of those evaluations, PennEast has adopted five minor deviations from the route proposed in the September 24 Filing:

Deviation No. 1005 is located between mileposts ("MP") 9.07 and 12.10 in Luzerne County, Pennsylvania. PennEast adopted this deviation to address landowner concerns and to improve constructability of the proposed Project route. The landowner and quarry operators affected by this portion of the proposed Project route indicated that the proposed route in the September 24 Filing has the potential to adversely affect quarry operations. Additionally, this portion of the route in the September 24 Filing route presented a challenging crossing of Mill Creek. Deviation No. 1005 addresses both of these concerns. In addition, this deviation reduces the overall length of the Project and increases the route's co-location with existing utility easements.

Deviation No. 1400 is located between MP 43.95 and 44.55 in Carbon County, Pennsylvania. This deviation has been adopted based on feedback that PennEast received in collaboration with the Bethlehem Authority, which operates a water supply system in Carbon and Northampton Counties, Pennsylvania. Deviation No. 1400 provides a means of crossing the Bethlehem Authority waterline by a trenchless method and avoids the need to locate temporary workspace near the waterline. This deviation also includes a single HDD crossing of Beltzville Lake, instead of the two crossings that were proposed in the September 24 Filing, which minimizes impacts to the Beltzville State Park.

Deviation No. 1701 is located between MP 79.10 and 81.60 in Hunterdon County, New Jersey. This deviation has been adopted to optimize the Project route and is based on feedback that PennEast received in collaboration with the New Jersey Department of Environmental Protection. Deviation No. 1701 minimizes impacts to the New Jersey Natural Lands Trust's Gravel Hill Preserve by increasing co-location with existing utility easements and impacting fewer parcels within the Gravel Hill Preserve. In addition, this deviation allows the proposed route to be in closer proximity to the proposed NRG REMA, LLC/Elizabethtown Gas delivery meter station, and it also relocates a proposed mainline valve from a residential area to an industrial area.

Deviation No. 1802 is located between MP 84.68 and 86.54 in Hunterdon County, New Jersey. This deviation has been adopted to optimize the Project route to avoid crossing a federally preserved farm. PennEast considered different alternatives to avoid this crossing, and the adopted Deviation No. 1802 minimizes land use impacts and overall land requirements to avoid this crossing.

Deviation No. 1900 is located between MP 91.91 and 93.55 in Hunterdon County, New Jersey. This deviation has been adopted to incorporate a route optimization that avoids crossing the Lockatong Creek three times with an open cut. This deviation now allows the Project route to cross the Lockatong Creek using a trenchless method. Deviation No. 1900 also avoids impacts to both a federally preserved farm and a New Jersey Green Acres Program protected parcel.

An updated Google Earth kmz file and GIS shapefiles for the proposed route are attached to aide in your review and analysis of the Project. (To open the shapefiles, please add a ".zip" extension to the file and then extract the files.) Please let us know if you have any difficulty opening the attached files.

Deborah Poppel, CWB
Senior Ecologist/Project Manager
Impact Assessment & Permitting, Environment
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M +1-215-833-0566
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AECOM

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Division of Environmental Services
Natural Gas Section
450 Robinson Lane
Bellefonte, PA 16823

January 5, 2016

IN REPLY REFER TO
SIR# 44756

AECOM
Bernie Holcomb
625 W. Ridge Pike
Suite E-100
CONSHOHOCKEN, Pennsylvania 19428

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No.
PennEast Pipeline Project
Deviation No. 1005 and No. 1400
LUZERNE County: - CARBON County:

Dear Bernie Holcomb:

This responds to your recent correspondence related to the PennEast pipeline project (Project) in regards to a Pennsylvania Natural Diversity Inventory (PNDI) threatened and endangered species impact review.

On December 17, 2015, an updated route was submitted, by e-mail, which outlined minor deviations to the proposed Project corridor. A review of this updated route revealed minor modifications to previous recommendations related to Timber Rattlesnake was warranted. However the review revealed no new impacts to species of special concern under Pennsylvania Fish and Boat Commission (PFBC) jurisdiction.

You discuss two deviations within Pennsylvania:

1) Deviation No. 1005 is located between mileposts ("MP") 9.07 and 12.10 in Luzerne County, Pennsylvania.

This deviation affects two areas previously identified for habitat assessments for Timber Rattlesnakes (Area 4 and Area 12). Area 4 was removed due to a July 2015 re-route but will be impacted with the latest re-route. Area 4 was surveyed for potential critical habitat and the results are available in Report 1 (Prepared by Wildlife Specialists, August 2015). Potential critical habitat was found within Area 4. The PFBC recommends Area 4 be added to sites which contain potential critical habitat. Please follow guidance provided in the November 5, 2015 letter: 1) conduct presence/absence surveys, in the spring

2016, within those areas of potential denning habitat that may be impacted by the Project; 2) re-create gestation habitat, following PFBC guidelines, that is impacted by the Project; 3) conduct minor alignment shifts to avoid potential denning habitat. The PFBC recommends a 300-foot buffer be established from the edge of the Project disturbance and the denning habitat that was identified in the habitat assessment. A list of qualified surveyors was previously provided along with Rattlesnake Presence-Absence Survey Guidelines.

Area 12 is no longer proposed for impact. With the removal of Area 12, all survey areas have been assessed for potential critical habitat for the Timber Rattlesnake in the Project area. Presence/Absence surveys conducted in spring 2016 will determine future recommendations.

2) Deviation No. 1400 is located between MP 43.95 and 44.55 in Carbon County, Pennsylvania.

This deviation does not occur near any known species of special concern occurrences under PFBC jurisdiction, therefore no recommendations result from Deviation No. 1400.

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 Greg Lech at 570-477-3985 and refer to the SIR # 44756. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,

Heather Smiles

Heather A. Smiles, Chief
Natural Gas Section

HAS/GPL/dn

cc: D. Poppel, AECOM

Poppel, Deborah

From: Poppel, Deborah
Sent: Tuesday, February 23, 2016 12:25 PM
To: 'glech@pa.gov'
Subject: PennEast Pipeline- Project Update
Attachments: 400' CORRIDOR (200' EITHER SIDE OF CENTERLINE).kmz

On behalf of PennEast Pipeline Company (PennEast), thanks you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company; PSEG Power; SJI Midstream; Spectra Energy Partners; and UGI Energy Services.

As an interstate natural gas pipeline, PennEast Pipeline will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015. PennEast filed Certificates of Public Convenience and Necessity and Related Authorizations with FERC on September 24, 2015. Since the September 24 filing, PennEast has evaluated several additional route alternatives based on discussions with landowners, regulatory agencies and other stakeholders, as well as comments filed in this proceeding. In light of those evaluations, PennEast has adopted seven (7) additional deviations from the route proposed in the September 2015 Application, as modified by the route deviations filed on December 14, 2015, and is providing supplemental information regarding these additional adopted route deviations for your review.

Description of Adopted Deviations

PennEast has adopted the following seven route deviations: Deviation Nos. 1704, 1808, 1907, 1913, and 2000 in Hunterdon County, New Jersey, and Deviation Nos. 2100 and 2102 in Mercer County, New Jersey.

Deviation No. 1704 is located between mileposts (MP) 78.7 and 79.7 in Hunterdon County, New Jersey. PennEast adopted this deviation to address feedback from resource agencies received during a route review meeting on January 11, 2016. This deviation avoids crossing a category one (C1) waterway, associated mapped forested wetlands on both sides of Dogwood Drive, and a preserved farmland. Additionally, Deviation No. 1704 allows the route to follow a ridge and alleviates side slope areas that would have existed at the crossing of Dogwood Drive. Landowners associated with Deviation No. 1704 were included on the landowner list provided in the September 2015 Application as abutters. Additionally, three (3) landowners not previously identified as abutters have small amounts of temporary workspace on their property as a result of adopting Deviation No. 1704. Such landowners have been identified in the updated affected landowner list provided as part of the February Data Responses.

Deviation No. 1808 is located between MP 86.6 and 87.1 in Hunterdon County, New Jersey. PennEast adopted this deviation to minimize impact to environmentally sensitive areas raised as a concern by resource agencies during the January 11 route review meeting. Deviation No. 1808 avoids crossing a parcel with a Green Acres conservation easement. Landowners associated with Deviation No. 1808 were included on the landowner list provided in the September 2015 Application as abutters.

Deviation No. 1907 is located between MP 89.6 and 90.8 in Hunterdon County, New Jersey. PennEast adopted this deviation to minimize impact to environmentally sensitive areas raised as a concern by resource agencies during the January 11 route review meeting. Deviation No. 1907 avoids crossing a Green Acres encumbered parcel and minimizes the impact to forested areas and wetland crossings. Landowners associated with Deviation No. 1907 were included on the landowner list provided in the September 2015 Application as abutters.

Deviation No. 1913 is located between MP 99.0 and 101.0 in Hunterdon County, New Jersey. PennEast adopted this deviation to minimize impact to environmentally sensitive areas raised as a concern by resource agencies during the January 11 route review meeting and to implement a trenchless crossing of several roadways, third-party utilities, and several C1 waterways, including Alexauken Creek. Deviation No. 1913 also avoids paralleling a C1 waterway and forested riparian area and minimizes forestland impacts. Another result of adopting Deviation No. 1913 is that this route deviation allows for the crossing of one (1) C1 waterway by dry crossing methodology in a location that appears to have been previously crossed by farm equipment. The dry crossing methodology will further minimize the impacts to the riparian buffer on both sides of the crossing. Additionally, Deviation No. 1913 optimizes co-location opportunities with the adjacent overhead utility corridor. This route deviation requires relocating the Lambertville Launcher Site to the trenchless crossing workspace. The new site area accommodates post-construction stormwater management design elements and optimizes pipeline design. Landowners associated with Deviation No. 1913 were included on the landowner list provided in the September 2015 Application as abutters.

Deviation No. 2000 is located between MP 101.3 and 101.7 in Hunterdon County, New Jersey. PennEast adopted this route deviation by moving to the opposite side of the existing overhead utility corridor and providing separation from the paralleling waterbody and forested wetland. Deviation No. 2000 reduces forest clearing while maintaining co-location with existing utility corridors. Deviation No. 2000 does not require any additional landowners to be crossed by the Project.

Deviation No. 2100 is located between MP 112.9 and 113.5 in Mercer County, New Jersey. PennEast adopted this route deviation as a route optimization that corresponds to proposed land development plans for the applicable parcels crossed. PennEast collaborated with the landowner to improve co-location with existing natural gas pipelines and to minimize impacts from the proposed route with the development plans for the applicable parcels. Additionally, Deviation No. 2100 avoids crossing a Green Acres encumbered parcel. Deviation No. 2100 does not require any additional landowners to be crossed by the Project.

Deviation No. 2102 is located between MP 112.0 and 112.7 in Mercer County, New Jersey. PennEast adopted this deviation based upon feedback and field information received from the affected property owners. Deviation No. 2102 is a route optimization that would remove interference with proposed housing and commercial land use development plans on the applicable parcels. Hopewell Township has plans to develop low income housing on this parcel in the area originally crossed by the Project. Deviation No. 2102 would avoid impacts to the housing development plan and to future commercial development plans adjacent to New Jersey State Route 31 by co-locating with the existing natural gas pipelines on the parcel. Deviation No. 2102 does not require any additional landowners to be crossed by the Project.

Deborah Poppel, CWB
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From: Poppel, Deborah
To: "glech@pa.gov"
Cc: Binckley, Sarah; Holcomb, Bernard
Subject: PennEast SIR #44756
Date: Monday, June 13, 2016 8:59:00 AM

Greg-

PADEP has requested a letter that summarizes the issues related to Threatened and Endangered Species by regulatory agency and county. This letter would be used for PNDI purposes in the Chapter 105 applications for the PennEast project.

For your convenience, the following is a summary of the status of consultations and surveys for species under PFBC jurisdiction, broken down by county. I have not included bog turtle, a federal species, for which your agency has deferred to USFWS for consultation:

Luzerne County- *timber rattlesnake*. Phase I surveys completed in August 2015 and report submitted to PFBC in October 2015. Survey Area 12 inaccessible but no longer on Route (Feb 2016). Mitigation recommendations from PFBC for gestation habitat, avoidance for denning habitat or Phase 2 surveys. (letter dated 11/5/2015). Phase 2 surveys completed in June 2016; report pending.

Carbon County- *timber rattlesnake and northern cricket frog*. Phase I and Phase II surveys for cricket frog completed in 2015. No cricket frogs found; no impact indicated from PFBC (letter dated 11/5/2015). Phase I surveys completed for timber rattlesnake in August 2015 and report submitted in October 2015. Mitigation recommendations from PFBC for gestation habitat, avoidance for denning habitat or Phase 2 surveys (letter dated 11/5/2015). Phase 2 surveys completed in June 2016; report pending. One rattlesnake observation during 2015 wetland delineations at MP [redacted] One den confirmed at MP [redacted].

Northampton County- *timber rattlesnake.* Phase I surveys completed for timber rattlesnake in August 2015 and report submitted in October 2015. Mitigation recommendations from PFBC for gestation habitat, avoidance for denning habitat or Phase 2 surveys (letter dated 11/5/2015). Phase 2 surveys completed in June 2016; report pending.

Bucks County- *eastern redbelly turtle; dwarf wedge mussel; Atlantic Sturgeon; Shortnose Sturgeon*. These species may occur in the Delaware River; HDD crossing will avoid impacts (PFBC letter dated 8/20/2015).

This represents our understanding of the status of consultation for each of the species of concern under PFBC jurisdiction by county, to date for the PennEast project. Thank you for your continued assistance with this project.

Deborah Poppel
(610) 832-3597 (office)
(215) 833-0566 (cell)

From: Lech, Gregory [mailto:glech@pa.gov]
Sent: Friday, June 10, 2016 11:11 AM
To: Poppel, Deborah
Subject: Phone Message PENNEAST

Hello Deborah,

I only recently received your phone message from May 26, as I have been out of the office.

Regarding the issue of DEP's request for a county specific PNDI letter: I do not suggest we start issuing separate county specific letters. I think it would become very difficult to manage with our database. However, to solve the specific request from DEP I can structure a letter to highlight county specific issues.

Please provide a brief letter (can be as simple as an email), outlining the request for an updated letter with county specific issues per DEP request.

PLEASE NOTE: I am in the process of receiving a new phone number. During this time, the best way to reach me is through email: glech@pa.gov

Regards,

Gregory Lech | Fisheries Biologist
PA Fish & Boat Commission | Division of Environmental Services
www.fishandboat.com

Pennsylvania Fish & Boat Commission
established 1866

Division of Environmental Services
Natural Gas Section
450 Robinson Lane
Bellefonte, PA 16823

June 15, 2016

IN REPLY REFER TO
SIR# 44756

AECOM
Bernie Holcomb
625 W. Ridge Pike
Suite E-100
CONSHOHOCKEN, Pennsylvania 19428

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No.
PennEast Pipeline Project
LUZERNE County: - BUCKS County: - CARBON County: - NORTHAMPTON County:

Dear Bernie Holcomb:

This responds to your recent correspondences submitted to the Pennsylvania Fish and Boat Commission (PFBC) related to the PennEast pipeline project (Project) in regards to a Pennsylvania Natural Diversity Inventory (PNDI) threatened and endangered species impact review of species under the jurisdiction of the PFBC.

On February 23, 2016 representatives of the Project submitted, by e-mail, seven deviations of the Project. As all seven of the deviations were within the New Jersey portion of the Project, a formal response letter was not provided by the PFBC.

On June 13, 2016 representatives of the Project submitted a request, by e-mail, to update the status of the Project and to specifically identify impacts by county. Below is a summary of the most up-to-date status of review related to the Project:

Timber rattlesnake (*Crotalus horridus*, PA Candidate)

The Project possibly impacts multiple identified potential critical habitat locations and further evaluation is on-going. The PFBC has previously outlined recommendations to avoid impacts to timber rattlesnakes and potential critical habitat. On April 27, 2016, Gregory Lech (PFBC) accompanied biologists, contracted by representatives of the Project, conducting presence/absence surveys near a potential timber rattlesnake den. During the den visit one rattlesnake, was observed by contracted biologists, and was heard by Gregory Lech. Review is pending submittal of formal presence/absence survey report results.

Northern Cricket Frog (*Acris crepitans*, PA Endangered)

According to previously submitted Report 2, **we do not foresee the proposed Project resulting in adverse impacts to the Northern Cricket Frog**.

Atlantic Sturgeon (*Acipenser oxyrinchus*, PA Endangered)
Shortnose Sturgeon (*Acipenser brevirostrum*, PA Endangered)
Eastern Redbelly Turtle (*Pseudemys rubriventris*, PA Threatened)
Dwarf Wedgemussel (*Alasmidonta heterodon*, PA Endangered)

Previous letters listed rare or protected freshwater mussel, turtle, and fish species are known in the vicinity of the **Delaware River crossing**. Provided horizontal directional drilling (HDD) is the crossing method for the Delaware River, we do not foresee the proposed Project resulting in adverse impacts to the above species.

LUZERNE COUNTY:

Potential impacts relate to the **Timber Rattlesnake**. Habitat assessments were requested by the PFBC and have been completed and reviewed, resulting in the recommendation of presence/absence surveys at potential den locations. Potential impacts to this species are **PENDING** the results of presence/absence surveys.

CARBON COUNTY:

Potential impacts relate to the **Timber Rattlesnake**. Habitat assessments were requested by the PFBC and have been completed and reviewed, resulting in the recommendation of presence/absence surveys at potential den locations. Potential impacts to this species are **PENDING** the results of presence/absence surveys.

Potential impacts relate to the **Northern Cricket Frog**. Potential impacts to this species have been **RESOLVED** for this Project.

NORTHAMPTON COUNTY:

Potential impacts relate to the **Timber Rattlesnake**. Habitat assessments were requested by the PFBC and have been completed and reviewed, resulting in the recommendation of presence/absence surveys at potential den locations. Potential impacts to this species are **PENDING** the results of presence/absence surveys.

BUCKS COUNTY:

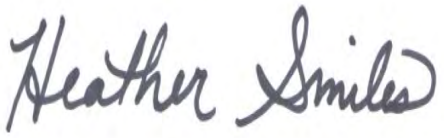
Potential impacts relate to the **Atlantic Sturgeon, Shortnose Sturgeon, Eastern Redbelly Turtle, and the Dwarf Wedgemussel**. Potential impacts to these species are **RESOLVED if the Delaware River is crossed via HDD**.

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 Greg Lech at glech@pa.gov and refer to the SIR # 44756. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,



Heather A. Smiles, Chief
Natural Gas Section

HAS/GPL/dn

cc': D. Poppel (AECOM)

Poppel, Deborah

From: Poppel, Deborah
Sent: Monday, August 01, 2016 2:06 PM
To: 'glech@pa.gov'
Cc: 'Stan Boder'; Holcomb, Bernard; Binckley, Sarah
Subject: PennEast Timber Rattlesnake Phase 2 Survey Report
Attachments: PennEast TR Phase II Report Draft_7.18.2016_sjb.pdf

Greg-

Attached for your review and concurrence is the report documenting the results of the Phase 2 Timber Rattlesnake surveys conducted for the PennEast Pipeline project. One active/confirmed den site was identified within the project area. Our understanding is that PFBC will expect PennEast to apply a 300' buffer between the edge of project work space and the outermost edge of the den in order to avoid impacts to the timber rattlesnake. Please advise if PFBC concurs with the impact avoidance measures recommended in the conclusions of the Wildlife Specialists report.

Let me know if you have any questions about the information provided. If you need hardcopies, please let me know how many to send.

Thank you for your continued assistance and coordination on this project.

Deborah Poppel, CWB
Senior Ecologist/Project Manager
Impact Assessment & Permitting, Environment
D +1-610-832-3597
M +1-215-833-0566
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Pennsylvania Fish & Boat Commission
established 1866

Division of Environmental Services
Natural Gas Section
450 Robinson Lane
Bellefonte, PA 16823

August 31, 2016

IN REPLY REFER TO
SIR# 44756

AECOM
Bernie Holcomb
625 W. Ridge Pike
Suite E-100
CONSHOHOCKEN, Pennsylvania 19428

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No. LARGE PROJECT REVIEW
PennEast Pipeline Project
LUZERNE County: - BUCKS County: - CARBON County: - NORTHAMPTON County:

Dear Bernie Holcomb:

This responds to your recent correspondence submitted to the Pennsylvania Fish and Boat Commission (PFBC) related to the PennEast pipeline project (Project) in regards to a Pennsylvania Natural Diversity Inventory (PNDI) threatened and endangered species impact review of species under the jurisdiction of the PFBC.

On August 1, 2016, representatives of the Project submitted a report, by e-mail, to PFBC. The report was:

> **Timber Rattlesnake Phase II Presence/Absence Survey Report, PennEast Pipeline Project, dated July 2016. Prepared by Wildlife Specialists, LLC. Prepared for AECOM.** (Report 4)

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

Previous consultation identified multiple areas of potential impact to timber rattlesnakes and/or their critical habitat. **Prior to submission of Report 4, nine areas (Area 4, 5, 6, 7, 8, 9, 13, 15, and 16) were Pending Survey Results**. Based on Report 4, as well as previously submitted Reports 1, and 3, the PFBC provides the following summary of impacts/recommendations related to the timber rattlesnake:

Area 4 – Luzerne County:

Potential denning and gestation habitat was identified in Area 4 and a presence/absence survey was conducted (Report 4). No denning habitats were confirmed and no timber rattlesnakes were observed. A portion of Area 4 was not surveyed due to "No Access" and was described as an existing powerline right-of-way. After consideration, the PFBC will not recommend further investigation in Area 4 and no impact to timber rattlesnakes is anticipated in Area 4.

Area 5 – Luzerne County:

Potential denning habitat was identified in Area 5 and a presence/absence survey was conducted (Report 4). No denning habitats were confirmed and no timber rattlesnakes were observed. The PFBC will not recommend further investigation in Area 5 and no impact to timber rattlesnakes is anticipated in Area 5.

Area 6 – Luzerne County (State Game Land 091):

Potential denning and gestation habitat was identified in Area 6 and a presence/absence survey was conducted (Report 4). Within the survey area, no denning habitats were confirmed and no timber rattlesnakes were observed. However one timber rattlesnake was observed traveling on a State Game Land road in vicinity of the Project buffer. Based on review of the report, PNDI data, and personal communication with PA Game Commission – Northeast Regional Office, timber rattlesnakes are known within the Project's Area 6 vicinity. Therefore this area could be used as foraging habitat for timber rattlesnakes and this warrants some concern about rattlesnake-human conflicts. Although the nature of the timber rattlesnake is rather docile, it can be dangerous if cornered or handled. 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 and contact a PFBC approved timber rattlesnake biologist to clear the area of timber rattlesnakes and to capture and remove any rattlesnakes that may interfere with work activities.

Area 7, 8, 9 – Carbon County (Area 8 – Hickory Run State Park; Area 9 Hickory Run State Park and State Game Land 128); and

Area 13 – Luzerne County:

Potential denning and gestation habitat was identified in Areas 7, 8, 9, and 13 **however presence/absence surveys were not conducted**. Therefore the PFBC requests clarification:

-acknowledgement that remaining presence/absence surveys will be conducted in Spring 2017;

-acknowledgement of Wildlife Specialists' Conclusions and Recommendations of "assumed presence" with the anticipation of having PFBC approved timber rattlesnake construction monitors on-site during the active season in Areas 7, 8, 9, and 13;

-provide detailed construction plans which depict avoidance of all potential critical habitat.

Area 15 – Carbon County:

Potential denning and gestation habitat was identified in Area 15 and a presence/absence survey was conducted (Report 4). One denning habitat was confirmed and 27 timber rattlesnake observations were made. Based on the current allignment the Project will not impact the confirmed den, **however, if work is to be conducted from April 15-October 15, then I recommend that you take the following precautions to safeguard workers and rattlesnakes:**

1. A PFBC approved timber rattlesnake biologist who has the proper permits (Scientific Collector's Permit), and the proper skills to handle this venomous species will be on-site prior to and during construction.

2. The PFBC approved timber rattlesnake biologist will be on-site prior to and during construction activities, during the above time frame, to inspect and clear the area (including staging areas and access roads) of timber rattlesnakes and to capture and remove any rattlesnakes that may interfere with work activities.

3. Timber rattlesnakes observed on-site are to be measured, sexed, and the habitat characterized where the snake was found. All captured snakes should be released within close proximity (under 100 meters) of the capture site if possible. Rattlesnake captures and relocations are to be documented by photographs, habitat descriptions, in addition to being mapped and labeled accordingly. The biologist is to submit a report to this office (Natural Diversity Section) following the completion of the project documenting all of the activity and herpetofauna encountered.

4. If erosion control fabric is to be used at this site, materials that are known to reduce the risk of snake entrapment should be selected, such as loosely woven natural fiber ECM. Use of monofilament/plastic netting should be avoided.

5. Workers responsible for implementing this project should be advised that timber rattlesnakes may be encountered and that avoidance is the best means of minimizing risks to personal safety. It is suggested a procedure be implemented for timber rattlesnake encounters and workers are to be advised that the timber rattlesnake is a state protected species and is not to be harmed. Killing of timber rattlesnakes is prohibited by the Commission pursuant to 58 Pa. Code Section 79.6.

6. During the construction period, PFBC personnel may communicate with the on-site biologist and may visit the site area periodically to view the progression of the project and answer any questions or concerns that may arise. For safety purposes, PFBC personnel will register with the on-site manager upon entering the construction area.

7. Reconstruct potential gestating habitat affected by construction according to PFBC guidelines (enclosed).

Enclosed is the list of PFBC approved rattlesnake biologists for your convenience. It is not an exhaustive list of qualified rattlesnake biologists 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.

Furthermore, portions of Area 15 remain in need of presence/absence surveys due to limited access permission. The remaining portion of Area 15 should follow the steps outlined in Areas 7, 8, 9, and 13 listed above.

Area 16 – Carbon County and Northampton County:

Potential denning and gestation habitat was identified in Area 16 and a presence/absence survey was conducted (Report 4). No denning habitats were confirmed and no timber rattlesnakes were observed. The PFBC will not recommend further investigation in Area 16 and no impact to timber rattlesnakes is anticipated in Area 16.

LUZERNE COUNTY:

Potential impacts relate to the **timber rattlesnake**. Habitat assessments were requested by the PFBC and have been completed and reviewed, resulting in the recommendation of presence/absence surveys at potential den locations. Potential impacts to this species are **PENDING** presence/absence surveys at potential den locations, or additional information provided.

CARBON COUNTY:

Potential impacts relate to the **timber rattlesnake**. Habitat assessments were requested by the PFBC and have been completed and reviewed, resulting in the recommendation of presence/absence surveys at potential den locations. Potential impacts to this species are **PENDING** the results of presence/absence surveys, or additional information provided.

Potential impacts relate to the **Northern Cricket Frog**. Potential impacts to this species have been **RESOLVED** for this Project.

NORTHAMPTON COUNTY:

Potential impacts relate to the **timber rattlesnake**. Habitat assessments were requested by the PFBC and have been completed and reviewed, resulting in the recommendation of presence/absence surveys at potential den locations. Potential impacts to this species in **Northampton County are RESOLVED.**

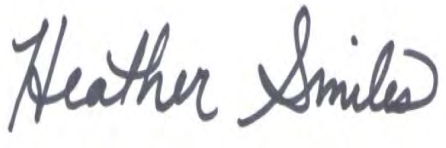
BUCKS COUNTY:

Potential impacts relate to the **Atlantic Sturgeon, Shortnose Sturgeon, Eastern Redbelly Turtle, and the Dwarf Wedgemussel**. Potential impacts to these species are **RESOLVED if the Delaware River is crossed via HDD**.

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 Greg Lech at 610-847-8772 and refer to the SIR # 44756. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,



Heather A. Smiles, Chief
Natural Gas Section

HAS/GPL/dn

Cc: D. Poppel (AECOM)
R. Bowen (PA DCNR)
N. Reagle (PA DCNR)

REFERENCED REPORTS:

Timber Rattlesnake (*Crotalus horridus*) Habitat Assessment Report, PennEast Pipeline Project, dated August 2015. Prepared by Wildlife Specialists, LLC. Prepared for URS Corporation. (Report 1)

Timber Rattlesnake (*Crotalus horridus*) Habitat Assessment Report, PennEast Pipeline Project, dated October 2015. Prepared by Wildlife Specialists, LLC. Prepared for URS Corporation. (Report 3).

Poppel, Deborah

From: Poppel, Deborah
Sent: Monday, September 26, 2016 3:00 PM
To: 'glech@pa.gov'
Subject: PennEast September 2016 Route Update
Attachments: PennEast_Project_KMZ_20160926.kmz; PENNEAST_PIPELINE_PROJECT_PROJECT_SHAPEFILES_Sept2016.piz

Importance: High

On behalf of PennEast Pipeline Company (PennEast), thank you for your continued collaboration on the proposed PennEast Pipeline Project (Project). As an interstate natural gas pipeline, the Project is under the jurisdictional, multi-year review of the Federal Energy Regulatory Commission (FERC).

PennEast filed its Application for a Certificate of Public Convenience and Necessity and Related Authorizations with FERC September 24, 2015. PennEast filed route modifications with FERC February 22, 2016, and FERC issued a Draft Environmental Impact Statement (EIS) for the Project July 22, 2016. Since the February 22, 2016 route update and issuance of the draft EIS, PennEast has studied an additional 33 minor route deviations to reduce impacts on endangered species and wetlands, increase co-location with existing utilities, and address feedback from collaborative discussions with landowners and regulatory agencies.

On September 23, 2016, PennEast filed with FERC the 33 route modifications and an updated project route, which is provided in the attached Google Earth kmz file and shapefiles for your review (**rename as "zip" file before opening**). A narrative describing each modification and the explanation for the proposed changes is available on the FERC eLibrary (http://elibrary.ferc.gov/idmws/docket_search.asp) under Docket Number CP15-558-000.

Signed- Deborah Poppel on behalf of

Sarah Binckley, PWS
Project Manager
Direct: 1-610-832-2713 Cell: 1-757-943-4484
sarah.binckley@aecom.com

AECOM
625 West Ridge Pike, Suite E-100 Conshohocken, Pennsylvania 19428
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Pennsylvania Fish & Boat Commission
established 1866

Division of Environmental Services
Natural Gas Section
450 Robinson Lane
Bellefonte, PA 16823

October 24, 2016

IN REPLY REFER TO
SIR# 44756

AECOM
Sarah Binckley
625 W. Ridge Pike
Suite E-100
Conshohocken, Pennsylvania 19428

Delivered electronically to: D. Poppel (AECOM)

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No.
PennEast Pipeline Project
LUZERNE County: - BUCKS County: - CARBON County: - NORTHAMPTON County:

Dear Sarah Binckley:

This responds to your correspondence submitted to the Pennsylvania Fish and Boat Commission (PFBC) related to the PennEast Pipeline project (Project) in regards to a Pennsylvania Natural Diversity Inventory (PNDI) threatened and endangered species impact review of species under the jurisdiction of the PFBC.

On September 26, 2016 representatives of the Project notified PFBC, by e-mail, of 33-route modifications submitted to the Federal Energy Regulatory Commission. Therefore a review was conducted to determine if the route modifications occurred in the vicinity of PFBC sensitive species.

Two route modifications were determined to result in a change to the most recent correspondence from PFBC (dated August 31, 2016). These two route modifications occur: in previously identified sensitive areas; and occur outside of previously surveyed corridors. The remaining deviations were determined to occur: within previously surveyed corridors; or outside of areas identified to contain PFBC sensitive species, therefore result in no change.

Deviation No. P-1300: Described as a route optimization beginning at MP 39.3R2 and ending at MP 40.9 Carbon County, PA.

Deviation No. P-1300 occurs near previously identified Area 15. Area 15 contains a newly identified timber rattlesnake denning location as reported from surveys submitted for the Project.

As a result, the route modification extends the Project beyond the original survey corridor, therefore additional habitat assessment to determine the presence of critical timber rattlesnake habitat is recommended in the vicinity of Deviation No. P-1300. Additionally the Project route remains unchanged in the vicinity of the newly identified den. As such, guidelines outlined under Area 15 in PFBC correspondence dated August 31, 2016 remain necessary to avoid impacts to timber rattlesnakes as a result of the Project.

Deviation No. P-1503: Described as a minor route modification to optimize the route beginning at MP 51R2 and ending at MP 51.8R2 in Carbon and Northampton Counties, PA.

Deviation No. P-1503 occurs near previously identified Area 16. Area 16 was identified to contain potential critical timber rattlesnake habitat, but was cleared following presence/absence surveys. The route modification extends the Project beyond the original survey corridor, however, no additional surveys are recommended as a result of Deviation No. P-1503.

It should be noted, PFBC correspondence, dated August 31, 2016, misidentified State Game Land No. 129, as 128. State Game Land 129 contains portions of Area 9, Carbon County, while State Game Land 128 is located outside of the Project area in Fulton County, PA.

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 Greg Lech at 610-847-8772 and refer to the SIR # 44756. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,

Heather Smiles

Heather A. Smiles, Chief
Natural Gas Section

HAS/GPL/dn

October 31, 2016

Mr. Greg Lech
Pennsylvania Fish and Boat Commission
Natural Gas Section
450 Robinson Lane
Bellefonte, PA 16823

Dear Mr. Lech:

On behalf of PennEast Pipeline Company, LLC, we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project (Project). PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

On September 26, 2016, your office received a Project Update email with shapefiles of the most recent route centerline filed with the Federal Energy Regulatory Commission (FERC). With this letter, we would like to request an endangered species consultation with your agency on Project workspace associated with the September 2016 route, including access roads, staging areas, and the Kidder Compressor Station. We have enclosed a CD with Project workspace shapefiles and timber rattlesnake survey data as of July 2016.

Areas crossed by the September 2016 route which were not part of prior study corridors in Pennsylvania are represented by the following mileposts. The specific locations of access roads, staging areas, and the compressor station were not part of prior consultation requests. Please advise if any additional surveys for reptiles or amphibians will be required in these areas.

We are in receipt of your correspondence dated October 21, 2016 which states that, aside from two route modifications (Deviation P-1300 and Deviation P-1503), other deviations noted in the project update will not require surveys for PFBC species of concern.

Prior correspondence with your office included a response received from PFBC on August 31, 2016 in regards to the submittal of the Timber Rattlesnake Phase 2 survey report (Wildlife Specialists, July 2016). To date, you have received all survey reports related to the timber rattlesnake and protected species under PFBC jurisdiction. We are also in receipt of PFBC's most recent Species Impact Review Letter dated October 24, 2016 and appreciate the information provided.

In answer to questions posed within the PFBC August 31, 2016 letter, we provide the following answers:

- Survey Area 6 (MP [redacted]) - PennEast will comply with the conditions specified in your letter for this area.

- Survey Areas 7 (MP [redacted] - MP [redacted]), 8 (MP [redacted] - MP [redacted]), 9 (MP [redacted] - MP [redacted]), and 13 (MP [redacted] - MP [redacted]): All critical timber rattlesnake habitat will be avoided by the Project. Some potential gestation habitat within Survey Areas 6, 8, and 9 may be disturbed by construction and will be re-created pursuant to PFBC mitigation guidelines. The shapefiles within the enclosed CD provide the detailed construction workspace requested.

- Survey Area 15 (MP [redacted] - MP [redacted]) - PennEast will comply with the impact avoidance and minimization measures prescribed within your letter for this area in which denning habitat for timber rattlesnake was confirmed. You noted that that additional Phase 2 surveys are needed within a portion of this survey area where survey access was not granted in 2016. This area has now been routed around and parallels to an existing transmission line ([redacted] - [redacted]). We understand additional Phase I surveys will be required in this previously unsurveyed section of the Project (as noted in PFBC letter dated 10/24/16). PennEast intends to conduct these surveys in 2017.

Survey Area 16 (old MP [redacted] - old MP [redacted]) is avoided by the current (September 2016) route, but is near MP [redacted] - MP [redacted]. PennEast appreciates that PFBC provided guidance in its letter dated October 24, 2016 and that no additional Phase I and/or Phase 2 timber rattlesnake surveys will be required along this route deviation.

We look forward to continued collaboration with you and your colleagues on this important project. Please contact me if you have any questions.

Sincerely,

Deborah K. Poppel

Deborah K. Poppel, CWB
Senior Ecologist

April 17, 2018
Mr. Greg Lech
Pennsylvania Fish and Boat Commission
Natural Gas Section
450 Robinson Lane
Bellefonte, PA 16823

Re: PennEast Pipeline Project
PA Fish and Boat Commission – SIR # 44756
Agency Review Summary and Update

Dear Mr. Lech:

On behalf of PennEast Pipeline Company, LLC (PennEast), we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project (Project). On January 19, 2018, the Federal Energy Regulatory Commission (FERC) released its order issuing Certificates for Public Convenience and Necessity for the Project under Parts 157 and 284 of the FERC's regulations. PennEast continues to work through the regulatory processes to obtain the federal permits and approvals necessary to construct the Project.

The purpose of this update letter is to summarize the current status of surveys for protected species and consultations under the jurisdiction of the Pennsylvania Fish and Boat Commission (PFBC) as well as provide information regarding Project changes, including a new alternative route that PennEast is evaluating at the request of the Bethlehem Water Authority (BWA), National Park Service (NPS) and the Pennsylvania Game Commission (PGC).

Summary of Previous Consultations and Survey Statuses

The following topics have been identified by the PFBC as items of concern within the Project area and are subject to PFBC consultation:

Timber Rattlesnake (*Crotalus horridus*)

Phase 1 Habitat Assessments

Throughout the consultation process, the PFBC identified 16 locations where potential timber rattlesnake habitat may exist. Several of these locations have been avoided as the Project design evolved, and some areas would be temporarily impacted by the proposed Project. PennEast conducted habitat surveys using qualified personnel in the identified areas, and has previously submitted the following reports with determinations of habitat suitability:

- Timber Rattlesnake (*Crotalus horridus*) Habitat Assessment Report, PennEast Pipeline Project, dated August 2015. Prepared by Wildlife Specialists, LLC. Prepared for URS Corporation;
- Timber Rattlesnake (*Crotalus horridus*) Habitat Assessment Report, PennEast Pipeline Project, dated October 2015. Prepared by Wildlife Specialists, LLC. Prepared for URS Corporation; and
- Addendum: 2017 Timber Rattlesnake Habitat Assessment and Phase II Presence/Absence Survey Report – Survey Area 15, PennEast Pipeline Project, SIR#44756, 43063, dated July 2017. Prepared by Wildlife Specialists, LLC. Prepared for AECOM.

Phase 2 Presence/Absence

PennEast conducted presence/absence surveys at areas of potential denning habitat, which was identified by qualified biologists during Phase 1 surveys, to determine occupancy. Denning habitat which will not be impacted by Project workspace was not surveyed for occupancy. Denning habitat areas identified in Survey Areas 7, 8, 9, and 13 were outside of planned workspace, except for one portion that is found along an access road. Work is not expected to extend beyond the existing footprint of the current gravel access road. A temporary bridge will be used during construction for crossing the stream, and additional gravel may be spread along the road depending on conditions at the time of construction (refer to enclosed Timber Rattlesnake Potential Denning Habitat Figure). All recommendations outlined in the August 31, 2016 letter from the PFBC will be followed, including construction monitoring requirements.

The following reports have been previously submitted to the PFBC:

- Timber Rattlesnake Phase II Presence/Absence Survey Report, PennEast Pipeline Project, dated July 2016. Prepared by Wildlife Specialists, LLC. Prepared for AECOM; and
- Addendum: 2017 Timber Rattlesnake Habitat Assessment and Phase II Presence/Absence Survey Report – Survey Area 15, PennEast Pipeline Project, SIR#44756, 43063, dated July 2017. Prepared by Wildlife Specialists, LLC. Prepared for AECOM.

Based on the results of these surveys, one denning area (approximate milepost 39.2, Carbon County) was confirmed, and is now avoided by the current route.

A summary of the consultation status for each of the 16 PFBC-delineated surveys areas is provided in Table 1.

Table 1. Summary of Consultation Status by PFBC Delineated Survey Area

Survey Area	Sept 2016 MP Start	Sept 2016 MP End	Comments	PFBC Conclusions	PennEast Conservation Measures
1-3	-	-	Removed 4/22/15	N/A	None
4	[redacted]	[redacted]	Removed 8/12/15, then added back	No impact anticipated (8/31/16)	None

Survey Area	Sept 2016 MP Start	Sept 2016 MP End	Comments	PFBC Conclusions	PennEast Conservation Measures
			after 12/2015 reroute. P2 submitted in 2016.		
5	[redacted]	[redacted]	P1 reported 2015. P2 submitted in 2016	No impact anticipated (8/31/16)	None
6	[redacted]	[redacted]	P1 reported 2015	Recommend contractor training and notification/TR removal if there are encounters in workspace. (8/31/16)	PennEast will comply with the conditions recommended in the PFBC's 8/31/16 consultation letter. Gestation habitat will also be re-created in accordance with PFBC guidelines.
7	[redacted]	[redacted]	P1 reported 2015	PFBC requests clarification if P2 surveys will be conducted, monitors onsite, and avoidance plans (8/31/16).	All critical habitat will be avoided.
8	[redacted]	[redacted]	P1 reported 2015	PFBC requests clarification if P2 surveys will be conducted, monitors onsite, and avoidance plans (8/31/16).	All critical habitat will be avoided. Gestation habitat will be re-created in accordance with PFBC guidelines.
9	[redacted]	[redacted]	P1 reported 2015	PFBC requests clarification if P2 surveys will be conducted, monitors onsite, and avoidance plans (8/31/16)	All critical habitat will be avoided. Gestation habitat will be re-created in accordance with PFBC guidelines.
10			Removed 4/22/15	N/A	None
11	[redacted]	[redacted]	Removed 8/12/15	N/A	None
12	[redacted]	[redacted]	Removed 1/5/16	N/A	None
13	[redacted]	[redacted]	P1 reported 2015	PFBC requests clarification if P2 surveys will be conducted,	All critical habitat will be avoided.

Survey Area	Sept 2016 MP Start	Sept 2016 MP End	Comments	PFBC Conclusions	PennEast Conservation Measures
				monitors onsite, and avoidance plans (8/31/16)	
14	[redacted]	[redacted]	P1 reported 2015; no critical habitat	No impact anticipated	None
15	[redacted]	[redacted]	P1 reported 2015; Partial P2 submitted 2016. Route change 9/2016 requires additional survey. Submitted in 2017.	PFBC recommends that PennEast employ TR monitors onsite, conduct contractor training, and implement BMPs (8/31/16 and 9/15/17).	PennEast will comply with the conditions recommended in the PFBC's 8/31/16 consultation letter.
16	[redacted]	[redacted]	P1 reported 2015. Route change 9/2016 – no additional survey required.	No impact anticipated (8/31/16)	None

Notes:
P1 = Phase 1
P2 = Phase 2
TR = Timber Rattlesnake

Northern Cricket Frog (*Acris crepitans*)

Project review indicated the potential occurrence of northern cricket frogs in Carbon County. Correspondence dated August 20, 2015 requested surveys for the northern cricket frog in the vicinity of Hickory Run State Park, approximate mile posts [redacted]. Surveys were conducted to identify whether northern cricket frogs or their critical habitat were present within the action area of the Project. The following report was submitted to the PFBC for review:

- Habitat Assessment & Presence/Inferred Absence Survey Report for Northern Cricket Frog (*Acris crepitans*), PennEast Pipeline Project, dated September 16, 2015. Prepared by Ecological Associates, LLC. Prepared for AECOM.

Surveys did not find any northern cricket frogs, and the PFBC concurred that the project was not likely to result in adverse impacts to the species in a letter dated November 5, 2015. The PFBC has not requested any additional surveys for northern cricket frogs as the Project route has been updated, and no route deviations have resulted in workspace outside the surveyed area between mile posts [redacted].

Freshwater Mussels

In a letter dated August 12, 2015, the PFBC stated that due to the PNDI continually being updated with species information, they rescinded their previous recommendation of crossing the North Branch Susquehanna River via Horizontal Directional Drill (HDD) to avoid impacts to freshwater mussels. Currently, there are no known occurrences of special concern species in the vicinity of the currently proposed North Branch Susquehanna River crossing.

Atlantic Sturgeon (*Acipenser oxyrinchus*) – PA Endangered

Shortnose Sturgeon (*Acipenser brevirostrum*) – PA Endangered, Federally Endangered

Eastern Redbelly Turtle (*Pseudemys rubriventris*) – PA Threatened

Dwarf Wedgemussel (*Alasmidonta heterodon*) – PA Endangered, Federally Endangered

Previous letters listed rare and protected mussel, fish, and turtle species known within the vicinity of the Delaware River crossing. Because PennEast is planning to use HDD crossing techniques, no impacts to these species are anticipated.

Bog Turtle (*Glyptemys muhlenbergii*) – PA Endangered, Federally Threatened

The PFBC has deferred to the United States Fish and Wildlife Service (USFWS) with regards to the federally threatened bog turtle. PennEast continues to survey delineated wetlands for suitable habitat and presence/absence of bog turtles in cooperation with the USFWS in counties known to contain bog turtles.

Consultation on Project Changes

PennEast requests PFBC input on potential and proposed Project changes discussed below.

Potential Appalachian Trail /PPL Route Alternative

The Appalachian Trail PPL Alternative (AT/PPL Alternative), is a potential 4.98-mile route deviation that PennEast is considering from MP 48.6R2 to MP 54.7R2 (See Enclosed Route Alternative Figure). It crosses Lower Towamensing Township in Carbon County, Eldred Township in Monroe County, and Moore Township in Northampton County, Pennsylvania. This modification was implemented to address concerns from a multitude of agencies, specifically BWA, NPS and the PGC. This route would be co-located with an approximately 100-foot wide high voltage power line, reducing visual impacts across the Appalachian Trail and reducing the overall Project length. This crossing location has been approved by the PGC, NPS, and Appalachian Trail Conservancy (ATC). This Alternative would be fully co-located with existing ROW, and the abutting ROW has been utilized for workspace to the maximum extent practicable to reduce tree clearing. Within State Game Land (SGL) 168, the construction ROW width has been reduced to 75 feet, wherever feasible, to minimize earth disturbance.

PennEast used the Pennsylvania Natural Heritage Program (PNHP)'s Pennsylvania Natural Diversity Inventory (PNDI) Project Environmental Review Tool to obtain information on potential federal- and state-listed species impacts along the AT/PPL Alternative. The PNDI stated that there are potential impacts, and further review by PFBC is required. In anticipation of the PFBC requesting similar surveys be conducted along the potential AT/PPL Alternative, PennEast conducted habitat assessments along the alternative route to identify potential timber rattlesnake habitat. The results of this survey can be found in the enclosed *Timber Rattlesnake Habitat Assessment and Phase II Presence/Absence Survey Report*, including maps of the surveyed area for reference. Potential denning and gestation habitat was identified; shapefiles of the identified habitat in this area are also provided on the enclosed CD-ROM.

PennEast also conducted presence/absence surveys at areas of potential denning habitat which were identified in the AT/PPL habitat assessment. The presence/absence surveys were conducted between April 18 and May 4, 2017 by PFBC approved surveyors; the results of these surveys can be found in the attached *Timber Rattlesnake Habitat Assessment and Phase II Presence/Absence Survey Report*. No potential denning sites were confirmed as occupied by rattlesnakes, and no rattlesnakes were observed anywhere within the survey area.

Potential Blue Mountain Interconnect Change and Associated Lateral Pipeline

If the AT/PPL Alternative is incorporated in the Project design, the Blue Mountain Interconnect that was previously proposed at MP 50.9R2 would be relocated to MP 49.8R3 along the AT/ PPL Alternative (See Enclosed Route Alternative Figure). The station would be connected to the PennEast mainline pipeline with approximately 0.5 mile of 4-inch diameter lateral pipeline (Blue Mountain Lateral). The new location of the Blue Mountain Interconnect is adjacent to an existing PPL powerline corridor and utilizes an existing access road.

Other Project Changes

Since PennEast's October 2016 consultation, PennEast has incorporated several minor Project changes to avoid and minimize impacts to sensitive resources and address landowner and constructability concerns. All of these proposed minor workspace changes are within 0.25 mile of the workspace on which PennEast has previously consulted, and none have extended outside of the previously surveyed areas.

Conclusion:

PennEast has completed all PFBC requested surveys (other than bog turtle, which is ongoing) for the Project. The timber rattlesnake survey results for the AT/PPL Alternative require PFBC review and concurrence. In order to conclude consultation with PFBC regarding the Project, it is the understanding of PennEast that the following items are required:

Surveys

- Complete remaining surveys for bog turtles

- Complete any additional surveys requested by the PFBC on the newly proposed AT/PPL Alternative and associated Blue Mountain Lateral

Reports

- PFBC review of the attached *Timber Rattlesnake Habitat Assessment and Phase II Presence/Absence Survey Report*

Mitigation/Monitoring

- PFBC review of survey area and timber rattlesnake report for the AT/PPL Alternative
- Complete bog turtle surveys and update PFBC with results as well as USFWS concurrence regarding anticipated impacts
- PennEast requests input from the PFBC regarding survey needs for the newly proposed AT/PPL and Blue Mountain Lateral routes.
- PennEast has committed to recreation of gestating habitat for the timber rattlesnake
- Mitigation and monitoring of bog turtles is being coordinated with the USFWS

PennEast looks forward to working with you and your colleagues on this important project. At this time, we request that the PFBC respond with their concurrence regarding this characterization of PennEast's consultation status, or with corrections if the PFBC disagrees.

We also request information about surveys that may be required along the AT/PPL Alternative, so that any necessary surveys can be scheduled during the 2018 timber rattlesnake survey season. If you have any questions, I can be reached by phone at (610) 832-2457 or by email at brian.cooper@aecom.com.

Sincerely,

Brian L. Cooper

Brian Cooper
Environmental Scientist
AECOM

Enclosures

1. Route Alternative Figure
2. AT/PPL Alternative Timber Rattlesnake Habitat Assessment and Phase II Presence/Absence Survey Report
3. Timber Rattlesnake Potential Denning Habitat Figure
4. CD containing shapefiles of the updated consultation area

CC: Amber Holly, UGI Energy Services

Pennsylvania Fish & Boat Commission
established 1866

Division of Environmental Services
Natural Gas Section
595 E. Rolling Ridge Dr.
Bellefonte, PA 16823

May 17, 2018

IN REPLY REFER TO
SIR# 44756

AECOM
Brian Cooper
625 W. Ridge Pike
Conshohocken, Pennsylvania 19428

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No.
PennEast Pipeline Project
LUZERNE County: - BUCKS County: - CARBON County: - NORTHAMPTON County: - MONROE County:

Dear Brian Cooper:

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 related to the PennEast Pipeline Project (Project). Project consultation is a result of potential impacts to multiple species of special concern. In your most recent submittal you provided:

-**Timber Rattlesnake Habitat Assessment and Phase II Presence/Absence Survey Report for the Appalachian Trail PPL Route, PennEast Pipeline Project**. **February 2018. Prepared by Wildlife Specialists, LLC. Prepared for AECOM.** (Report 6);
-A new alternative, Appalachian Trail/PPL Route Alternative;
-A summary of prior consultation with the Pennsylvania Fish and Boat Commission (PFBC).

Additionally, you requested an overall update of the Project's consultation status. Therefore, the PFBC submits the following, by species, along with summaries to reflect county level status and Project changes:

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

Multiple habitat assessment and presence/absence surveys have occurred to avoid and minimize potential impacts to critical habitat. Most notably, confirmation of a new denning (over-wintering) habitat within Carbon County. Furthermore, the applicant has committed to conservation measures to protect workers and rattlesnakes during construction in areas of occurrence throughout the Project.

In 2017, you conducted additional surveys (Report 6), due to the addition of the Appalachian Trail/PPL Alternative. According to the report, no species of concern were found and the site likely is not occupied denning habitat. The PFBC concurs with the findings and recommends the applicant implement the report's Recommendations (inform workers of potential presence of rattlesnakes and recreate potential gestation habitat). Recommendations are requested due to the proximity of known occurrences (internal data) of the species, though no observations were recorded during the surveys.

Previous consultation was summarized in your submittal in Table 1. "Summary of Consultation Status by PFBC Delineated Survey Area". The PFBC concurs with the summary provided "PennEast Conservation Measures" are implemented. As recommendations are based on the PFBC consultation letter dated, August 31, 2016, herein is an updated list:

Survey Area 6:

This area could be used as foraging habitat for timber rattlesnakes and this warrants some concern about rattlesnake-human conflicts. Although the nature of the timber rattlesnake is rather docile, it can be dangerous if cornered or handled. 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.

Survey Area 7, 8, 9:

1. Avoid all identified potential denning habitat.
2. Reconstruct all disturbed identified potential gestation habitat.

Survey Area 15:

If work is conducted from April 15-October 15, then I recommend that you take the following precautions to safeguard workers and rattlesnakes:

1. A PFBC approved timber rattlesnake biologist who has the proper permits (Scientific Collector's Permit), and the proper skills to handle this venomous species will be on-site prior to and during construction.
2. The PFBC approved timber rattlesnake biologist will be on-site prior to and during construction activities, during the above time frame, to inspect and clear the area (including staging areas and access roads) of timber rattlesnakes and to capture and remove any rattlesnakes that may interfere with work activities.
3. Timber rattlesnakes observed on-site are to be measured, sexed, and the habitat characterized where the snake was found. All captured snakes should be released within close proximity (under 100 meters) of the capture site if possible. Rattlesnake captures and relocations are to be documented by photographs, habitat descriptions, in addition to being mapped and labeled accordingly. The biologist is to submit a report to this office (Natural Diversity Section) following the completion of the project documenting all of the activity and herpetofauna encountered.

4. If erosion control fabric is to be used at this site, materials that are known to reduce the risk of snake entrapment should be selected, such as loosely woven natural fiber ECM. **Use of monofilament/plastic netting should be avoided.**

5. Workers responsible for implementing this project should be advised that timber rattlesnakes may be encountered and that avoidance is the best means of minimizing risks to personal safety. It is suggested a procedure be implemented for timber rattlesnake encounters and workers are to be advised that the timber rattlesnake is a state protected species and is not to be harmed. Killing of timber rattlesnakes is prohibited by the Commission pursuant to 58 Pa. Code Section 79.6.

6. During the construction period, PFBC personnel may communicate with the on-site biologist and may visit the site area periodically to view the progression of the project and answer any questions or concerns that may arise. For safety purposes, PFBC personnel will register with the on-site manager upon entering the construction area.

7. Reconstruct potential gestating habitat affected by construction according to PFBC guidelines.

Furthermore, previous consultations did not incorporate access roads within sensitive areas in the Project, as several are proposed. The PFBC requests more information be provided to detail whether proposed access roads are existing and if improvements or widening will occur. Generally, for access roads near Timber Rattlesnake sensitive areas, provided access roads are existing roads and are not significantly widened, no impact is anticipated. However, contractors should be informed of the potential to encounter snakes crossing roads.

Enclosed is the list of PFBC approved rattlesnake biologists for your convenience. It is not an exhaustive list of qualified rattlesnake biologists 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.

Northern Cricket Frog (*Acris crepitans*, Endangered)

Previous consultations did not incorporate the proposed Kidder Compressor station. Therefore, based on the review of this information and the proximity of the Project to known element occurrences of the species of concern listed above, potential habitat could be present within the proposed disturbance area. Therefore, additional evaluations are necessary to confirm whether or not the project site contains habitat and to determine the potential for adverse impacts to this species. We request completion of a **habitat assessment** to characterize and determine if potential habitat exists within the vicinity of the proposed project area. The assessment is requested for all areas of disturbance between [redacted] to the North and [redacted] to the South. Furthermore, if the large wetland complex immediately south of [redacted] is proposed for impact, the habitat assessment should incorporate this wetland as well.

A qualified biologist, who possesses the necessary Scientific Collector's Permit issued by the PFBC, must conduct this habitat assessment. A list of biologists recognized as qualified by the PFBC to perform this assessment is enclosed.

Atlantic Sturgeon (*Acipenser oxyrinchus*, PA Endangered)
Shortnose Sturgeon (*Acipenser brevirostrum*, PA Endangered)
Dwarf Wedgemussel (*Alasmidonta heterodon*, PA Endangered)

The PFBC concurs with your assessment of previous consultation regarding the above fish and mussel species. Provided the Delaware River is crossed via horizontal directional drill (HDD), no impact is anticipated.

Eastern Redbelly Turtle (*Pseudemys rubriventris*, PA Threatened)

Previous consultations did not incorporate the additional staging areas and access road proposed to support HDD operations across the Delaware River. Therefore, based on the review of this information and the proximity of the Project to known element occurrences of the species of concern listed above, potential habitat could be present within the proposed disturbance area. Therefore, additional evaluations are necessary to confirm whether or not the project site contains habitat and to determine the potential for adverse impacts to this species. We request completion of a **habitat assessment** to characterize and determine if potential habitat exists within the vicinity of the proposed project area. The assessment is requested for all areas of disturbance within 1000-ft of the Delaware River.

A qualified biologist, who possesses the necessary Scientific Collector's Permit issued by the PFBC, must conduct this habitat assessment. A list of biologists recognized as qualified by the PFBC to perform this assessment is enclosed.

Bog Turtle (*Glyptemys muhlenbergii*, Endangered)

Previous consultation presumed minimal impact to the above species. However, with the proposed addition of the Appalachian Trail/PPL Alternative, we will need to conduct a more thorough evaluation of the potential adverse impacts that the Project could have on the species of concern.

As a result, please provide all future consultation with USFWS related to the above species and potential impacts to ensure the Project avoids and minimizes any impact to this species. During a site visit on May 7, 2018 with the PFBC, USFWS, USACE, and Project representatives, potential impacts and construction methods were in development.

Project Changes: Appalachian Trail/PPL Alternative

Impacts from the Appalachian Trail/PPL Alternative are described above within individual species descriptions. The PFBC lists potential impacts to two species of concern, Timber Rattlesnakes and Bog Turtles as a result of the Appalachian Trail/PPL Alternative.

Project Changes: Blue Mountain Interconnect Change and Associated Lateral Pipeline

The PFBC does not anticipate potential impacts to species of concern as a result of the Blue Mountain Interconnect.

LUZERNE COUNTY:

Potential impacts relate to the **Timber Rattlesnake**. Habitat assessments and species presence surveys have been completed and reviewed, resulting in the recommendation of various Conservation Measures. Potential impacts to this species are **RESOLVED** provided Conservation Measures are implemented.

CARBON COUNTY:

Potential impacts relate to the **Timber Rattlesnake**. Habitat assessments and species presence surveys have been completed and reviewed, resulting in the recommendation of various Conservation Measures. Potential impacts to this species are **RESOLVED** provided Conservation Measures are implemented.

Potential impacts relate to the **Northern Cricket Frog**. Potential impacts to this species are **PENDING** the results of a habitat assessment.

Potential impacts relate to the **Bog Turtle**. Potential impacts to this species are **PENDING** further project development and consultation with USFWS.

MONROE COUNTY:

Potential impacts relate to the **Timber Rattlesnake**. Habitat assessments and species presence surveys have been completed and reviewed, resulting in the recommendation of various Conservation Measures. Potential impacts to this species are **RESOLVED**.

NORTHAMPTON COUNTY:

Potential impacts relate to the **Timber Rattlesnake**. Habitat assessments and species presence surveys have been completed and reviewed, resulting in the recommendation of various Conservation Measures. Potential impacts to this species are **RESOLVED** provided Conservation Measures are implemented.

Potential impacts relate to the **Bog Turtle**. Potential impacts to this species are **PENDING** further project development and consultation with USFWS.

BUCKS COUNTY:

Potential impacts relate to the **Atlantic Sturgeon, Shortnose Sturgeon, and the Dwarf Wedgemussel**. Potential impacts to these species are **RESOLVED** provided the Delaware River is crossed via HDD.

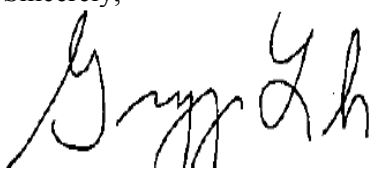
Potential impacts relate to the **Eastern Redbelly Turtle**. Potential impacts to this species are **PENDING** the results of a habitat assessment.

The PFBC appreciates the Project representatives' detailed summary of our consultation history and the commitment to avoid impacts while incorporating conservation measures for species of concern under our jurisdiction.

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 Gregory Lech at 610-847-8772 and refer to the SIR # 44756. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,



Greg Lech
Natural Gas Section

GPL/dn

September 13, 2018
Mr. Greg Lech
Pennsylvania Fish and Boat Commission
Natural Gas Section
450 Robinson Lane
Bellefonte, PA 16823

Re: PennEast Pipeline Project
PA Fish and Boat Commission – SIR # 44756
Rare Species Survey Update & Sensitive Species Observation

Dear Mr. Lech:

On behalf of PennEast Pipeline Company, LLC (PennEast), we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project (Project). On January 19, 2018, the Federal Energy Regulatory Commission (FERC) released its order issuing Certificates for Public Convenience and Necessity for the Project under Parts 157 and 284 of the FERC's regulations. PennEast continues to work through the regulatory processes to obtain the permits and approvals necessary to construct the Project.

Species Survey Status:

In their May 17, 2018 PNDI Species Impact Review (SIR), the Pennsylvania Fish and Boat Commission (PFBC) provided feedback regarding PennEast's consultation status regarding rare and sensitive species under the jurisdiction of the PFBC. PennEast understands that as of May 17, 2018 the following species had unresolved consultation statuses:

Northern Cricket Frog (*Acris crepitans*)

The PFBC noted that resolution of potential impacts to the northern cricket frog was "PENDING the results of a habitat assessment" in Carbon County. Since receiving the May 17, 2018 SIR, PennEast has conducted a northern cricket frog habitat assessment, using a PFBC-approved Qualified Surveyor. As requested by the PFBC, this habitat assessment included the evaluation of all wetlands within proposed workspace (areas of surface impact) between [redacted] to the north and [redacted] to the south. Results of this survey are enclosed with this memo (Attachment 1). A total of 14 wetlands were assessed for their suitability as northern cricket frog habitat. Based on their physical characteristics and the professional opinion of the surveyor, three of the 14 wetlands have potential to function as supporting and breeding habitat for the species:

- Wetland [redacted]
- Wetland [redacted]
- Wetland [redacted]

If construction timeline allows, PennEast will conduct presence/absence surveys at this location to determine whether northern cricket frogs occupy these wetlands. Since it is uncertain whether that will be the case, **PennEast respectfully requests the PFBC's input regarding appropriate measures to avoid, minimize or mitigate potential impacts to the northern cricket frog in the vicinity of these three wetlands**.

Of the remaining 11 wetlands, six have "very limited," and five have "limited" potential to function as supporting and/or breeding habitat for the species.

As noted by PFBC, the large wetland complex south of [redacted] may also represent suitable habitat for the northern cricket frog; however, this wetland will be crossed via trenchless, horizontal directional drill (HDD) methods and no potential impacts to northern cricket frogs are anticipated.

Eastern Redbelly Turtle (*Pseudemys rubriventris*)

The PFBC noted that resolution of potential impacts to the eastern redbelly turtle was "PENDING the results of a habitat assessment" in Bucks County. Since receiving the May 17, 2018 SIR, PennEast has conducted an eastern redbelly turtle habitat assessment, using a PFBC-approved Qualified Surveyor. As requested by the PFBC, this habitat assessment included the evaluation of all workspace within 1,000 feet of the Delaware River and the Delaware Canal for its suitability as eastern redbelly turtle nesting habitat. Results of this survey are enclosed with this memo (Attachment 2). The redbelly turtle surveyor determined that although there is some potential turtle nesting habitat within proposed workspace on the west side of Route 611, it is unlikely to be used by turtles due to limited accessibility from the Delaware River and Delaware Canal. The surveyor also noted that exclusion barriers may have the unintended consequence of turning nesting turtles back into the roadway and parking lots they would have crossed to reach the Project workspace. **Therefore, PennEast does not recommend any exclusion measures at this location and respectfully requests concurrence that the Project is not likely to adversely affect the eastern redbelly turtle.**

Bog Turtle (*Glyptemys muhlengergii*)

The PFBC noted that resolution of potential impacts to bog turtles was "PENDING further project development and consultation with USFWS." PennEast continues to consult with the USFWS regarding bog turtles, and will continue to include PFBC in the consultation process as well.

Incidental Observation of Sensitive Species:

Timber Rattlesnake (*Crotalus horridus*)

During wetland delineation surveys, PennEast biologists observed one dead timber rattlesnake within the Project study area in Monroe County. The rattlesnake appeared to have been killed by an all-terrain vehicle (ATV), as it was partially crushed and found within the tire tracks of a frequently utilized ATV/Jeep trail. There were no large rock outcrops, boulder fields, talus slopes, or mine/cave features in the immediate vicinity of the carcass, at the time of its observation. The rattlesnake was located outside of the areas where timber rattlesnake surveys have been requested by the PFBC, but just on the opposite side of Blue Mountain from previously delineated and reported denning and gestating habitat. A map and photo of the rattlesnake carcass are enclosed with this memo (Attachment 3).

Access Road Improvements within Potential Rattlesnake Habitats:

In their last consultation response, the PFBC requested additional information regarding whether proposed access roads within timber rattlesnake habitats are existing and if improvements or widening will occur. The PFBC stated that "provided access roads are existing roads and are not significantly widened, no impact is anticipated. However, contractors should be informed of the potential to encounter snakes crossing roads."

To answer this request, PennEast is providing the attached set of maps (Attachment 4) which illustrate access roads within suitable timber rattlesnake gestating and denning habitats. As illustrated, these are all existing roads and will not be significantly widened. As the attached maps illustrate, the proposed limit-of-disturbance (LOD) for each access road is only slightly wider than the current extent of gravel to allow for reapplication of gravel and minor widening, as necessary to allow for passage of construction equipment. No timber rattlesnakes were found during Phase 2 surveys of the transected areas; thus, the areas in question are considered "suitable," rather than "occupied" habitats.

PennEast appreciates your continued input on this important project. If you have any questions, I can be reached by phone at (610) 832-2457 or by email at brian.cooper@aecom.com.

Sincerely,

Brian L. Cooper

Brian Cooper
Environmental Scientist
AECOM

Enclosures (5)
1. Northern Cricket Frog Habitat Assessment Report
2. Eastern Redbelly Turtle Habitat Assessment Report
3. Timber Rattlesnake Sighting Map and Photograph
4. Map – Access Roads Within Timber Rattlesnake Habitat
5. Copy of SIR #44756, dated May 17, 2018

CC: Amber Holly, UGI Energy Services

Pennsylvania Fish & Boat Commission
established 1866

Division of Environmental Services
Natural Gas Section
595 E Rolling Ridge Dr.
Bellefonte, PA 16823

October 11, 2018

IN REPLY REFER TO
SIR# 44756

AECOM
Brian Cooper
625 W. Ridge Pike
Conshohocken, Pennsylvania 19428

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No.
PennEast Pipeline Project
LUZERNE County: - BUCKS County: - CARBON County: - NORTHAMPTON County:

Dear Brian Cooper:

This responds to your updated inquiry about a Pennsylvania Natural Diversity Inventory (PNDI) Internet Database search "potential conflict" or a threatened and endangered species impact review related to the PennEast Pipeline Project (Project). Project consultation is a result of potential impacts to multiple species of special concern. In your most recent submittal you provided:

-**PennEast Pipeline Project, Northern Cricket Frog (*Acris crepitans*) Habitat Assessment**, Carbon County, Pennsylvania, dated September 4, 2018, prepared by Skelly and Loy (Report 7);

-**PennEast Pipeline Project, Eastern Redbelly Turtle Habitat Assessment** – Bucks County, dated September 10, 2018, prepared by AECOM (Report 8); and

-Maps detailing access roads within identified Timber Rattlesnake habitat.

Atlantic Sturgeon (*Acipenser oxyrinchus*, PA Endangered)
Shortnose Sturgeon (*Acipenser brevirostrum*, PA Endangered)
Dwarf Wedgemussel (*Alasmidonta heterodon*, PA Endangered)
Bog Turtle (*Glyptemys muhlenbergii*, Endangered)
Timber Rattlesnake (*Crotalus horridus*, Species of Concern)

Our comments remain unchanged, therefore, please refer to our letter dated May 17, 2018 for protective measures for these species.

Northern Cricket Frog (*Acris crepitans*, Endangered)

Our office requested a habitat assessment in the vicinity of the Kidder Compressor station which you provided (Report 7). Based on the report, three wetlands which serve as areas of potential habitat for the species were identified:

- [redacted] (Impacted);
- [redacted] (Avoided);
- [redacted] (Avoided).

Two wetlands are outside of the current Limits-of-Disturbance and are therefore avoided, however one wetland will be impacted by the Project. Wetland [redacted] occurs within an existing petroleum pipeline right-of-way, which the Project will parallel. **Based on our review, impacts to [redacted] will be temporary, and should be able to revert to preconstruction conditions following construction, therefore no additional surveys are requested.** Additionally, wetlands permanently impacted by construction of the compressor station were not identified as potential habitat for the species.

All impacts to [redacted] should be minimized, and all additional temporary workspace and staging areas should remain outside of the wetland and to the east of the pipe centerline. Furthermore, if erosion control matting (ECM) is used within [redacted], materials that are known to reduce the risk of entrapment should be selected, such as loosely woven natural fiber ECM and u**se of monofilament/plastic netting should be avoided.**

Eastern Redbelly Turtle (*Pseudemys rubriventris*, PA Threatened)

Our office requested a habitat assessment in the vicinity of the Delaware River which you provided (Report 8). Based on the report, aquatic habitat in the Delaware Canal and Delaware River was identified, along with potential nesting habitat adjacent to the Delaware Canal. All areas identified as potential habitat will not be disturbed and will be crossed via horizontal directional drill (HDD). Other areas of concern were limited to the access road and staging areas for the HDD operation, however based on the report, these areas were not determined to be potential habitat. Therefore, no additional surveys are requested, and no impact is anticipated provided the identified habitats are undisturbed.

Provided all conservation measures and avoidance measures are implemented and provided the Appalachian Trail/PPL Alternative is NOT implemented, conflicts to species under the Pennsylvania Fish and Boat Commission jurisdiction are RESOLVED for this Project in all counties.

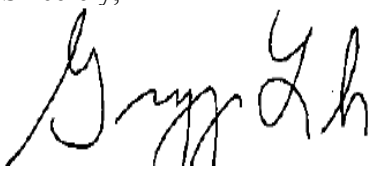
Please continue to update our office should Project changes occur. Additionally, continue to coordinate with USFWS in regards to Bog Turtle impacts associated with the Appalachian Trail/PPL Alternative and include our office on any avoidance/conservation measures developed.

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 Greg Lech at 610-847-8772 and refer to the SIR # 44756. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,



Greg Lech
Natural Gas Section

GPL/dn

Cc: Rebecca Bowen (PA DCNR)

PENNSYLVANIA GAME COMMISSION CORRESPONDENCE

August 12, 2014

Mr. Daniel Brauning
Chief, Wildlife Diversity Section

PENNSYLVANIA GAME COMMISSION
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

Re: Large Project PNDI Review
PennEast Pipeline Company, LLC - PennEast Pipeline Project
Luzerne, Carbon, Northampton, and Bucks Counties, Pennsylvania

Dear Mr. Brauning:

The PennEast Pipeline Company, LLC (PennEast), is a partnership with UGI Energy Services (UGIES), AGL Resources, NJR Pipeline Company, and South Jersey Industries. The PennEast Pipeline Project (Project) proposes to construct a new 100-mile, 30-inch pipeline to deliver natural gas from northeast Pennsylvania to other markets in Pennsylvania and New Jersey. This new supply of natural gas will bring lower cost supplies to residents and businesses in Pennsylvania and New Jersey, while enhancing pipeline system flexibility and reliability for the local gas utilities.

PennEast intends to file its certificate application for the PennEast Pipeline Project with the Federal Energy Regulatory Commission (FERC) in mid-2015, and anticipates receiving authorization and starting construction in 2017. Permit applications with other federal, state, and local agencies will be submitted within similar timeframes as the certificate application. The permit proceedings conducted by these agencies will provide additional opportunities for public input and involvement. FERC's determination of public convenience and necessity includes a thorough, comprehensive environmental review of proposed projects, working closely with federal, state, and local agencies and in accordance with the National Environmental Policy Act (NEPA).

On behalf of PennEast, URS Corporation (URS) is requesting a Large Project Pennsylvania Natural Diversity Inventory (PNDI) review update for rare, candidate, threatened, and endangered species under the jurisdiction of the Pennsylvania Game Commission for the PennEast Pipeline Project. A critical issues analysis was conducted for multiple routes using readily available secondary source data to select the **Least Environmentally Damaging**

URS Corporation
625 W. Ridge Pike, Suite E-100
Conshohocken, PA 19428
Phone: 610.832.3500
Fax: 610.832.3501

Practicable Alternative (LEDPA) route. Mapping depicting the environmental features evaluated for the preferred alternative is enclosed. We are asking for your review prior to the initiation of wetland and watercourse field surveys to be conducted this fall. We hope to concurrently identify any habitat for species under your agencies' jurisdiction at this time. The environmental study area will be a 400-foot corridor centered on the approximately 100-mile alignment. The anticipated permanent right-of-way (ROW) and temporary construction work area will be approximately 100-feet. The study area is wider than the disturbance area to allow for minor alignment shifts to avoid any sensitive resources that may be identified during the environmental field investigations.

The following are enclosed to facilitate your review:

- Large Project PNDI Form;
- PennEast Project Fact Sheet; and
- CD containing:
    - shapefiles of the alignment;
    - USGS 7.5 minute quadrangle maps with project alignment; and
    - detailed maps depicting the project areas and known secondary source resources

If you have any questions or require additional information regarding this request, please contact me at 610.832.1810 or bernard.holcomb@urs.com.

Sincerely,

Bernard Holcomb
Pipeline Environmental Services Manager
Enclosures (3)

cc: Mr. Anthony Cox (UGI)
Mr. Dante D'Alessandro (UGI)

URS Corporation
625 W. Ridge Pike, Suite E-100
Conshohocken, PA 19428
Phone: 610.832.3500
Fax: 610.832.3501

Pennsylvania Natural Diversity Inventory
LARGE PROJECT FORM

How to Use the PNDI Large Project Form

If your Project is a "Large Project"— too large/long to search on the online system
Projects are considered "Large Projects" when the ENTIRE project is:

- Linear/Large Projects that exceed the PNDI online project size limits of 10 miles in length or 5165 acres
- Township-wide, Countywide or Statewide Projects. Examples: Act 537 Sewage Plans, Wind Farms, Roadway Improvements exceeding map limits above.

Due to system limitations and agency requirements, projects should not be submitted piecemeal. The entire project area including roads and infrastructure should be submitted as a single unit.

What to Send to Jurisdictional Agencies

Send the following information to all of the agencies listed on the Large Project Form.

Check-list of Minimum Materials to be submitted:
____Completed Large Project Form
____Supplemental project narrative with a description of the overall project, the work to be performed, current physical characteristics of the site and acreage to be impacted.
____USGS 7.5-minute Quadrangle with project boundary clearly indicated, and quad name on the map

The inclusion of the following information may expedite the review process.
____GIS shapefiles depicting the project extent
____A basic site plan (particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)
____Color photos keyed to the basic site plan (i.e. showing on the site plan where and in what direction each photo was taken and the date of the photos)
____Information about the presence and location of wetlands in the project area, and how this was determined (e.g., by a qualified wetlands biologist), if wetlands are present in the project area, provide project plans showing the location of all project features, as well as wetlands and streams

PNDI Large Project Form Definitions

***Applicant*:** Person that owns the property or is proposing the project or activity

Contact Person: Person to receive response if different than applicant (e.g. Consultant)

Project Name: Descriptive title of project (e.g. Twin Pines Subdivision, Miller Bridge Replacement)

***Proposed Activity*:** Include ALL earth disturbance activities for project (e.g. for a timber sale—include stream crossings, cutting areas and new roadway accesses). Also include Current Conditions (e.g. housing, farmland, current land cover), and how Construction/Maintenance Activity is to be accomplished

Total Acres of Property: Entire site acreage (e.g. timber sale property—including road access (200 acres)

Acreage to be Impacted: Disturbance acreage (e.g. timber sale—if the property is 200 acres, but only 100 acres will be disturbed, for example: cutting on 90 acres, a road impacting 10 acres); include all temporary and permanent activities

Pennsylvania Natural Diversity Inventory
LARGE PROJECT FORM

This form provides site information necessary to perform an Environmental Review for special concern species and resources listed under the Endangered Species Act of 1973, the Wild Resource Conservation Act, the Pennsylvania Fish and Boat Code or the Pennsylvania Game and Wildlife Code.

Applicant Information

Name: Penneast Pipeline Company, LLC
Address: One Meridian Blvd., Suite 2c01 Wyomissing, PA 19610

Phone Number: 844-347-7119 Fax Number:

Contact Person Information - if different from applicant

Name: Bernie Holcomb
Address: 625 W. Ridge Pike, Suite E-100 Conshohocken, Pa 19428
Phone Number: 610-832-1810 Fax Number: 610-832-3501
Email: bernard.holcom

Project Information

Project Name: Penneast Pipeline Project
Project Reference Point (center point of project): Latitude: Longitude: Datum:
Municipality: Multiple County: Luzerne -- Bucks
☒ Attach a copy of a U.S.G.S. 7 ½ Minute Quadrangle Map with Project Boundaries clearly marked.
U.S.G.S. Quad Name: Multiple
Provide GIS shapefiles showing the project boundary (strongly recommended)

Project Description

Proposed Project Activity (including ALL earth disturbance areas and current conditions)

The PennEast Pipeline Project (Project) proposes to construct a new 100-mile, 30-inch pipeline to deliver natural gas from northeast Pennsylvania to other markets in Pennsylvania and New Jersey. This new supply of natural gas will bring lower cost supplies to residents and businesses in Pennsylvania and New Jersey, while enhancing pipeline system flexibility and reliability for the local gas utilities.

Total Acres of Property: 5118 Acreage to be Impacted: 1283

1. Will the entire project occur in or on an existing building, parking lot, driveway, road, maintained road shoulder, street, runway, paved area, railroad bed, or maintained lawn? Yes ☐ No ☒
2. Are there any waterways or waterbodies (intermittent or perennial rivers, streams, creeks, tributaries, lakes or ponds) in or near the project area, or on the land parcel? If so, how many feet away is the project?
   Yes ☒ Within Feet No ☐
3. Are wetlands located in or within 300 feet of the project area? Yes ☒ No ☐ If No, is this the result of a wetland delineation? Tbd
4. How many acres of tree removal, tree cutting or forest clearing will be necessary to implement all aspects of this project? Tbd

Dept. of Conservation and Natural Resources
Bureau of Forestry, Ecological Services Section
400 Market St., PO Box 8552
Harrisburg, PA 17105
fax: 717-772-0271

PA Game Commission
Bureau of Wildlife Habitat Management
Division of Environmental Planning & Habitat Protection
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

PA Fish and Boat Commission
Natural Diversity Section
450 Robinson Lane
Bellefonte, PA 16823

US Fish and Wildlife Service
Endangered Species Biologist
315 South Allen St., Suite 322
State College, PA 16801
no faxes please

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

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:

ADM NISTRATION. 717-787-5670
HUMAN RESOURCES 717-787-7836
FISCAL MANAGEMENT. 717-787-7314
CONTRACTS AND PROCUREMENT. .717-787-6594
LICENS NG. ...717-787-2084
OFFICE SERVICES. .717-787-2116
WILDLIFE MANAGEMENT. ..717-787-5529
NFORMATION & 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

September 22, 2014 **PGC ID Number: 201408190001**

Bernie Holcomb
URS Corporation
625 W. Ridge Pike, Suite E-100
Conshohocken, PA 19428
Bernard.Holcom@urs.com

Re: Penneast Pipeline Company, LLC – Penneast Pipeline Project
State Game Lands Nos. 91, 119, 43, 141, and 168
Large Project PNDI Review
Luzerne, Carbon, Northampton, and Bucks Counties, PA

Dear Mr. Holcomb,

Thank you for submitting your Pennsylvania Natural Diversity Inventory (PNDI) Large Project Environmental Review request. The Pennsylvania Game Commission (PGC) screened this project, including the requested 400-foot buffer (200 feet on each side of proposed centerline), 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 threatened, endangered, and species of special concern may be associated with your project. Therefore, additional measures are necessary to avoid potential impacts to the species listed below:

Scientific Name	Common Name	PA Status
Glaucomys sabrinus macrotis	Northern Flying Squirrel	ENDANGERED
Neotoma magister	Allegheny Woodrat	THREATENED
Myotis leibii	Eastern Small-footed Bat	THREATENED
Pandion haliaetus	Osprey	THREATENED
Myotis septentrionalis	Northern Long-eared Bat	SPECIAL CONCERN

Next Steps

Northern Flying Squirrel

The PGC has identified a portion of the project (see attached *PGC Survey Maps*), where northern flying squirrels are known to exist, and may be impacted by the proposed project. The PGC is requesting the following for this portion of the project:

- Avoid all clearing activities between April 15th and June 15th to avoid potential impacts to northern flying squirrel young that are expected to be confined to their nests during this period.
- Develop and provide detailed plans and GIS shapefiles illustrating permanent and temporary right of way (ROW) limits for the project.

Please be advised that following our review of the above detailed plans, the PGC will be requesting a northern flying squirrel mitigation plan that may incorporate, but is not limited to, the following components:

- Replanting of the temporary ROW with various species of conifer seedlings, planted no less than 7.5 feet on center, and no more than 10 feet on center.
- Monitoring of the plantings for a minimum of 5 years, at which time 80% survival must be achieved or additional corrective action and monitoring will be required until such time as 80% survival is achieved.
- Installation of glide poles (telephone pole) with horizontal launch beams and shelters on each pole to facilitate northern flying squirrel passage across the cleared ROW.

Allegheny Woodrat

The PGC has identified portions of the proposed project where potential Allegheny woodrat habitat may exist, and could be impacted by the proposed project. The PGC is requesting that Allegheny woodrat surveys be completed in areas specified within the attached *PGC Survey Maps*. The surveys should be completed by a qualified biologist and follow protocols found in the attached *PGC Allegheny Woodrat* guidance document. Please be sure that the following information, at a minimum, is provided for further review and comment by the PGC:

- a 1:24,000 scale copy of a USGS topo map and a GIS shapefile illustrating the locations (i.e. points) of all woodrat activity centers and potential activity centers, as well as the limits (i.e. polygons) of all woodrat habitat sites (central point locations with average width and length measurements will not be accepted to illustrate the habitat sites)
- color photographs, keyed to a location and orientation map, of any woodrat habitat sites, activity centers, potential activity centers, or woodrat sign that are identified during the surveys
- completed Woodrat Habitat Site Survey forms for each habitat site identified during the survey

The survey report should be submitted to the PGC no later than December 31st of the year the survey is completed.

Eastern Small-footed Bat

The PGC has identified portions of the project where potential eastern small-footed bat day roost habitat may exist, and could be impacted by the proposed project. The PGC is requesting that all potential eastern small-footed bat day roost habitat in areas specified within the attached *PGC Survey Maps* be assessed and delineated by a qualified biologist. Please be sure that the following information, at a minimum, is provided for further review and comment by the PGC:

- a 1:24,000 scale copy of a USGS topo map and a GIS shapefile illustrating the limits of all potential small-footed bat day roost habitat that is identified
- a GIS shapefile illustrating the proposed limits of tree clearing throughout the Small-footed Bat Survey Area
- a GIS shapefile illustrating the proposed limits of earthwork, including any proposed grubbing or erosion and sedimentation pollution controls, throughout the Small-footed Bat Survey Area
- representative color photographs of all surface rock encountered during the assessment and delineation regardless of whether the rock is considered to be potential eastern small-footed bat day roost habitat or not (numerous photos for each area of surface rock are strongly recommended)
- a narrative or table detailing the following information for each area of surface rock that is encountered during the assessment and delineation to support or refute the rock's potential as eastern small-footed bat day roost habitat:
    - the estimated canopy cover over the rock
    - anticipated solar exposure of the rock
    - amount and size of crevices available for roost sites
    - presence of organic material, soil, or water within those crevices
    - other details as necessary that cannot be adequately conveyed via the photos provided
- a narrative detailing the reasons for any surface rock encountered not being considered potential small-footed bat day roost habitat
- a photo location and orientation map for all photos provided

The survey report should be submitted to the PGC no later than December 31st of the year the survey is completed.

Northern Long-eared Bats

Northern long-eared bats are a species of special concern and therefore, not target species for additional surveys. However, because of their ecological significance, all trees or dead snags greater than 5 inches in diameter at breast height that need to be harvested to facilitate the project (including any access roads or off-ROW work spaces) should be cut between November 1st and March 31st.

Potential Bat Hibernacula

The PA Department of Environmental Protection's *Abandoned Mine Land (AML) Inventory Points* from www.pasda.psu.edu indicates abandoned mine features may be located within the requested review area. These mine features have the potential to connect to abandoned deep mine workings that can serve as hibernacula for a variety of cave bat species. These AML openings and any undocumented openings and caves located along the proposed alignment and within the review buffer must be assessed following the attached *PGC Protocol for Assessing Bat Use of Potential Hibernacula*. Any features having 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.

State Game Lands

Portions of the proposed project are located on State Game Lands Nos. 91, 119, 43, 141, and 168. Please contact Mr. Peter Sussenbach, Northeast Land Management Supervisor, at 570-675-1143 to discuss and coordinate the project on SGL's 91, 119, 43, and 141, and Mr. Bruce Metz, Southeast Region Land Management Supervisor, at 610-926-3136 to discuss and coordinate the project on SGL 168.

Conservation Measures

National Wetland Inventory Mapping (NWI) and/or aerial photos suggest that wetlands are located within the requested review throughout the proposed project. The PGC is requesting that the final project avoid, or at least minimize to the greatest practical extent, any adverse impacts to these resources and their associated wildlife habitat.

In addition, portions of the project located in Luzerne and Carbon County are within areas where the abundance and species richness of various area-sensitive forest bird species are among the highest in the state. Area-sensitive forest bird species are those species that require a large expanse of relatively contiguous (un-fragmented) forest to maintain their populations. The species found in these areas are listed as species of greatest conservation need in Pennsylvania's Wildlife Action Plan (WAP). The WAP was designed to proactively manage and safeguard the state's declining fish and wildlife resources, and sets a framework to conserve Pennsylvania's diverse wildlife, maintain their role in ecological processes, and protect and enhance species of conservation concern (not just imperiled species). Although these area-sensitive forest bird species are not currently listed as threatened or endangered, and do not produce potential conflicts for projects reviewed using the on-line PNDI Environmental Review Tool, their populations and requisite habitat are either in decline, or are vulnerable to decline in the state.

As a result, the PGC is recommending the following conservation measures be implemented, to the greatest extent practicable, to minimize impacts to these area-sensitive forest bird species and minimize additional fragmentation of forested tracts throughout the project area:

- Co-locate the pipeline and associated facilities with existing roads and other disturbed areas
- Minimize the width of the temporary construction right-of-way (ROW), and avoid grubbing where possible to encourage the re-establishment of woody vegetation

- Minimize the width of the permanent, maintained ROW to only that which is absolutely necessary to maintain the integrity of the pipeline
- Maximize the rotation of mowing and/or clearing along that maintained ROW to allow for the establishment of more beneficial wildlife habitat
- Perform initial tree clearing for the project between August 15th and April 15th
- Use the following seed mixes, or similar herbaceous seed mixes that will minimize competition with volunteer woody plant species, while offering additional wildlife habitat and food sources along the reclaimed ROW:

Steep Slopes	**Other Areas**
1 bushel/acre Annual Cereal Grain (oats in spring, grain rye or wheat in fall)	*1 bushel/acre Annual Cereal Grain (oats in spring, grain rye or wheat in fall)*
10 lbs/acre Timothy	*5 lbs/acre Timothy*
3 lbs/acre Birdsfoot Trefoil	*5 lbs/acre Birdsfoot Trefoil*
4 lbs/acre Little Bluestem	*4 lbs/acre Little Bluestem*
3 lbs/acre Alsike Clover	*2 lbs/acre Indiangrass*
3 lbs/acre Ladino Clover	*1 lb/acre Side-oats Grama*
Straw Mulch, NO HAY	*1 lb/acre Switchgrass*
	¼ lb/acre Black-eyed Susan
	¼ lb/acre Lance-leaved Coreopsis
	Straw Mulch, NO HAY

- Perform any future mowing and/or clearing along the maintained ROW between August 15th and April 15th

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 the PGC at the following address as an "Update" (including an updated PNDI receipt, project narrative and accurate map):

PA Game Commission
Bureau of Wildlife Habitat Management
Division of Environmental Planning & Habitat Protection
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

If the proposed work has not changed and no additional information concerning listed species is found, the project will be cleared for PNDI requirements by the PGC for an additional 2 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.

Please be sure to include the above-referenced PGC ID Number on any future correspondence with the PGC regarding this project.

Sincerely,

John Taucher
Division of Environmental Planning & Habitat Protection
Bureau of Wildlife Habitat Management
Phone: 717-787-4250, Extension 3632
Fax: 717-787-6957
E-Mail:jotaucher@pa.gov

A PNHP Partner



JWT/jwt

Enclosures:

PGC Survey Maps
PGC Allegheny Woodrat Guidance Document
PGC Protocol for Assessing Bat Use of Potential Hibernacula

cc: Figured
Trewella
Wenner
Morgan
Sussenbach
Metz
Dunn
Brauning
Turner
Gross
Barber
DiMatteo

Havens
Librandi Mumma
Ms. Stephanie Livelsberger, Pennsylvania Department of Natural Resources
H:\OIL&GAS_PNDI_Reviews\Statewide & Multi-Region Projects

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

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:

ADM NISTRATION. 717-787-5670
HUMAN RESOURCES 717-787-7836
FISCAL MANAGEMENT. 717-787-7314
CONTRACTS AND PROCUREMENT. .717-787-6594
LICENS NG. ...717-787-2084
OFFICE SERVICES. .717-787-2116
WILDLIFE MANAGEMENT. ..717-787-5529
NFORMATION & 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

September 24, 2014 **PGC ID Number: 201408190001**

Bernie Holcomb
URS Corporation
625 W. Ridge Pike, Suite E-100
Conshohocken, PA 19428
Bernard.Holcomb@urs.com

Re: Penneast Pipeline Company, LLC – Penneast Pipeline Project
State Game Lands Nos. 91, 119, 40, 141, and 168
Large Project PNDI Review
Luzerne, Carbon, Northampton, and Bucks Counties, PA

Dear Mr. Holcomb,

Thank you for submitting your Pennsylvania Natural Diversity Inventory (PNDI) Large Project Environmental Review request. The Pennsylvania Game Commission (PGC) screened this project, including the requested 400-foot buffer (200 feet on each side of proposed centerline), 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 threatened, endangered, and species of special concern may be associated with your project. Therefore, additional measures are necessary to avoid potential impacts to the species listed below:

Scientific Name	Common Name	PA Status
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Next Steps

Northern Flying Squirrel

The PGC has identified a portion of the project (see attached *PGC Survey Maps*), where northern flying squirrels are known to exist, and may be impacted by the proposed project. The PGC is requesting the following for this portion of the project:

- Avoid all clearing activities between April 15th and June 15th to avoid potential impacts to northern flying squirrel young that are expected to be confined to their nests during this period.
- Develop and provide detailed plans and GIS shapefiles illustrating permanent and temporary right of way (ROW) limits for the project.

Please be advised that following our review of the above detailed plans, the PGC will be requesting a northern flying squirrel mitigation plan that may incorporate, but is not limited to, the following components:

- Replanting of the temporary ROW with various species of conifer seedlings, planted no less than 7.5 feet on center, and no more than 10 feet on center.
- Monitoring of the plantings for a minimum of 5 years, at which time 80% survival must be achieved or additional corrective action and monitoring will be required until such time as 80% survival is achieved.
- Installation of glide poles (telephone pole) with horizontal launch beams and shelters on each pole to facilitate northern flying squirrel passage across the cleared ROW.

Allegheny Woodrat

The PGC has identified portions of the proposed project where potential Allegheny woodrat habitat may exist, and could be impacted by the proposed project. The PGC is requesting that Allegheny woodrat surveys be completed in areas specified within the attached *PGC Survey Maps*. The surveys should be completed by a qualified biologist and follow protocols found in the attached *PGC Allegheny Woodrat* guidance document. Please be sure that the following information, at a minimum, is provided for further review and comment by the PGC:

- a 1:24,000 scale copy of a USGS topo map and a GIS shapefile illustrating the locations (i.e. points) of all woodrat activity centers and potential activity centers, as well as the limits (i.e. polygons) of all woodrat habitat sites (central point locations with average width and length measurements will not be accepted to illustrate the habitat sites)
- color photographs, keyed to a location and orientation map, of any woodrat habitat sites, activity centers, potential activity centers, or woodrat sign that are identified during the surveys
- completed Woodrat Habitat Site Survey forms for each habitat site identified during the survey

The survey report should be submitted to the PGC no later than December 31st of the year the survey is completed.

Eastern Small-footed Bat

The PGC has identified portions of the project where potential eastern small-footed bat day roost habitat may exist, and could be impacted by the proposed project. The PGC is requesting that all potential eastern small-footed bat day roost habitat in areas specified within the attached *PGC Survey Maps* be assessed and delineated by a qualified biologist. Please be sure that the following information, at a minimum, is provided for further review and comment by the PGC:

- a 1:24,000 scale copy of a USGS topo map and a GIS shapefile illustrating the limits of all potential small-footed bat day roost habitat that is identified
- a GIS shapefile illustrating the proposed limits of tree clearing throughout the Small-footed Bat Survey Area
- a GIS shapefile illustrating the proposed limits of earthwork, including any proposed grubbing or erosion and sedimentation pollution controls, throughout the Small-footed Bat Survey Area
- representative color photographs of all surface rock encountered during the assessment and delineation regardless of whether the rock is considered to be potential eastern small-footed bat day roost habitat or not (numerous photos for each area of surface rock are strongly recommended)
- a narrative or table detailing the following information for each area of surface rock that is encountered during the assessment and delineation to support or refute the rock's potential as eastern small-footed bat day roost habitat:
    - the estimated canopy cover over the rock
    - anticipated solar exposure of the rock
    - amount and size of crevices available for roost sites
    - presence of organic material, soil, or water within those crevices
    - other details as necessary that cannot be adequately conveyed via the photos provided
- a narrative detailing the reasons for any surface rock encountered not being considered potential small-footed bat day roost habitat
- a photo location and orientation map for all photos provided

The survey report should be submitted to the PGC no later than December 31st of the year the survey is completed.

Northern Long-eared Bats

Northern long-eared bats are a species of special concern and therefore, not target species for additional surveys. However, because of their ecological significance, all trees or dead snags greater than 5 inches in diameter at breast height that need to be harvested to facilitate the project (including any access roads or off-ROW work spaces) should be cut between November 1st and March 31st.

Potential Bat Hibernacula

The PA Department of Environmental Protection's *Abandoned Mine Land (AML) Inventory Points* from www.pasda.psu.edu indicates abandoned mine features may be located within the requested review area. These mine features have the potential to connect to abandoned deep mine workings that can serve as hibernacula for a variety of cave bat species. These AML openings and any undocumented openings and caves located along the proposed alignment and within the review buffer must be assessed following the attached *PGC Protocol for Assessing Bat Use of Potential Hibernacula*. Any features having 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.

State Game Lands

Portions of the proposed project are located on State Game Lands Nos. 91, 119, 40, 141, and 168. Please contact Mr. Peter Sussenbach, Northeast Land Management Supervisor, at 570-675-1143 to discuss and coordinate the project on SGL's 91, 119, 40, and 141, and Mr. Bruce Metz, Southeast Region Land Management Supervisor, at 610-926-3136 to discuss and coordinate the project on SGL 168.

Conservation Measures

National Wetland Inventory Mapping (NWI) and/or aerial photos suggest that wetlands are located within the requested review throughout the proposed project. The PGC is requesting that the final project avoid, or at least minimize to the greatest practical extent, any adverse impacts to these resources and their associated wildlife habitat.

In addition, portions of the project located in Luzerne and Carbon County are within areas where the abundance and species richness of various area-sensitive forest bird species are among the highest in the state. Area-sensitive forest bird species are those species that require a large expanse of relatively contiguous (un-fragmented) forest to maintain their populations. The species found in these areas are listed as species of greatest conservation need in Pennsylvania's Wildlife Action Plan (WAP). The WAP was designed to proactively manage and safeguard the state's declining fish and wildlife resources, and sets a framework to conserve Pennsylvania's diverse wildlife, maintain their role in ecological processes, and protect and enhance species of conservation concern (not just imperiled species). Although these area-sensitive forest bird species are not currently listed as threatened or endangered, and do not produce potential conflicts for projects reviewed using the on-line PNDI Environmental Review Tool, their populations and requisite habitat are either in decline, or are vulnerable to decline in the state.

As a result, the PGC is recommending the following conservation measures be implemented, to the greatest extent practicable, to minimize impacts to these area-sensitive forest bird species and minimize additional fragmentation of forested tracts throughout the project area:

- Co-locate the pipeline and associated facilities with existing roads and other disturbed areas
- Minimize the width of the temporary construction right-of-way (ROW), and avoid grubbing where possible to encourage the re-establishment of woody vegetation

- Minimize the width of the permanent, maintained ROW to only that which is absolutely necessary to maintain the integrity of the pipeline
- Maximize the rotation of mowing and/or clearing along that maintained ROW to allow for the establishment of more beneficial wildlife habitat
- Perform initial tree clearing for the project between August 15th and April 15th
- Use the following seed mixes, or similar herbaceous seed mixes that will minimize competition with volunteer woody plant species, while offering additional wildlife habitat and food sources along the reclaimed ROW:

Steep Slopes	**Other Areas**
1 bushel/acre Annual Cereal Grain (oats in spring, grain rye or wheat in fall)	*1 bushel/acre Annual Cereal Grain (oats in spring, grain rye or wheat in fall)*
10 lbs/acre Timothy	*5 lbs/acre Timothy*
3 lbs/acre Birdsfoot Trefoil	*5 lbs/acre Birdsfoot Trefoil*
4 lbs/acre Little Bluestem	*4 lbs/acre Little Bluestem*
3 lbs/acre Alsike Clover	*2 lbs/acre Indiangrass*
3 lbs/acre Ladino Clover	*1 lb/acre Side-oats Grama*
Straw Mulch, NO HAY	*1 lb/acre Switchgrass*
	¼ lb/acre Black-eyed Susan
	¼ lb/acre Lance-leaved Coreopsis
	Straw Mulch, NO HAY

- Perform any future mowing and/or clearing along the maintained ROW between August 15th and April 15th

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 the PGC at the following address as an "Update" (including an updated PNDI receipt, project narrative and accurate map):

PA Game Commission
Bureau of Wildlife Habitat Management
Division of Environmental Planning & Habitat Protection
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

If the proposed work has not changed and no additional information concerning listed species is found, the project will be cleared for PNDI requirements by the PGC for an additional 2 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.

Please be sure to include the above-referenced PGC ID Number on any future correspondence with the PGC regarding this project.

Sincerely,

John Taucher
Division of Environmental Planning & Habitat Protection
Bureau of Wildlife Habitat Management
Phone: 717-787-4250, Extension 3632
Fax: 717-787-6957
E-Mail:jotaucher@pa.gov

A PNHP Partner



JWT/jwt

Enclosures:

PGC Survey Maps
PGC Allegheny Woodrat Guidance Document
PGC Protocol for Assessing Bat Use of Potential Hibernacula

cc: Figured
Trewella
Wenner
Morgan
Sussenbach
Metz
Dunn
Brauning
Turner
Gross
Barber
DiMatteo

Havens
Librandi Mumma
Ms. Stephanie Livelsberger, Pennsylvania Department of Natural Resources
H:\OIL&GAS_PNDI_Reviews\Statewide & Multi-Region Projects

October 24, 2014

Mr. John Taucher
Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, PA 17110

Dear Mr. Taucher:

On behalf of PennEast Pipeline Company, LLC, we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

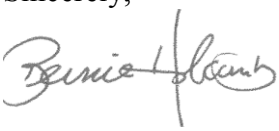
As an interstate natural gas pipeline, PennEast will be regulated by the Federal Energy Regulatory Commission (FERC). FERC approved PennEast for the pre-filing review process on October 8. The pre-filing process creates the framework for the environmental analysis and a formal structure for stakeholders along the proposed route to provide input and opinions regarding the project. The pre-filing application is available online at http://elibrabry.ferc.gov, docket PF15-1-000.

At this time we would like to invite the Pennsylvania Game Commission to become a cooperating agency in the FERC process, and to actively engage with FERC's designated Environmental Project Manager for the PennEast Pipeline Project, Medha Kochhar. Ms. Kochhar can be contacted at (202) 502-8964. As a cooperating agency, FERC and/or PennEast may request your participation in bi-weekly project status calls and direct or interagency coordination meetings, as appropriate.

Only in the second month of a comprehensive, approximately three-year process, PennEast still is working to refine a preferred alternative route and to obtain permissions to survey. To that end, we must inform you that the preferred alternative route has been adjusted to account for engineering, environmental, and land use constraints that have been identified since we initially provided your agency with detailed project information. In Pennsylvania, the preferred alternative route has been shifted approximately three-to-four miles to the northeast between mileposts 11 and 35 in Luzerne and Carbon counties. Other route adjustments have also been made in an effort to maximize co-location with existing utility easements. Overall, approximately 41 miles have been re-routed in Pennsylvania. Please note, however, that the current preferred alternative route remains in the same counties and townships as identified in our initial notification. Shapefiles for the adjusted preferred alternative route are being provided to aide in your review and analysis of the project.

We look forward to working with you and your colleagues on this important project. Please contact me if you have any questions.

Sincerely,



Bernie Holcomb
Pipeline Environmental Services Manager

URS Corporation 625 West Ridge Pike, Suite E-100 ; Conshohocken, PA 19428
Direct: 610 832 1810; Cell: 215 275-7956 ; Fax: 610-832-3501 bernard.holcomb@urs.com

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

COMMONWEALTH OF PENNSYLVANIA
Pennsylvania Game Commission

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ADMINISTRATIVE BUREAUS:

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FISCAL MANAGEMENT. 717-787-7314
CONTRACTS AND PROCUREMENT. .717-787-6594
LICENS NG. ...717-787-2084
OFFICE SERVICES. .717-787-2116
WILDLIFE MANAGEMENT. ..717-787-5529
NFORMATION & 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

December 17, 2014 **PGC ID Number: 201408190001 Revised**

Deborah Poppel
URS Corporation
625 W. Ridge Pike, Suite E-100
Conshohocken, PA 19428
Bernard.Holcomb@urs.com

Re: Penneast Pipeline Company, LLC – Penneast Pipeline Project Revision
State Game Lands Nos. 91, 40, 129, and 168
Large Project PNDI Review
Luzerne, Carbon, Northampton, and Bucks Counties, PA

Dear Ms. Poppel,

Thank you for submitting your revised Pennsylvania Natural Diversity Inventory (PNDI) Large Project Environmental Review request. The Pennsylvania Game Commission (PGC) screened this revised project, including the requested 400-foot buffer (200 feet on each side of proposed centerline), 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 threatened, endangered, and species of special concern may be associated with your project. Therefore, additional measures are necessary to avoid potential impacts to the species listed below:

Scientific Name	Common Name	PA Status
Glaucomys sabrinus macrotis	Northern Flying Squirrel	ENDANGERED
Neotoma magister	Allegheny Woodrat	THREATENED
Myotis leibii	Eastern Small-footed Bat	THREATENED
Pandion haliaetus	Osprey	THREATENED
Myotis septentrionalis	Northern Long-eared Bat	SPECIAL CONCERN

Next Steps

Northern Flying Squirrel

The PGC has identified a portion of the project (see attached *PGC Survey Maps*), where northern flying squirrels are known to exist, and may be impacted by the proposed project. The PGC is requesting the following for this portion of the project:

- Avoid all clearing activities between April 15th and June 15th to avoid potential impacts to northern flying squirrel young that are expected to be confined to their nests during this period.
- Develop and provide detailed plans and GIS shapefiles illustrating permanent and temporary right of way (ROW) limits for the project.

Please be advised that following our review of the above detailed plans, the PGC will be requesting a northern flying squirrel mitigation plan that may incorporate, but is not limited to, the following components:

- Replanting of the temporary ROW with various species of conifer seedlings, planted no less than 7.5 feet on center, and no more than 10 feet on center.
- Monitoring of the plantings for a minimum of 5 years, at which time 80% survival must be achieved or additional corrective action and monitoring will be required until such time as 80% survival is achieved.
- Installation of glide poles (telephone pole) with horizontal launch beams and shelters on each pole to facilitate northern flying squirrel passage across the cleared ROW.

Allegheny Woodrat

The PGC has identified portions of the proposed project where potential Allegheny woodrat habitat may exist, and could be impacted by the proposed project. The PGC is requesting that Allegheny woodrat surveys be completed in areas specified within the attached *PGC Survey Maps*. The surveys should be completed by a qualified biologist and follow protocols found in the attached *PGC Allegheny Woodrat* guidance document. Please be sure that the following information, at a minimum, is provided for further review and comment by the PGC:

- a 1:24,000 scale copy of a USGS topo map and a GIS shapefile illustrating the locations (i.e. points) of all woodrat activity centers and potential activity centers, as well as the limits (i.e. polygons) of all woodrat habitat sites (central point locations with average width and length measurements will not be accepted to illustrate the habitat sites)
- color photographs, keyed to a location and orientation map, of any woodrat habitat sites, activity centers, potential activity centers, or woodrat sign that are identified during the surveys
- completed Woodrat Habitat Site Survey forms for each habitat site identified during the survey

The survey report should be submitted to the PGC no later than December 31st of the year the survey is completed.

Eastern Small-footed Bat

The PGC has identified portions of the project where potential eastern small-footed bat day roost habitat may exist, and could be impacted by the proposed project. The PGC is requesting that all potential eastern small-footed bat day roost habitat in areas specified within the attached *PGC Survey Maps* be assessed and delineated by a qualified biologist. Please be sure that the following information, at a minimum, is provided for further review and comment by the PGC:

- a 1:24,000 scale copy of a USGS topo map and a GIS shapefile illustrating the limits of all potential small-footed bat day roost habitat that is identified
- a GIS shapefile illustrating the proposed limits of tree clearing throughout the Small-footed Bat Survey Area
- a GIS shapefile illustrating the proposed limits of earthwork, including any proposed grubbing or erosion and sedimentation pollution controls, throughout the Small-footed Bat Survey Area
- representative color photographs of all surface rock encountered during the assessment and delineation regardless of whether the rock is considered to be potential eastern small-footed bat day roost habitat or not (numerous photos for each area of surface rock are strongly recommended)
- a narrative or table detailing the following information for each area of surface rock that is encountered during the assessment and delineation to support or refute the rock's potential as eastern small-footed bat day roost habitat:
    - the estimated canopy cover over the rock
    - anticipated solar exposure of the rock
    - amount and size of crevices available for roost sites
    - presence of organic material, soil, or water within those crevices
    - other details as necessary that cannot be adequately conveyed via the photos provided
- a narrative detailing the reasons for any surface rock encountered not being considered potential small-footed bat day roost habitat
- a photo location and orientation map for all photos provided

The survey report should be submitted to the PGC no later than December 31st of the year the survey is completed.

Osprey

The PGC has identified a portion of the project (see attached *PGC Survey Maps*), where have known to nest, and may be impacted by the proposed project. The PGC is requesting the following seasonal restriction for this portion of the project:

- No activities related to this project shall occur within the Osprey Restriction area identified on Map 3 of the attached PGC Survey Maps during the nesting season, Mach 25 through July 31. All project related activities shall be completed in this area between August 1 and March 24.

Northern Long-eared Bats

Northern long-eared bats are a species of special concern and therefore, not target species for additional surveys. However, because of their ecological significance, all trees or dead snags greater than 5 inches in diameter at breast height that need to be harvested to facilitate the project (including any access roads or off-ROW work spaces) should be cut between November 1st and March 31st.

Potential Bat Hibernacula

The PA Department of Environmental Protection's *Abandoned Mine Land (AML) Inventory Points* from www.pasda.psu.edu indicates abandoned mine features may be located within the requested review area. These mine features have the potential to connect to abandoned deep mine workings that can serve as hibernacula for a variety of cave bat species. These AML openings and any undocumented openings and caves located along the proposed alignment and within the review buffer must be assessed following the attached *PGC Protocol for Assessing Bat Use of Potential Hibernacula*. Any features having 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.

State Game Lands

Portions of the proposed project are located on State Game Lands Nos. 91, 40, 129, and 168. Please contact Mr. Peter Sussenbach, Northeast Land Management Supervisor, at 570-675-1143 to discuss and coordinate the project on SGL's 91, 40, and 129, and Mr. Dave Mitchell, Southeast Region Land Management Supervisor, at 610-926-3136 to discuss and coordinate the project on SGL 168.

Conservation Measures

National Wetland Inventory Mapping (NWI) and/or aerial photos suggest that wetlands are located within the requested review throughout the proposed project. The PGC is requesting that the final project avoid, or at least minimize to the greatest practical extent, any adverse impacts to these resources and their associated wildlife habitat.

In addition, portions of the project located in Luzerne and Carbon County are within areas where the abundance and species richness of various area-sensitive forest bird species are among the highest in the state. Area-sensitive forest bird species are those species that require a large expanse of relatively contiguous (un-fragmented) forest to maintain their populations. The species found in these areas are listed as species of greatest conservation need in Pennsylvania's Wildlife Action Plan (WAP). The WAP was designed to proactively manage and safeguard the state's declining fish and wildlife resources, and sets a framework to conserve Pennsylvania's diverse wildlife, maintain their role in ecological processes, and protect and enhance species of conservation concern (not just imperiled species). Although these area-sensitive forest bird species are not currently listed as threatened or endangered, and do not produce potential conflicts for projects reviewed using the on-line PNDI Environmental Review Tool, their populations and requisite habitat are either in decline, or are vulnerable to decline in the state.

As a result, the PGC is recommending the following conservation measures be implemented, to the greatest extent practicable, to minimize impacts to these area-sensitive forest bird species and minimize additional fragmentation of forested tracts throughout the project area:

- Co-locate the pipeline and associated facilities with existing roads and other disturbed areas
- Minimize the width of the temporary construction right-of-way (ROW), and avoid grubbing where possible to encourage the re-establishment of woody vegetation
- Minimize the width of the permanent, maintained ROW to only that which is absolutely necessary to maintain the integrity of the pipeline
- Maximize the rotation of mowing and/or clearing along that maintained ROW to allow for the establishment of more beneficial wildlife habitat
- Perform initial tree clearing for the project between August 15th and April 15th
- Use the following seed mixes, or similar herbaceous seed mixes that will minimize competition with volunteer woody plant species, while offering additional wildlife habitat and food sources along the reclaimed ROW:

Steep Slopes	**Other Areas**
1 bushel/acre Annual Cereal Grain (oats in spring, grain rye or wheat in fall)	*1 bushel/acre Annual Cereal Grain (oats in spring, grain rye or wheat in fall)*
10 lbs/acre Timothy	*5 lbs/acre Timothy*
3 lbs/acre Birdsfoot Trefoil	*5 lbs/acre Birdsfoot Trefoil*
4 lbs/acre Little Bluestem	*4 lbs/acre Little Bluestem*
3 lbs/acre Alsike Clover	*2 lbs/acre Indiangrass*
3 lbs/acre Ladino Clover	*1 lb/acre Side-oats Grama*
Straw Mulch, NO HAY	*1 lb/acre Switchgrass*
	¼ lb/acre Black-eyed Susan
	¼ lb/acre Lance-leaved Coreopsis
	Straw Mulch, NO HAY

- Perform any future mowing and/or clearing along the maintained ROW between August 15th and April 15th

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 the PGC at the following address as an "Update" (including an updated PNDI receipt, project narrative and accurate map):

PA Game Commission
Bureau of Wildlife Habitat Management

Division of Environmental Planning & Habitat Protection
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

If the proposed work has not changed and no additional information concerning listed species is found, the project will be cleared for PNDI requirements by the PGC for an additional 2 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.

Please be sure to include the above-referenced PGC ID Number on any future correspondence with the PGC regarding this project.

Sincerely,

John Taucher
Division of Environmental Planning & Habitat Protection
Bureau of Wildlife Habitat Management
Phone: 717-787-4250, Extension 3632
Fax: 717-787-6957
E-Mail:jotaucher@pa.gov

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Pennsylvania Natural Heritage Program

JWT/jwt

Enclosures:

PGC Survey Maps
PGC Allegheny Woodrat Guidance Document
PGC Protocol for Assessing Bat Use of Potential Hibernacula

cc: Figured
Metz
Wenner
Morgan
Sussenbach
Mitchell
Dunn

Brauning
Turner
Gross
Barber
DiMatteo
Havens
Librandi Mumma
Ms. Stephanie Livelsberger, Pennsylvania Department of Natural Resources
H:\OIL&GAS_PNDI_Reviews\Statewide & Multi-Region Projects

January 14, 2015

Mr. John Taucher
Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, PA 17110

RE: PGC ID Number: 201408190001 Revised

Dear Mr. Taucher,

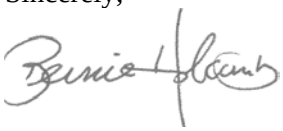
On behalf of PennEast Pipeline Company, LLC, we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; Texas Eastern Transmission, LP; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

As an interstate natural gas pipeline, PennEast will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015.

Over the past months, PennEast has worked to refine a new preferred alternative route and to obtain permissions to survey. To that end, we must inform you that the preferred alternative route has been adjusted to account for engineering, environmental, and land use constraints that have been identified since we last provided your agency with detailed project mapping on October 24, 2014. In Pennsylvania, the preferred alternative route has been re-routed for approximately 2.5 miles to the north side of State Route 33 near Bethlehem, PA. In New Jersey, the preferred alternative route has been re-routed for approximately 21 miles, from M.P. 90 (approximate) to the southern project terminus. This re-route has also necessitated a 1.3-mile, 36-inch lateral near Lambertville, NJ to transport gas to Algonquin and Texas Eastern Transmission systems. USGS topographic maps showing just the new route adjustments in Pennsylvania and updated shapefiles for the entire new preferred alternative route are being provided to aide in your review and analysis of the project.

We look forward to working with you and your colleagues on this important project. Please contact me if you have any questions.

Sincerely,



Bernie Holcomb

Pipeline Environmental Services Manager

URS Corporation 625 West Ridge Pike, Suite E-100 ; Conshohocken, PA 19428
Direct: 610 832 1810; Cell: 215 275-7956 ; Fax: 610-832-3501 bernard.holcomb@urs.com

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AUTOMATED TECHNOLOGY SERVICES. ...717-787-4076

www.pgc.state.pa.us

January 28, 2015 **PGC ID Number: 201408190001 Revision**

Bernard Holcomb
URS Corporation
625 W. Ridge Pike, Suite E-100
Conshohocken, PA 19428
Bernard.Holcomb@urs.com

Re: Penneast Pipeline Company, LLC – Penneast Pipeline Project (*Revision*)
State Game Lands Nos. 91, 40, 129, and 168
Large Project PNDI Review
Luzerne, Carbon, Northampton, and Bucks Counties, PA

Dear Mr. Holcomb,

Thank you for submitting your Pennsylvania Natural Diversity Inventory (PNDI) Large Project Environmental Review request. 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. This is an update to the PNDI letter that was issued on December 17, 2014 based on the revised preferred alternative route that was provided to the PGC on January 14, 2015.

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 threatened, endangered, and species of special concern may be associated with your project. Therefore, additional measures are necessary to avoid potential impacts to the species listed below:

Scientific Name	Common Name	PA Status
Glaucomys sabrinus macrotis	Northern Flying Squirrel	ENDANGERED
Neotoma magister	Allegheny Woodrat	THREATENED
Myotis leibii	Eastern Small-footed Bat	THREATENED
Pandion haliaetus	Osprey	THREATENED
Myotis septentrionalis	Northern Long-eared Bat	SPECIAL CONCERN

Next Steps

Northern Flying Squirrel

The PGC has identified a portion of the project (see attached *PGC Survey Maps*), where northern flying squirrels are known to exist, and may be impacted by the proposed project. The PGC is requesting the following for this portion of the project:

- Avoid all clearing activities between April 15th and June 15th to avoid potential impacts to northern flying squirrel young that are expected to be confined to their nests during this period.
- Develop and provide detailed plans and GIS shapefiles illustrating permanent and temporary right of way (ROW) limits for the project.

Please be advised that following our review of the above detailed plans, the PGC will be requesting a northern flying squirrel mitigation plan that may incorporate, but is not limited to, the following components:

- Replanting of the temporary ROW with various species of conifer seedlings, planted no less than 7.5 feet on center, and no more than 10 feet on center.
- Monitoring of the plantings for a minimum of 5 years, at which time 80% survival must be achieved or additional corrective action and monitoring will be required until such time as 80% survival is achieved.
- Installation of glide poles (telephone pole) with horizontal launch beams and shelters on each pole to facilitate northern flying squirrel passage across the cleared ROW.

Allegheny Woodrat

The PGC has identified portions of the proposed project where potential Allegheny woodrat habitat may exist, and could be impacted by the proposed project. The PGC is requesting that Allegheny woodrat surveys be completed in areas specified within the attached *PGC Survey Maps*. The surveys should be completed by a qualified biologist and follow protocols found in the *PGC Allegheny Woodrat* guidance document. Please be sure that the following information, at a minimum, is provided for further review and comment by the PGC:

- a 1:24,000 scale copy of a USGS topo map and a GIS shapefile illustrating the locations (i.e. points) of all woodrat activity centers and potential activity centers, as well as the limits (i.e. polygons) of all woodrat habitat sites (central point locations with average width and length measurements will not be accepted to illustrate the habitat sites)
- color photographs, keyed to a location and orientation map, of any woodrat habitat sites, activity centers, potential activity centers, or woodrat sign that are identified during the surveys
- completed Woodrat Habitat Site Survey forms for each habitat site identified during the survey

The survey report should be submitted to the PGC no later than December 31st of the year the survey is completed.

Eastern Small-footed Bat

The PGC has identified portions of the project where potential eastern small-footed bat day roost habitat may exist, and could be impacted by the proposed project. The PGC is requesting that all potential eastern small-footed bat day roost habitat in areas specified within the attached *PGC Survey Maps* be assessed and delineated by a qualified biologist. Please be sure that the following information, at a minimum, is provided for further review and comment by the PGC:

- a 1:24,000 scale copy of a USGS topo map and a GIS shapefile illustrating the limits of all potential small-footed bat day roost habitat that is identified
- a GIS shapefile illustrating the proposed limits of tree clearing throughout the Small-footed Bat Survey Area
- a GIS shapefile illustrating the proposed limits of earthwork, including any proposed grubbing or erosion and sedimentation pollution controls, throughout the Small-footed Bat Survey Area
- representative color photographs of all surface rock encountered during the assessment and delineation regardless of whether the rock is considered to be potential eastern small-footed bat day roost habitat or not (numerous photos for each area of surface rock are strongly recommended)
- a narrative or table detailing the following information for each area of surface rock that is encountered during the assessment and delineation to support or refute the rock's potential as eastern small-footed bat day roost habitat:
    - the estimated canopy cover over the rock
    - anticipated solar exposure of the rock
    - amount and size of crevices available for roost sites
    - presence of organic material, soil, or water within those crevices
    - other details as necessary that cannot be adequately conveyed via the photos provided
- a narrative detailing the reasons for any surface rock encountered not being considered potential small-footed bat day roost habitat
- a photo location and orientation map for all photos provided

The survey report should be submitted to the PGC no later than December 31st of the year the survey is completed.

Osprey

The PGC has identified a portion of the project (see attached *PGC Survey Maps*), where have known to nest, and may be impacted by the proposed project. The PGC is requesting the following seasonal restriction for this portion of the project:

- No activities related to this project shall occur within the Osprey Restriction area identified on Map 3 of the attached PGC Survey Maps during the nesting season, Mach 25 through July 31. All project related activities shall be completed in this area between August 1 and March 24.

Northern Long-eared Bats

Northern long-eared bats are a species of special concern and therefore, not target species for additional surveys. However, because of their ecological significance, all trees or dead snags greater than 5 inches in diameter at breast height that need to be harvested to facilitate the project (including any access roads or off-ROW work spaces) should be cut between November 1st and March 31st.

Potential Bat Hibernacula

The PA Department of Environmental Protection's *Abandoned Mine Land (AML) Inventory Points* from www.pasda.psu.edu indicates abandoned mine features may be located within the requested review area. These mine features have the potential to connect to abandoned deep mine workings that can serve as hibernacula for a variety of cave bat species. These AML openings and any undocumented openings and caves located along the proposed alignment and within the review buffer must be assessed following the *PGC Protocol for Assessing Bat Use of Potential Hibernacula*. Any features having 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.

State Game Lands

Portions of the proposed project are located on State Game Lands Nos. 91, 40, 129, and 168. Please contact Mr. Peter Sussenbach, Northeast Land Management Supervisor, at 570-675-1143 to discuss and coordinate the project on SGL's 91, 40, and 129, and Mr. Dave Mitchell, Southeast Region Land Management Supervisor, at 610-926-3136 to discuss and coordinate the project on SGL 168.

Conservation Measures

National Wetland Inventory Mapping (NWI) and/or aerial photos suggest that wetlands are located within the requested review throughout the proposed project. The PGC is requesting that the final project avoid, or at least minimize to the greatest practical extent, any adverse impacts to these resources and their associated wildlife habitat.

In addition, portions of the project located in Luzerne and Carbon County are within areas where the abundance and species richness of various area-sensitive forest bird species are among the highest in the state. Area-sensitive forest bird species are those species that require a large expanse of relatively contiguous (un-fragmented) forest to maintain their populations. The species found in these areas are listed as species of greatest conservation need in Pennsylvania's Wildlife Action Plan (WAP). The WAP was designed to proactively manage and safeguard the state's declining fish and wildlife resources, and sets a framework to conserve Pennsylvania's diverse wildlife, maintain their role in ecological processes, and protect and enhance species of conservation concern (not just imperiled species). Although these area-sensitive forest bird species are not currently listed as threatened or endangered, and do not produce potential conflicts for projects reviewed using the on-line PNDI Environmental Review Tool, their populations and requisite habitat are either in decline, or are vulnerable to decline in the state.

As a result, the PGC is recommending the following conservation measures be implemented, to the greatest extent practicable, to minimize impacts to these area-sensitive forest bird species and minimize additional fragmentation of forested tracts throughout the project area:

- Co-locate the pipeline and associated facilities with existing roads and other disturbed areas
- Minimize the width of the temporary construction right-of-way (ROW), and avoid grubbing where possible to encourage the re-establishment of woody vegetation
- Minimize the width of the permanent, maintained ROW to only that which is absolutely necessary to maintain the integrity of the pipeline
- Maximize the rotation of mowing and/or clearing along that maintained ROW to allow for the establishment of more beneficial wildlife habitat
- Perform initial tree clearing for the project between August 15th and April 15th
- Use the following seed mixes, or similar herbaceous seed mixes that will minimize competition with volunteer woody plant species, while offering additional wildlife habitat and food sources along the reclaimed ROW:

Steep Slopes	**Other Areas**
1 bushel/acre Annual Cereal Grain (oats in spring, grain rye or wheat in fall)	*1 bushel/acre Annual Cereal Grain (oats in spring, grain rye or wheat in fall)*
10 lbs/acre Timothy	*5 lbs/acre Timothy*
3 lbs/acre Birdsfoot Trefoil	*5 lbs/acre Birdsfoot Trefoil*
4 lbs/acre Little Bluestem	*4 lbs/acre Little Bluestem*
3 lbs/acre Alsike Clover	*2 lbs/acre Indiangrass*
3 lbs/acre Ladino Clover	*1 lb/acre Side-oats Grama*
Straw Mulch, NO HAY	*1 lb/acre Switchgrass*
	¼ lb/acre Black-eyed Susan
	¼ lb/acre Lance-leaved Coreopsis
	Straw Mulch, NO HAY

- Perform any future mowing and/or clearing along the maintained ROW between August 15th and April 15th

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 the PGC at the following address as an "Update" (including an updated PNDI receipt, project narrative and accurate map):

PA Game Commission
Bureau of Wildlife Habitat Management

Division of Environmental Planning & Habitat Protection
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

If the proposed work has not changed and no additional information concerning listed species is found, the project will be cleared for PNDI requirements by the PGC for an additional 2 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.

Please be sure to include the above-referenced PGC ID Number on any future correspondence with the PGC regarding this project.

Sincerely,

John Taucher

John Taucher
Division of Environmental Planning & Habitat Protection
Bureau of Wildlife Habitat Management
Phone: 717-787-4250, Extension 3632
Fax: 717-787-6957
E-Mail:jotaucher@pa.gov

A PNHP Partner

PNHP
Pennsylvania Natural Heritage Program

JWT/jwt

Enclosures:
PGC Survey Maps

cc: Figured
Metz
Wenner
Morgan
Sussenbach
Mitchell
Dunn
Brauning
Turner

Gross
Barber
DiMatteo
Havens
Librandi Mumma
Ms. Stephanie Livelsberger, Pennsylvania Department of Natural Resources
H:\OIL&GAS_PNDI_Reviews\Statewide & Multi-Region Projects

March 30, 2015

Mr. John Taucher
Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, PA 17110

Dear Mr. Taucher:

On behalf of PennEast Pipeline Company, LLC, we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; Spectra Energy Partners; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

As an interstate natural gas pipeline, PennEast will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015. Over the past months, PennEast has worked to refine a preferred alternative route and to obtain permissions to survey. To that end, we must inform you that the preferred alternative route has again been adjusted to account for engineering, environmental, and land use constraints that have been identified since we last provided your agency with detailed project mapping on January 14, 2015.

Following feedback from FERC's scoping meetings and numerous conversations with landowners, state and local agencies, and other various stakeholders, PennEast has revised and refined various portions of the preferred alternative route. The largest variations to the previously released route are related to the location of the crossing of the Bethlehem Authority water supply mainline (MP 44 and MP 45), Appalachian Trail crossing (between MP 46 and MP 55), and accommodating future subdivision and housing development plans. Additional field data gained over the last month has helped make smaller adjustments related to environmental surveys and individual discussions with landowners.

In addition to the route variations noted above, an additional interconnect was needed for the Gilbert Power Generation facility in Holland Township, New Jersey, which is fed by a small lateral (12 inches) to supply natural gas to the facility. The previously located interconnection with Elizabethtown Gas was relocated so that both interconnects can be co-located within the power station's industrial property to minimize additional above-ground impacts.

A summary of the significant route variations in Pennsylvania is provided below:

- In Towamensing Township in Carbon County, PA, less than one mile of the alignment has been re-routed ¼-mile to the east as a result of consultations with the Bethlehem Authority (Authority). The alignment has been re-routed between mileposts 44 and 45 to cross the Authority's water supply mainline in a location where it is deeper in an effort to maximize protection of the Authority's resources.

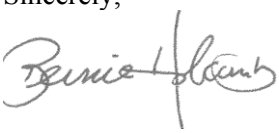
- Straddling the Carbon – Northampton County line in PA, approximately 8 miles of the alignment between mileposts 46 and 55 has been re-routed up to 1 mile to the west of the previous route in an effort to refine the crossing location of the Appalachian Trail.

- In Northampton County, PA, approximately 2.5 miles of the alignment has been re-routed less than ½-mile to the north of the previous route as a result of consultations with private landowners and local officials. The alignment has been re-routed between mileposts 59 and 62 to accommodate current and future land use plans in the area.

Updated GIS shapefiles for the entire new preferred alternative route are being provided to aide in your review and analysis of the project.

We look forward to continuing to work with you and your colleagues on this important project. Please contact me if you have any questions.

Sincerely,



Bernie Holcomb
Pipeline Environmental Services Manager

URS Corporation 625 West Ridge Pike, Suite E-100; Conshohocken, PA 19428
Direct: 610 832 1810; Cell: 215 275-7956; Fax: 610-832-3501 bernard.holcomb@urs.com

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

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:

ADM NISTRATION. 717-787-5670
HUMAN RESOURCES 717-787-7836
FISCAL MANAGEMENT. 717-787-7314
CONTRACTS AND PROCUREMENT. .717-787-6594
LICENS NG. ...717-787-2084
OFFICE SERVICES. .717-787-2116
WILDLIFE MANAGEMENT. ..717-787-5529
NFORMATION & 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

May 5, 2015 **PGC ID Number: 201408190001 Revision**

Bernard Holcomb
URS Corporation
625 W. Ridge Pike, Suite E-100
Conshohocken, PA 19428
Bernard.Holcomb@urs.com

Re: Penneast Pipeline Company, LLC – Penneast Pipeline Project (*Revision*)
State Game Lands Nos. 91, 40, 129, and 168
Large Project PNDI Review
Luzerne, Carbon, Northampton, and Bucks Counties, PA

Dear Mr. Holcomb,

Thank you for submitting your Pennsylvania Natural Diversity Inventory (PNDI) Large Project Environmental Review request. 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. This is an update to the PNDI letter that was issued on December 28, 2015 based on the revised proposed route that was provided to the PGC on March 31, 2015.

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 threatened, endangered, and species of special concern may be associated with your project. Therefore, additional measures are necessary to avoid potential impacts to the species listed below:

Scientific Name	Common Name	PA Status	Federal Status
Myotis septentrionalis	Northern Long-eared Bat	THREATENED	THREATENED
Glaucomys sabrinus macrotis	Northern Flying Squirrel	ENDANGERED	N/A
Neotoma magister	Allegheny Woodrat	THREATENED	N/A
Myotis leibii	Eastern Small-footed Bat	THREATENED	N/A
Pandion haliaetus	Osprey	THREATENED	N/A

Next Steps

Northern Long-eared Bats

Northern long-eared bats are a federally listed threatened species 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.

Northern Flying Squirrel

The PGC has identified a portion of the project (see attached *PGC Survey Maps*), where northern flying squirrels are known to exist, and may be impacted by the proposed project. The PGC is requesting the following for this portion of the project:

- Avoid all clearing activities between April 15th and June 15th to avoid potential impacts to northern flying squirrel young that are expected to be confined to their nests during this period.
- Develop and provide detailed plans and GIS shapefiles illustrating permanent and temporary right of way (ROW) limits for the project.

Please be advised that following our review of the above detailed plans, the PGC will be requesting a northern flying squirrel mitigation plan that may incorporate, but is not limited to, the following components:

- Replanting of the temporary ROW with various species of conifer seedlings, planted no less than 7.5 feet on center, and no more than 10 feet on center.
- Monitoring of the plantings for a minimum of 5 years, at which time 80% survival must be achieved or additional corrective action and monitoring will be required until such time as 80% survival is achieved.
- Installation of glide poles (telephone pole) with horizontal launch beams and shelters on each pole to facilitate northern flying squirrel passage across the cleared ROW.

Allegheny Woodrat

The PGC has identified portions of the proposed project where potential Allegheny woodrat habitat may exist, and could be impacted by the proposed project. The PGC is requesting that Allegheny woodrat surveys be completed in areas specified within the attached *PGC Survey Maps*. The surveys should be completed by a qualified biologist and follow protocols found in the *PGC Allegheny Woodrat* guidance document. Please be sure that the following information, at a minimum, is provided for further review and comment by the PGC:

- a 1:24,000 scale copy of a USGS topo map and a GIS shapefile illustrating the locations (i.e. points) of all woodrat activity centers and potential activity centers, as well as the limits (i.e. polygons) of all woodrat habitat sites (central point locations with average width and length measurements will not be accepted to illustrate the habitat sites)
- color photographs, keyed to a location and orientation map, of any woodrat habitat sites, activity centers, potential activity centers, or woodrat sign that are identified during the surveys

- completed Woodrat Habitat Site Survey forms for each habitat site identified during the survey

The survey report should be submitted to the PGC no later than December 31st of the year the survey is completed.

Eastern Small-footed Bat

The PGC has identified portions of the project where potential eastern small-footed bat day roost habitat may exist, and could be impacted by the proposed project. The PGC is requesting that all potential eastern small-footed bat day roost habitat in areas specified within the attached *PGC Survey Maps* be assessed and delineated by a qualified biologist. Please be sure that the following information, at a minimum, is provided for further review and comment by the PGC:

- a 1:24,000 scale copy of a USGS topo map and a GIS shapefile illustrating the limits of all potential small-footed bat day roost habitat that is identified
- a GIS shapefile illustrating the proposed limits of tree clearing throughout the Small-footed Bat Survey Area
- a GIS shapefile illustrating the proposed limits of earthwork, including any proposed grubbing or erosion and sedimentation pollution controls, throughout the Small-footed Bat Survey Area
- representative color photographs of all surface rock encountered during the assessment and delineation regardless of whether the rock is considered to be potential eastern small-footed bat day roost habitat or not (numerous photos for each area of surface rock are strongly recommended)
- a narrative or table detailing the following information for each area of surface rock that is encountered during the assessment and delineation to support or refute the rock's potential as eastern small-footed bat day roost habitat:
    - the estimated canopy cover over the rock
    - anticipated solar exposure of the rock
    - amount and size of crevices available for roost sites
    - presence of organic material, soil, or water within those crevices
    - other details as necessary that cannot be adequately conveyed via the photos provided
- a narrative detailing the reasons for any surface rock encountered not being considered potential small-footed bat day roost habitat
- a photo location and orientation map for all photos provided

The survey report should be submitted to the PGC no later than December 31st of the year the survey is completed.

Osprey

The PGC has identified a portion of the project (see attached *PGC Survey Maps*), where have known to nest, and may be impacted by the proposed project. The PGC is requesting the following seasonal restriction for this portion of the project:

- No activities related to this project shall occur within the Osprey Restriction area identified on Map 3 of the attached PGC Survey Maps during the nesting season, Mach 25 through July 31. All project related activities shall be completed in this area between August 1 and March 24.

Potential Bat Hibernacula

The PA Department of Environmental Protection's *Abandoned Mine Land (AML) Inventory Points* from www.pasda.psu.edu indicates abandoned mine features may be located within the requested review area. These mine features have the potential to connect to abandoned deep mine workings that can serve as hibernacula for a variety of cave bat species. These AML openings and any undocumented openings and caves located along the proposed alignment and within the review buffer must be assessed following the *PGC Protocol for Assessing Bat Use of Potential Hibernacula*. Any features having 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.

State Game Lands

Portions of the proposed project are located on State Game Lands Nos. 91, 40, 129, and 168. Please contact Mr. Peter Sussenbach, Northeast Land Management Supervisor, at 570-675-1143 to discuss and coordinate the project on SGL's 91, 40, and 129, and Mr. Dave Mitchell, Southeast Region Land Management Supervisor, at 610-926-3136 to discuss and coordinate the project on SGL 168.

Conservation Measures

National Wetland Inventory Mapping (NWI) and/or aerial photos suggest that wetlands are located within the requested review throughout the proposed project. The PGC is requesting that the final project avoid, or at least minimize to the greatest practical extent, any adverse impacts to these resources and their associated wildlife habitat.

In addition, portions of the project located in Luzerne and Carbon County are within areas where the abundance and species richness of various area-sensitive forest bird species are among the highest in the state. Area-sensitive forest bird species are those species that require a large expanse of relatively contiguous (un-fragmented) forest to maintain their populations. The species found in these areas are listed as species of greatest conservation need in Pennsylvania's Wildlife Action Plan (WAP). The WAP was designed to proactively manage and safeguard the state's declining fish and wildlife resources, and sets a framework to conserve Pennsylvania's diverse wildlife, maintain their role in ecological processes, and protect and enhance species of conservation concern (not just imperiled species). Although these area-sensitive forest bird species are not currently listed as threatened or endangered, and do not produce potential conflicts for projects reviewed using the on-line PNDI Environmental Review Tool, their populations and requisite habitat are either in decline, or are vulnerable to decline in the state.

As a result, the PGC is recommending the following conservation measures be implemented, to the greatest extent practicable, to minimize impacts to these area-sensitive forest bird species and minimize additional fragmentation of forested tracts throughout the project area:

- Co-locate the pipeline and associated facilities with existing roads and other disturbed areas
- Minimize the width of the temporary construction right-of-way (ROW), and avoid grubbing where possible to encourage the re-establishment of woody vegetation
- Minimize the width of the permanent, maintained ROW to only that which is absolutely necessary to maintain the integrity of the pipeline
- Maximize the rotation of mowing and/or clearing along that maintained ROW to allow for the establishment of more beneficial wildlife habitat
- Perform initial tree clearing for the project between August 15th and April 15th
- Use the following seed mixes, or similar herbaceous seed mixes that will minimize competition with volunteer woody plant species, while offering additional wildlife habitat and food sources along the reclaimed ROW:

Steep Slopes	**Other Areas**
1 bushel/acre Annual Cereal Grain (oats in spring, grain rye or wheat in fall)	*1 bushel/acre Annual Cereal Grain (oats in spring, grain rye or wheat in fall)*
10 lbs/acre Timothy	*5 lbs/acre Timothy*
3 lbs/acre Birdsfoot Trefoil	*5 lbs/acre Birdsfoot Trefoil*
4 lbs/acre Little Bluestem	*4 lbs/acre Little Bluestem*
3 lbs/acre Alsike Clover	*2 lbs/acre Indiangrass*
3 lbs/acre Ladino Clover	*1 lb/acre Side-oats Grama*
Straw Mulch, NO HAY	*1 lb/acre Switchgrass*
	¼ lb/acre Black-eyed Susan
	¼ lb/acre Lance-leaved Coreopsis
	Straw Mulch, NO HAY

- Perform any future mowing and/or clearing along the maintained ROW between August 15th and April 15th

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 the PGC at the following address as an "Update" (including an updated PNDI receipt, project narrative and accurate map):

PA Game Commission
Bureau of Wildlife Habitat Management

Division of Environmental Planning & Habitat Protection
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

If the proposed work has not changed and no additional information concerning listed species is found, the project will be cleared for PNDI requirements by the PGC for an additional 2 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.

Please be sure to include the above-referenced PGC ID Number on any future correspondence with the PGC regarding this project.

Sincerely,

John Taucher

John Taucher
Division of Environmental Planning & Habitat Protection
Bureau of Wildlife Habitat Management
Phone: 717-787-4250, Extension 3632
Fax: 717-787-6957
E-Mail:jotaucher@pa.gov

A PNHP Partner

PNHP
Pennsylvania Natural Heritage Program

JWT/jwt

Enclosures:
PGC Survey Maps

cc: Figured
Metz
Wenner
Morgan
Sussenbach
Mitchell
Dunn
Brauning
Turner

Gross
Barber
DiMatteo
Havens
Librandi Mumma
Ms. Stephanie Livelsberger, Pennsylvania Department of Natural Resources
H:\OIL&GAS_PNDI_Reviews\Statewide & Multi-Region Projects

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA GAME COMMISSION
BUREAU OF WILDLIFE MANAGEMENT
WILDLIFE DIVERSITY SECTION
2001 Elmerton Avenue, Harrisburg, PA 17110-9797 Tel: 717.787.5529 Fax: 717.787.3292

DATE: May 15, 2015

SUBJECT: Changes to Bat Survey Protocols in Pennsylvania

TO: Pennsylvania Qualified Bat Surveyors



FROM: Greg Turner, Wildlife Biologist
2001 Elmerton Ave, Harrisburg, PA 17110

Dear Colleagues,

Another survey year is upon us and I thank you for your cooperation in providing the required summary reports in the correct format. Be assured that the data is being reviewed, entered into databases and tracked. As a group you are to be commended for the professionalism and dedication exhibited.

There are always a few items that will need your attention. In this year great change is upon us, with a new federal species listed. Current standards applied by the U.S Fish and Wildlife Service (USFWS) treat Indiana bat captures with a 5-mile random capture buffer and 2.5 mile buffer for captures with known roost trees. Similarly for northern long-eared bats, the random capture: identified roost tree buffers are 3.0:1.5 miles, respectively. The smaller buffer in both of these cases is based on scientific evidence suggesting routine travel distance from roost tree. In an effort to align with regional state and USFWS offices, the PGC will incorporate a standardized procedure where a small proportion of reproductive northern long-eared females/juveniles that meet body mass requirements (6%) will have a transmitter attached, and roost trees/emergence counts performed for a single night. The level of effort will be no less than a single female or juvenile every 3 miles (5 km) for linear projects or one per 123 acres for non-linear projects. Efforts above this minimum level are acceptable.

With such greatly reduced captures, we have also initiated a new, mandatory measurement of all bats captured. This is not initiated as a way to scrutinize your work, but because a new species was confirmed in the State last year, an evening bat! Please be vigilant for this species and photograph any individual that fits the forearm and morphological descriptions of this species. Location of the first ever maternity site would be a feather in your cap if possible for you to find.

In this digital age, we are happy to provide digital copies of any forms, and a blank database for data entry. This will be required in 2016. In this way, you can enter the data in the field and by submitting the forms and the database, we can double check and finalize your data more efficiently. Please feel free to ask for these prior to any permit in order to familiarize yourself with them. There will also be changes made to the QBS/BI list next year, with a new method to submit your packet. It will also be focused to become a list of active bat consultants.

Thank you for your continued cooperation.

cc: D. Brauning, C. Eyler, T. Librandi-Mumma, M. Scafini, R. Anderson, M. Turner, and P. Shellenberger

Poppel, Deborah

From: Poppel, Deborah
Sent: Friday, July 24, 2015 11:41 AM
To: 'Taucher, John'
Cc: West, Jonathan; Binckley, Sarah
Subject: PennEast Reroutes- Official Notice
Attachments: PennEast Deviation MP 22.4 to 23.2_072315.pdf; PennEast Deviation MP 48.9 to 53.5_ 072315.pdf; PennEast Deviation MP 61.7 to 62.7_072315.pdf; PennEast Deviation MP 70.1 to 70.6_072315.pdf; PennEast Reroute MP 6.5 to 11.8_072315.pdf; PennEast Proposed Route (July 15, 2015).kmz; PennEast_ProjectShapefiles_July2015

Tracking:

Recipient	Delivery
'Taucher, John'	
West, Jonathan	Delivered: 7/24/2015 11:41 AM
Binckley, Sarah	Delivered: 7/24/2015 11:41 AM

On behalf of PennEast Pipeline Company, LLC, we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; Spectra Energy Partners; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

As an interstate natural gas pipeline, PennEast will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015. PennEast filed Draft Resource Reports with FERC in April 2015. Since the Preliminary Draft Resource Report filing in April 2015, PennEast has continued to evaluate potential alternatives to the proposed pipeline alignment based on comments received during the formal Scoping process, ongoing dialogue with federal, state, regional and local agencies, land owners, and the findings from field surveys and engineering analyses. In the April filing we provided an overview of the ongoing assessments for 3 major alternatives and over 70 minor route variations.

In the past 3 months the overall alignment has been adjusted within the 400 foot survey corridor to avoid and/or minimize impacts to wetlands and waterbodies, cultural resources, agricultural lands and other sensitive habitats. In Pennsylvania, 2 reroutes and more than 40 minor route variations have been evaluated. The 2 reroutes evaluate alternative ways of crossing the Appalachian Trail and nearby PA State Game Lands, and avoid active quarrying operations. These alternatives and reroutes have gone through the same detailed assessment as those assessed in the April filing. Updated GIS shapefiles for the entire new preferred alternative route are attached to aide in your review and analysis of the Project. (To open the shapefiles, please add a ".zip" extension to the file and then extract the files.)

Significant reroutes include:

- In Plains Township and Laflin Borough in Luzerne County, approximately 3.6 miles of the alignment has been rerouted one mile to the east to avoid active quarrying operations (new mileposts 8.4 to 12.3).
- In Towamensing Township and Lower Towamensing Township in Carbon County, approximately 2 miles of the alignment has been rerouted approximately 2 miles to the west. This reroute addresses a request for a new Interconnect as well as concerns related to the Appalachian Trail and PA State Game Lands (new mileposts 48.9 to 53.6)

We look forward to continuing to work with you and your colleagues on this important Project. Please contact me if you have any questions.

PA agencies- We have also attached PNDIs of the primary deviations and reroutes for your information purposes, although we understand these are not to be used for permitting as this is a large project.

Sincerely,

Deborah Poppel, CWB
Senior Ecologist / Project Manager
Environment - Impact Assessment & Permitting Dept.
Design & Consulting Services, Philadelphia Metro Region
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AECOM and URS have joined together as one company.

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COMMONWEALTH OF PENNSYLVANIA
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LICENS NG. ...717-787-2084
OFFICE SERVICES. .717-787-2116
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NFORMATION & EDUCATION ...717-787-6286
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REAL ESTATE DIVISION. 717-787-6568
AUTOMATED TECHNOLOGY SERVICES. ...717-787-4076

www.pgc.state.pa.us

August 13, 2015 **PGC ID Number: 201408190001 Revision**

Deborah Poppel
AECOM
625 W. Ridge Pike, Suite E-100
Conshohocken, PA 19428
Deborah.Poppel@aecom.com

Re: Penneast Pipeline Company, LLC – Penneast Pipeline Project (*Revision*)
State Game Lands Nos. 91, 40, 129, and 168
Large Project PNDI Review
Luzerne, Carbon, Northampton, and Bucks Counties, PA

Dear Mr. Holcomb,

Thank you for submitting your Pennsylvania Natural Diversity Inventory (PNDI) Large Project Environmental Review request. 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. This is an update to the PNDI letter that was issued on May 5, 2015 based on the revised proposed route that was provided to the PGC on July 24, 2015.

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 threatened, endangered, and species of special concern may be associated with your project. Therefore, additional measures are necessary to avoid potential impacts to the species listed below:

Scientific Name	Common Name	PA Status	Federal Status
Myotis septentrionalis	Northern Long-eared Bat	THREATENED	THREATENED
Glaucomys sabrinus macrotis	Northern Flying Squirrel	ENDANGERED	N/A
Neotoma magister	Allegheny Woodrat	THREATENED	N/A
Myotis leibii	Eastern Small-footed Bat	THREATENED	N/A
Pandion haliaetus	Osprey	THREATENED	N/A

Next Steps

Northern Long-eared Bats

Northern long-eared bats are a federally listed threatened species 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.

Northern Flying Squirrel

The PGC has identified a portion of the project (see attached *PGC Survey Maps*), where northern flying squirrels are known to exist, and may be impacted by the proposed project. The PGC is requesting the following for this portion of the project:

- Avoid all clearing activities between April 15th and June 15th to avoid potential impacts to northern flying squirrel young that are expected to be confined to their nests during this period.
- Develop and provide detailed plans and GIS shapefiles illustrating permanent and temporary right of way (ROW) limits for the project.

Please be advised that following our review of the above detailed plans, the PGC will be requesting a northern flying squirrel mitigation plan that may incorporate, but is not limited to, the following components:

- Replanting of the temporary ROW with various species of conifer seedlings, planted no less than 7.5 feet on center, and no more than 10 feet on center.
- Monitoring of the plantings for a minimum of 5 years, at which time 80% survival must be achieved or additional corrective action and monitoring will be required until such time as 80% survival is achieved.
- Installation of glide poles (telephone pole) with horizontal launch beams and shelters on each pole to facilitate northern flying squirrel passage across the cleared ROW.

Allegheny Woodrat

The PGC has identified portions of the proposed project where potential Allegheny woodrat habitat may exist, and could be impacted by the proposed project. The PGC is requesting that Allegheny woodrat surveys be completed in areas specified within the attached *PGC Survey Maps*. The surveys should be completed by a qualified biologist and follow protocols found in the *PGC Allegheny Woodrat* guidance document. Please be sure that the following information, at a minimum, is provided for further review and comment by the PGC:

- a 1:24,000 scale copy of a USGS topo map and a GIS shapefile illustrating the locations (i.e. points) of all woodrat activity centers and potential activity centers, as well as the limits (i.e. polygons) of all woodrat habitat sites (central point locations with average width and length measurements will not be accepted to illustrate the habitat sites)
- color photographs, keyed to a location and orientation map, of any woodrat habitat sites, activity centers, potential activity centers, or woodrat sign that are identified during the surveys

- completed Woodrat Habitat Site Survey forms for each habitat site identified during the survey

The survey report should be submitted to the PGC no later than December 31st of the year the survey is completed.

Eastern Small-footed Bat

The PGC has identified portions of the project where potential eastern small-footed bat day roost habitat may exist, and could be impacted by the proposed project. The PGC is requesting that all potential eastern small-footed bat day roost habitat in areas specified within the attached *PGC Survey Maps* be assessed and delineated by a qualified biologist. Please be sure that the following information, at a minimum, is provided for further review and comment by the PGC:

- a 1:24,000 scale copy of a USGS topo map and a GIS shapefile illustrating the limits of all potential small-footed bat day roost habitat that is identified
- a GIS shapefile illustrating the proposed limits of tree clearing throughout the Small-footed Bat Survey Area
- a GIS shapefile illustrating the proposed limits of earthwork, including any proposed grubbing or erosion and sedimentation pollution controls, throughout the Small-footed Bat Survey Area
- representative color photographs of all surface rock encountered during the assessment and delineation regardless of whether the rock is considered to be potential eastern small-footed bat day roost habitat or not (numerous photos for each area of surface rock are strongly recommended)
- a narrative or table detailing the following information for each area of surface rock that is encountered during the assessment and delineation to support or refute the rock's potential as eastern small-footed bat day roost habitat:
    - the estimated canopy cover over the rock
    - anticipated solar exposure of the rock
    - amount and size of crevices available for roost sites
    - presence of organic material, soil, or water within those crevices
    - other details as necessary that cannot be adequately conveyed via the photos provided
- a narrative detailing the reasons for any surface rock encountered not being considered potential small-footed bat day roost habitat
- a photo location and orientation map for all photos provided

The survey report should be submitted to the PGC no later than December 31st of the year the survey is completed.

Osprey

The PGC has identified a portion of the project (see attached *PGC Survey Maps*), where have known to nest, and may be impacted by the proposed project. The PGC is requesting the following seasonal restriction for this portion of the project:

- No activities related to this project shall occur within the Osprey Restriction area identified on Map 3 of the attached PGC Survey Maps during the nesting season, Mach 25 through July 31. All project related activities shall be completed in this area between August 1 and March 24.

Potential Bat Hibernacula

The PA Department of Environmental Protection's *Abandoned Mine Land (AML) Inventory Points* from www.pasda.psu.edu indicates abandoned mine features may be located within the requested review area. These mine features have the potential to connect to abandoned deep mine workings that can serve as hibernacula for a variety of cave bat species. These AML openings and any undocumented openings and caves located along the proposed alignment and within the review buffer must be assessed following the *PGC Protocol for Assessing Bat Use of Potential Hibernacula*. Any features having 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.

State Game Lands

Portions of the proposed project are located on State Game Lands Nos. 91, 40, 129, and 168. Please contact Mr. Michael Beahm, Northeast Land Management Supervisor, at 570-675-1143 to discuss and coordinate the project on SGL's 91, 40, and 129, and Mr. Dave Mitchell, Southeast Region Land Management Supervisor, at 610-926-3136 to discuss and coordinate the project on SGL 168.

Conservation Measures

National Wetland Inventory Mapping (NWI) and/or aerial photos suggest that wetlands are located within the requested review throughout the proposed project. The PGC is requesting that the final project avoid, or at least minimize to the greatest practical extent, any adverse impacts to these resources and their associated wildlife habitat.

In addition, portions of the project located in Luzerne and Carbon County are within areas where the abundance and species richness of various area-sensitive forest bird species are among the highest in the state. Area-sensitive forest bird species are those species that require a large expanse of relatively contiguous (un-fragmented) forest to maintain their populations. The species found in these areas are listed as species of greatest conservation need in Pennsylvania's Wildlife Action Plan (WAP). The WAP was designed to proactively manage and safeguard the state's declining fish and wildlife resources, and sets a framework to conserve Pennsylvania's diverse wildlife, maintain their role in ecological processes, and protect and enhance species of conservation concern (not just imperiled species). Although these area-sensitive forest bird species are not currently listed as threatened or endangered, and do not produce potential conflicts for projects reviewed using the on-line PNDI Environmental Review Tool, their populations and requisite habitat are either in decline, or are vulnerable to decline in the state.

As a result, the PGC is recommending the following conservation measures be implemented, to the greatest extent practicable, to minimize impacts to these area-sensitive forest bird species and minimize additional fragmentation of forested tracts throughout the project area:

- Co-locate the pipeline and associated facilities with existing roads and other disturbed areas

- Minimize the width of the temporary construction right-of-way (ROW), and avoid grubbing where possible to encourage the re-establishment of woody vegetation
- Minimize the width of the permanent, maintained ROW to only that which is absolutely necessary to maintain the integrity of the pipeline
- Maximize the rotation of mowing and/or clearing along that maintained ROW to allow for the establishment of more beneficial wildlife habitat
- Perform initial tree clearing for the project between August 15th and April 15th
- Use the following seed mixes, or similar herbaceous seed mixes that will minimize competition with volunteer woody plant species, while offering additional wildlife habitat and food sources along the reclaimed ROW:

Steep Slopes	**Other Areas**
1 bushel/acre Annual Cereal Grain (oats in spring, grain rye or wheat in fall)	*1 bushel/acre Annual Cereal Grain (oats in spring, grain rye or wheat in fall)*
10 lbs/acre Timothy	*5 lbs/acre Timothy*
3 lbs/acre Birdsfoot Trefoil	*5 lbs/acre Birdsfoot Trefoil*
4 lbs/acre Little Bluestem	*4 lbs/acre Little Bluestem*
3 lbs/acre Alsike Clover	*2 lbs/acre Indiangrass*
3 lbs/acre Ladino Clover	*1 lb/acre Side-oats Grama*
Straw Mulch, NO HAY	*1 lb/acre Switchgrass*
	¼ lb/acre Black-eyed Susan
	¼ lb/acre Lance-leaved Coreopsis
	Straw Mulch, NO HAY

- Perform any future mowing and/or clearing along the maintained ROW between August 15th and April 15th

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 the PGC at the following address as an "Update" (including an updated PNDI receipt, project narrative and accurate map):

PA Game Commission
Bureau of Wildlife Habitat Management
Division of Environmental Planning & Habitat Protection
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

If the proposed work has not changed and no additional information concerning listed species is found, the project will be cleared for PNDI requirements by the PGC for an additional 2 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.

Please be sure to include the above-referenced PGC ID Number on any future correspondence with the PGC regarding this project.

Sincerely,

John Taucher

John Taucher
Division of Environmental Planning & Habitat Protection
Bureau of Wildlife Habitat Management
Phone: 717-787-4250, Extension 3632
Fax: 717-787-6957
E-Mail:jotaucher@pa.gov

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Enclosures:
PGC Survey Maps

cc: Figured
Metz
Wenner
Morgan
Beahm
Mitchell
Brauning
Turner
Gross
Barber
DiMatteo
Havens

Librandi Mumma
Ms. Pamela Shellenberger, U.S. Fish & Wildlife Service
Ms. Stephanie Livelsberger, Pennsylvania Department of Natural Resources
H:\OIL&GAS_PNDI_Reviews\Statewide & Multi-Region Projects

October 7, 2015

Mr. John Taucher
Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, PA 17110

RE: PennEast Pipeline Project
Privileged and Confidential
PGC ID Number: 201408190001 Revision
Myotis leibii and *Neotomis magister* habitat survey results

Dear Mr. Taucher:

On behalf of PennEast Pipeline Company, LLC (PennEast), we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

In accordance with coordination with your office, PennEast contracted with Wildlife Specialists, LLC (Wildlife Specialists) to conduct habitat surveys for Eastern small-footed bat (*Myotis leibii)* and Allegheny woodrat (*Neotomis magister*) in those areas identified by Pennsylvania Game Commission (PGC) as being of concern for these species. Wildlife Specialists has qualified biologists on staff who conducted the required surveys in accordance with state-specified guidelines. A report documenting the results of the surveys completed as of August 2015 is enclosed for your review, along with a figure that depicts the locations of the species of concern or habitats identified (including those completed in response to route changes after the original surveys were completed). A supplemental report will be provided with the additional survey information in the near future.

Potential woodrat habitat was identified, but no woodrat sign was observed. Therefore, no impacts to woodrat are anticipated. In addition, PennEast will adhere to your office's impact minimization recommendations for osprey (*Pandion haliaetus*) and for northern flying squirrel (*Glauconys sabrinus macrotis*), and therefore no adverse impacts to these species are anticipated to occur from the Project.

Potential eastern small-footed bat day roost habitat was identified following surveys by qualified biologists, in the vicinity of milepost (MP) [redacted], MP [redacted], MP [redacted], and MP [redacted]. In addition, mist-net surveys for federally-listed bat species resulted in captures of eastern small-footed bat (a copy of that report is also enclosed for your review). Three radio-transmittered eastern small-footed bats were successfully tracked to roost locations outside the Project area (vicinity of MP [redacted]). Foraging telemetry data showed the primary activity to be between MP [redacted] and MP [redacted].

Northern long-eared bats (*Myotis septentrionalis*) were identified following surveys by qualified biologists. Based upon telemetry results and roost locations, the following sections of the Project should adhere to the tree-clearing timing restriction (i.e. only clear trees between November 1 and March 31):

- MP [redacted]
- MP [redacted]
- MP [redacted]

- MP [redacted]
- MP [redacted]
- MP [redacted]
- MP [redacted]
- MP [redacted]
- MP [redacted]
- MP [redacted]
- MP [redacted]

In addition, the US Fish and Wildlife Service (USFWS) State College, PA Office provided information on 3 known hibernacula within 0.25 mile of the Project corridor. These are known as [redacted], [redacted], and [redacted]. [redacted] and [redacted] are both located in the vicinity of MP [redacted], 1,125 feet south of the proposed pipeline. [redacted] is located in the vicinity of MP [redacted], 1,200 feet southwest of a proposed access road and 6,100 feet west of the proposed pipeline. At USFWS' request, PGC was contacted to find out information about any connector tunnels between [redacted] and [redacted]. Greg Turner of PGC indicated that the only connection known to exist between the two caves is airflow, and that when they were last surveyed in 2001, 34 bats were counted, 11 of which were northern long-eared bats. The USFWS concluded that a 0.25-mile buffer will provide basic protection to hibernacula and hibernating colonies. Direct impacts such as filling, excavation, blasting, noise, and smoke exposure will be restricted to the extent practicable within these buffer area.

With these mitigation measures in place, the Project should not adversely impact the Northern long-eared bat, and it is expected that the measures will be protective of eastern small-footed bat, as well.

We look forward to continuing to work with you and your colleagues on this important Project. Please contact me if you have any questions.

Sincerely,

Bernie Holcomb
Pipeline Environmental Services Manager

URS an AECOM Company 625 West Ridge Pike, Suite E-100 ; Conshohocken, PA 19428
Direct: 610 832 1810; Cell: 215 275-7956 ; Fax: 610-832-3501 bernard.holcomb@urs.com

cc: Dave Mong, DCNR

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October 26, 2015 **PGC ID Number: 201408190001 Revision**

Deborah Poppel
AECOM
625 W. Ridge Pike, Suite E-100
Conshohocken, PA 19428
Deborah.Poppel@aecom.com

Re: Penneast Pipeline Company, LLC – Penneast Pipeline Project (*Revision*)
State Game Lands Nos. 91, 40, 129, and 168
Large Project PNDI Review
Luzerne, Carbon, Northampton, and Bucks Counties, PA

Dear Ms. Poppel,

Thank you for submitting your Pennsylvania Natural Diversity Inventory (PNDI) Large Project Environmental Review request. 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. This is an update to the PNDI letter that was issued on August 13, 2015 based on the revised proposed route that was provided to the PGC on October 1, 2015.

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 threatened, endangered, and species of special concern may be associated with your project. Therefore, additional measures are necessary to avoid potential impacts to the species listed below:

Scientific Name	Common Name	PA Status	Federal Status
Myotis septentrionalis	Northern Long-eared Bat	THREATENED	THREATENED
Glaucomys sabrinus macrotis	Northern Flying Squirrel	ENDANGERED	N/A
Neotoma magister	Allegheny Woodrat	THREATENED	N/A
Myotis leibii	Eastern Small-footed Bat	THREATENED	N/A
Pandion haliaetus	Osprey	THREATENED	N/A

Next Steps

Northern Long-eared Bats

Northern long-eared bats are a federally listed threatened species 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.

Northern Flying Squirrel

The PGC has identified a portion of the project (see attached *PGC Survey Maps*), where northern flying squirrels are known to exist, and may be impacted by the proposed project. The PGC is requesting the following for this portion of the project:

- Avoid all clearing activities between April 15th and June 15th to avoid potential impacts to northern flying squirrel young that are expected to be confined to their nests during this period.
- Develop and provide detailed plans and GIS shapefiles illustrating permanent and temporary right of way (ROW) limits for the project.

Please be advised that following our review of the above detailed plans, the PGC will be requesting a northern flying squirrel mitigation plan that may incorporate, but is not limited to, the following components:

- Replanting of the temporary ROW with various species of conifer seedlings, planted no less than 7.5 feet on center, and no more than 10 feet on center.
- Monitoring of the plantings for a minimum of 5 years, at which time 80% survival must be achieved or additional corrective action and monitoring will be required until such time as 80% survival is achieved.
- Installation of glide poles (telephone pole) with horizontal launch beams and shelters on each pole to facilitate northern flying squirrel passage across the cleared ROW.

Allegheny Woodrat

The PGC has identified portions of the proposed project where potential Allegheny woodrat habitat may exist, and could be impacted by the proposed project. The PGC is requesting that Allegheny woodrat surveys be completed in areas specified within the attached *PGC Survey Maps*. The surveys should be completed by a qualified biologist and follow protocols found in the *PGC Allegheny Woodrat* guidance document. Please be sure that the following information, at a minimum, is provided for further review and comment by the PGC:

- a 1:24,000 scale copy of a USGS topo map and a GIS shapefile illustrating the locations (i.e. points) of all woodrat activity centers and potential activity centers, as well as the limits (i.e. polygons) of all woodrat habitat sites (central point locations with average width and length measurements will not be accepted to illustrate the habitat sites)
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The survey report should be submitted to the PGC no later than December 31st of the year the survey is completed.

Eastern Small-footed Bat

The PGC has identified portions of the project where potential eastern small-footed bat day roost habitat may exist, and could be impacted by the proposed project. The PGC is requesting that all potential eastern small-footed bat day roost habitat in areas specified within the attached *PGC Survey Maps* be assessed and delineated by a qualified biologist. Please be sure that the following information, at a minimum, is provided for further review and comment by the PGC:

- a 1:24,000 scale copy of a USGS topo map and a GIS shapefile illustrating the limits of all potential small-footed bat day roost habitat that is identified
- a GIS shapefile illustrating the proposed limits of tree clearing throughout the Small-footed Bat Survey Area
- a GIS shapefile illustrating the proposed limits of earthwork, including any proposed grubbing or erosion and sedimentation pollution controls, throughout the Small-footed Bat Survey Area
- representative color photographs of all surface rock encountered during the assessment and delineation regardless of whether the rock is considered to be potential eastern small-footed bat day roost habitat or not (numerous photos for each area of surface rock are strongly recommended)
- a narrative or table detailing the following information for each area of surface rock that is encountered during the assessment and delineation to support or refute the rock's potential as eastern small-footed bat day roost habitat:
    - the estimated canopy cover over the rock
    - anticipated solar exposure of the rock
    - amount and size of crevices available for roost sites
    - presence of organic material, soil, or water within those crevices
    - other details as necessary that cannot be adequately conveyed via the photos provided
- a narrative detailing the reasons for any surface rock encountered not being considered potential small-footed bat day roost habitat
- a photo location and orientation map for all photos provided

The survey report should be submitted to the PGC no later than December 31st of the year the survey is completed.

Osprey

The PGC has identified a portion of the project (see attached *PGC Survey Maps*), where have known to nest, and may be impacted by the proposed project. The PGC is requesting the following seasonal restriction for this portion of the project:

- No activities related to this project shall occur within the Osprey Restriction area identified on Map 3 of the attached PGC Survey Maps during the nesting season, Mach 25 through July 31. All project related activities shall be completed in this area between August 1 and March 24.

Potential Bat Hibernacula

The PA Department of Environmental Protection's *Abandoned Mine Land (AML) Inventory Points* from www.pasda.psu.edu indicates abandoned mine features may be located within the requested review area. These mine features have the potential to connect to abandoned deep mine workings that can serve as hibernacula for a variety of cave bat species. These AML openings and any undocumented openings and caves located along the proposed alignment and within the review buffer must be assessed following the *PGC Protocol for Assessing Bat Use of Potential Hibernacula*. Any features having 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.

State Game Lands

Portions of the proposed project are located on State Game Lands Nos. 91, 40, 129, and 168. Please contact Mr. Michael Beahm, Northeast Land Management Supervisor, at 570-675-1143 to discuss and coordinate the project on SGL's 91, 40, and 129, and Mr. Dave Mitchell, Southeast Region Land Management Supervisor, at 610-926-3136 to discuss and coordinate the project on SGL 168.

Conservation Measures

National Wetland Inventory Mapping (NWI) and/or aerial photos suggest that wetlands are located within the requested review throughout the proposed project. The PGC is requesting that the final project avoid, or at least minimize to the greatest practical extent, any adverse impacts to these resources and their associated wildlife habitat.

In addition, portions of the project located in Luzerne and Carbon County are within areas where the abundance and species richness of various area-sensitive forest bird species are among the highest in the state. Area-sensitive forest bird species are those species that require a large expanse of relatively contiguous (un-fragmented) forest to maintain their populations. The species found in these areas are listed as species of greatest conservation need in Pennsylvania's Wildlife Action Plan (WAP). The WAP was designed to proactively manage and safeguard the state's declining fish and wildlife resources, and sets a framework to conserve Pennsylvania's diverse wildlife, maintain their role in ecological processes, and protect and enhance species of conservation concern (not just imperiled species). Although these area-sensitive forest bird species are not currently listed as threatened or endangered, and do not produce potential conflicts for projects reviewed using the on-line PNDI Environmental Review Tool, their populations and requisite habitat are either in decline, or are vulnerable to decline in the state.

As a result, the PGC is recommending the following conservation measures be implemented, to the greatest extent practicable, to minimize impacts to these area-sensitive forest bird species and minimize additional fragmentation of forested tracts throughout the project area:

- Co-locate the pipeline and associated facilities with existing roads and other disturbed areas

- Minimize the width of the temporary construction right-of-way (ROW), and avoid grubbing where possible to encourage the re-establishment of woody vegetation
- Minimize the width of the permanent, maintained ROW to only that which is absolutely necessary to maintain the integrity of the pipeline
- Maximize the rotation of mowing and/or clearing along that maintained ROW to allow for the establishment of more beneficial wildlife habitat
- Perform initial tree clearing for the project between August 15th and April 15th
- Use the following seed mixes, or similar herbaceous seed mixes that will minimize competition with volunteer woody plant species, while offering additional wildlife habitat and food sources along the reclaimed ROW:

Steep Slopes	**Other Areas**
1 bushel/acre Annual Cereal Grain (oats in spring, grain rye or wheat in fall)	*1 bushel/acre Annual Cereal Grain (oats in spring, grain rye or wheat in fall)*
10 lbs/acre Timothy	*5 lbs/acre Timothy*
3 lbs/acre Birdsfoot Trefoil	*5 lbs/acre Birdsfoot Trefoil*
4 lbs/acre Little Bluestem	*4 lbs/acre Little Bluestem*
3 lbs/acre Alsike Clover	*2 lbs/acre Indiangrass*
3 lbs/acre Ladino Clover	*1 lb/acre Side-oats Grama*
Straw Mulch, NO HAY	*1 lb/acre Switchgrass*
	¼ lb/acre Black-eyed Susan
	¼ lb/acre Lance-leaved Coreopsis
	Straw Mulch, NO HAY

- Perform any future mowing and/or clearing along the maintained ROW between August 15th and April 15th

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 the PGC at the following address as an "Update" (including an updated PNDI receipt, project narrative and accurate map):

PA Game Commission
Bureau of Wildlife Habitat Management
Division of Environmental Planning & Habitat Protection
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

If the proposed work has not changed and no additional information concerning listed species is found, the project will be cleared for PNDI requirements by the PGC for an additional 2 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.

Please be sure to include the above-referenced PGC ID Number on any future correspondence with the PGC regarding this project.

Sincerely,

John Taucher

John Taucher
Division of Environmental Planning & Habitat Protection
Bureau of Wildlife Habitat Management
Phone: 717-787-4250, Extension 3632
Fax: 717-787-6957
E-Mail:jotaucher@pa.gov

A PNHP Partner

JWT/jwt

Enclosures:
PGC Survey Maps

cc: Figured
Metz
Wenner
Morgan
Beahm
Mitchell
Brauning
Turner
Gross
Barber
DiMatteo
Havens

Librandi Mumma
Ms. Pamela Shellenberger, U.S. Fish & Wildlife Service
Ms. Stephanie Livelsberger, Pennsylvania Department of Natural Resources
H:\OIL&GAS_PNDI_Reviews\Statewide & Multi-Region Projects

November 10, 2015

Mr. John Taucher
Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, PA 17110

RE: PennEast Pipeline Project
Privileged and Confidential
PGC ID Number: 201408190001 Revision
Supplemental *Myotis leibii* and *Neotomis magister* habitat survey results

Dear Mr. Taucher:

On behalf of PennEast Pipeline Company, LLC (PennEast), we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

In accordance with coordination with your office, PennEast contracted with Wildlife Specialists, LLC (Wildlife Specialists) to conduct habitat surveys for Eastern small-footed bat (*Myotis leibii)* and Allegheny woodrat (*Neotomis magister*) in those areas identified by Pennsylvania Game Commission (PGC) as being of concern for these species. Wildlife Specialists has qualified biologists on staff who conducted the required surveys in accordance with state-specified guidelines. The initial survey report was submitted to your office for review in October. This letter transmits the supplemental report documenting results of additional surveys completed in new project areas identified in correspondence with your office in August 2015 (no new survey areas were identified in October 2015 letter).

Potential woodrat habitat was identified, but no woodrat sign was observed. Therefore, no impacts to woodrat are anticipated.

Potential eastern small-footed bat day roost habitat was identified following surveys by qualified biologists, in the vicinity of milepost (MP) [redacted], MP [redacted], MP [redacted], and MP [redacted]. A portion of Survey Area 1 and Survey Area 3 will need additional study given that no access permission was obtained (where noted in report).

We look forward to continuing to work with you and your colleagues on this important Project. Please contact me if you have any questions.

Sincerely,

Bernie Holcomb
Pipeline Environmental Services Manager
URS an AECOM Company 625 West Ridge Pike, Suite E-100 ; Conshohocken, PA 19428
Direct: 610 832 1810; Cell: 215 275-7956 ; Fax: 610-832-3501 bernard.holcomb@urs.com

Poppel, Deborah

From: Poppel, Deborah
Sent: Thursday, December 17, 2015 11:27 AM
To: 'jotaucher@pa.gov'
Subject: FW: PennEast update notice
Attachments: PennEast_ProposedRoute_20151214.kmz; PENNEAST_SHAPEFILES_ToDistribute.piz

On behalf of PennEast Pipeline Company (PennEast), thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company; PSEG Power; SJI Midstream; Spectra Energy Partners; and UGI Energy Services.

As an interstate natural gas pipeline, PennEast Pipeline will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015. PennEast filed Certificates of Public Convenience and Necessity and Related Authorizations with FERC on September 24, 2015. Since the September 24 filing, PennEast has evaluated several additional route alternatives based on discussions with landowners, regulatory agencies and other stakeholders, as well as comments filed in this proceeding. In light of those evaluations, PennEast has adopted five minor deviations from the route proposed in the September 24 Filing:

Deviation No. 1005 is located between mileposts ("MP") 9.07 and 12.10 in Luzerne County, Pennsylvania. PennEast adopted this deviation to address landowner concerns and to improve constructability of the proposed Project route. The landowner and quarry operators affected by this portion of the proposed Project route indicated that the proposed route in the September 24 Filing has the potential to adversely affect quarry operations. Additionally, this portion of the route in the September 24 Filing route presented a challenging crossing of Mill Creek. Deviation No. 1005 addresses both of these concerns. In addition, this deviation reduces the overall length of the Project and increases the route's co-location with existing utility easements.

Deviation No. 1400 is located between MP 43.95 and 44.55 in Carbon County, Pennsylvania. This deviation has been adopted based on feedback that PennEast received in collaboration with the Bethlehem Authority, which operates a water supply system in Carbon and Northampton Counties, Pennsylvania. Deviation No. 1400 provides a means of crossing the Bethlehem Authority waterline by a trenchless method and avoids the need to locate temporary workspace near the waterline. This deviation also includes a single HDD crossing of Beltzville Lake, instead of the two crossings that were proposed in the September 24 Filing, which minimizes impacts to the Beltzville State Park.

Deviation No. 1701 is located between MP 79.10 and 81.60 in Hunterdon County, New Jersey. This deviation has been adopted to optimize the Project route and is based on feedback that PennEast received in collaboration with the New Jersey Department of Environmental Protection. Deviation No. 1701 minimizes impacts to the New Jersey Natural Lands Trust's Gravel Hill Preserve by increasing co-location with existing utility easements and impacting fewer parcels within the Gravel Hill Preserve. In addition, this deviation allows the proposed route to be in closer proximity to the proposed NRG REMA, LLC/Elizabethtown Gas delivery meter station, and it also relocates a proposed mainline valve from a residential area to an industrial area.

Deviation No. 1802 is located between MP 84.68 and 86.54 in Hunterdon County, New Jersey. This deviation has been adopted to optimize the Project route to avoid crossing a federally preserved farm. PennEast considered different alternatives to avoid this crossing, and the adopted Deviation No. 1802 minimizes land use impacts and overall land requirements to avoid this crossing.

Deviation No. 1900 is located between MP 91.91 and 93.55 in Hunterdon County, New Jersey. This deviation has been adopted to incorporate a route optimization that avoids crossing the Lockatong Creek three times with an open cut. This deviation now allows the Project route to cross the Lockatong Creek using a trenchless method. Deviation No. 1900 also avoids impacts to both a federally preserved farm and a New Jersey Green Acres Program protected parcel.

An updated Google Earth kmz file and GIS shapefiles for the proposed route are attached to aide in your review and analysis of the Project. (To open the shapefiles, please add a ".zip" extension to the file and then extract the files.) Please let us know if you have any difficulty opening the attached files.

Deborah Poppel, CWB
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Poppel, Deborah

From: Poppel, Deborah
Sent: Tuesday, February 23, 2016 12:21 PM
To: 'jotaucher@pa.gov'
Subject: PennEast Pipeline- Project Update
Attachments: 400' CORRIDOR (200' EITHER SIDE OF CENTERLINE).kmz

On behalf of PennEast Pipeline Company (PennEast), thanks you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company; PSEG Power; SJI Midstream; Spectra Energy Partners; and UGI Energy Services.

As an interstate natural gas pipeline, PennEast Pipeline will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015. PennEast filed Certificates of Public Convenience and Necessity and Related Authorizations with FERC on September 24, 2015. Since the September 24 filing, PennEast has evaluated several additional route alternatives based on discussions with landowners, regulatory agencies and other stakeholders, as well as comments filed in this proceeding. In light of those evaluations, PennEast has adopted seven (7) additional deviations from the route proposed in the September 2015 Application, as modified by the route deviations filed on December 14, 2015, and is providing supplemental information regarding these additional adopted route deviations for your review.

Description of Adopted Deviations

PennEast has adopted the following seven route deviations: Deviation Nos. 1704, 1808, 1907, 1913, and 2000 in Hunterdon County, New Jersey, and Deviation Nos. 2100 and 2102 in Mercer County, New Jersey.

Deviation No. 1704 is located between mileposts (MP) 78.7 and 79.7 in Hunterdon County, New Jersey. PennEast adopted this deviation to address feedback from resource agencies received during a route review meeting on January 11, 2016. This deviation avoids crossing a category one (C1) waterway, associated mapped forested wetlands on both sides of Dogwood Drive, and a preserved farmland. Additionally, Deviation No. 1704 allows the route to follow a ridge and alleviates side slope areas that would have existed at the crossing of Dogwood Drive. Landowners associated with Deviation No. 1704 were included on the landowner list provided in the September 2015 Application as abutters. Additionally, three (3) landowners not previously identified as abutters have small amounts of temporary workspace on their property as a result of adopting Deviation No. 1704. Such landowners have been identified in the updated affected landowner list provided as part of the February Data Responses.

Deviation No. 1808 is located between MP 86.6 and 87.1 in Hunterdon County, New Jersey. PennEast adopted this deviation to minimize impact to environmentally sensitive areas raised as a concern by resource agencies during the January 11 route review meeting. Deviation No. 1808 avoids crossing a parcel with a Green Acres conservation easement. Landowners associated with Deviation No. 1808 were included on the landowner list provided in the September 2015 Application as abutters.

Deviation No. 1907 is located between MP 89.6 and 90.8 in Hunterdon County, New Jersey. PennEast adopted this deviation to minimize impact to environmentally sensitive areas raised as a concern by resource agencies during the January 11 route review meeting. Deviation No. 1907 avoids crossing a Green Acres encumbered parcel and minimizes the impact to forested areas and wetland crossings. Landowners associated with Deviation No. 1907 were included on the landowner list provided in the September 2015 Application as abutters.

Deviation No. 1913 is located between MP 99.0 and 101.0 in Hunterdon County, New Jersey. PennEast adopted this deviation to minimize impact to environmentally sensitive areas raised as a concern by resource agencies during the January 11 route review meeting and to implement a trenchless crossing of several roadways, third-party utilities, and several C1 waterways, including Alexauken Creek. Deviation No. 1913 also avoids paralleling a C1 waterway and forested riparian area and minimizes forestland impacts. Another result of adopting Deviation No. 1913 is that this route deviation allows for the crossing of one (1) C1 waterway by dry crossing methodology in a location that appears to have been previously crossed by farm equipment. The dry crossing methodology will further minimize the impacts to the riparian buffer on both sides of the crossing. Additionally, Deviation No. 1913 optimizes co-location opportunities with the adjacent overhead utility corridor. This route deviation requires relocating the Lambertville Launcher Site to the trenchless crossing workspace. The new site area accommodates post-construction stormwater management design elements and optimizes pipeline design. Landowners associated with Deviation No. 1913 were included on the landowner list provided in the September 2015 Application as abutters.

Deviation No. 2000 is located between MP 101.3 and 101.7 in Hunterdon County, New Jersey. PennEast adopted this route deviation by moving to the opposite side of the existing overhead utility corridor and providing separation from the paralleling waterbody and forested wetland. Deviation No. 2000 reduces forest clearing while maintaining co-location with existing utility corridors. Deviation No. 2000 does not require any additional landowners to be crossed by the Project.

Deviation No. 2100 is located between MP 112.9 and 113.5 in Mercer County, New Jersey. PennEast adopted this route deviation as a route optimization that corresponds to proposed land development plans for the applicable parcels crossed. PennEast collaborated with the landowner to improve co-location with existing natural gas pipelines and to minimize impacts from the proposed route with the development plans for the applicable parcels. Additionally, Deviation No. 2100 avoids crossing a Green Acres encumbered parcel. Deviation No. 2100 does not require any additional landowners to be crossed by the Project.

Deviation No. 2102 is located between MP 112.0 and 112.7 in Mercer County, New Jersey. PennEast adopted this deviation based upon feedback and field information received from the affected property owners. Deviation No. 2102 is a route optimization that would remove interference with proposed housing and commercial land use development plans on the applicable parcels. Hopewell Township has plans to develop low income housing on this parcel in the area originally crossed by the Project. Deviation No. 2102 would avoid impacts to the housing development plan and to future commercial development plans adjacent to New Jersey State Route 31 by co-locating with the existing natural gas pipelines on the parcel. Deviation No. 2102 does not require any additional landowners to be crossed by the Project.

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Poppel, Deborah

From: Poppel, Deborah
Sent: Monday, September 26, 2016 2:55 PM
To: 'jotaucher@pa.gov'
Subject: FW: PennEast September 2016 Route Update
Attachments: PennEast_Project_KMZ_20160926.kmz; PENNEAST_PIPELINE_PROJECT_PROJECT_SHAPEFILES_Sept2016.piz

Importance: High

On behalf of PennEast Pipeline Company (PennEast), thank you for your continued collaboration on the proposed PennEast Pipeline Project (Project). As an interstate natural gas pipeline, the Project is under the jurisdictional, multi-year review of the Federal Energy Regulatory Commission (FERC).

PennEast filed its Application for a Certificate of Public Convenience and Necessity and Related Authorizations with FERC September 24, 2015. PennEast filed route modifications with FERC February 22, 2016, and FERC issued a Draft Environmental Impact Statement (EIS) for the Project July 22, 2016. Since the February 22, 2016 route update and issuance of the draft EIS, PennEast has studied an additional 33 minor route deviations to reduce impacts on endangered species and wetlands, increase co-location with existing utilities, and address feedback from collaborative discussions with landowners and regulatory agencies.

On September 23, 2016, PennEast filed with FERC the 33 route modifications and an updated project route, which is provided in the attached Google Earth kmz file and shapefiles for your review (**rename as "zip" file before opening**). A narrative describing each modification and the explanation for the proposed changes is available on the FERC eLibrary (http://elibrary.ferc.gov/idmws/docket_search.asp) under Docket Number CP15-558-000.

Signed- Deborah Poppel on behalf of

Sarah Binckley, PWS
Project Manager
Direct: 1-610-832-2713 Cell: 1-757-943-4484
sarah.binckley@aecom.com

AECOM
625 West Ridge Pike, Suite E-100 Conshohocken, Pennsylvania 19428
Telephone: 610-832-3500 Fax: 610-832-3501
www.aecom.com

October 31, 2016

Mr. John Taucher
Pennsylvania Game Commission
2001 Elmerton Ave.
Harrisburg, PA 17110

Dear Mr. Taucher:

On behalf of PennEast Pipeline Company, LLC, we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project (Project). PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

On September 26, 2016, your office received a Project Update email with shapefiles of the most recent route centerline filed with the Federal Energy Regulatory Commission (FERC). With this letter, we would like to request an endangered species consultation with your agency on Project workspace associated with the September 2016 route, which includes access roads, staging areas, and the Kidder Compressor Station. We have enclosed a CD with Project workspace shapefiles and eastern small footed bat and Allegheny woodrat survey data as of July 2016.

Areas crossed by the September 2016 route which were not part of prior study corridors in Pennsylvania are represented by the following mileposts. The specific locations of access roads, staging areas, and the compressor station were not part of prior consultation requests. Please advise if any additional surveys for mammals or birds will be required in these or the following areas:

- 4.2R2-4.8R2
- 6.3R2-6.6R2
- 9R2-9.4 R2
- 11R2-11.3R2
- 39.5R2-40.8
- 42.1R2-42.5R2
- 48.7R2-49.6R2
- 50R2-50.3R2
- 51.1R2-52.1R2
- 53.1R2-53.2R2
- 57.8R2-58.4R2
- 61.9R2-62.2R2
- 73.3R2-74R2

Our prior correspondence with your office focused on your review of Phase I studies completed for eastern small footed bat and Allegheny woodrat, and the request for Phase 2 emergence surveys for eastern small footed bat in specific areas (emails in May 2016). Pursuant to that request, we are enclosing a copy of Wildlife Specialists "Eastern Small Footed Bat Emergence Survey Report" (July 2016). You will note that although a bat roost was confirmed during the emergence surveys, this site is now avoided by the proposed pipeline route.

Due to the results of Phase I woodrat and small footed bat near mileposts [redacted] and [redacted], Wildlife Specialists completed Phase I surveys in along this route deviation area; the report will be sent to you upon completion, but the data are included within the shapefiles on the enclosed CD.

We look forward to continued collaboration with you and your colleagues on this important project. Please contact me if you have any questions.

Sincerely,

Deborah K. Poppel

Deborah K. Poppel, CWB
Senior Ecologist

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

November 3, 2016 **PGC ID Number: 201408190001 Revision**

Deborah Poppel
AECOM
625 W. Ridge Pike, Suite E-100
Conshohocken, PA 19428
deborah.poppel@aecom.com

Re: Penneast Pipeline Company, LLC – Penneast Pipeline Project (*Revision*)
State Game Lands Nos. 91, 40, 129, and 168
Large Project PNDI Review
Luzerne, Carbon, Northampton, and Bucks Counties, PA

Dear Ms. Poppel,

Thank you for submitting your Pennsylvania Natural Diversity Inventory (PNDI) Large Project Environmental Review request. 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. This is an update to the PNDI letter that was issued on October 26, 2015 based on the revised proposed route that was provided to the PGC on November 1, 2016.

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 threatened, endangered, and species of special concern may be associated with your project. Therefore, additional measures are necessary to avoid potential impacts to the species listed below:

Scientific Name	Common Name	PA Status	Federal Status
Myotis septentrionalis	Northern Long-eared Bat	THREATENED	THREATENED
Glaucomys sabrinus macrotis	Northern Flying Squirrel	ENDANGERED	N/A
Neotoma magister	Allegheny Woodrat	THREATENED	N/A
Myotis leibii	Eastern Small-footed Bat	THREATENED	N/A
Pandion haliaetus	Osprey	THREATENED	N/A

Next Steps

Northern Long-eared Bats

Northern long-eared bats are a federally listed threatened species 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.

Northern Flying Squirrel

The PGC has identified a portion of the project (see attached *PGC Survey Maps*), where northern flying squirrels are known to exist, and will be impacted by the proposed project. The PGC is requesting the following for this portion of the project:

- Avoid all clearing activities between April 15th and June 15th to avoid potential impacts to northern flying squirrel young that are expected to be confined to their nests during this period.
- Replanting of the temporary ROW with various species of conifer seedlings, planted no less than 7.5 feet on center, and no more than 10 feet on center.
- Monitoring of the plantings for a minimum of 5 years, at which time 80% survival must be achieved or additional corrective action and monitoring will be required until such time as 80% survival is achieved.
- Installation of glide poles (telephone pole) with horizontal launch beams and shelters on each pole to facilitate northern flying squirrel passage across the cleared ROW.

Allegheny Woodrat

The PGC has identified portions of the proposed project where potential Allegheny woodrat habitat may exist, and could be impacted by the proposed project. Habitat assessments were conducted, which revealed that habitat suitable for woodrats was present. However, no evidence was documented verifying woodrat presence in these areas. Therefore no further coordination with the PGC regarding Allegheny woodrats is necessary for these areas at this time.

Based on the project revisions submitted on November 1, 2016, the PGC is requesting that Allegheny woodrat surveys be completed in the area identified as 51.1R2 to 52.1R2. The surveys should be completed by a qualified biologist and follow protocols found in the *PGC Allegheny Woodrat* guidance document. Please be sure that the following information, at a minimum, is provided for further review and comment by the PGC:

- a 1:24,000 scale copy of a USGS topo map and a GIS shapefile illustrating the locations (i.e. points) of all woodrat activity centers and potential activity centers, as well as the limits (i.e. polygons) of all woodrat habitat sites (central point locations with average width and length measurements will not be accepted to illustrate the habitat sites)
- color photographs, keyed to a location and orientation map, of any woodrat habitat sites, activity centers, potential activity centers, or woodrat sign that are identified during the surveys

- completed Woodrat Habitat Site Survey forms for each habitat site identified during the survey

The survey report should be submitted to the PGC no later than December 31st of the year the survey is completed.

Eastern Small-footed Bat

The PGC identified portions of the project where potential eastern small-footed bat day roost habitat may exist, and could be impacted by the proposed project. Based on the habitat assessment report, six parcels of suitable small-footed bat habitat will be impacted by this project. The following surveys should be conducted to determine if eastern small-footed bats are using the identified habitat parcels:

- Emergence count surveys
    - Conducted three times per year; 1st Survey: mid-June, 2nd Survey: second week of July, 3rd Survey: last week of July
    - One night per survey for two hours (1/2 hour before sunset until 1 ½ hours after sunset)
    - Survey plans should be submitted to the PGC for review and approval at least 30 days prior to starting surveys

The PGC is also requesting that all potential eastern small-footed bat day roost habitat the revised project area identified as 51.1R2 and 52.1R2 be assessed and delineated by a qualified biologist. Please be sure that the following information, at a minimum, is provided for further review and comment by the PGC:

- a 1:24,000 scale copy of a USGS topo map and a GIS shapefile illustrating the limits of all potential small-footed bat day roost habitat that is identified
- a GIS shapefile illustrating the proposed limits of tree clearing throughout the Small-footed Bat Survey Area
- a GIS shapefile illustrating the proposed limits of earthwork, including any proposed grubbing or erosion and sedimentation pollution controls, throughout the Small-footed Bat Survey Area
- representative color photographs of all surface rock encountered during the assessment and delineation regardless of whether the rock is considered to be potential eastern small-footed bat day roost habitat or not (numerous photos for each area of surface rock are strongly recommended)
- a narrative or table detailing the following information for each area of surface rock that is encountered during the assessment and delineation to support or refute the rock's potential as eastern small-footed bat day roost habitat:
    - the estimated canopy cover over the rock
    - anticipated solar exposure of the rock
    - amount and size of crevices available for roost sites
    - presence of organic material, soil, or water within those crevices

  - other details as necessary that cannot be adequately conveyed via the photos provided

- a narrative detailing the reasons for any surface rock encountered not being considered potential small-footed bat day roost habitat
- a photo location and orientation map for all photos provided

The survey report should be submitted to the PGC no later than December 31st of the year the survey is completed.

Osprey

The PGC has identified a portion of the project (see attached *Map 1*), where have known to nest, and may be impacted by the proposed project. The PGC is requesting the following seasonal restriction for this portion of the project:

- No activities related to this project shall occur within the Osprey Restriction area identified on the attached Map 1 during the nesting season, Mach 25 through July 31. All project related activities shall be completed in this area between August 1 and March 24.

Potential Bat Hibernacula

The PA Department of Environmental Protection's *Abandoned Mine Land (AML) Inventory Points* from www.pasda.psu.edu indicates abandoned mine features may be located within the requested review area. These mine features have the potential to connect to abandoned deep mine workings that can serve as hibernacula for a variety of cave bat species. These AML openings and any undocumented openings and caves located along the proposed alignment and within the review buffer must be assessed following the *PGC Protocol for Assessing Bat Use of Potential Hibernacula*. Any features having 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.

State Game Lands

Portions of the proposed project are located on State Game Lands Nos. 91, 40, 129, and 168. Please contact Mr. Michael Beahm, Northeast Land Management Supervisor, at 570-675-1143 to discuss and coordinate the project on SGL's 91, 40, and 129, and Mr. Dave Mitchell, Southeast Region Land Management Supervisor, at 610-926-3136 to discuss and coordinate the project on SGL 168.

Conservation Measures

National Wetland Inventory Mapping (NWI) and/or aerial photos suggest that wetlands are located within the requested review throughout the proposed project. The PGC is requesting that the final project avoid, or at least minimize to the greatest practical extent, any adverse impacts to these resources and their associated wildlife habitat.

In addition, portions of the project located in Luzerne and Carbon County are within areas where the abundance and species richness of various area-sensitive forest bird species are among the

highest in the state. Area-sensitive forest bird species are those species that require a large expanse of relatively contiguous (un-fragmented) forest to maintain their populations. The species found in these areas are listed as species of greatest conservation need in Pennsylvania's Wildlife Action Plan (WAP). The WAP was designed to proactively manage and safeguard the state's declining fish and wildlife resources, and sets a framework to conserve Pennsylvania's diverse wildlife, maintain their role in ecological processes, and protect and enhance species of conservation concern (not just imperiled species). Although these area-sensitive forest bird species are not currently listed as threatened or endangered, and do not produce potential conflicts for projects reviewed using the on-line PNDI Environmental Review Tool, their populations and requisite habitat are either in decline, or are vulnerable to decline in the state.

As a result, the PGC is recommending the following conservation measures be implemented, to the greatest extent practicable, to minimize impacts to these area-sensitive forest bird species and minimize additional fragmentation of forested tracts throughout the project area:

- Co-locate the pipeline and associated facilities with existing roads and other disturbed areas
- Minimize the width of the temporary construction right-of-way (ROW), and avoid grubbing where possible to encourage the re-establishment of woody vegetation
- Minimize the width of the permanent, maintained ROW to only that which is absolutely necessary to maintain the integrity of the pipeline
- Maximize the rotation of mowing and/or clearing along that maintained ROW to allow for the establishment of more beneficial wildlife habitat
- Perform initial tree clearing for the project between August 15th and April 15th
- Use the following seed mixes, or similar herbaceous seed mixes that will minimize competition with volunteer woody plant species, while offering additional wildlife habitat and food sources along the reclaimed ROW:

Steep Slopes	**Other Areas**
1 bushel/acre Annual Cereal Grain (oats in spring, grain rye or wheat in fall)	*1 bushel/acre Annual Cereal Grain (oats in spring, grain rye or wheat in fall)*
10 lbs/acre Timothy	*5 lbs/acre Timothy*
3 lbs/acre Birdsfoot Trefoil	*5 lbs/acre Birdsfoot Trefoil*
4 lbs/acre Little Bluestem	*4 lbs/acre Little Bluestem*
3 lbs/acre Alsike Clover	*2 lbs/acre Indiangrass*
3 lbs/acre Ladino Clover	*1 lb/acre Side-oats Grama*
Straw Mulch, NO HAY	*1 lb/acre Switchgrass*
	¼ lb/acre Black-eyed Susan
	¼ lb/acre Lance-leaved Coreopsis

	Straw Mulch, NO HAY

- Perform any future mowing and/or clearing along the maintained ROW between August 15th and April 15th

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,

John Taucher
Division of Environmental Planning & Habitat Protection
Bureau of Wildlife Habitat Management
Phone: 717-787-4250, Extension 3632
Fax: 717-787-6957
E-mail:jotaucher@pa.gov

A PNHP Partner

Pennsylvania Natural Heritage Program

JWT/jwt

cc: Figured

Metz
Wenner
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Barber
DiMatteo
Havens
Librandi Mumma
Ms. Pamela Shellenberger, U.S. Fish & Wildlife Service
Ms. Stephanie Livelsberger, Pennsylvania Department of Natural Resources
H:\OIL&GAS_PNDI_Reviews\Statewide & Multi-Region Projects

April 17, 2018
Ms. Tracey Librandi Mumma
Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, PA 17110

Re: PennEast Pipeline Project
PGC ID No. 201408190001
Agency Review Summary and Update – PA Rare Species

Dear Ms. Librandi Mumma:

On behalf of PennEast Pipeline Company, LLC (PennEast), we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project (Project). On January 19, 2018, the Federal Energy Regulatory Commission (FERC) released its order issuing Certificates for Public Convenience and Necessity for the Project under Parts 157 and 284 of the FERC's regulations. PennEast continues to work through the regulatory processes to obtain the federal permits and approvals necessary to construct the Project.

The purpose of this update letter is to summarize the current status of surveys for protected species and consultations under the jurisdiction of the Pennsylvania Game Commission (PGC) as well as provide information regarding Project changes, including a new alternative route that PennEast is evaluating at the request of the Bethlehem Water Authority (BWA), National Park Service (NPS) and the PGC. This consultation reflects ongoing communications with the PGC from 2014 to date.

Summary of Previous Consultations and Survey Statuses

The following topics have been identified as items of concern within the Project area and updates to this Project Area that are subject to PGC consultation:

Eastern Small-footed Bat (*Myotis leibii)* – PA State Threatened

Phase 1 Habitat Assessments

The PGC identified several locations where potential eastern small-footed bat day roost habitat may exist and could be impacted by the proposed Project. Qualified Bat Surveyors (QBS) conducted habitat surveys in the identified areas, and PennEast has previously submitted the following reports delineating surface rock features with determinations of habitat suitability:

- August 2015 Report;
- October 2015 Report;

- February 2017 Report; and
- August 2017 Letter Addendum

Three properties were not able to be surveyed as of the August 2017 Letter Addendum, and surveys are planned in those areas for April – June 2018. Minor alignment shifts on several other properties (please refer to shapefiles on enclosed CD) have also resulted in the need for additional surveys due to new workspace planned outside the previously surveyed areas.

Phase 2 Emergence Surveys

Per PGC guidance, PennEast could assume presence of eastern small-footed bats in potential day roosting habitat areas or conduct Phase 2 emergence surveys to determine occupancy. PennEast contracted QBS biologists to conduct emergence surveys at areas of potential day roost habitat identified during Phase 1 surveys. Phase 2 survey results were included in the following reports, which were previously submitted to the PGC:

- July 2016 Report; and
- September 2017 Report

Based on the results of these surveys, one habitat area [redacted]) was determined to be occupied, and is now avoided by the current route (found on enclosed CD). Due to minor alignment shifts within the environmental study corridor, several areas of potential habitat which did not have emergence surveys conducted will now be impacted. Emergence surveys will be conducted at habitat areas which may be impacted in June and July of 2018.

Northern Long-eared bat (*Myotis septentrionalis*) – Federally Threatened

PennEast has completed all 112 required mist net sites in Pennsylvania for the 2016 FERC-certificated route. PennEast understands that the PGC defers to the United States Fish & Wildlife Service (USFWS) with regards to federally listed bat species.

Potential Bat Hibernacula

The PGC noted that several abandoned mine features may be present within the review area of the Project, based on the PA Department of Environmental Protection (PADEP) *Abandoned Mine Land (AML) Inventory Points* from www.pasda.psu.edu. The PGC requested that those AML openings and any undocumented openings and caves located along the proposed alignment and within the review buffer be assessed following the *PGC Protocol for Assessing Bat Use of Potential Hibernacula*.

PennEast conducted field investigations in areas where abandoned mines and portals were indicated by PADEP's inventory to exist within ¼ mile of the Project. Points marked as mine portal entry/exits on the PADEP inventory were investigated to determine whether open portals were present at those locations,

and the surrounding areas were investigated to identify previously undocumented mine openings and portals. A total of 29 features were investigated, including 11 open mines and portals. The open mines and portals were assessed by a QBS using the *PGC Protocol for Assessing Bat Use of Potential Hibernacula*, and harp trapping surveys were conducted on each of the open portals in the fall of 2017. The results of the winter habitat assessment and harp trapping survey were submitted to the PGC and USFWS in November 2017. One little brown bat (*Myotis lucifugus*) was captured during the harp trapping survey, but no state or federally listed bat species were observed.

Several known hibernacula for the northern long-eared bat occur near or within ¼ mile of the Project limits: [redacted] and [redacted] in Bucks County, and [redacted] in Luzerne County. PennEast is working with the USFWS to develop a plan for monitoring these hibernacula, and has agreed to avoidance and minimization measures within proximity of these locations limit the potential for adverse effects.

Allegheny Woodrat (*Neotoma magister*) – PA State Threatened

The PGC identified several locations where potential Allegheny woodrat habitat may exist and could be impacted by the proposed Project. PennEast conducted habitat surveys using qualified personnel in the identified areas, and has previously submitted the following reports delineating surface rock features with determinations of habitat suitability:

- August 2015 Report;
- October 2015 Report;
- February 2017 Report; and
- August 2017 Letter Addendum

Three properties were not able to be surveyed as of the August 2017 Letter Addendum, and surveys are planned in those areas for April – June 2018, and results of those surveys will be reported to the PGC following completion. The previously submitted habitat assessment reports address all other requested survey areas that intersect the proposed workspace of the FERC-certificated route.

Northern Flying Squirrel (*Glaucomys sabrinus macrotis*) – PA State Endangered

The PGC indicated that northern flying squirrels are known to be present between approximate mileposts [redacted] and [redacted], including the portions of the proposed alignment which cross State Game Land (SGL) 129 and Hickory Run State Park. In addition to the PGC, PennEast is also coordinating with the Pennsylvania Department of Conservation and Natural Resources (PADCNR) regarding northern flying squirrels in Hickory Run State Park. The PGC requested the following for the portions of the Project where northern flying squirrels may be present:

- Avoid all clearing activities from April 15 – June 15 to avoid potential impacts to northern flying squirrel young that are expected to be confined to their nests during this period;

- Replanting of the temporary right of way (ROW) with various species of conifer seedlings, planted no less than 7.5 feet on center, and no more than 10 feet on center;
- Monitoring of the plantings for a minimum of 5 years, at which time 80% survival must be achieved or additional corrective action and monitoring will be required until such time as 80% survival is achieved; and
- Installation of glide poles (telephone pole) with horizontal launch beams and shelters on each pole to facilitate northern flying squirrel passage across the cleared ROW.

To date, PennEast has proposed the following measures in response to the PGC requests listed above:

- Tree clearing will be conducted from November 1 – March 31 to avoid impacts to bats, which will also meet timing restrictions for northern flying squirrels;
- Rather than replanting, and as conceptually discussed during the August 16, 2017 meeting with PGC, PennEast proposes to integrate wildlife crossings into the Project design at several locations on PADCNR-owned and managed properties, most of which are within known northern flying squirrel habitat areas. These crossings will consist of necked-down workspace in forested areas, which will allow for northern flying squirrels to cross easily. By using this method instead of replanting the ROW, the wildlife crossings will be immediately usable rather than having to wait for planted saplings to grow; and
- PennEast was not able to incorporate the use of poles for crossing structures as the entire length of ROW in this area is co-located with another utility which limits the opportunity to install structures on both sides of the PennEast ROW.

PennEast has developed a *Northern Flying Squirrel Impact Minimization Plan*, which will be reviewed and approved by the PGC prior to Project construction. Because a substantial portion of the northern flying squirrel habitat is located in Hickory Run State Park, PennEast submitted the plan to the PADCNR Bureau of Forestry Operations Division on March 16, 2018, at their request, as part of the State Forest Environmental Review Process. PennEast has not yet received comments from the Operations Division, and understands that the plan approval must be approved by both the PGC and the PADCNR Operations Division. The enclosed plan addresses northern flying squirrel impact minimization measures proposed between milepost [redacted] and [redacted], which includes property not owned or managed by the PADCNR.

<u>Osprey (*Pandion haliaetus*) – Game and Wildlife Code and the Migratory Bird Treaty Act of 1918</u>

The PGC identified one area in Bucks County, along the west bank of the Delaware River, where Osprey have been known to nest, and may be impacted by the Project. The PGC requested the following seasonal restrictions for this portion of the project:

- No activities related to the Project shall occur within the Osprey Restriction are during the nesting season, March 25 – July 31. All project related activities shall be completed in this area from August 1 – March 24.

Ospreys were delisted in January 2017, so PGC restrictions for that species were lifted. However, the Osprey is still covered by the Migratory Bird Treaty Act (MBTA), and seasonal restrictions may apply. PennEast is in the process of developing a Migratory Bird Conservation Plan (MBCP) which will address avoidance, minimization and mitigation measures related to migratory birds and other avian species covered by the MBTA.

Consultation on Project Changes

Potential Appalachian Trail /PPL Route Alternative

The Appalachian Trail PPL Alternative (AT/PPL Alternative), is a potential 4.98-mile route deviation that PennEast is considering from MP 48.6R2 to MP 54.7R2 (See Enclosed Route Alternative Figure). It crosses Lower Towamensing Township in Carbon County, Eldred Township in Monroe County, and Moore Township in Northampton County, Pennsylvania. This modification would be implemented to address concerns from a multitude of agencies, specifically BWA, NPS and the PGC. This route would be co-located with an approximately 100-foot wide high voltage power line, reducing visual impacts across the Appalachian Trail and reducing the overall Project length. This crossing location has been approved by the PGC, NPS, and Appalachian Trail Conservancy (ATC). This Alternative would be fully co-located with existing ROW, and the abutting ROW has been utilized for workspace to the maximum extent practicable to reduce tree clearing. Within State Game Land (SGL) 168, the construction ROW width would be reduced to 75 feet, wherever feasible, to minimize earth disturbance.

PennEast used the Pennsylvania Natural Heritage Program (PNHP)'s Pennsylvania Natural Diversity Inventory (PNDI) Project Environmental Review Tool to obtain information on potential federal- and state-listed species impacts along the AT/PPL Alternative and Blue Mountain Interconnect (addressed below). The PNDI stated that there are potential impacts, and further review by PGC is required. In anticipation of the PGC requesting similar surveys be conducted along the new AT/PPL route, PennEast conducted habitat assessments along the proposed route to identify potential eastern small-footed bat and Allegheny woodrat habitat. The results of this survey can be found in the attached reports, including maps of the surveyed area for reference:

- *PennEast Pipeline Project – AT/ PPL Route: Eastern Small-footed Bat Habitat and Emergence Survey Report;* and
- *PennEast Pipeline Project – AT/ PPL Route: Allegheny Woodrat Habitat Survey Report*

Shapefiles of the delineated habitat are included on the enclosed CD-ROM. Suitable habitat for both species was present, but no evidence of Allegheny woodrat occupancy (activity centers) was found and no eastern small-footed bats were seen emerging after three rounds of Phase 2 surveys. Additional eastern small-footed bat Phase 2 emergence surveys are planned for June and July of 2018. These surveys will be conducted by QBS biologists to determine occupancy of potential day roosting habitat within accessible portions of the 400 survey corridor of the AT/PPL Alternative.

In order to survey for Indiana and northern long-eared bats, QBS biologists selected four (4) new sites for mist netting along the proposed AT/PPL route. Three (3) of these sites were surveyed during the 2017 mist netting season, and one (1) remains to be surveyed between May 15 and August 15, 2018. Site descriptions and survey results are included in the enclosed *PennEast Pipeline Project – AT/PPL Route: Indiana and Northern Long-eared Bat Mist Net Report*.

Table 1. AT/PPL Mist Net Sites

Nearest Milepost	County	State	Segment	Mist Net Site ID	Survey Status
AT/PPL	Carbon	Pennsylvania	Mainline	PE 076B	Not Completed
AT/PPL	Monroe	Pennsylvania	Mainline	PE 077B	Completed
AT/PPL	Northampton	Pennsylvania	Mainline	PE 078B	Completed
AT/PPL	Northampton	Pennsylvania	Mainline	PE 079B	Completed

Potential Blue Mountain Interconnect Change and Associated Lateral Pipeline

If the AT/PPL Alternative is incorporated in the Project design, the Blue Mountain Interconnect that was previously proposed at MP 50.9R2 would be relocated to MP 49.8R3 along the AT/ PPL Alternative (See Enclosed Route Alternative Figure). The station would be connected to the PennEast mainline pipeline with approximately 0.5 mile of 4-inch diameter lateral pipeline (Blue Mountain Lateral). The new location of the Blue Mountain Interconnect is adjacent to an existing PPL powerline corridor and utilizes and existing access road.

PennEast selected one (1) new site for mist netting along the newly proposed location of the Blue Mountain Interconnect lateral pipeline. This site was surveyed in the 2017 mist netting season, and a northern long-eared bat was captured. Site descriptions and survey results are included in the enclosed *PennEast Pipeline Project – AT/ PPL Route: Indiana and Northern Long-eared Bat Mist Net Report*.

Table 2. Blue Mountain Interconnect Mist Net Site

Nearest Milepost	County	State	Segment	Mist Net Site ID	Survey Status
Blue Mountain Lateral	Carbon	Pennsylvania	Mainline	PE 075B	Completed

PennEast has not surveyed the newly proposed location of the Blue Mountain Interconnect lateral pipeline for any other protected species, and requests the PGC's input regarding survey needs for this area.

Other Project Changes

Since PennEast's October 2016 consultation with PGC, PennEast has incorporated several minor Project changes to avoid and minimize impacts to sensitive resources and address landowner and constructability concerns. All of these proposed minor workspace changes are within 0.25 miles of the workspace on which PennEast has previously consulted, and any that extend outside of the previously surveyed areas have been addressed in this letter.

Conclusion:

Surveys

One mist net site remains along the newly proposed AT/PPL Alternative, and the eastern small-footed bat and Allegheny woodrat survey results require PGC review and approval. Three properties on the FERC-filed route must be surveyed for Allegheny woodrat and eastern small-footed bat habitat in 2018. Several additional areas where workspace adjustments have occurred necessitate additional Phase 1 and Phase 2 surveys for eastern small-footed bats. In order to conclude consultation with PGC regarding the Project, it is the understanding of PennEast that the following items are required:

- Complete mist netting survey (site PE 076B on AT/PPL Alternative);
- Complete eastern small-footed bat Phase 1 and Phase 2 surveys in areas where minor alignment shifts have moved workspace outside previously surveyed areas (refer to shapefiles on enclosed CD);
- Finish surveys on the previously inaccessible properties of the FERC-filed route;
- PGC review of survey areas and reports for the AT/PPL Alternative and Blue Mountain Interconnect; and
- PennEast requests PGC input regarding additional survey needs for the newly proposed AT/PPL and Blue Mountain Interconnect routes.

Reports

- PGC review of the Enclosed reports

Mitigation

- PGC review and approval of the Northern Flying Squirrel Impact Minimization Plan; and
- Because none of the potential Allegheny woodrat habitat identified on the PPL/AT route contained activity centers with evidence of occupation, it is the understanding of PennEast that an Allegheny woodrat mitigation plan will not be necessary if that route option is used.

PennEast looks forward to working with you and your colleagues on this important project. At this time, we request that the PGC respond with their concurrence regarding this characterization of PennEast's consultation status or with corrections if the PGC disagrees.

We also request information about surveys that may be required along the AT/PPL Alternative, so that any necessary surveys can be scheduled during the 2018 survey season. If you have any questions, I can be reached by phone at (610) 832-2457 or by email at brian.cooper@aecom.com.

Sincerely,

Brian L. Cooper

Brian Cooper
Environmental Scientist
AECOM

Enclosures

1. Route Alternative Figure
2. *Northern Flying Squirrel Impact Minimization Plan*
3. *PennEast Pipeline Project – AT/PPL Route: Eastern Small-footed Bat Habitat and Emergence Survey Report*
4. *PennEast Pipeline Project – AT/PPL Route: Allegheny Woodrat Habitat Survey Report*
5. *PennEast Pipeline Project – AT/PPL Route: Indiana and Northern Long-eared Bat Mist Net Report*
6. CD containing updated consultation area shapefiles

CC: Amber Holly, UGI Energy Services

Cooper, Brian

Subject: PennEast Pipeline Consultation Update and Review
Attachments: 2018-6-25_PennEast-comments.pdf

From: Librandi Mumma, Tracey [mailto:tlibrandi@pa.gov]
Sent: Monday, June 25, 2018 1:42 PM
To: Cooper, Brian
Cc: Binckley, Sarah; Amber Holly
Subject: RE: PennEast Pipeline Consultation Update and Review

Hi Brian,

It has taken some time to get through all the reports and try to piecemeal where surveys were done, their results, what additional surveys are needed, etc. The attached includes a list of questions/comments that need to be addressed as well as what appear to be the remaining survey needs. The PGC would like to have responses to the questions/comments in the attached prior to issuing a revised PGC PNDI response letter.

Thanks,

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

From: Cooper, Brian [mailto:Brian.Cooper@aecom.com]
Sent: Thursday, April 19, 2018 8:20 PM
To: Librandi Mumma, Tracey <tlibrandi@pa.gov>
Cc: Binckley, Sarah <sarah.binckley@aecom.com>; Amber Holly <aholly@ugies.com>
Subject: PennEast Pipeline Consultation Update and Review

Hi Tracey,

With the 2018 survey season ramping up, we are looking to review and update our consultations on the PennEast Pipeline Project. To that end, please find attached a consultation update letter, route alternative figure, and RTE consultation area .kmz file. Hardcopies of all these materials are being sent to you via FedEx this week. Updated comprehensive shapefiles of rare species surveys and results contain confidential and privileged information, and are available upon request.

Surveys for PA state-listed species are nearly complete, and we hope to finish all of them in the 2018 survey season. The largest update to our consultation process is the proposed Appalachian Trail/PPL Alternative route (AT/PPL Alternative). This route has been developed in response to requests from various agencies, including Bethlehem Water Authority (BWA), National Parks Service (NPS), and the Pennsylvania Game Commission (PGC). This alternative would allow the PennEast Pipeline to be fully co-located within existing ROW on the Blue Mountain crossing. In the file upload link to follow, please find a copy of the 2017 Mist Netting Report for the proposed AT/PPL Alternative, prepared by Wildlife Specialists. Please also see a copy of Wildlife Specialist's reports regarding eastern small-footed bats (phase 1

and 2) and Allegheny woodrats, and a draft northern flying squirrel mitigation plan. Hardcopies of these are also being sent to your office for review.

If you have time in the coming weeks, we would love to meet and go over the remaining consultations and newly proposed AT/PPL Alternative.

If you have any questions or would like any additional information regarding rare species survey coverage or route updates, please do not hesitate to contact me.

Regards,

Brian Cooper, AECOM
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Built to deliver a better world

PGC Comments/Responses to April 17, 2018 Letter from AECOM Re: PennEast Pipeline
June 25, 2018

Eastern Small-footed Bats (Roost Habitat)

- It is not clear to the PGC given the piecemealed nature that the surveys have been conducted and reports submitted, as to what areas have and have not been assessment for eastern small-footed bat summer roost habitat. Please provide a summary map showing where surveys were conducted as well as the results.
- Please provide a summary table and map showing what areas still need to be assessed for eastern small-footed bat summer roost habitat.
- For potential habitat areas, please provide a summary table and map showing where emergence counts have been conducted and the results of these surveys.
- Please provide a summary table and map showing in which areas emergence counts still need to be conducted.
- Of all the potential roost habitat identified thus far, please confirm that bats were only documented at one location ([redacted])?
- Please clarify what is meant by "this area is being avoided by the current alignment" in regard to [redacted] - is the alignment no longer in this area, or is the site being buffered by a certain distance and if so, what distance?

Bat Hibernacula (used by Eastern Small-footed and/or other bats)

- A total of 29 features were identified and investigated within ¼ mile of the alignment, of which 11 were determined to have potential as bat hibernacula. These 11 features were trapped and bats were captured and/or bat calls recorded at 9 of the 11 features [redacted]. In addition to these 9 bat hibernacula, three additional known bat hibernacula [redacted], and [redacted]) are known to occur within ¼ mile of the alignment, but were not trapped but PennEast. Are any hibernacula surveys (assessments or fall trapping) remaining (to be completed in 2018) for this project?
- Have all areas where minor alignment shifts have moved workspace outside previously surveyed areas along FERC filed route been assessed out to ¼ mile? If any areas have not been surveyed please specify where these areas are located and when you anticipated them to be assessed for potential bat hibernacula.
- PGC considers any feature at which bats are captured or bat calls recorded a bat hibernaculum. The PGC recommends the following avoidance measures be implemented at each of the 12 bat hibernacula (9 trapped and 3 additional bat hibernacula):
  - No blasting is to occur within ¼ miles of any bat hibernacula.
  - No tree removal is to occur within 300 feet of any bat hibernacula and tree removal is to be limited to the greatest extent possible between 300 and 1000 feet of the hibernacula. If tree removal is necessary between 300 and 1000 feet of the hibernacula, then it is to be removed between November 1st and March 31st.
  - Will the above measures be implemented at each of the 12 bat hibernacula? If not, please provide which measures and at which hibernacula these cannot be implemented and the reason(s) why.

Allegheny Woodrats:

- It is not clear to the PGC given the piecemealed nature that the surveys have been conducted and reports submitted, as to what areas have and have not been assessment for woodrats. Please provide a summary map showing where surveys were conducted as well as the results.

- Please provide a summary table and map showing what areas still need to be assessed for Allegheny woodrats.
- For areas that have been surveyed, was woodrat sign found, if so where, and is PennEast impacting these areas? This information could be provided via a map and summary table.

Northern Flying Squirrel:

PGC concurs with PennEast implementing the following avoidance and minimization measures between MP [redacted] and MP [redacted]:

- No tree clearing activities are to occur between April 15th and June 15th to avoid potential impacts to northern flying squirrel young that are expected to be confined to their nests during this period.
- Avoid forest clearing between [redacted] and [redacted] where a horizontal direction drill (HDD) will be used to cross under Interstate 80 and an adjacent forested wetland.
- Co-located pipeline with an existing pipeline ROW in this area as well as utilize existing roads to pipeline access to the greatest extent possible.
- Reduced the construction ROW through Hickory Run State park to 75 feet and is using an existing access road.

However, the PGC would recommend the following avoidance and minimization measures also be implemented between MP [redacted] and MP [redacted]:

- To avoid impacting nesting northern flying squirrels, construction activities that have associated noise greater than ambient noise levels should be conducted between August 16th and April 14, outside northern flying squirrel nesting season.
- Reduce ROW in areas of forested wetlands to <45 feet so northern flying squirrels can cross.
- If the above two measures cannot be implemented, please provide where and why they cannot.

Wildlife Crossings Mitigation proposal:

- How was it determined that three would suffice? The PGC does not concur that three crossings are not adequate given that ROW width is at least 75 feet (too wide for norther flying squirrel to cross) between MP [redacted] and MP [redacted]. Based on the information provided in the *PennEast Pipeline Northern Flying Squirrel Impact Minimization Plan* (dated March 2018) as well as the *PGC Northern Flying Squirrel Environmental Review Guidance Document*, the PGC calculates that approximately 64 crossing are necessary (see below) between MP [redacted] and MP [redacted]. The number of crossings need to be increased from what is being proposed to provide adequate mitigation for habitat loss for this species. Please provide a revised mitigation plan increasing the total number of crossings and addressing how the number of crossings were determined.

Habitat impacted	Start MP	End MP	Total Miles	Total Meters	No. Crossings
HDD - no impact to GLSA	[redacted]	[redacted]	0.5	800	0
Deciduous [a]	[redacted]	[redacted]	0.4	600	2
Conifer [b]	[redacted]	[redacted]	0.9	1500	15
Deciduous [a]	[redacted]	[redacted]	0.4	600	2
Conifer [b]	[redacted]	[redacted]	2.8	4500	45
			5.0	8000	64

[a] One crossing per 300 m of deciduous habitat, *PGC Northern Flying Squirrel Environmental Review Guidance Document*

[b] One crossing per 100 m of conifer habitat, *PGC Northern Flying Squirrel Environmental Review Guidance Document*

- How was it determined where the crossings would be located? The mitigation plan does not specify how the locations were chosen. [redacted] to [redacted] has already been determined to be of high quality northern flying squirrel habitat and the PGC would recommend targeting a substantial portion of the crossings to be located in areas where northern flying squirrels are most likely to use, such as conifer wetlands (MP [redacted], MP [redacted], MP [redacted], and MP [redacted]). The remaining crossings should them be placed in conifer and deciduous forests. Please provide a revised mitigation plan that address how and why crossing locations were chosen.
- HDD is being used to go under the wetland closes to I-80. Why is HDD not being used to go under the other wetlands located within the northern flying squirrel habitat?
- Conifer planting should be considered in addition to crossing especially, if an in adequate number of crossing are being proposed. Please address conifer plantings in the revised mitigation plan.

Remaining Surveys:

- AT/PPL Route Alternative: mist net surveys at one remaining mist net site (PE 076B) is needed that was not previously surveyed.
- Areas where minor alignment shifts have moved workspace outside previously surveyed areas along FERC filed route need the following surveys:
  - Eastern small-footed bat Phase 1 and Phase 2 surveys.
  - Are any of these areas near previously identified Allegheny woodrat habitat? If so, Allegheny woodrat habitat assessments may also be needed.
- Previously inaccessible properties of the FERC – filed route need the following surveys:
  - Finish Allegheny woodrat habitat assessments.
  - Finish eastern small-footed bat summer roost habitat assessment, and where necessary emergence count surveys.
- Blue Mountain Interconnect later pipeline needs the following surveys:
  - Allegheny woodrat habitat assessment.
  - Eastern small-footed bat summer roost habitat assessment.
  - No additional mist-netting is necessary for this section of the project.

AECOM Imagine it. Delivered.

Minutes

Meeting name
PennEast PGC Update Meeting

Meeting date
September 5, 2018

Location
AECOM - Mechanicsburg, PA

AECOM project number
60414094

Subject
PGC Jurisdictional T&E Species Consultations

Time
9:00 AM

Project name
PennEast Pipeline Project

Prepared by
Brian Cooper

Attendees
Tracey Librandi Mumma - PGC
Amber Holly - UGI Environmental Services
Jason Doersom - UGI Environmental Services
Sarah Binckley - AECOM
Brian Cooper - AECOM

Circulation list
Attendees

Purpose:

- To address the June 25, 2018 PGC request for additional information and materials prior to issuing an updated Pennsylvania Natural Diversity Inventory (PNDI) response letter.

Eastern Small-footed Bat (*Myotis leibii*):

- AECOM presented the PGC with a set of maps showing the survey areas and results for eastern small-footed bats, including delineated habitat and emergence survey results.
- AECOM will provide 2018 survey report and electronic maps (kmz or shp files), and address potential habitat outside workspace on Blue Mountain Lateral (proximity, need for blasting, information regarding blasting vibration and sounds).
- PGC confirmed that no additional Phase 1 surveys are needed based on current coverage; PNDI response should reflect this once survey reports are submitted and reviewed.
- Mist netting in Pennsylvania was completed; no listed species captured in 2018.

Bat Hibernacula:

- AECOM confirmed that no additional hibernacula surveys are planned for the Project.
- AECOM confirmed that none of the proposed route amendments have resulted in new mines or caves within ¼ mile (desktop assessment) which may require surveys.
- PGC explained that they are taking a very conservative approach to categorizing mines and caves as hibernacula or potential hibernacula in order to preserve as much suitable hibernating habitat as possible while bat populations struggle to overcome white-nose syndrome.
- AECOM discussed connectivity between potential bat hibernacula in Luzerne County, clarifying that mine maps indicate [redacted] is connected to a different coal seam and mine system than the open portals near [redacted].
- PennEast and AECOM discussed conservation measures which can be implemented near potential bat hibernacula found in Luzerne County.
    - AECOM explained that tree clearing restrictions within 300 feet of hibernacula may be possible on all but one hibernaculum, and that blasting restrictions would likely not be possible.

  - AECOM is to provide the PGC with technical information, including seismic data, regarding potential vibration effects from trench blasting, as well as potential mitigation strategies to decrease impacts to nearby hibernacula and their connected underground mine workings.
  - PGC prefers that blasting not take place during the winter, when bats may be hibernating in the mine portals.
- PennEast and AECOM confirmed that documented northern long-eared bat (*Myotis septentrionalis*) hibernacula in Bucks County are approximately ¼ mile from the workspace, and that workspace had been adjusting (shifting an access road) to eliminate tree clearing within ¼ mile of the site.

Allegheny Woodrat (*Neotoma magister*)

- AECOM provided the PGC with maps documenting the extent of woodrat surveys as well as survey results. No evidence (recent or otherwise) of occupancy by woodrats was found on or near the current Project alignment.
- PGC concurs that AECOM and PennEast have satisfied environmental review requirements and demonstrated that adverse effects are not likely. However, PennEast will have to coordinate with PGC's right-of-way (ROW) liaison, Nate Havens, in order to determine whether mitigation will be necessary for impacts to unoccupied suitable habitat on State Game Lands.
- PGC asked that AECOM/PennEast include Nate Havens in future emails regarding eastern small-footed bat and woodrat survey results on the State Game Lands, since he will be deciding the conditions of the ROW agreement through PGC-owned lands.

Northern Flying Squirrel (*Glaucomys sabrinus*)

- AECOM and PennEast explained that construction limitations do not allow for further workspace reductions in workspace within wetlands.
- AECOM showed PGC the proposed locations for 11 timber reserve areas within Hickory Run State Park, which will allow mature trees to remain for flying squirrels to use as launching/landing sites.
- AECOM explained that their proposed timber reserve locations are on state-owned property due to the protected nature of the site. PennEast prefers to put conservation measures to use in places where they will be protected, rather than on private land where the owner could modify or remove any conservation measures at will. PGC expressed that they understand this reasoning.
- AECOM and PennEast explained their process for selection of timber reserve sites based on forest age and species composition. PGC asked for the selection process to be clearly described in their mitigation plan.
- PGC suggested planting conifers and other species preferred by northern flying squirrels during any replanting activities in the documented flying squirrel habitat. AECOM confirmed that PFO wetlands and riparian areas would be replanted with trees, and that they would work with the tree supplier to include species preferred by the northern flying squirrel.
- AECOM asked about various mile markers referenced in the last PGC letter; PGC clarified that mile marker confusion was likely due to the various route changes and confirmed that the group was all referring to the same portion of the route identified in previous PNDI response letters.
- PGC mentioned that the Department of Conservation and Natural Resources (DCNR) may want additional mitigation measures as part of their ROW agreement, but the PGC is not directly involved in that discussion.
- The group discussed construction limitations which make glide pole structures unsuitable for use. Overlapping ROW with the paralleled Buckeye pipeline, and the size of equipment that would be needed to bring in the poles and construct the structures do not allow for the placement of such structures within the currently proposed workspace; additional room and tree clearing would likely be required. PGC is aware of two flying squirrel crossing structures in the state, but has no monitoring data to confirm their effectiveness. PGC agrees with PennEast and AECOM that widening workspace to install glide poles is not preferable to leaving mature trees in place from a biological standpoint.

PNDI Data Submission

- PGC mentioned that the online PNDI system may be used for uploading KMZ or shapefiles and documents. AECOM and PennEast will discuss with the various agencies involved in PNDI review to determine whether to continue using manual "large-project" submission or switch to the online portal.
- AECOM/PennEast will submit the eastern small-footed bat survey report, woodrat survey report, and mist netting report as soon as possible in one package.

October 19, 2018
Ms. Tracey Librandi Mumma
Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, PA 17110

Re: PennEast Pipeline Project
Pennsylvania Game Commission – PNDI 201408190001
Consultation Update

Dear Ms. Librandi Mumma:

On behalf of PennEast Pipeline Company, LLC (PennEast), we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project (Project). On January 19, 2018, the Federal Energy Regulatory Commission (FERC) released its order issuing Certificates for Public Convenience and Necessity for the Project under Parts 157 and 284 of the FERC's regulations. PennEast continues to work through the regulatory processes to obtain the permits and approvals necessary to construct the Project.

One June 25, 2018, the Pennsylvania Game Commission (PGC) provided comments and responses to PennEast's April 17, 2018 consultation update package. At the time, the PGC requested that PennEast provide additional information and clarifications prior to PGC issuing an updated consultation response letter. On September 5, 2018, PennEast and AECOM representatives met with the PGC to discuss route updates, survey needs, and the current status of environmental review for species under the jurisdiction of the PGC. Following that discussion, PennEast is providing the below and attached information to conclude their coordination with the PGC regarding the following species:

Eastern Small-footed Bat (*Myotis leibii*)

Phase 1 Surveys

During the summer of 2018, PennEast hired qualified bat biologists to conduct eastern small-footed bat Phase 1 assessments on all remaining areas requested by the PGC through previous consultation. These areas included several previously inaccessible parcels, minor route adjustments, and the newly proposed AT/PPL Alternative and Blue Mountain Lateral (refer to April 17, 2018 consultation update letter).

At this time, Phase 1 surveys for potential eastern small-footed bat day roosting habitat have been completed in all areas requested by the PGC. Please refer to the enclosed *Figure 1 – PennEast Eastern Small-footed Bat Survey* (Attachment 1) for maps which illustrate the field surveyed areas, delineated habitats, and Phase 2 emergence survey results, where applicable. As discussed in the September 5th

meeting, these maps will substitute for tables as they contain all of the requested information in one concise location. One new potential habitat area ([redacted]) was identified within the proposed construction limits in Luzerne County, and one (part of [redacted]) was identified outside the proposed construction limits in Carbon County. The enclosed *2018 Eastern Small-footed Bat Phase 1 Report* (Attachment 2) contains survey results and data. Please also refer to the separately provided electronic map files (Attachment 3) which document all of the delineated potential habitat areas for this species.

As discussed at the September 5th meeting, the Blue Mountain Lateral was desktop reviewed by a Pennsylvania Qualified Bat Surveyor (QBS) from Wildlife Specialists during their 2017 Phase 1 survey of the Appalachian Trail PPL Crossing Realignment, and determined to be unlikely to have suitable habitat for day roosting eastern small-footed bats. Subsequent desktop review by AECOM's QBS came to the same conclusion - aerial photography of the 400-foot wide study corridor for this short section does not show any talus slopes, cliff faces, or areas of exposed rock. Field survey crews (wetland delineators) confirmed that no such features are found in this section. One area of exposed rock is visible on aerial imagery approximately 550 feet from the proposed centerline (outside the 400-foot survey corridor); this area was field confirmed by Sanders Environmental in 2018 to contain suitable habitat for the species [redacted], found in *Figure 2 – PennEast Allegheny Woodrat Survey*). Therefore, PennEast considers the field survey area shown in the attached Figure 1 to represent suitable coverage of the revised route.

Phase 2 Surveys

Phase 2 emergence surveys have been completed for all impacted habitat areas, with the exception of 5 habitat polygons located in Luzerne County. Please refer to *Figure 2 – PennEast Eastern Small-footed Bat Survey* (Attachment 1) for maps which illustrate Phase 2 emergence survey results, where applicable. As discussed in the September 5th meeting, these maps will substitute for tables as they contain all of the requested information in one concise location. The enclosed *2018 Eastern Small-footed Bat Phase 2 Report* (Attachment 4) contains survey results and data from all 2018 Phase 2 surveys for eastern small-footed bats. To date, no impacted habitat areas on the currently proposed route have been found to be occupied by eastern small-footed bats. One habitat area [redacted]) was found to be occupied, but subsequent route modifications have avoided the roost location by approximately 1.4 miles.

Potential Mitigation

PennEast is committed to mitigating impacts to all occupied or presumed- occupied eastern small-footed bat day roosting habitat in accordance with PGC guidelines. At this time, Phase 2 surveys have not yet been completed on 5 habitat polygons in Luzerne County:

- [redacted];
- [redacted];
- [redacted];
- [redacted]; and
- [redacted]

These suitable habitats are all located within or adjacent to an active rock quarry. Impacts will be mitigated under the following circumstances:

- Construction timelines and survey windows do not allow for Phase 2 surveys to be completed prior to Project initiation ("assumed presence"); or
- Eastern small-footed bat presence is confirmed during Phase 2 surveys ("confirmed presence")

In the event that PennEast assumes presence of eastern small-footed bats, they will minimize impacts to habitat areas with assumed presence, consistent with the measures outlined in *PGC Eastern Small-footed Bat Environmental Review Guidance Document*. Impacted habitat will be removed in the winter (November 16th - March 31st), or, if construction timelines do not allow winter removal, will be treated prior to beginning of the active season (April 1st) by excluding bats using impermeable covering (i.e. landscaping fabric, tarp, etc.) to avoid direct impacts from construction equipment.

Following construction, impacts will be mitigated according to PGC guidelines and in coordination with the PGC. At this time, PennEast requests the PGC's recommendations for mitigation of impacted habitats within or adjacent to an active quarry property.

Blasting During Construction

As documented in the attached 2018 survey report (Attachment 2), PennEast biologists identified an area of potential summer roosting habitat (portions of woodrat habitat [redacted]) near the Blue Mountain Lateral, approximately 550 feet from the proposed centerline of the Blue Mountain Lateral and outside of the 400-foot survey corridor. In the September 5th meeting, the PGC expressed interest in further analysis of the potential impacts of noise and vibrations related to blasting if such activities are necessary for construction in this area. Based on input and review from engineering and construction professionals, PennEast has concluded that manual excavation of rock is a feasible option in this location, and blasting will not be required. PennEast will require contractors to mechanically excavate the trench in this area, and will include the requirement on both permitting and "Issued for Construction" (IFC) drawings. Therefore, no impacts to this potential summer roosting habitat are anticipated.

Bat Hibernacula

In their June 25th letter, the PGC asked whether any additional hibernacula surveys (assessments or fall trapping) remained to be completed for the Project, and whether all areas of alignment shift had been assessed out to ¼ mile. PennEast has completed surveys out to ¼ mile on accessible properties, as reported in the *2017 Fall Portal Bat Survey Report*. No areas of alignment shift, including the Appalachian Trail PPL Crossing Realignment have resulted in additional potential hibernacula occurring within ¼ mile of the proposed Project route. No new portals have been identified during environmental surveys of the revised route; further desktop review of the route modifications using Pennsylvania Department of Environmental Protection (PADEP) maps of abandoned mine locations, United State

Geological Survey (USGS) maps, and the Pennsylvania Natural Diversity Index (PNDI) online mapping tool has not resulted in any indication of additional likely bat hibernacula in these areas.

Based on the PGC's June 25th letter and conversations at the September 5, 2018 meeting between PennEast and the PGC, PennEast understands that the PGC is considering nine of the portals surveyed in the fall of 2017 to be potential bat hibernacula based on their potential underground connectivity, positive acoustic detections, and capture of one little brown bat (*M. lucifugus*). Therefore, PennEast will consider the following portals to be potential bat hibernacula for the purposes of PGC consultation: [redacted] and [redacted] (*2017 Fall Portal Bat Survey Report – Appendix C*). There are also three known hibernacula which are approximately ¼ mile from the Project boundary – [redacted] and [redacted].

The PGC has recommended the following conservation measures at these potential hibernacula:

- No blasting within ¼ mile of any bat hibernacula;
- No tree removal within 300 feet of any bat hibernacula;
- Limit tree removal to the greatest extent possible between 300-1,000 feet from hibernacula; and
- Clear trees within 1,000 feet of any bat hibernacula between November 1 – March 31.

PennEast has committed to implementing these conservation measures, with the following exceptions (as further detailed below):

- Tree removal will occur within 300 feet of portal PE-MF-29
- PennEast will need to clear trees between 300-1,000 feet of portal [redacted].

Tree Clearing Near Hibernacula

PennEast will minimize tree clearing within 300-1,000 feet of hibernacula to the greatest extent practicable while maintaining sufficient construction space to allow for contractor safety and constructability. [redacted] is located within the proposed limits of construction and considered by the PGC to be a potential hibernaculum; however, based on the results of PennEast's 2017 fall portal survey and the physical characteristics of the mine adit, PennEast believes portal is unlikely to be used by hibernating bats. This portal was assessed by a Pennsylvania QBS, and described in the following manner (*2017 Fall Portal Bat Survey Report*):

> *Portal [redacted] consisted of a mine adit with an entrance approximately 5' high by 14' wide and internal dimensions of approximately 2' high by 10' wide. The passage continued horizontally with a slight downward slope from the entrance, with approximately 30' visible and no terminus within sight from the entrance. There was no directional flow of air at the time of investigation, but the air within the mouth of the adit was cooler than outside temperatures (approximately 70°F at time of investigation). Water was pooled in the passage approximately 15' from the entrance, continuing out of*

sight. Approximately 1.5' of headspace above water is sufficient to allow for potential entrance and exit by bats. There were no visible signs of bat foraging activity or guano staining. Canopy cover at this portal was approximately 60%.

Although sufficient headspace was present at the time of investigation to warrant harp trapping surveys, the volume of water present in the tunnel presents a high likelihood that the passage floods regularly. In such instances, mine passages are typically not used, nor function as ecological "traps." During the 2017 fall portal survey, no bats were captured at portal [redacted], no swarming activity was observed, and only a single bat pass was recorded after three nights of surveys. No other evidence of bat occupancy (e.g. guano, urine staining, moth wings) was present at the site. Because the bat detector was placed outside the entrance of the portal, the single recorded echolocation sequence was most likely from a bat which was flying above or behind the portal along the footpath or adjacent powerline corridor.

Blasting Near Hibernacula

In their June letter, the PGC also requested that PennEast provide additional information regarding any plans for blasting within ¼ mile of potential hibernacula located along the banks of Mill Creek (MP [redacted] and to the southeast of Jumper Road ([redacted]). Based on input and review from engineering and construction professionals, PennEast has determined that manual excavation of bedrock is possible in this area (MP [redacted]), and no blasting will be used. PennEast will require contractors to mechanically excavate the trench in this area, and will include the requirement on both permitting and IFC drawings. Therefore, PennEast does not anticipate any adverse effects to hibernacula resulting from vibration or modification of underground mine passages.

Mist Net Surveys – Indiana *(Myotis sodalis*) and Northern Long-eared (*M. septentrionalis*) Bats

PennEast completed the one (1) remaining mist net survey in Pennsylvania in 2018. No state or federally listed species were captured at this site. To date, PennEast has completed a total of 117 mist net sites in Pennsylvania (8 of which are no longer needed due to reroutes). PennEast has now completed all mist netting surveys requested by the United States Fish and Wildlife Service (USFWS) for Indiana and northern long-eared bats. Upon receipt of this consultation package, the PGC has been provided copies of all mist net survey reports and data (refer to the enclosed *2018 Indiana and Northern Long-eared Bat Pennsylvania Mist Net Report (Attachment 5*).

Allegheny Woodrat (*Neotoma magister*)

PennEast has completed surveys for the Allegheny woodrat in all areas requested by the PGC. In 2018, PennEast contracted qualified biologists to finish all remaining Allegheny woodrat surveys on the newly proposed Appalachian Trail/PPL Alternative (AT/PPL Alternative), Blue Mountain Lateral, several previously inaccessible properties, and areas where workspace shifted and resulted in additional study area. The qualified biologists documented suitable habitat in several areas within the study area, but did not observe any sign of current or historic occupation by woodrats. Enclosed in this consultation package, please find a copy of the *2018 Allegheny Woodrat Survey Report* (Attachment 6), prepared by

Sanders Environmental, Inc. and *Figure 2 – PennEast Allegheny Woodrat Survey* (Attachment 7), which illustrates the survey coverage and results for all Allegheny woodrat surveys conducted on the PennEast Pipeline Project. Please also refer to the separately provided electronic map files which document all of the delineated potential habitat areas for this species (Attachment 8). As discussed in the September 5th meeting, these maps will substitute for tables as they contain all the requested information in one concise location. At this time, surveys for the Allegheny woodrat are complete and no additional surveys have been requested.

Northern Flying Squirrel (*Glaucomys sabrinus macrotis*)

The PGC has identified an approximately 5-mile portion of the Project between MP [redacted] where northern flying squirrels are known to exist and may be impacted by the proposed Project. Since initiating consultation in 2014, PennEast has continued to coordinate with the PGC and Pennsylvania Department of Conservation and Natural Resources (PADCNR) to identify conservation measures that would minimize impacts to the species; namely, reducing direct impacts to the species during construction and minimizing long-term impacts during Project operation.

PennEast submitted a draft *Northern Flying Squirrel Impact Minimization Plan* (NFS Plan) to the PGC on April 19, 2018 for review. In their June 25th letter, the PGC concurred with PennEast's proposal of the following avoidance and minimization measures between MP [redacted]:

- No tree clearing activities are to occur between April 15th and June 15th to avoid potential impacts to northern flying squirrel young that are expected to be confined to their nests during this period;
- Avoid forest clearing between MP [redacted] where a horizontal directional drill (HDD) will be used to cross under Interstate 80 and an adjacent forested wetland;
- Co-locate pipeline with an existing pipeline ROW in this area as well as utilize existing roads to pipeline access to the greatest extent possible; and
- Reduce the construction ROW through Hickory Run State Park to 75 feet and use an existing access road without constructing any new access roads in the park.

The PGC also recommended the following avoidance and minimization measures:

- Limit construction activities that have associated noise greater than ambient noise levels to August 16th – April 14th, outside northern flying squirrel nesting season; and
- Reduce ROW in areas of forested wetlands to <45 feet so that northern flying squirrels can cross.

PennEast has already committed to many seasonal activity restrictions in the northern flying squirrel area due to permitting requirements and impact minimization for several other protected species. For example:

- Tree clearing is limited to November 1st – March 31st to avoid impacts to federally listed bat species, migratory birds, and nesting northern flying squirrels;

- Instream work is limited to January 1st – September 30th for streams supporting natural trout reproduction; and
- Instream work is limited to April 1st – September 30th for Class A streams.

Therefore, PennEast is not able to avoid construction activities between August 16th and April 14th. However, potential impacts from construction noise was considered and included in the attached revised *Northern Flying Squirrel Impact Minimization Plan* (Revised NFS Plan) (Attachment 9).

PennEast is also unable to reduce their workspace to 45 feet in areas of forested wetland due to constructability constraints. PennEast has co-located their proposed ROW with an existing pipeline ROW in this area to reduce fragmentation of habitat and total tree clearing; however, primarily for safety reasons, they are not able to operate heavy construction equipment on the maintained 40-foot ROW of the existing utility. In order to complete their wetland crossings, PennEast will be working from one side of the trench and thus will require the full 75-foot corridor to build their pipeline in this area.

In their June 25th letter, the PGC also asked why HDD or traditional trenchless crossing methods were not proposed for wetlands within northern flying squirrel habitat other than the large complex near Interstate 80. PennEast provided the following evaluation of various trenchless construction methods to avoid and minimize impacts to wetland [redacted] in Hickory Run State Park to the PADCNR in July 2017. The same constraints also apply to the other wetland crossings in this section, which are of similar crossing dimensions.

<u>HDD and Direct Pipe</u>

Design of an HDD installation must consider the depth of cover beneath the critical feature, the entry and exit locations, the allowable bend radius, the anticipated geotechnical materials, and the setback distance from the critical feature. As such, HDD installations typically require longer installation lengths than other trenchless methods. This longer length increases the setback distance from the critical feature.

Direct pipe operations are conducted from a launch pit with entry angles typically between 5 and 15 degrees. Curve criteria are similar to both direct pipe and HDD installations. For the proposed pipe diameter, the minimum design radius used to establish the alignment profile is anticipated to be 3,600 feet.

Due to the recommended industry radius of curvature for a 36-inch diameter pipe, which must be maintained at approximately 3,600 feet to prevent overstressed installation conditions, the wetland [redacted]'s drill length of approximately 800 feet falls short of the minimum installation length required for HDD to be practicable.

In addition, there are additional staging requirements for consideration for both direct pipe and HDD installations that would necessitate additional tree clearing impacts. Workspace requirements include a launch/entry area of approximately 200 feet wide x 200 feet long to stage the necessary equipment. The

exit area requires an approximate workspace area of 150 feet x 150 feet. The pipe string is staged on the opposite side of the HDD rig. A pipe staging area of 50 feet wide x the installation length is typically required to fully fabricate the pipe string, which is frequently widened to accommodate multiple pullback strings.

Workspace requirements include a launch/entry area of approximately 150 feet wide x 200 feet long, to stage the necessary equipment and to allow for construction of a shallow launch pit. The exit area requires a workspace area of approximately 50 feet x 100 feet and a large crane to retrieve the microtunnel boring machine. The pipe string is staged on the same side as the thruster/launch pit. A pipe staging area of 75 feet wide x at least half of the installation length is typically required to fabricate the pipe strings and to stage the required slurry and lubrication and pipe handling equipment. This length is in addition to the staging area required for the launch pit.

Auger/Guided Bore

Auger boring, often referred to as “jack and bore” or “conventional boring,” involves jacking a casing pipe housing auger flights from a launch pit to a retrieval pit.

A hydraulic unit located within the jacking pit thrusts the casing pipe forward as the auger flight is rotated to convey the encountered geotechnical material at the leading edge of the casing pipe back to launch pit. Once brought back to the launch pit, a muck bucket/excavator is used to remove the spoil. For soil installations, the leading auger flight is kept within the casing pipe. In bedrock installations, the cutting head leads the casing pipe.

Auger bore installations are typically limited to installation lengths of 300 to 400 feet per industry best practices. For the proposed installation, the required installation length is approximately 800 feet. This length presents a significant challenge to an auger bore installation.

In addition, auger bore installations are not steerable installations. Proper control of line and grade requires proper setup of equipment on the design alignment and grade prior to launching. The installation depth can be modified slightly to allow for greater accommodation of any vertical deviation in the auger installation, but for long distances with significant elevation change benching is required to achieve appropriate pit depth.

The guided bore installation technique is a slight modification to the auger bore installation technique. It is identical to the auger bore installation methodology, with the addition of a new first step that involves pushing short 5-foot sections of drill rods from the launch pit through the ground surface to the retrieval pit. The auger equipment is then attached to the installed drill rods and pushed through the ground to completion. The benefit of the guided bore method is that it eliminates the line and grade inaccuracy associated with an auger bore installation. No drilling fluid or lubrication is used during advancement of the drill rods through the ground. In addition, no material is removed during this phase of the work. Instead, the soil is displaced outwards as the drill rods are advanced. However, similar limitations for

guided boring apply, with the construction length of approximately 800 feet exceeding the maximum feasible distance of both auger and guided bore by a factor of two.

Revised NFS Plan

Based on feedback from the PGC, PennEast has addressed agency comments in the attached Revised NFS Plan (Attachment 9). In their June 25th letter, the PGC recommended that PennEast increase the number of proposed timber reserve areas (TRAs), which are intended to provide easy crossing locations for northern flying squirrels to access both sides of the ROW. Upon review of the *PGC Northern Flying Squirrel Environmental Review Guidance Document,* PennEast has increased the number of TRAs proposed and expanded their NFS Plan to include additional effects analysis and discussion.

As requested by the PGC in their June 25th letter, PennEast will consider adding conifers to their replanting plan in the northern flying squirrel habitat area; however, within Hickory Run State Park, the final planting plan must be consistent with the terms of PennEast's final ROW lease agreement with the PADCNR.

As the expert agency for the northern flying squirrel and the jurisdictional agency over the species, this Revised NFS Plan is subject to review and approval by the PGC as a component of the Project's overall environmental review process. PennEast requests the PGC's review and concurrence that the measures proposed in the attached Revised NFS Plan meet PGC's approval as pertaining to the PNDI environmental review process. However, implementation of the conservation measures proposed within Hickory Run State Park will be coordinated with the PADCNR as a component of the ROW license agreement process.

Conclusion

At this time, PennEast respectfully requests the PGC's concurrence with their determination that the Project is not likely to adversely affect the eastern small-footed bat, Allegheny woodrat, and northern flying squirrel based on the following:

- Survey areas and survey results reported for each of the PGC jurisdictional species;
- Implementation of the avoidance and minimization measures described in the USFWS' November 2017 Biological Opinion;
- Mitigation of impacts to any occupied or presumed occupied eastern small-footed bat habitat, consistent with the feedback requested by PennEast and provided by the PGC;
- Avoidance of blasting activities from MP [redacted] to [redacted] and [redacted] to [redacted] (workspace within 0.25 miles of potential eastern small-footed bat habitat within [redacted]); and
- Implementation of the Revised NFS Plan

On behalf of PennEast, thank you for your continued input on this important project. If you have any questions, I can be reached by phone at (610) 832-2457 or by email at brian.cooper@aecom.com.

Sincerely,

Brian L. Cooper

Brian Cooper
Environmental Scientist
AECOM

Attachments (CD-ROM):

1) Figure 1 – PennEast Eastern Small-footed Bat Survey
2) 2018 Eastern Small-footed Bat Phase 1 Report
3) Digital Map File: Eastern Small-footed Bat Surveys
4) 2018 Eastern Small-footed Bat Phase 2 Report
5) 2018 Indiana and Northern Long-eared Bat Pennsylvania Mist Net Report
6) 2018 Allegheny Woodrat Survey Report
7) Figure 2 – PennEast Allegheny Woodrat Survey
8) Digital Map File: Allegheny Woodrat Surveys
9) Northern Flying Squirrel Impact Minimization Plan (revised)

CC: Amber Holly, UGI Energy Services
Nathan Havens, PGC

Cooper, Brian

Subject: FW: PennEast Pipeline

From: Librandi Mumma, Tracey [mailto:tlibrandi@pa.gov]
Sent: Friday, November 02, 2018 2:35 PM
To: Cooper, Brian
Cc: Binckley, Sarah; Amber Holly (aholly@ugies.com); Casey Monagan
Subject: PennEast Pipeline

Hi Brian,

I'm in the process of reviewing the information you provided on October 19 and have some questions:

1. Eastern small-footed bats – What is the size of each of the 5 eastern small-footed bat potential roost areas in Luzerne County at which emergence counts have not yet been conducted? The PGC needs this to determine how much mitigation will be necessary if presence is assumed.
2. Northern flying squirrel mitigation plan
    a. Minimize Tree Clearing: plan states that the ROW on Hickory Run state Park will be reduced from 100 feet to 75 however the plan does not state what the ROW reduction is on SGL #129 - please provide this information.
    b. Replanting and Reforestation:
        i. Where exactly will these planting occur?
        ii. What conifer species are being proposed for planting and how many of each will be planted at each location? Please note that one goal should be to diversify the conifers in the any one area, so if white pine and hemlock already exist then red spruce and balsam fir should be included.
        iii. What monitoring is planned as well as what actions will be taken if the plantings aren't successful?
        iv. Are any conifer plantings planned on SGL 129?
    c. Timber Reserve Areas:
        i. What is the rational for placing the two TRA's on SGL 129 so close together? No other two TRA's are located that close.
        ii. TRA 2 is the only one that does not list any conifer species in the description – was it chosen solely on the fact there were large tree present? Were there no other locations near with large trees and conifers?

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

Cooper, Brian

From: Cooper, Brian
Sent: Friday, November 09, 2018 2:07 PM
To: Librandi Mumma, Tracey
Cc: nhavens@pa.gov; Amber Holly; Casey Monagan; Binckley, Sarah (sarah.binckley@aecom.com)
Subject: FW: PennEast Pipeline

Hi Tracey,

Please see answers to your questions in red text below. I've updated the northern flying squirrel plan and appendices to incorporate these revisions/responses, and will be sending that document separately (it's too large to attach to a regular email). Thank you, as always, for all the time and work that you put into reviewing these materials.

Regards,
Brian

From: Librandi Mumma, Tracey [mailto:tlibrandi@pa.gov]
Sent: Friday, November 02, 2018 2:35 PM
To: Cooper, Brian
Cc: Binckley, Sarah; Amber Holly (aholly@ugies.com); Casey Monagan
Subject: PennEast Pipeline

Hi Brian,

I'm in the process of reviewing the information you provided on October 19 and have some questions:

1. Eastern small-footed bats – What is the size of each of the 5 eastern small-footed bat potential roost areas in Luzerne County at which emergence counts have not yet been conducted? The PGC needs this to determine how much mitigation will be necessary if presence is assumed. Please see table below:

Polygon	Impact	Area (ft^2)	Area (acres)
SA1-ESFB-1	Survey Corridor (not in workspace)	336.53	0.007726
SA1-ESFB-2	Workspace	339.762	0.0078
SA1-ESFB-3	Workspace	11571.9	0.265654
SA1-ESFB-5	Workspace	546.66	0.01255
SEI-MYLE-01	Workspace	602.422	0.01383

2. Northern flying squirrel mitigation plan
    a. Minimize Tree Clearing: plan states that the ROW on Hickory Run state Park will be reduced from 100 feet to 75 however the plan does not state what the ROW reduction is on SGL #129 - please provide this information. PennEast has a standard construction width of 100 feet within SGL 129; however, they have reduced construction width to 75 feet in some areas due to wetland and waterbody impacts. This reduced width includes approximately half of the total route across SGL 129; due to these areas of reduced width, PennEast has included necessary additional temporary workspace (ATWS) in some areas

for spoil storage and general usable workspace. Workspace is reduced to 75 feet from approximately MP30.06R2 – 30.20R2 and MP30.35R2 – 30.55R2.

b. Replanting and Reforestation:

i. Where exactly will these planting occur? Please refer to PADEP Wetland and Riparian Reforestation Plan, relevant pages from which are now included in the revised Northern Flying Squirrel Impact Minimization Plan (Appendix E). The revised NFS Plan is too large to attach to this email, and will be sent separately, with updated appendices.

ii. What conifer species are being proposed for planting and how many of each will be planted at each location? Please note that one goal should be to diversify the conifers in the any one area, so if white pine and hemlock already exist then red spruce and balsam fir should be included. The PADEP planting mix can be found within the Wetland and Riparian Reforestation Plan. White pine, balsam fir, eastern hemlock, and black spruce are proposed for use in wetland and riparian areas. Red spruce is an upland species, and would not likely succeed in the wetland and riparian areas where the PADEP planting mix will be applied.

iii. What monitoring is planned as well as what actions will be taken if the plantings aren't successful? Please refer to the new Appendix E; PennEast will monitor the plantings, with a survivorship guarantee of 75% after two years.

iv. Are any conifer plantings planned on SGL 129? The PGC provided PennEast with planting requests for SGL 129 as part of the SGL right of way process. No conifers were included in the final planting list, which was approved by the PGC's Land Management Group IV Supervisor on 5/1/2018.

c. Timber Reserve Areas:

i. What is the rational for placing the two TRA's on SGL 129 so close together? No other two TRA's are located that close. TRAs 5 & 6 are among the best crossing locations – canopy height and tree species were ideal at these sites. These two TRAs are also bookended by a long wetland to the north (~MP[redacted] – [redacted]) and a riparian area to the south (~MP[redacted] – [redacted]), where workspace cannot be reduced further due to construction limitations in such areas. The revised Appendix C figures show wetland and riparian areas (included in the newly revised NFS Plan to follow).

ii. TRA 2 is the only one that does not list any conifer species in the description – was it chosen solely on the fact there were large tree present? Were there no other locations near with large trees and conifers? Conifers are present to some degree along the entire existing utility ROW, however, there were no mature conifers within this particular 25x40 foot TRA. Total habitat availability is not a limiting factor in this site, and the spatial distribution and glide launching heights of TRAs were considered to be more significant than the species composition within the small areas of the TRAs. Also, moving TRA 2 north would put it very close to TRA 1, and TRA 2 cannot be moved to the south due to a large wetland complex where workspace cannot be further reduced. The revised Appendix C figures have been updated to show wetland and riparian areas.

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
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US FISH AND WILDLIFE SERVICE CORRESPONDENCE

August 12, 2014

Mr. Robert Anderson
Endangered Species Program

U.S. FISH & WILDLIFE SERVICE
Pennsylvania Field Office
315 South Allen Street, Suite 322
State College, PA 16801

Re: Large Project PNDI Review
PennEast Pipeline Company, LLC - PennEast Pipeline Project
Luzerne, Carbon, Northampton, and Bucks Counties, Pennsylvania

Dear Mr. Anderson:

The PennEast Pipeline Company, LLC (PennEast), is a partnership with UGI Energy Services (UGIES), AGL Resources, NJR Pipeline Company, and South Jersey Industries. The PennEast Pipeline Project (Project) proposes to construct a new 100-mile, 30-inch pipeline to deliver natural gas from northeast Pennsylvania to other markets in Pennsylvania and New Jersey. This new supply of natural gas will bring lower cost supplies to residents and businesses in Pennsylvania and New Jersey, while enhancing pipeline system flexibility and reliability for the local gas utilities.

PennEast intends to file its certificate application for the PennEast Pipeline Project with the Federal Energy Regulatory Commission (FERC) in mid-2015, and anticipates receiving authorization and starting construction in 2017. Permit applications with other federal, state, and local agencies will be submitted within similar timeframes as the certificate application. The permit proceedings conducted by these agencies will provide additional opportunities for public input and involvement. FERC's determination of public convenience and necessity includes a thorough, comprehensive environmental review of proposed projects, working closely with federal, state, and local agencies and in accordance with the National Environmental Policy Act (NEPA).

On behalf of PennEast, URS Corporation (URS) is requesting a Large Project Pennsylvania Natural Diversity Inventory (PNDI) review update for rare, candidate, threatened, and endangered species under the jurisdiction of the United States Fish and Wildlife Service (USFWS) for the PennEast Pipeline Project. A critical issues analysis was conducted for multiple routes using readily available secondary source data to select the **Least**

URS Corporation
625 W. Ridge Pike, Suite E-100
Conshohocken, PA 19428
Phone: 610.832.3500
Fax: 610.832.3501

Environmentally Damaging Practicable Alternative (LEDPA) route. Mapping depicting the environmental features evaluated for the preferred alternative is enclosed. We are asking for your review prior to the initiation of wetland and watercourse field surveys to be conducted this fall. We hope to concurrently identify any habitat for species under your agencies' jurisdiction at this time. The environmental study area will be a 400-foot corridor centered on the approximately 100-mile alignment. The anticipated permanent right-of-way (ROW) and temporary construction work area will be approximately 100-feet. The study area is wider than the disturbance area to allow for minor alignment shifts to avoid any sensitive resources that may be identified during the environmental field investigations.

The following are enclosed to facilitate your review:

- Large Project PNDI Form;
- PennEast Project Fact Sheet; and
- CD containing:
    - shapefiles of the alignment;
    - USGS 7.5 minute quadrangle maps with project alignment; and
    - detailed maps depicting the project areas and known secondary source resources

If you have any questions or require additional information regarding this request, please contact me at 610.832.1810 or bernard.holcomb@urs.com.

Sincerely,

Bernard Holcomb
Pipeline Environmental Services Manager
Enclosures (3)

cc: Mr. Anthony Cox (UGI)
Mr. Dante D'Alessandro (UGI)

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United States Department of the Interior

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

September 30, 2014

Bernard Holcomb
URS Corporation
625 West Ridge Pike, Suite E-100
Conshohocken, PA 19428

RE: USFWS Project #2014-1013

Dear Mr. Holcomb:

This responds to your letter dated August 12, 2014, requesting information about federally listed and proposed endangered and threatened species within the area affected by the proposed 100-mile, 30-inch PennEast natural gas pipeline project located in Luzerne, Carbon, Northampton, and Bucks counties, 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 and the Migratory Bird Treaty Act (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.

Indiana bat

The project is within the range of the Indiana bat (*Myotis sodalis*), a species that is federally listed as endangered. Indiana bats hibernate in caves and abandoned mines during the winter months (November through March), and use a variety of upland, wetland and riparian habitats during the spring, summer and fall. Indiana bats usually roost in dead or living trees with exfoliating bark, crevices or cavities. Female Indiana bats form nursery colonies under the exfoliating bark of dead or living trees, such as shagbark hickory, black birch, red oak, white oak, and sugar maple, in upland or riparian areas.

Land-clearing, especially of forested areas, may adversely affect Indiana bats by killing, injuring or harassing roosting bats, and by removing or reducing the quality of foraging and roosting habitat. Therefore, to determine whether the proposed project will affect Indiana bats, we will need additional project information, including site plans and a detailed project description, that describe how much forest disturbance will occur (area, tree species, and size classes).

Additionally, your project is located within the range of the federally proposed endangered northern long-eared bat (*Myotis septentrionalis*). The northern long-eared bat was 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**. Therefore, to avoid project delays we recommend that the effect of the project on northern long eared bats, and their habitat, be considered during the project planning and design. Additional information about northern long-eared bats, including ecology, habitat descriptions, listing status updates, and possible conservation measures may be found at *www.fws.gov/midwest/endangered/mammals/nlba/index.html* (click on Northern Long-eared Bat Interim Conference and Planning Guidance). We are available to discuss potential conservation measures specific to your project design.

Northeastern bulrush

The project area is within the known range of the northeastern bulrush (*Scirpus ancistrochaetus*), a federally listed, endangered plant. Potential habitat for this species could be affected if the project will directly or indirectly affect wetlands within Carbon County. The northeastern bulrush is typically found in ponds, wet depressions, shallow sinkholes, vernal pools, small emergent wetlands, or beaver-influenced wetlands. These wetlands are often located in forested areas and characterized by seasonally variable water levels at elevations of 1300 feet and greater.

To conserve northeastern bulrush (if present) and other wetland-dependent species of concern, project-related activities should avoid adversely affecting the surface and groundwater recharge areas. This would include establishment of 300-foot wide upland buffer areas around wetlands, as well as 50 to 100 foot wide buffers along waterways (perennial and intermittent rivers, streams, creeks and tributaries). When adequately vegetated, these buffers will act to filter pollutants and stabilize streambanks. Earth disturbance, spraying or tree-cutting activities (tree felling, skid trails etc.), should not occur in these wetlands and their buffers. If these buffers are included, implementation of the proposed project is not likely to adversely affect the northeasten bulrush.

If you are unable to adopt the buffer restrictions detailed above, we recommend that a qualified botanist with field experience in the identification of this species conduct a thorough survey of all potentially suitable wetland habitat within the proposed project area to determine the presence of the northeastern bulrush before any permits are approved or earth-moving activities begin. Surveys for this species should be conducted between June 1 and September 30, when the flowering/fruiting culm is present. A survey report should be submitted to the Service for review

[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.

and comment. A list of botanists skilled in the location and identification of the northeastern bulrush is enclosed.

Bog turtle

The project is within the known range of the bog turtle (*Clemmys muhlenbergii*), a species that is federally listed as threatened. Particularly for this project, the species may be found in Bucks, Northampton, and Carbon Counties. Bog turtles inhabit shallow, spring-fed fens, sphagnum bogs, swamps, marshy meadows, and pastures characterized by soft, muddy bottoms; clear, cool, slow-flowing water, often forming a network of rivulets; high humidity; and an open canopy. Bog turtles usually occur in small, discrete populations occupying suitable wetland habitat dispersed along a watershed. The occupied "intermediate successional stage" wetland habitat is usually a mosaic of micro-habitats ranging from dry pockets, to areas that are saturated with water, to areas that are periodically flooded. Some wetlands occupied by bog turtles are located in agricultural areas and are subject to grazing by livestock.

To determine the potential effects of the proposed project on bog turtles and their habitat, begin by identifying all wetlands in, and within 300 feet of, the project area. The project area includes all areas that will be permanently or temporarily affected by any and all project features, including building, roads, staging areas, utility lines, outfall and intake structures, wells, stormwater retention or detention basins, parking lots, driveways, lawns, etc. The area of investigation should be expanded when project effects might extend more than 300 feet from the project footprint. For example, the hydrological effects of some projects (*e.g.*, large residential or commercial developments; golf courses; community water supply wells) might extend well beyond the project footprint due to the effects that impervious surfaces or groundwater pumping may have on the hydrology of nearby groundwater-dependent wetlands. Wetlands should be included on a map showing existing and proposed project features.

If someone qualified to identify and delineate wetlands has, through a field investigation, determined that no wetlands are located in or within 300 feet of the project area (or within the expanded investigation area, as described above), it is not likely that your project will adversely affect the bog turtle. If this is the case, no further consultation with the Fish and Wildlife Service is necessary, although we would appreciate receiving a courtesy copy of the wetland investigator's findings for our files.

If wetlands have been identified in, or within 300 feet of, the project area (or in an expanded investigation area, as described above), assess their potential suitability as bog turtle habitat, as described under "*Bog Turtle Habitat Survey*" (Phase 1 survey) of the *Guidelines for Bog Turtle Surveys* (revised April 2006). Survey results should be submitted to the Service for review and concurrence. The survey guidelines, as well as a Phase 1 field form and report template, are available from the Service upon request.

Due to the skill required to correctly identify potential bog turtle habitat, we recommend that the Phase 1 survey be done by a qualified surveyor (see enclosed list). If the Phase 1 survey is done by someone who is not on this list, it is likely that a site visit by a Fish and Wildlife Service biologist will be necessary to verify their findings. *Due to the limited availability of staff from*

this office, such a visit may not be possible for some time. Use of a qualified surveyor will expedite our review of the survey results.

If potential bog turtle habitat is found in or near the project area, efforts should be made to avoid any direct or indirect impacts to those wetlands (see enclosed *Bog Turtle Conservation Zones*). Avoidance of direct and indirect effects means no disturbance to or encroachment into the wetlands (*e.g.*, filling, ditching or draining) for any project-associated features or activities. Adverse effects may also be anticipated to occur when lot lines include portions of the wetland; when an adequate upland buffer is not retained around the wetland (see *Bog Turtle Conservation Zones*); or when roads, stormwater/sedimentation basins, impervious surfaces, or wells affect the hydrology of the wetland.

If potential habitat is found, submit (along with your Phase 1 survey results) a detailed project description and detailed project plans documenting how direct and indirect impacts to the wetlands will be avoided. If adverse effects to these wetlands cannot be avoided, a more detailed and thorough survey should be done, as described under "*Bog Turtle Survey*" (Phase 2 survey) of the *Guidelines*. The Phase 2 survey should be conducted by a qualified biologist with bog turtle field survey experience (see enclosed list of qualified surveyors). Submit survey results to the Service for review and concurrence.

Based on the shapefiles that were provided with your August 12, 2014 letter, we would like to inform you that the proposed pipeline is crossing a known bog turtle site less than a mile from the boarder of Northampton County into Bucks County. We look forward to working with you in order to avoid impacts to this area as well as other potential and occupied bog turtle areas in these counties.

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.

The potential exists for avian mortality from habitat destruction and alteration associated with vegetation clearing and fragmentation within the project boundaries. Resources are available to assist you in determining which species are likely to be present within your project area (see attached enclosure) to determine appropriate conservation measures to reduce impacts to migratory birds. 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. Be aware that since these are general guidelines, some of them may not be applicable or may have already been included in the project design.

Your project is located in the vicinity of the Important Bird Area (IBA) known as Hawk Mountain and Kittatinny Ridge. IBAs are designated by the Pennsylvania Ornithological Technical Committee. They are the most critical regions in the Commonwealth for conserving bird diversity and abundance, and are the primary focus of Audubon Pennsylvania's conservation efforts. To find out more information about this IBA, including which bird species breed there, visit: http://netapp.audubon.org/IBA/State/US-PA

In addition to protection under the MBTA, bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (Eagle Act). The Eagle Act protects eagles by prohibiting killing, selling, disturbing, or otherwise harming eagles, their nests or eggs. "Disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle; 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

Consequently, we recommend that you evaluate the project type, size, location and layout in light of the *National Bald Eagle Management Guidelines* to determine whether or not bald eagles might be disturbed as a direct or indirect result of this project. If it appears that disturbance may occur, we recommend that you consider modifying your project consistent with the *Guidelines*. These guidelines, as well as additional eagle information, are available at http://www.fws.gov/northeast/EcologicalServices/eagle.html To assist you in making a decision regarding impacts to bald eagles, a screening form can be found at http://www.fws.gov/northeast/pafo/bald_eagle.html

Summary

In cases where adverse effects to federally listed species cannot be avoided, further consultation with the Service would be necessary to avoid potential violations of section 9 (prohibiting "take" of listed species) and/or section 7 (requiring federal agencies to consult) of the Endangered Species Act. Information about the section 7 and section 10 consultation processes (for federal and non-federal actions, respectively) can be obtained by contacting this office or accessing the Service's Endangered Species Home Page (http://endangered.fws.gov).

This response relates only to endangered and threatened species under our jurisdiction, based on an office review of the proposed project's location. No field inspection of the project area has been conducted by this office. Consequently, this letter is not to be construed as addressing potential Service concerns under the Fish and Wildlife Coordination Act or other authorities. A compilation of certain federal status species in Pennsylvania is enclosed for your information.

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 Kayla Easler of this office at (814) 234-4090 if you have any questions or require further assistance regarding this matter.

Sincerely,

Lora L. Zimmerman
Field Office Supervisor

cc:
PAFBC – Gipe
USACOE

Enclosures

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

QUALIFIED SURVEYORS FOR BOG TURTLE

58 Pa. Code §75.5 provides that in order to conduct surveys for endangered or threatened fish (fish, amphibians, reptiles and aquatic invertebrates) species or their habitat in connection with an application for a proposed or planned development activity, a surveyor must be deemed qualified by the Pennsylvania Fish and Boat Commission (PFBC). An individual who wishes to be qualified by the PFBC to conduct surveys for endangered or threatened species must demonstrate to the PFBC's satisfaction that he or she meets the qualified surveyor requirements as approved by the Executive Director and published in the *Pennsylvania Bulletin*. The following list includes persons deemed qualified by the PFBC to possess skills and to have experience in properly searching for and finding Bog Turtles (*Glyptemys muhlenbergii*) and in identifying their critical habitat. Persons not on this list but who have documented experience in conducting scientific studies of, or successful searches for, Bog Turtles and their critical habitat may submit their qualifications to the Natural Diversity Section for review and possible inclusion as a qualified surveyor. When applicable, a qualified surveyor must meet the requirements pertaining to scientific collector's permits and special permits for endangered and threatened species. All permitted collector's encounters with Bog Turtles must be reported in writing to the PFBC's Natural Diversity Section.

Teresa Amitrone Liberty Environmental, Inc. 50 N. 5th Street, 5th Floor Reading, PA 19601 (610)288-1536 tamitrone@libertyenviro.com	Ben Berra Skelly and Loy, Inc. 449 Eisenhower Blvd. Suite 300 Harrisburg, PA 17111 (717)232-0593 bberra@skellyloy.com	Tessa Bickhart Herpetological Associates, Inc. 21 Daisy Lane Bernville, PA 19506 (484)650-1508 tessabtspecialist@gmail.com
Stanley Boder Wildlife Specialists, LLC 942 Camp Trail Road Quakertown, PA 18951 (570)952-1169 stan@wildlife-specialists.com	Andy Brookens Skelly and Loy, Inc. 449 Eisenhower Blvd. Suite 300 Harrisburg, PA 17111 (717)232-0593 abrookens@skellyloy.com	Robert Bull The Wilson T. Ballard Company 4287 Fissel's Church Road Glen Rock, PA 17327 (717)424-9817 rbull@wtbco.com
Scott Bush Conestoga-Rovers & Associates 410 Eagleview Blvd. Suite 110 Exton, PA 19341 (610)321-1800 sbush@craworld.com	Bryon Dubois Dubois Environmental Consultants, LLC 1058 Prospect Avenue Manahawkin, NJ 08050 (609)488-2857 bdubois@denviro.com	B. Scott Fiegel Ecological Associates, LLC PO Box 181 Oley, PA 19547 (610)987-6585 Office (484)280-4312 Cell bscottfiegel@aol.com
Jeremy Hite RETTEW 3020 Columbia Avenue Lancaster, PA 17603 (717)715-3811 jhite@rettew.com	Kevin Keat ECSI 1095 Mill Road Pen Argyl, PA 18072 (484)515-6806 kevinkeat@ptd.net	Andrew Longenecker Ceso, Inc. 140 Lamplighter Drive Morgantown, WV 26508 (412)334-8619 longenecker@cesoinc.com

Matthew Malhame PO Box 394 Henryville, PA 18332 (570)872-1284 mmalhame@hotmail.com	Dave Moskowitz EcolSciences, Inc. 75 Fleetwood Drive Suite 250 Rockaway, NJ 07866 (973)366-9500 (732)236-2992 cell dmoskowitz@ecolsciences.com	Laura Newgard EcolSciences, Inc. 75 Fleetwood Drive Suite 250 Rockaway, NJ 07866 (973)366-9500 lnewgard@ecolsciences.com
Joe Pignatelli EcolSciences, Inc. 75 Fleetwood Drive Suite 250 Rockaway, NJ 07866 (973)366-9500 jpignatelli@ecolsciences.com	Gian Rocco 322 Strawberry Hill Road Centre Hall, PA 16828 (814)364-1204 gxr124@psu.edu	David Smith Coastal Resources, Inc. 25 Old Solomons Island Road Annapolis, MD 21401 (410)956-9000 davids@coastal-resources.net
Harry Strano Amy S. Greene Environmental 4 Walter E. Foran Blvd. Suite 209 Flemington, NJ 08822 (908)788-9676 hstrano@amygreene.com	Charles Strunk 1505 Sleepy Hollow Road Quakertown, PA 18951 (215)679-9147 strunk1@aol.com	Jason Tesauro J. Tesauro Ecological Consulting PO Box 908 Millbrook, NY 12545 (201)841-6879 jasontesauro@yahoo.com
Autumn Thomas AECOM Environmental, Inc. 4 Neshaminy Interplex STE 300 Trevose, PA 19053 (215)244-7121 autumn.thomas@aecom.com	Bridger Thompson URS Corporation 4507 N. Front Street Harrisburg, PA 17110 (717)635-7913 bridger.thompson@urs.com	Michael Torocco Herpetological Associates, Inc. 581 Airport Road Bethel, PA 19507 (717)933-8380 MTorocco@herpetologicalassociates.com
Robert Zappalorti Herpetological Associates, Inc. 575 Toms River Road Route 571 Jackson, NJ 08527 (732)833-8600 (609)618-0314 cell rzappalort@aol.com	James Drasher Aqua-Terra Environmental Ltd. PO Box 4099 Reading, PA 19606 (610)374-7500 (610)780-2150 cell jdrasher@aqua-terraenv.com	Scott Angus* 1981 lake Minsi Drive Bangor, PA 18013 (610)844-1866 Scottangus1@gmail.com
Anthony Silva* 1856 Route 9 Toms River, NJ 08755 (732)818-8699 asilva@tridentenviro.com	David Brotherton* PO Box 551 New Cumberland, PA 17070 (717)525-8162 dbrotherton@amygreene.com	Amy Nazdrowicz* Landmark Science & Engineering, Inc. 100 W. Commons Blvd ; Suite 301 New Castle, DE 19720 (302)323-9377 Ext. 136 amyn@landmark-se.com

*Conditionally approved for 2014.

BOG TURTLE CONSERVATION ZONES[1]

(revised April 18, 2001)

Projects in and adjacent to bog turtle habitat can cause habitat destruction, degradation and fragmentation. Of critical importance is evaluating the potential direct and indirect effects of activities that occur in or are proposed for upland areas adjacent to bog turtle habitat. Even if the wetland impacts from an activity are avoided (i.e., the activity does not result in encroachment into the wetland), activities in adjacent upland areas can seriously compromise wetland habitat quality, fragment travel corridors, and alter wetland hydrology, thereby adversely affecting bog turtles.

The following bog turtle conservation zones have been designated with the intent of protecting and recovering known bog turtle populations within the northern range of this species. The conservation suggestions for each zone are meant to guide the evaluation of activities that may affect high-potential bog turtle habitat, potential travel corridors, and adjacent upland habitat that may serve to buffer bog turtles from indirect effects. *Nevertheless, it is important to recognize that consultations and project reviews will continue to be conducted on a case-by-case basis, taking into account site- and project-specific characteristics.*

Zone 1

This zone includes the wetland and visible spring seeps occupied by bog turtles. Bog turtles rely upon different portions of the wetland at different times of year to fulfill various needs; therefore, this zone includes the entire wetland (the delineation of which will be scientifically based), not just those portions that have been identified as, or appear to be, optimal for nesting, basking or hibernating. In this zone, bog turtles and their habitat are most vulnerable to disturbance, therefore, the greatest degree of protection is necessary.

Within this zone, the following activities are likely to result in habitat destruction or degradation and should be avoided. These activities (not in priority order) include:

- development (e.g., roads, sewer lines, utility lines, storm water or sedimentation basins, residences, driveways, parking lots, and other structures)
- wetland draining, ditching, tiling, filling, excavation, stream diversion and construction of impoundments
- heavy grazing
- herbicide, pesticide or fertilizer application[2]
- mowing or cutting of vegetation[2]
- mining
- delineation of lot lines (e.g., for development, even if the proposed building or structure will not be in the wetland)

Some activities within this zone may be compatible with bog turtle conservation but warrant careful evaluation on a case-by-case basis:

- light to moderate grazing
- non-motorized recreational use (e.g., hiking, hunting, fishing)

Zone 2

The boundary of this zone extends *at least 300 feet* from the edge of Zone 1 and includes upland areas adjacent to Zone 1. Activities in this zone could indirectly destroy or degrade wetland habitat over the short or long-term, thereby adversely affecting bog turtles. In addition, activities in this zone have the potential to cut off travel corridors between wetlands occupied or likely to be occupied by bog turtles, thereby isolating or dividing populations and increasing the risk of turtles being killed while attempting to disperse. Some of the indirect effects to wetlands resulting from activities in the adjacent uplands include: changes in hydrology (e.g., from roads, detention basins, irrigation, increases in impervious surfaces, sand and gravel mining); degradation of water quality (e.g., due to herbicides, pesticides, oil and salt from various sources including roads, agricultural fields, parking lots and residential developments); acceleration of succession (e.g., from fertilizer runoff); and introduction of exotic plants (e.g., due to soil disturbance and roads). This zone acts as a filter and buffer, preventing or minimizing the effects of land-use activities on bog turtles and their habitat. This zone is also likely to include at least a portion of the groundwater recharge/supply area for the wetland.

Activities that should be avoided in this zone due to their potential for adverse effects to bog turtles and their habitat include:

- development (e.g., roads, sewer lines, utility lines, storm water or sedimentation basins, residences, driveways, parking lots, and other structures)
- mining
- herbicide application[2]
- pesticide or fertilizer application
- farming (with the exception of light to moderate grazing - see below)
- certain types of stream-bank stabilization techniques (e.g., rip-rapping)
- delineation of lot lines (e.g., for development, even if the proposed building or structure will not be in the wetland)

Careful evaluation of proposed activities on a case-by-case basis will reveal the manner in which, and degree to which activities in this zone would affect bog turtles and their habitat. Assuming impacts within Zone 1 have been avoided, evaluation of proposed activities within Zone 2 will often require an assessment of anticipated impacts on wetland hydrology, water quality, and habitat continuity.

Activities that are likely to be compatible with bog turtle conservation, but that should be evaluated on a case-by-case basis within this zone include:

- light to moderate grazing
- non-motorized recreational use (e.g., hiking, hunting, fishing)
- mowing or cutting of vegetation

Zone 3

This zone includes upland, wetland, and riparian areas extending either to the geomorphic edge of the drainage basin or at least one-half mile beyond the boundary of Zone 2. Despite the distance from Zone 1, activities in these areas have the potential to adversely affect bog turtles and their habitat. This particularly applies to activities affecting wetlands or streams connected to or contiguous with Zone 1, because these areas may support undocumented occurrences of bog turtles and/or provide travel corridors. In addition, some activities (e.g., roads, groundwater withdrawal, water/stream diversions, mining, impoundments, dams, "pump-and-treat" activities) far beyond Zone 1 have the potential to alter

the hydrology of bog turtle habitat, therefore, another purpose of Zone 3 is to protect the ground and surface water recharge zones for bog turtle wetlands. Where the integrity of Zone 2 has been compromised (e.g., through increases in impervious surfaces, heavy grazing, channelization of stormwater runoff), there is also a higher risk of activities in Zone 3 altering the water chemistry of bog turtle wetlands (e.g., via nutrient loading, sedimentation, and contaminants).

Activities occurring in this zone should be carefully assessed in consultation with the Fish and Wildlife Service and/or appropriate State wildlife agency to determine their potential for adverse effects to bog turtles and their habitat. Prior to conducting activities that may directly or indirectly affect wetlands, bog turtles and/or bog turtle habitat surveys should be conducted in accordance with accepted survey guidelines.

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[1] These guidelines are taken directly from the final "Bog Turtle (*Clemmys muhlenbergii*), Northern Population, Recovery Plan" (dated May 15, 2001).

[2] Except when conducted as part of a bog turtle habitat management plan approved by the Fish and Wildlife Service or State wildlife agency

BOG TURTLE HABITAT (PHASE 1) SURVEY REPORT

(template revised by USFWS on 4/13/2006)

The U.S. Fish and Wildlife Service (Pennsylvania Field Office) developed the following report template to ensure that a sufficient amount of detailed information is consistently submitted for agency review. Phase 1 surveyors are encouraged to use this template to format their reports, to ensure that all necessary information is provided. Revisions to this template are likely, as we continue to receive feedback on its content, structure, and ease of use. Example and explanatory language within this template is italicized. Use the current Bog Turtle Survey Guidelines (revised April 2006) in conjunction with this template.

PROJECT and SITE INFORMATION

This Phase 1 survey was conducted on behalf of:

Name: _____

☐ landowner ☐ developer ☐ state agency ☐ local government

☐ other (_____)

Address: _____

_____

City/State/Zip: _____

Telephone: _____

Project / Property Name: _____

Project / Property Location:

Address: _____

_____

City/State/Zip: _____

Township/Municipality: _____

County: _____

Watershed (minor): _____

Watershed (major): _____

The project location is shown on Figure 1 (_____ USGS 7.5-minute topographic map).

[Include USGS topographic map showing project area location. Identify county, township, and quadrangle name on map, as well as project name.]

Project Area / Property – Size and Extent

[Identify the size/extent of the project area. For example, the project area for a proposed residential development would include all areas that would be affected (directly or indirectly) by all parts of the development, including buildings, roads, driveways, lots in their entirety, utility lines, water and sewer lines, stormwater detention/retention basins, staging and access areas, recreational fields or trails, etc. Often, this includes the entire land parcel, all of which will be either directly or indirectly affected by the project. In some cases, a land parcel is being surveyed, prior to developing project plans. In that case, identify the land parcel (e.g., "the 20-acre David Jones property") as the project area, and explain that project plans have not yet been developed.]

Current Land Use and Setting

[Describe current land use and the overall setting. Also, describe what habitat type(s) are currently in the project area (e.g., "Eighty acres of the 100-acre parcel is in row crops, while the remainder is a woodlot dominated by red maple and green ash that are approximately 40 years old. A stream, approximately 6 inches deep and 2 feet wide crosses through the woodlot. A farmhouse and barn also occur on the property."]

Figure 2 represents a detailed map of the project area or property, showing existing features (including property boundaries, structures, power lines, roads, wetlands, ponds, streams, and major cover types).

[Include a project area map, showing 1) property/parcel boundaries; 2) existing features and general cover types (e.g., roads, power lines, agricultural fields, forest, streams, ponds, houses, spring houses); and 3) all wetlands (numbered consistent with this report). Include photo point references for each wetland.]

Project Description

[Describe the project. Include the project description, including the project purpose, timing, size, duration, etc. If the project is part of a larger undertaking, describe the relationship between the parts. For example, "This project involves the construction of sewer and water lines to connect a proposed 250-unit residential development (located on a 100-acre parcel of land) to the City of Mudville's existing wastewater treatment plant." If the project is more vague, at least describe what is proposed for the property, e.g., "The landowner intends to develop a residential subdivision on the property, but plans have not yet been drawn up."]

Permit Area (for wetland/stream encroachments):

[If it is known at the time of the phase 1 survey that one or more permits will be necessary for wetland and/or stream encroachments, disclose this information. For example, "Although plans have not been finalized, it appears that at least three wetland and two stream crossings will be necessary for road and utility crossings." If no wetland or stream encroachments will be necessary, indicate that as well – if you are sure none will be needed.]

WETLAND INFORMATION

[Include information about all wetlands on the property or in the project area, regardless of whether or not they are "jurisdictional" wetlands, pursuant to Section 404 of the Clean Water Act.]

A wetland investigation was conducted _____ [*identify the extent of the wetland investigation, e.g., "on the entire 220-acre parcel" or "in the 50-foot right-of-way on either side of S.R. 123]. [If some areas were not investigated, explain why. If these areas occur in a location that will be subject to future phases of development, they should be surveyed now. If the entire property/parcel was not investigated, describe exactly what area(s) were investigated, and why.]*

Wetlands were ☐ identified ☐ delineated on _____ [date(s)] by:

Name: _____

Affiliation: _____

Address: _____

_____

City/State/Zip: _____

Telephone: _____

Email: _____

Wetlands were delineated in accordance with _____ *[describe delineation method.] [If a wetland delineation has not been conducted, explain why.]*

All wetlands _____ *[e.g., "in the project area" or "on the 220-acre property" or "in the 50 foot right-of-way"]* were identified and delineated. *[If this is not the case, explain why.]* Wetland information is summarized in Table 1.

Table 1. Wetland Size and Location

Wetland ID	Wetland Size (acres)	Designated Survey Area (acres)[1]	Lat/Long[2]	Is the entire wetland on site?[3]

1 "Designated survey areas" are those areas of the wetland that meet the soils, hydrology and vegetation criteria for potential bog turtle habitat. These areas may occur within the emergent, scrub-shrub or forested parts of the wetland.

2 For smaller wetlands (*e.g.*, up to 3 acres) lat/long should be approximate center of wetland); for larger wetlands, either indicate approximate center or GPS the outer ends of the wetland. Lat/long should be submitted in degrees-minutes-seconds or degree-decimal format. Be sure to indicate the GPS datum (i.e., NAD 27, NAD 83, or WGS 84).

3 Answer "yes" if the entire wetland is located within the property/parcel boundaries or right-of-way. If any part of the wetland extends off-site, or if the entire wetland is off-site (e.g., but close to the parcel boundaries) answer "no" and provide a further explanation in the wetland narrative section.

PHASE 1 SURVEY

[During the Phase 1 Survey, examine all wetlands on the land parcel, or all wetlands that may be directly or indirectly affected by any aspect of the project. Generally, indirect effects should be assumed to extend about 300 feet beyond the project footprint (e.g., sedimentation from earth disturbance, fertilizer and pesticide transport beyond lot boundaries or agricultural fields). However, the hydrological effects of development or construction (e.g., due to roads, wells, stormwater management) may extend well beyond 300 feet from the area of direct impact. See "Bog Turtle Conservation Zones" for further guidance.]

The Phase 1 survey was conducted on _____ [date(s)] by:

Name(s): _____

Affiliation: _____

Address: _____

_____

City/State/Zip: _____

Telephone: _____

Email: _____

A Phase 1 survey of all wetlands located _____ [*identify the extent of the Phase 1 investigation, e.g., "on the entire 220-acre parcel" or "in the 50-foot right-of-way on either side of S.R. 123]* was conducted. *[If some wetlands were not surveyed, explain why. If these wetlands occur in an area(s) that will be subject to future phases of development, they should be surveyed now.]*

A summary of the Phase 1 survey results is included in Table 2. Detailed information about each wetland follows the table. Completed field forms for each wetland are included in Appendix A.

Table 2. Summary of Phase 1 Survey Results

Wetland ID	Wetland Size	Wetland Type & Amount (% or acres)	Extent of "Mucky" Soils[1] (by wetland type)	Survey Effort *(in person-hrs)*	Bog Turtle Habitat?
1	*1.5*	*PEM – 50%* *PSS -- 50%*	*PEM – 80%* *PSS – 50%*	*2*	*YES*

1 "Mucky" is used to describe soils that can be easily penetrated with a probe. For Phase 1 surveys, a 1-inch diameter blunt-ended wooden pole (e.g., broom or tool handle) is used. "Mucky" is NOT used to refer to a specific soil type or soil classification.

Wetland 1

[Include narrative description of wetland. Describe dominant vegetation, degree and distribution of "muckiness", and hydrology. Also describe any disturbance noted (e.g., ditches, fill, grazing).

[Include a map of the wetland, showing the extent of the "designated survey area(s)". Also, a sketch of the distribution of wetland types (e.g., PEM, PSS, PFO, etc.) within the wetland is helpful.]

[List any herps found (or previously found by others).]

[Include photo(s) of wetland. Be sure photos are representative of the wetland type(s) found.]

[If the wetland continues off-site, disclose this information, describe the off-site portion, and indicate the degree to which the off-site portion was inspected.]

Wetland 2

See above for information to include.

Off-site Adjacent Wetlands

[If any wetlands occur off-site (e.g., adjacent to the subject property), and they might be directly or indirectly affected by the proposed project (or any aspects thereof) they should be included in this Phase 1 report. If these wetlands were not surveyed, visual observations from the subject property or from a public road should be reported.]

NOTE: If potential habitat is found and the project proponent chooses to assume bog turtles are present and avoid potential adverse effects to the species (rather than conduct a Phase 2 survey), a detailed project narrative and detailed project plans should be submitted to the Fish and Wildlife Service and Pennsylvania Fish and Boat Commission (along with this Phase 1 Report). The narrative and plans should demonstrate that the project will have no direct or indirect adverse effects to bog turtles or their habitat. See "Bog Turtle Conservation Zones" for further guidance.

Appendix A

[Include a completed "USFWS / PFBC Bog Turtle Habitat Evaluation – Field Form" for each wetland. Also -- make sure the forms are legible.]

Appendix B

[Include information about the person who conducted the Phase 1 survey, including the name, address, telephone number, email address, and qualifications (e.g., "recognized, qualified Phase 2 bog turtle surveyor".]

U.S. FISH AND WILDLIFE SERVICE
Pennsylvania Field Office

QUALIFIED NORTHEASTERN BULRUSH SURVEYORS

The following list includes persons known by the U.S. Fish and Wildlife Service to have the skills and experience to conduct surveys for the northeastern bulrush (*Scirpus ancistrochaetus*). Observations of the northeastern bulrush at previously undocumented sites must be reported in writing to the Service within 48 hours. Northeastern bulrush surveys should be overseen by a qualified surveyor, who will be present in the field at all times during the investigation.

This information is not to be construed as an endorsement of individuals or firms by the Service or any of its employees. Persons not on this list, but who have documented experience in conducting scientific studies of, or successful searches for, the northeastern bulrush may submit their qualifications to the Service for review. The submission must include documentation that the requestor has experience successfully locating and identifying the northeastern bulrush and its habitat. Additions to and deletions from this list are at the sole discretion of the Service. This list is subject to revision at any time without prior notice.

Richard Mellon
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rmellon@mellonbiological.com

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Bob Beran
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724-679-0272 (c)
bob@beranenvironmental.com

Dr. Alfred Schuyler
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schuyler@ansp.org

Staff Botanist
Western Pennsylvania Conservancy
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412-288-2777

Anthony Froonjian
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860-869-3994 (c)
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Dr. Larry Klotz
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Revised 03/05/2014

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724-934-2023 (f)
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Dr. Kendra Cipollini
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kendra_cipollini@wilmington.edu

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412-770-6643 (c)
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jjw@wilsonecological.com

Andrew Nevin
Skelly and Loy Engineering – Environmental Consultants
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anevin@skellyloy.com

Revised 03/05/2014

Mark Bowers
279 Orr Road
West Newton, PA 15089
724-454-4012(c)
monarda55@gmail.com

Revised 03/05/2014

October 24, 2014

Ms. Kayla Easler
U.S. Fish and Wildlife Service
315 South Allen Street, Suite 322
State College, PA 16801

Dear Ms. Easler:

On behalf of PennEast Pipeline Company, LLC, we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

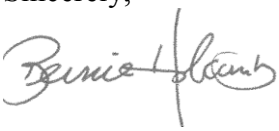
As an interstate natural gas pipeline, PennEast will be regulated by the Federal Energy Regulatory Commission (FERC). FERC approved PennEast for the pre-filing review process on October 8. The pre-filing process creates the framework for the environmental analysis and a formal structure for stakeholders along the proposed route to provide input and opinions regarding the project. The pre-filing application is available online at http://elibrabry.ferc.gov, docket PF15-1-000.

At this time we would like to invite the U.S. Fish and Wildlife Service to become a cooperating agency in the FERC process, and to actively engage with FERC's designated Environmental Project Manager for the PennEast Pipeline Project, Medha Kochhar. Ms. Kochhar can be contacted at (202) 502-8964. As a cooperating agency, FERC and/or PennEast may request your participation in bi-weekly project status calls and direct or interagency coordination meetings, as appropriate.

Only in the second month of a comprehensive, approximately three-year process, PennEast still is working to refine a preferred alternative route and to obtain permissions to survey. To that end, we must inform you that the preferred alternative route has been adjusted to account for engineering, environmental, and land use constraints that have been identified since we initially provided your agency with detailed project information. In Pennsylvania, the preferred alternative route has been shifted approximately three-to-four miles to the northeast between mileposts 11 and 35 in Luzerne and Carbon counties. Other route adjustments have also been made in an effort to maximize co-location with existing utility easements. Overall, approximately 41 miles have been re-routed in Pennsylvania. Please note, however, that the current preferred alternative route remains in the same counties and townships as identified in our initial notification. Shapefiles for the adjusted preferred alternative route are being provided to aide in your review and analysis of the project.

We look forward to working with you and your colleagues on this important project. Please contact me if you have any questions.

Sincerely,



Bernie Holcomb
Pipeline Environmental Services Manager

URS Corporation 625 West Ridge Pike, Suite E-100 ; Conshohocken, PA 19428
Direct: 610 832 1810; Cell: 215 275-7956 ; Fax: 610-832-3501 bernard.holcomb@urs.com

January 14, 2015

Ms. Kayla Easler
U.S. Fish and Wildlife Service
315 South Allen Street, Suite 322
State College, PA 16801

USFWS Project #: 2014-1013

Dear Ms. Easler:

On behalf of PennEast Pipeline Company, LLC, we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; Texas Eastern Transmission, LP; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

As an interstate natural gas pipeline, PennEast will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015.

Over the past months, PennEast has worked to refine a preferred alternative route and to obtain permissions to survey. To that end, we must inform you that the preferred alternative route has been adjusted to account for engineering, environmental, and land use constraints that have been identified since we last provided your agency with detailed project mapping on October 24, 2014. In Pennsylvania, the preferred alternative route has been re-routed for approximately 2.5 miles to the north side of State Route 33 near Bethlehem, PA. In New Jersey, the preferred alternative route has been re-routed for approximately 21 miles, from M.P. 90 (approximate) to the southern project terminus. This re-route has also necessitated a 1.3-mile, 36-inch lateral near Lambertville, NJ to transport gas to Algonquin and Texas Eastern Transmission systems. USGS topographic maps showing just the new route adjustments and updated shapefiles for the entire new preferred alternative route are being provided to aide in your review and analysis of the project.

We look forward to working with you and your colleagues on this important project. Please contact me if you have any questions.

Sincerely,

Bernie Holcomb

Pipeline Environmental Services Manager
URS Corporation 625 West Ridge Pike, Suite E-100 ; Conshohocken, PA 19428
Direct: 610 832 1810; Cell: 215 275-7956 ; Fax: 610-832-3501 bernard.holcomb@urs.com

March 30, 2015

Ms. Kayla Easler
U.S. Fish and Wildlife Service
315 South Allen Street, Suite 322
State College, PA 16801

Dear Ms. Easler:

On behalf of PennEast Pipeline Company, LLC, we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; Spectra Energy Partners; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

As an interstate natural gas pipeline, PennEast will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015. Over the past months, PennEast has worked to refine a preferred alternative route and to obtain permissions to survey. To that end, we must inform you that the preferred alternative route has again been adjusted to account for engineering, environmental, and land use constraints that have been identified since we last provided your agency with detailed project mapping on January 14, 2015.

Following feedback from FERC's scoping meetings and numerous conversations with landowners, state and local agencies, and other various stakeholders, PennEast has revised and refined various portions of the preferred alternative route. The largest variations to the previously released route are related to the location of the crossing of the Bethlehem Authority water supply mainline (MP 44 and MP 45), Appalachian Trail crossing (between MP 46 and MP 55), and accommodating future subdivision and housing development plans. Additional field data gained over the last month has helped make smaller adjustments related to environmental surveys and individual discussions with landowners.

In addition to the route variations noted above, an additional interconnect was needed for the Gilbert Power Generation facility in Holland Township, New Jersey, which is fed by a small lateral (12 inches) to supply natural gas to the facility. The previously located interconnection with Elizabethtown Gas was relocated so that both interconnects can be co-located within the power station's industrial property to minimize additional above-ground impacts.

A summary of the significant route variations in Pennsylvania is provided below:

- In Towamensing Township in Carbon County, PA, less than one mile of the alignment has been re-routed ¼-mile to the east as a result of consultations with the Bethlehem Authority (Authority). The alignment has been re-routed between mileposts 44 and 45 to cross the Authority's water supply mainline in a location where it is deeper in an effort to maximize protection of the Authority's resources.

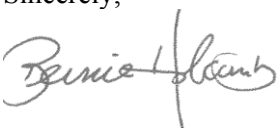
- Straddling the Carbon – Northampton County line in PA, approximately 8 miles of the alignment between mileposts 46 and 55 has been re-routed up to 1 mile to the west of the previous route in an effort to refine the crossing location of the Appalachian Trail.

- In Northampton County, PA, approximately 2.5 miles of the alignment has been re-routed less than ½-mile to the north of the previous route as a result of consultations with private landowners and local officials. The alignment has been re-routed between mileposts 59 and 62 to accommodate current and future land use plans in the area.

Updated GIS shapefiles for the entire new preferred alternative route are being provided to aide in your review and analysis of the project.

We look forward to continuing to work with you and your colleagues on this important project. Please contact me if you have any questions.

Sincerely,



Bernie Holcomb
Pipeline Environmental Services Manager

URS Corporation 625 West Ridge Pike, Suite E-100; Conshohocken, PA 19428
Direct: 610 832 1810; Cell: 215 275-7956; Fax: 610-832-3501 bernard.holcomb@urs.com

West, Jonathan

From: Shellenberger, Pamela <pamela_shellenberger@fws.gov>
Sent: Wednesday, July 01, 2015 10:57 AM
To: Poppel, Deborah; Holcomb, Bernard; West, Jonathan
Cc: Jeremy Markuson; Medha Kochhar
Subject: 3 northern long-eared bat hibernacula within 1/4 mile of Penn East project area; PA USFWS #2014-1013

Deborah,

In light of the recent listing of the northern long-eared bat, I have new information about this species within your project area. In Pennsylvania, your project is located within 1/4 mile of three northern long-eared bat hibernacula. As discussed in 50 CFR 17 Federal Register /Vol. 80, No. 11 / Friday, January 16, 2015, the Service concludes that a 0.25-mile (0.4-km) buffer should be sufficient to protect most known, occupied hibernacula and hibernating colonies. This buffer will provide basic protection for the hibernacula and hibernating bats in winter from direct impacts, such as filling, excavation, blasting, noise, and smoke exposure. This buffer will also protect some roosting and foraging habitat around the hibernacula.

Two hibernacula are known as [redacted] and [redacted]. They were last surveyed in January of 2001. [redacted] had 1 NLEB and [redacted] had 14. The other is known as [redacted] (which has been gated by the Office of Surface Mining). This was last surveyed in February 2007 and had 2 NLEBs. Although these features have not been resurveyed since, we consider this data to be the best scientific information available and assume presence.

[redacted] is located at approximately: [redacted]
[redacted] is located at approximately: [redacted]
[redacted] is located at approximately: [redacted]

This information is for project planning purposes and should not be shared with anyone outside of this project, or anyone associated with the project that does not need to know.

In consideration of this, please provide additional information about what type of activities (filling, excavation, blasting, noise, and smoke exposure) will be occurring within 1/4 mile of these features. Additionally, please provide information (mapping) about the underground passage area for the two caves. This is something that may be available through the PA Game Commission or other sources. For all three hibernacula, discuss how impacts from the project will be minimized or avoided.

Additionally, if any additional natural caves or abandoned mines occur within the project area, it is possible that Indiana bats or northern long-eared bats may be using them during hibernation or potentially as summer roost sites. If potential hibernacula (*i.e.*, caves or abandoned mines) occur within the project area, they should be surveyed by a qualified biologist. Prior to conducting any survey, the Pennsylvania Game Commission should be contacted to determine whether or not they have surveyed the cave/mine in the past. If adequate surveys have been conducted in the recent past, this may preclude the need to conduct additional surveys. Survey results should be submitted to the Service for review and concurrence.

Please let me know if you have any questions.

Thank you -

Pamela Shellenberger
U.S. Fish & Wildlife Service
Pennsylvania Field Office

110 Radnor Rd; Suite 101
State College, PA 16801
814 234-4090 x7459
http://www.fws.gov/northeast/pafo/

Poppel, Deborah

From: Poppel, Deborah
Sent: Friday, July 24, 2015 11:42 AM
To: 'Easler, Kayla'
Cc: West, Jonathan; Binckley, Sarah
Subject: PennEast Reroutes- Official Notice
Attachments: PennEast Deviation MP 22.4 to 23.2_072315.pdf; PennEast Deviation MP 48.9 to 53.5_072315.pdf; PennEast Deviation MP 61.7 to 62.7_072315.pdf; PennEast Deviation MP 70.1 to 70.6_072315.pdf; PennEast Reroute MP 6.5 to 11.8_072315.pdf; PennEast Proposed Route (July 15, 2015).kmz; PennEast_ProjectShapefiles_July2015

On behalf of PennEast Pipeline Company, LLC, we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; Spectra Energy Partners; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

As an interstate natural gas pipeline, PennEast will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015. PennEast filed Draft Resource Reports with FERC in April 2015. Since the Preliminary Draft Resource Report filing in April 2015, PennEast has continued to evaluate potential alternatives to the proposed pipeline alignment based on comments received during the formal Scoping process, ongoing dialogue with federal, state, regional and local agencies, land owners, and the findings from field surveys and engineering analyses. In the April filing we provided an overview of the ongoing assessments for 3 major alternatives and over 70 minor route variations.

In the past 3 months the overall alignment has been adjusted within the 400 foot survey corridor to avoid and/or minimize impacts to wetlands and waterbodies, cultural resources, agricultural lands and other sensitive habitats. In Pennsylvania, 2 reroutes and more than 40 minor route variations have been evaluated. The 2 reroutes evaluate alternative ways of crossing the Appalachian Trail and nearby PA State Game Lands, and avoid active quarrying operations. These alternatives and reroutes have gone through the same detailed assessment as those assessed in the April filing. Updated GIS shapefiles for the entire new preferred alternative route are attached to aide in your review and analysis of the Project. (To open the shapefiles, please add a ".zip" extension to the file and then extract the files.)

Significant reroutes include:

- In Plains Township and Laflin Borough in Luzerne County, approximately 3.6 miles of the alignment has been rerouted one mile to the east to avoid active quarrying operations (new mileposts 8.4 to 12.3).
- In Towamensing Township and Lower Towamensing Township in Carbon County, approximately 2 miles of the alignment has been rerouted approximately 2 miles to the west. This reroute addresses a request for a new Interconnect as well as concerns related to the Appalachian Trail and PA State Game Lands (new mileposts 48.9 to 53.6)

We look forward to continuing to work with you and your colleagues on this important Project. Please contact me if you have any questions.

PA agencies- We have also attached PNDIs of the primary deviations and reroutes for your information purposes, although we understand these are not to be used for permitting as this is a large project.

Sincerely,

Deborah Poppel, CWB

Senior Ecologist / Project Manager
Environment - Impact Assessment & Permitting Dept.
Design & Consulting Services, Philadelphia Metro Region
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Deborah.poppel@aecom.com

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AECOM and URS have joined together as one company.

October 7, 2015

Ms. Pamela Shellenberger
U.S. Fish and Wildlife Service
315 South Allen Street, Suite 322
State College, PA 16801

RE: PennEast Pipeline Project
Privileged and Confidential
USFWS Project Number: 2014-1013
Survey Results: Indiana bat, northern long-eared bat, bog turtle, and northeastern bulrush
Project Screening Form: bald eagle

Dear Ms. Shellenberger:

On behalf of PennEast Pipeline Company, LLC (PennEast), we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project (Project). PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

In accordance with coordination with your office, PennEast contracted with Wildlife Specialists, LLC (Wildlife Specialists) to conduct habitat and presence/absence surveys for Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*); with Mellon Biological Services to conduct surveys for Northeastern bulrush (*Scirpus ancistrochaetus*); and with several Recognized, Qualified Bog Turtle Surveyors (RQBTS) to conduct Phase I and Phase II surveys for bog turtle (*Glyptemys muhlenbergii*). These surveys were conducted in accordance with federal survey guidelines established for each species, by qualified biologists, and in areas of the Project identified in consultation with the US Fish and Wildlife Service (USFWS) Pennsylvania Field Office.

Reports documenting the results of these surveys are enclosed for your review. In addition, a completed USFWS Bald Eagle Project Screening Form is also enclosed for your records. Based on the results of the surveys, PennEast requests USFWS concurrence on the following:

- PennEast will adhere to the recommended Avoidance Measures (3, 4, and 5); therefore no adverse impacts to bald eagle from the Project are anticipated.

- No northeastern bulrush were found during surveys by a qualified botanist in suitable habitats, therefore, no adverse impacts to northeastern bulrush from the Project are anticipated.

- In wetlands identified as potential bog turtle habitat during Phase I surveys, no bog turtles were found following Phase 2 surveys conducted according to USFWS protocol. Therefore, no adverse impacts to bog turtle from the Project are anticipated in these areas. Additional surveys will be conducted in spring of 2016 in areas where access permission was denied; these results will be provided in a supplemental report.

- No Indiana bats were identified following surveys by qualified biologists according to protocol. Therefore, no adverse impacts to Indiana bat from the Project are anticipated.

URS Corporation 625 West Ridge Pike, Suite E-100 ; Conshohocken, PA 19428
Direct: 610 832 1810; Cell: 215 275-7956 ; Fax: 610-832-3501 bernard.holcomb@urs.com

- Northern long-eared bats were identified following surveys by qualified biologists. Based upon telemetry results and roost locations, the following sections of the Project should adhere to the tree-clearing timing restriction (i.e., only clear trees between November 1 and March 31):

Based on the results of the surveys and telemetry, which identified active roost and foraging locations, it is expected that timing restrictions for tree clearing will be required within 0.25 mile of the following areas identified by milepost (MP):

- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]

In addition, USFWS provided information on 3 known hibernacula within 0.25 mile of the Project corridor. These are known as [redacted], [redacted], and [redacted] [redacted] and [redacted] are both located in the vicinity of MP [redacted], 1,125 feet south of the proposed pipeline. [redacted] is located in the vicinity of MP [redacted], 1,200 feet southwest of an access road and 6,100 feet west of the proposed pipeline. At USFWS' request, the Pennsylvania Game Commission (PGC) was contacted to find out information about any connector tunnels between [redacted] and [redacted] Greg Turner of PGC indicated that the only connection known to exist between the two caves is airflow, and that when they were last surveyed in 2001, 34 bats were counted, 11 of which were northern long-eared bats. The USFWS concluded that a 0.25-mile buffer will provide basic protection to hibernacula and hibernating colonies (USFWS 2015). Direct impacts such as filling, excavation, blasting, noise, and smoke exposure will be restricted to extent practicable within these buffer areas. With these mitigation measures in place, the Project should not adversely impact the northern long-eared bat.

We look forward to continued consultation with your office on this important Project. Please contact Deb Poppel or me if you have any questions.

Sincerely,

Bernie Holcomb
Pipeline Environmental Services Manager

cc: Jeremy Markuson, USFWS-NJ
John Taucher, PGC
Dave Mong, DCNR

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Poppel, Deborah

From: Poppel, Deborah
Sent: Thursday, December 17, 2015 11:15 AM
To: 'Shellenberger, Pamela'
Subject: PennEast update notice
Attachments: PennEast_ProposedRoute_20151214.kmz; PENNEAST_SHAPEFILES_ToDistribute.zip

On behalf of PennEast Pipeline Company (PennEast), thank you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company; PSEG Power; SJI Midstream; Spectra Energy Partners; and UGI Energy Services.

As an interstate natural gas pipeline, PennEast Pipeline will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015. PennEast filed Certificates of Public Convenience and Necessity and Related Authorizations with FERC on September 24, 2015. Since the September 24 filing, PennEast has evaluated several additional route alternatives based on discussions with landowners, regulatory agencies and other stakeholders, as well as comments filed in this proceeding. In light of those evaluations, PennEast has adopted five minor deviations from the route proposed in the September 24 Filing:

Deviation No. 1005 is located between mileposts ("MP") 9.07 and 12.10 in Luzerne County, Pennsylvania. PennEast adopted this deviation to address landowner concerns and to improve constructability of the proposed Project route. The landowner and quarry operators affected by this portion of the proposed Project route indicated that the proposed route in the September 24 Filing has the potential to adversely affect quarry operations. Additionally, this portion of the route in the September 24 Filing route presented a challenging crossing of Mill Creek. Deviation No. 1005 addresses both of these concerns. In addition, this deviation reduces the overall length of the Project and increases the route's co-location with existing utility easements.

Deviation No. 1400 is located between MP 43.95 and 44.55 in Carbon County, Pennsylvania. This deviation has been adopted based on feedback that PennEast received in collaboration with the Bethlehem Authority, which operates a water supply system in Carbon and Northampton Counties, Pennsylvania. Deviation No. 1400 provides a means of crossing the Bethlehem Authority waterline by a trenchless method and avoids the need to locate temporary workspace near the waterline. This deviation also includes a single HDD crossing of Beltzville Lake, instead of the two crossings that were proposed in the September 24 Filing, which minimizes impacts to the Beltzville State Park.

Deviation No. 1701 is located between MP 79.10 and 81.60 in Hunterdon County, New Jersey. This deviation has been adopted to optimize the Project route and is based on feedback that PennEast received in collaboration with the New Jersey Department of Environmental Protection. Deviation No. 1701 minimizes impacts to the New Jersey Natural Lands Trust's Gravel Hill Preserve by increasing co-location with existing utility easements and impacting fewer parcels within the Gravel Hill Preserve. In addition, this deviation allows the proposed route to be in closer proximity to the proposed NRG REMA, LLC/Elizabethtown Gas delivery meter station, and it also relocates a proposed mainline valve from a residential area to an industrial area.

Deviation No. 1802 is located between MP 84.68 and 86.54 in Hunterdon County, New Jersey. This deviation has been adopted to optimize the Project route to avoid crossing a federally preserved farm. PennEast considered different alternatives to avoid this crossing, and the adopted Deviation No. 1802 minimizes land use impacts and overall land requirements to avoid this crossing.

Deviation No. 1900 is located between MP 91.91 and 93.55 in Hunterdon County, New Jersey. This deviation has been adopted to incorporate a route optimization that avoids crossing the Lockatong Creek three times with an open cut. This deviation now allows the Project route to cross the Lockatong Creek using a trenchless method. Deviation No. 1900 also avoids impacts to both a federally preserved farm and a New Jersey Green Acres Program protected parcel.

An updated Google Earth kmz file and GIS shapefiles for the proposed route are attached to aide in your review and analysis of the Project. (To open the shapefiles, please add a ".zip" extension to the file and then extract the files.) Please let us know if you have any difficulty opening the attached files.

Deborah Poppel, CWB
Senior Ecologist/Project Manager
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deborah.poppel@aecom.com

Poppel, Deborah

From: Poppel, Deborah
Sent: Tuesday, February 23, 2016 12:12 PM
To: 'Shellenberger, Pamela'
Subject: PennEast Pipeline- Project Update
Attachments: 400' CORRIDOR (200' EITHER SIDE OF CENTERLINE).kmz

On behalf of PennEast Pipeline Company (PennEast), thanks you for your continued coordination on the proposed PennEast Pipeline Project. PennEast is a joint project of AGL Resources; NJR Pipeline Company; PSEG Power; SJI Midstream; Spectra Energy Partners; and UGI Energy Services.

As an interstate natural gas pipeline, PennEast Pipeline will be regulated by the Federal Energy Regulatory Commission (FERC). FERC issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project on January 13, 2015. PennEast filed Certificates of Public Convenience and Necessity and Related Authorizations with FERC on September 24, 2015. Since the September 24 filing, PennEast has evaluated several additional route alternatives based on discussions with landowners, regulatory agencies and other stakeholders, as well as comments filed in this proceeding. In light of those evaluations, PennEast has adopted seven (7) additional deviations from the route proposed in the September 2015 Application, as modified by the route deviations filed on December 14, 2015, and is providing supplemental information regarding these additional adopted route deviations for your review.

Description of Adopted Deviations

PennEast has adopted the following seven route deviations: Deviation Nos. 1704, 1808, 1907, 1913, and 2000 in Hunterdon County, New Jersey, and Deviation Nos. 2100 and 2102 in Mercer County, New Jersey.

Deviation No. 1704 is located between mileposts (MP) 78.7 and 79.7 in Hunterdon County, New Jersey. PennEast adopted this deviation to address feedback from resource agencies received during a route review meeting on January 11, 2016. This deviation avoids crossing a category one (C1) waterway, associated mapped forested wetlands on both sides of Dogwood Drive, and a preserved farmland. Additionally, Deviation No. 1704 allows the route to follow a ridge and alleviates side slope areas that would have existed at the crossing of Dogwood Drive. Landowners associated with Deviation No. 1704 were included on the landowner list provided in the September 2015 Application as abutters. Additionally, three (3) landowners not previously identified as abutters have small amounts of temporary workspace on their property as a result of adopting Deviation No. 1704. Such landowners have been identified in the updated affected landowner list provided as part of the February Data Responses.

Deviation No. 1808 is located between MP 86.6 and 87.1 in Hunterdon County, New Jersey. PennEast adopted this deviation to minimize impact to environmentally sensitive areas raised as a concern by resource agencies during the January 11 route review meeting. Deviation No. 1808 avoids crossing a parcel with a Green Acres conservation easement. Landowners associated with Deviation No. 1808 were included on the landowner list provided in the September 2015 Application as abutters.

Deviation No. 1907 is located between MP 89.6 and 90.8 in Hunterdon County, New Jersey. PennEast adopted this deviation to minimize impact to environmentally sensitive areas raised as a concern by resource agencies during the January 11 route review meeting. Deviation No. 1907 avoids crossing a Green Acres encumbered parcel and minimizes the impact to forested areas and wetland crossings. Landowners associated with Deviation No. 1907 were included on the landowner list provided in the September 2015 Application as abutters.

Deviation No. 1913 is located between MP 99.0 and 101.0 in Hunterdon County, New Jersey. PennEast adopted this deviation to minimize impact to environmentally sensitive areas raised as a concern by resource agencies during the

January 11 route review meeting and to implement a trenchless crossing of several roadways, third-party utilities, and several C1 waterways, including Alexauken Creek. Deviation No. 1913 also avoids paralleling a C1 waterway and forested riparian area and minimizes forestland impacts. Another result of adopting Deviation No. 1913 is that this route deviation allows for the crossing of one (1) C1 waterway by dry crossing methodology in a location that appears to have been previously crossed by farm equipment. The dry crossing methodology will further minimize the impacts to the riparian buffer on both sides of the crossing. Additionally, Deviation No. 1913 optimizes co-location opportunities with the adjacent overhead utility corridor. This route deviation requires relocating the Lambertville Launcher Site to the trenchless crossing workspace. The new site area accommodates post-construction stormwater management design elements and optimizes pipeline design. Landowners associated with Deviation No. 1913 were included on the landowner list provided in the September 2015 Application as abutters.

Deviation No. 2000 is located between MP 101.3 and 101.7 in Hunterdon County, New Jersey. PennEast adopted this route deviation by moving to the opposite side of the existing overhead utility corridor and providing separation from the paralleling waterbody and forested wetland. Deviation No. 2000 reduces forest clearing while maintaining co-location with existing utility corridors. Deviation No. 2000 does not require any additional landowners to be crossed by the Project.

Deviation No. 2100 is located between MP 112.9 and 113.5 in Mercer County, New Jersey. PennEast adopted this route deviation as a route optimization that corresponds to proposed land development plans for the applicable parcels crossed. PennEast collaborated with the landowner to improve co-location with existing natural gas pipelines and to minimize impacts from the proposed route with the development plans for the applicable parcels. Additionally, Deviation No. 2100 avoids crossing a Green Acres encumbered parcel. Deviation No. 2100 does not require any additional landowners to be crossed by the Project.

Deviation No. 2102 is located between MP 112.0 and 112.7 in Mercer County, New Jersey. PennEast adopted this deviation based upon feedback and field information received from the affected property owners. Deviation No. 2102 is a route optimization that would remove interference with proposed housing and commercial land use development plans on the applicable parcels. Hopewell Township has plans to develop low income housing on this parcel in the area originally crossed by the Project. Deviation No. 2102 would avoid impacts to the housing development plan and to future commercial development plans adjacent to New Jersey State Route 31 by co-locating with the existing natural gas pipelines on the parcel. Deviation No. 2102 does not require any additional landowners to be crossed by the Project.

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Poppel, Deborah

From: Poppel, Deborah
Sent: Monday, September 26, 2016 2:50 PM
To: 'Shellenberger, Pamela'
Subject: PennEast September 2016 Route Update
Attachments: PennEast_Project_KMZ_20160926.kmz; PENNEAST_PIPELINE_PROJECT_PROJECT_SHAPEFILES_Sept2016.zip

Importance: High

On behalf of PennEast Pipeline Company (PennEast), thank you for your continued collaboration on the proposed PennEast Pipeline Project (Project). As an interstate natural gas pipeline, the Project is under the jurisdictional, multi-year review of the Federal Energy Regulatory Commission (FERC).

PennEast filed its Application for a Certificate of Public Convenience and Necessity and Related Authorizations with FERC September 24, 2015. PennEast filed route modifications with FERC February 22, 2016, and FERC issued a Draft Environmental Impact Statement (EIS) for the Project July 22, 2016. Since the February 22, 2016 route update and issuance of the draft EIS, PennEast has studied an additional 33 minor route deviations to reduce impacts on endangered species and wetlands, increase co-location with existing utilities, and address feedback from collaborative discussions with landowners and regulatory agencies.

On September 23, 2016, PennEast filed with FERC the 33 route modifications and an updated project route, which is provided in the attached Google Earth kmz file and shapefiles for your review. A narrative describing each modification and the explanation for the proposed changes is available on the FERC eLibrary (http://elibrary.ferc.gov/idmws/docket_search.asp) under Docket Number CP15-558-000.

Signed- Deborah Poppel on behalf of

Sarah Binckley, PWS
Project Manager
Direct: 1-610-832-2713 Cell: 1-757-943-4484
sarah.binckley@aecom.com

AECOM
625 West Ridge Pike, Suite E-100 Conshohocken, Pennsylvania 19428
Telephone: 610-832-3500 Fax: 610-832-3501
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October 31, 2016

Ms. Pam Shellenberger
U.S. Fish and Wildlife Service
Pennsylvania Field Office
110 Radnor Rd, Suite 101
State College, PA 16801

Dear Ms. Shellenberger:

On behalf of PennEast Pipeline Company, LLC, we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project (Project). PennEast is a joint project of AGL Resources; NJR Pipeline Company, a subsidiary of New Jersey Resources; PSEG Power LLC; South Jersey Industries; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.

On September 26, 2016, your office received a Project Update email with shapefiles included for the most recent route centerline filed with the Federal Energy Regulatory Commission (FERC). With this letter, we would like to request an endangered species consultation with your agency on Project workspace associated with the September 2016 route, including access roads, staging areas, and the Kidder Compressor Station. We have enclosed a CD with Project workspace shapefiles for your review.

Areas crossed by the September 2016 route which were not part of prior study corridors in Pennsylvania are represented by the following mileposts. The access roads, staging areas, and compressor station were not part of prior consultation requests. Please advise if any additional surveys for federally-listed species will be required in these or the following areas:

- 4.2R2-4.8R2
- 6.3R2-6.6R2
- 9R2-9.4 R2
- 11R2-11.3R2
- 39.5R2-40.8
- 42.1R2-42.5R2
- 48.7R2-49.6R2
- 50R2-50.3R2
- 51.1R2-52.1R2
- 53.1R2-53.2R2
- 57.8R2-58.4R2
- 61.9R2-62.2R2
- 73.3R2-74R2

One of the USFWS data requests in prior communications with your office was information regarding avoidance measures for the known bog turtle habitat near [redacted], in the vicinity of MP[redacted]. The new route was designed, in part, to avoid the wetland at MP [redacted], as well as potential bog turtle habitat between MP [redacted] and [redacted] (where Phase 2 and Phase 3 surveys were completed in 2016). The Phase 2 and Phase 3 surveys completed in this area in 2016 did not find any bog turtles (reports will be submitted under separate cover).

Our most recent communication with your office was a conference call on August 15, 2016, related to bat concerns in the vicinity of two known hibernacula in Pennsylvania, [redacted] in Luzerne County and the [redacted] in Bucks County. A summary of the main discussion points, along with additional information that was requested, is provided within this letter.

Near [redacted], the Project's workspace is outside of the 0.25 mile buffer for bat hibernacula. PennEast has confirmed that this still applies to the September 2016 route. However, there may be underground tunnels that could be used by bats based on the database information provided by USFWS (http://www.minemaps.psu.edu/), which pass beneath the Project. Therefore, PennEast understands that USFWS may request vibration monitoring and, if access is available, temperature/humidity monitoring pre-, concurrent, and post-construction to assess potential underground impacts to the hibernacula. PennEast understands that USFWS will likely impose a seasonal restriction on drilling, boring, or blasting in this vicinity, whereby such activities would need to take place outside of the hibernation season. Based upon the summer roosting season, the hibernation season is expected to be November 1 to March 31. During the August 15 telephone call it was concluded that as for tree clearing, there should be no impacts anticipated here and the Project would be in compliance with the 4d rule. As a note, mist net surveys conducted in this location resulted in the capture of 16 big brown bats and 1 eastern red bat, but no Northern long-eared bats or Indiana bats.

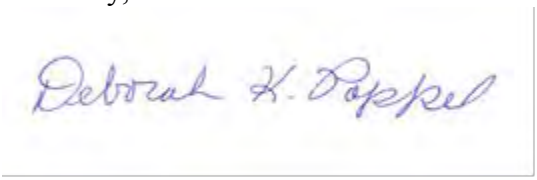
Near the [redacted], PennEast understands that the USFWS is assuming presence of northern long-eared bats. However, mist net surveys conducted in this location resulted in the capture of 9 big brown bats and no other species. Also, PGC last surveyed the caves in 2001 (finding 14 Northern long eared bats), but more recent surveys of the nearby [redacted] (conducted by PGC in 2013) have shown that white-nose syndrome has decimated local bat populations. Tree clearing is not expected to be an impact as the proposed HDD workspace and pipeline is primarily within an active agricultural field and would be in compliance with the 4d rule. PennEast understands that USFWS agrees that existing farming activities may cause certain levels of vibration within the caves. Based on this factor, the mist net capture data, PGC survey information, and the fact that the closest work space (the access road) is 545' from the cave entrance, PennEast believes that vibration or subterranean climate monitoring is not warranted in this location.

PennEast has enclosed reports of seismology studies conducted near the hibernacula. PennEast is looking into USFWS's request regarding property owner contact details so that USFWS may obtain background information about the caves. For USFWS to issue a no-adverse effect finding, PennEast understands that will request that activities such as blasting, drilling, or boring take place outside of the winter hibernating season (expected to be November 1 to March 31).

PennEast understands that several surveys, particularly for bog turtle and for Indiana and northern long-eared bat, remain outstanding pending survey access permission. Upon receipt of the FERC Certificate, PennEast expects that these surveys will be completed in 2017.

We look forward to continued collaboration with you and your colleagues on this important project. Please contact me if you have any questions.

Sincerely,



Deborah K. Poppel, CWB
Senior Ecologist

AECOM

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October 31, 2017

Ms. Pamela Shellenberger
U.S. Fish and Wildlife Service
315 South Allen Street, Suite 322
State College, PA 16801

Re: **PennEast Pipeline Project**
Comprehensive Northeastern Bulrush Survey Update

Dear Ms. Shellenberger:

On behalf of PennEast Pipeline Company, LLC (PennEast), we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project (Project). During the April 24, 2017 Project stakeholder teleconference, the United Fish and Wildlife Service (USFWS) requested periodic updates on the status of Project's northeastern bulrush (*Scirpus ancistrochaetus*) surveys. In June 2017, AECOM provided a table, figures, and shapefiles that showed the survey status of wetlands in Luzerne, Carbon, and Northampton counties at elevations greater to or equal to 790 feet. The June 2017 package included those wetlands that had been surveyed in 2015 and 2016, surveys planned for the 2017 season, and desktop reviewed wetlands that will be surveyed once access is granted. This current submittal is an update to that package, providing comprehensive survey status results for all wetlands surveyed in 2015, 2016, and 2017 (Enclosures 1-3, respectively).

In 2017, PennEast continued to contract with Qualified Northeastern Bulrush Surveyors from Mellon Biological Services, LLC to conduct the surveys. A report that is comprehensive of Mellon Biological's 2015, 2016, and 2017 surveys is included as Enclosure 4.

Thank you for your continued time and attention to this Project. If you have questions about the enclosed materials or need additional information, please contact Sarah Binckley at 610-832-2713 or sarah.binckley@aecom.com.

Sincerely,

Sarah K. Binckley

Sarah K. Binckley

cc: Alicia Protus, USFWS New Jersey Field Office
Amber Holly, PennEast Pipeline Company

Enclosures
1 – Northeastern Bulrush Survey Status Tracking Table
2 – Northeastern Bulrush Survey Status Maps
3 – Northeastern Bulrush Site Shapefiles
4 – Northeastern Bulrush Report for PennEast Pipeline

AECOM

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November 3, 2017

Ms. Pamela Shellenberger
U.S. Fish and Wildlife Service
315 South Allen Street, Suite 322
State College, PA 16801

Re: **PennEast Pipeline Project**
2017 Portal Survey Report

Dear Ms. Shellenberger:

On behalf of PennEast Pipeline Company, LLC (PennEast), we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project (Project). Brian Cooper, our qualified bat surveyor, provided a Fall Portal Survey Study Plan on September 14, 2017 that outlined the desktop study, field reconnaissance, and harp net trapping surveys that AECOM proposed for the fall 2017 season. The US Fish and Wildlife Service (USFWS) concurred with the survey plan on September 18, 2017 and requested that the results be submitted as soon as possible to support the Biological Opinion analysis.

Enclosed please find a report that documents the study conducted within 0.25 mile of the Project area. The report concludes that no state or federally-listed species were captured at any of the surveyed portals; therefore, AECOM assumes absence of federally-listed species from these portals. We respectfully request USFWS concurrence with our conclusion.

Thank you for your continued time and attention to this Project. If you have questions about the enclosed report or need additional information, please contact Sarah Binckley at 610-832-2713 or sarah.binckley@aecom.com.

Sincerely,

Sarah K. Binckley

Sarah K. Binckley

cc: Alicia Protus, USFWS New Jersey Field Office
Amber Holly, PennEast Pipeline Company

Enclosures
1 – Fall Portal Bat Survey Report

United States Department of the Interior

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

November 28, 2017

Medha Kochhar
Federal Energy Regulatory Commission
Office of Energy Projects
888 First Street, N.E.
Washington, DC 20426

USFWS Project #2014-1013 (PAFO) and 05E2NJ00-2014-F-0543 (NJFO)

RE: PennEast Pipeline Project
PennEast Pipeline Company, LLC
Docket No. CP15-558-000

Dear Ms. Kochhar:

This letter transmits the U.S. Fish and Wildlife Service's (Service) biological opinion (Opinion) regarding a 120.2-mile gas pipeline project (Project) proposed by PennEast, Inc., which is located in Luzerne, Carbon, Northampton and Bucks Counties, Pennsylvania; and Hunterdon and Mercer Counties, New Jersey. The Project, as proposed, may affect the following listed species pursuant to the Endangered Species Act (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA): dwarf wedgemussel (*Alasmidonta heterodon*, endangered), Indiana bat (*Myotis sodalis*, endangered) northeastern bulrush (*Scirpus ancistrochaetus*, endangered), bog turtle (*Clemmys [Glyptemys] muhlenbergii*, threatened), and northern long-eared bat (*Myotis septentrionalis*, threatened).

A request for formal consultation along with a biological assessment (Assessment) was received from the Federal Energy Regulatory Commission (FERC) on July 17, 2017. This letter addresses the FERC's Project affect determinations for the dwarf wedgemussel, the Indiana bat, and the northeastern bulrush. The accompanying Opinion will assess the effects of the Project on the bog turtle and the northern long-eared bat.

The findings contained in this letter and the Opinion are based on information provided in the Assessment, telephone conversations, field investigations, species survey reports and other sources of information received by the Service prior to and during the formal consultation process. The consultation history is located after the Literature Cited section of the Opinion. A complete administrative record of this consultation is on file at the Pennsylvania Field Office

(PAFO) and the New Jersey Field Office (NJFO).

The Project has yet to receive several requisite permits from the U.S Army Corps of Engineers Philadelphia District and the State of New Jersey and Pennsylvania. As such, should any part of the Project description change, including the relocation of the proposed right-of-way, further coordination with the Service, pursuant to the ESA, may be necessary.

Informal Consultation Concurrence for the Dwarf Wedgemussel

The FERC determined that the proposed PennEast Pipeline Project is not likely to adversely affect the dwarf wedgemussel. According to the July 14, 2017 letter, the FERC is requesting written concurrence from the Service in regard to their "may affect, not likely to adversely affect" determination for this species. At present, the dwarf wedgemussel is not known to exist within the Project action area and, therefore, adverse impacts to the species are not likely. The nearest known occurrence of the dwarf wedgemussel in Pennsylvania is over 25 miles north of the proposed Delaware River crossing location. In New Jersey, the nearest known occurrence of dwarf wedgemussel is in a Delaware River tributary approximately 18 miles north of the pipeline. Additionally, there is a historic occurrence of the dwarf wedgemussel in New Jersey located on the Delaware River about 6 miles south of the southernmost extent of the pipeline and in Pennsylvania about 4 miles from the proposed right of way (Ortmann 1919).

In accordance with the Assessment provided by the FERC, PennEast will survey for dwarf wedgemussel in all areas of suitable habitat in New Jersey which may be impacted by the Project, including upstream tributaries to the Delaware River. A presence/absence survey was completed for the dwarf wedgemussel in the Delaware River at the proposed pipeline crossing on September 1 and 2, 2016 and no dwarf wedgemussels were found. Additionally, as of October 2, 2017, 47 out of 91 planned mussel habitat assessments and surveys have been completed at various Delaware River tributaries in New Jersey that are proposed for crossing, and no dwarf wedgemussels have been found. As directed by the FERC, PennEast will complete all freshwater mussel habitat assessments and mussel surveys prior to Project construction.

The Service concurs with the FERC's determination of "may affect, not likely to adversely affect" for the dwarf wedgemussel because the species is not known to occur within the Project action area and survey efforts have not documented the species. Should any additional surveys confirm the presence of the dwarf wedgemussel and impacts to the species cannot be avoided, reinitiation of formal consultation with the Service is warranted. If impacts to the species are likely, PennEast will file a plan for review and written approval by the FERC's Director of Office of Energy Projects, to avoid, minimize, and mitigate for any impacts that may occur to its habitats in consultation with the Service and the New Jersey Department of Environmental Protection (NJDEP). PennEast will file with the FERC Secretary documentation of this

consultation with the Service and NJDEP, as well as any recommendations made by the Service and NJDEP.

Update to the FERC's Endangered Species Act Effect Determinations

The FERC concluded in the Assessment that the Project may affect and is "likely to adversely affect" Indiana bat and northeastern bulrush. On August 9, 2017, the Service sent a letter to the FERC acknowledging the receipt of their July 17, 2017 letter which initiated formal Section 7 consultation under the Act. In this letter, in addition to the bog turtle and northern long-eared bat, the Service indicated that the Indiana bat and the northeastern bulrush will be included in the Opinion due to the FERC's determination of likely to adversely affect. However, a significant amount of additional information was received by the Service following the initiation of formal consultation, including the results of species surveys and additional information regarding the scope of Project impacts (see consultation history). Information on the Service's effects determinations is provided below.

Indiana Bat

Due to proposed forest clearing associated with construction of the proposed Project, mist-net surveys were recommended by the Service to determine whether Indiana bats are present within the Project area. According to the August 2017 bat mist-net survey report, surveys were conducted at 170 sites within the Project area during the Indiana bat survey window, in accordance with the Service's Indiana Bat Summer Survey Guidelines (Service 2017). All surveys have been completed in Pennsylvania and 3 surveys remain in New Jersey. PennEast has committed to conducting these surveys prior to the commencement of Project construction.

The Project action area does not contain any habitat known to be occupied by an Indiana bat maternity colony, and the Project does not overlap with any fall swarming habitat associated with known Indiana bat hibernacula. During these surveys, 1,451 bats of 8 species were captured, but surveys did not capture any Indiana bats. Based on these survey results, we have concluded that Indiana bats are likely absent from the Project area, or are present in such low densities that they were not detected. In addition, harp trapping surveys were completed in fall 2017 at 11 hibernacula portals (entrances) in Pennsylvania and no Indiana bats were captured.

The results of mist net surveys suggest that the Indiana bats are not likely to occur along the pipeline route. Further, the avoidance and minimization measures implemented for the northern long-eared bat are also applicable to the Indiana bat. Therefore, the proposed PennEast Pipeline Project is not likely to adversely affect the Indiana bat and this species is not included in the attached Opinion. Should future surveys indicate presence of the Indiana bat in the Project action area, and PennEast cannot avoid take of the species, further consultation with the Service will be necessary per the Service's guidance on developing an Indiana Bat Conservation Plan.

Northeastern Bulrush

To date, PennEast has surveyed 248 wetlands in Luzerne, Carbon and Northampton Counties, Pennsylvania (the only counties in the Project area that are within the range of this species). A botanist qualified to conduct northeastern bulrush surveys concluded that the probability of northeastern bulrush occurring in the Project area is low (PennEast email October 23, 2017, see Consultation History). No northeastern bulrush has been found during survey efforts thus far; however, five wetlands remain to be surveyed. For wetlands that have not previously been surveyed by a qualified surveyor, PennEast has committed to conducting the following actions as documented in the Assessment and an October 23, 2017 email (see Consultation History).

- A Qualified Northeastern Bulrush Surveyor will conduct either habitat surveys (winter) or presence/absence surveys (between June 1-September 30) in areas identified as meeting elevation and location requirements, as defined by the Service. If presuming presence, PennEast will complete the action described in the bullet below. If surveys reveal no northeastern bulrush or suitable habitat is present, no further surveys or avoidance and minimization measures are needed.
- If northeastern bulrush is found to be present, or if presence is assumed, PennEast will avoid impacts to this species as feasible. Earth disturbance, herbicide spraying, and tree cutting activities in wetlands occupied by northeastern bulrush will be avoided. A 300-foot wide upland buffer around wetlands and a 50 or 100-foot wide buffer will be used wherever possible along intermittent and perennial waterways, respectively, to avoid impacts to this species. Where buffers cannot be maintained, rerouting cannot be applied (due to landowner access) or boring under the populations is not feasible (due to geology or landowner access), PennEast will coordinate with the Service to establish acceptable avoidance and minimization measures to protect the species.

The following general construction techniques will also avoid impacts to this species:

- Timber mats and equipment will be new or pressure-washed to remove free-standing soil and vegetative materials prior to arrival on-site. This minimizes potential impacts from invasive plants, contaminants, biological diseases, etc.
- Matted wetland crossings will be constructed in a manner that does not lower the water table, or alter the hydrological characteristics.
- The FERC's Plans and Procedures will be implemented for activities in wetlands, including but not limited to signage, restrictions on fueling activities and repairs, and wetland restoration measures, if applicable.

Based on a review of the Project information, including survey information received and the above commitments by PennEast to avoid adverse effects to this species, the Service has determined that the effects of the proposed Project are not likely to adversely affect the northeastern bulrush. Therefore, the northeastern bulrush will not be addressed in the attached Opinion. Should surveys indicate presence of the northeastern bulrush in the Project area and PennEast cannot avoid take of the species, further consultation with the Service is warranted.

Summary

The Service has determined that the proposed Project is not likely to adversely affect the dwarf wedgemussel, Indiana bats, or the northeastern bulrush. The Service has made this decision based on the best scientific and commercial information available as described above. If new information is received that negate the assumptions made by PennEast and the FERC (*e.g.* dwarf wedgemussel, Indiana bat, or the northeastern bulrush are found in the Project action area) and PennEast cannot avoid take, the FERC will reinitiate formal consultation with the Service to address the unforeseen impacts to the species. The attached Opinion will assess the effects of the Project on the bog turtle and the northern long-eared bat.

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BIOLOGICAL OPINION

DESCRIPTION OF PROPOSED ACTION

As defined in the ESA section 7 regulations (50 CFR 402.02), "action" means "all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas." The "action area" is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action".

The FERC's Final Environmental Impact Statement (FEIS) addresses the potential environmental effects of PennEast's construction and operation of about 120.2 miles of natural gas pipeline and associated equipment and facilities in Luzerne, Carbon, Northampton and Bucks Counties, Pennsylvania (PA); and Hunterdon and Mercer Counties, New Jersey (NJ) (FERC 2017b). Figure 1, adapted from the FERC's Assessment (below), depicts the Project Area where facilities associated with the Project are proposed. The FEIS and the Assessment include a detailed description of the Project (FERC 2017a, FERC 2017b) which is herein incorporated by reference.

Construction of the Project encompasses 1,588.4 acres, including 973.5 acres for pipeline facilities (including additional temporary workspace), 148.4 acres for access roads, 396.1 acres for pipe and contractor ware yards, and 43.1 for aboveground facilities. Following construction, 716.5 acres would remain as a 50-foot permanent right-of-way (ROW) easement for the pipeline and laterals, 7.1 acres for access roads, and 38.1 for aboveground facilities during operation. About 27.3 acres will be affected by the construction of the Kidder Compressor Station of which 26.6 acres will be maintained for its operation. As proposed, the Project will permanently alter 788.3 acres during operation**.** Combined, 600.9 acres of forest removal is proposed for construction and operation of the PennEast Project.

Pipeline Facilities

PennEast will create a 100-foot-wide construction ROW in upland areas and a 75-foot-wide ROW in wetlands. For wetlands and waterbody crossings, residential areas, or other areas where specialized construction techniques would be employed, PennEast will use extra workspaces outside the typical construction ROW where additional excavation, soil storage requirements, steep slope construction, bedrock, or equipment management and staging makes it impractical or unsafe to carry out all construction operations within the proposed construction corridor. In agricultural areas where full topsoil segregation of 12 inches is required, PennEast will use a 125-foot-wide ROW to accommodate excess spoil. Additional temporary workspace needed for the Project will result in about 361.7 acres of temporary disturbance. Where feasible for PennEast, the pipeline was collocated with existing easements and rights-of-way (*e.g.* roads and

utility lines). About 44.5 miles (27.0 miles in PA and 17.5 miles in NJ), or about 37 percent of the Project's total length, will be constructed adjacent to existing ROWs. The following pipeline facilities occur in the Project area:

- 116.0 miles of new 36-inch-diameter pipeline extending from Luzerne County, PA to Mercer County, NJ;
- the 2.1-mile Hellertown Lateral consisting of 24-inch-diameter pipeline in Northampton County, PA;
- the 0.6-mile Gilbert Lateral consisting of 12-inch-diameter pipeline in Hunterdon County, NJ; and
- the 1.5-mile Lambertville Lateral consisting of 36-inch-diameter pipeline in Hunterdon County, NJ

Aboveground Facilities

Aboveground facilities associated with the Project include one new compressor station in Kidder Township, PA at milepost (MP) 26.7, eight metering and regulating stations, 11 mainline valve sites, and appurtenant facilities (*e.g.*, pig launchers/receivers, MP markers, cathodic protection test points, etc.). The proposed compressor station location is an undeveloped forested tract that requires full site development and will result in approximately 27.3 acres of disturbance during construction, 26.6 acres of which is planned to remain permanently maintained during operation. Construction of the pig launchers/receivers, MP markers, cathodic protection test points and other aboveground facilities will result in approximately 43.1 acres of disturbance during construction, 38.1 acres of which will remain permanently developed during pipeline operation.

Access Roads

To the extent practicable by PennEast, existing public and private road crossings are proposed to be used as the primary means to access the ROW. Additional access points are planned beyond those available by use of existing public roads. A total of 128 access roads are planned to be used during construction of the Project. These roads have a total length of approximately 42.2 miles and include 65 existing roads, 37 partially existing roads, and construction of 26 new access roads. Construction and improvement of access roads will result in 148.4 acres of land disturbance, 7.1 acres of which will remain for the life of the Project.

Blasting

PennEast has identified approximately 40.1 acres of the pipeline that could require blasting due to shallow bedrock. Blasting may be implemented during stream and wetlands crossings, but also along the pipeline ROW on an as-needed basis. PennEast plans to perform all blasting according

to Federal and state safety standards and in accordance with their Blasting Plan to be implemented by the blasting contractor. See section 1.4.2 of the Assessment for more specific information.

Pipeline Installation Techniques

Open-trench construction is the primary method proposed by PennEast to install the Project pipeline. PennEast will also implement a variety of drilling techniques for Project construction when trenching is not appropriate, particularly at sensitive wetland and stream crossings. Horizontal Directional Drilling (HDD), Direct Pipe and Conventional Bores (auger bores) are examples of possible drilling techniques that may be used to avoid ground surface disturbance in the aquatic environment. See section 1.4.2 of the Assessment for more specific information.

Avoidance and Minimization Measures

Avoidance and minimization measures proposed as part of the action (measures that will avoid, minimize, and mitigate effects of the proposed action on the species and/or benefit the species as a whole) were provided in the Assessment and through discussions with FERC and PennEast via phone and email (see Consultation History). These avoidance and minimization measures are part of the proposed action and are considered along with other positive and negative effects of the action. These are also discussed, as applicable, in the Terms and Conditions of this Opinion.

Bog Turtle

- PennEast has committed to avoid and minimize disturbance to wetlands with known or presumed bog turtle presence, wherever feasible, by deviation, workspace adjustment, or trenchless crossing method (PennEast email November 10, 2017, see Consultation History).
- A Recognized Qualified Bog Turtle Surveyor (RQBTS) will be employed prior to construction and during periods of active construction. The RQBTS will have the authority to stop work at any time. Work will cease immediately if a bog turtle is encountered at any time, and the Service will be immediately notified.
- If the RQBTS is on-site and determines that the proposed method of crossing a particular wetland will result in unanticipated impacts to bog turtles, given the wetlands site-specific characteristics or potential for bog turtle presence, the RQBTS will consult with PennEast and the Service immediately for further direction.

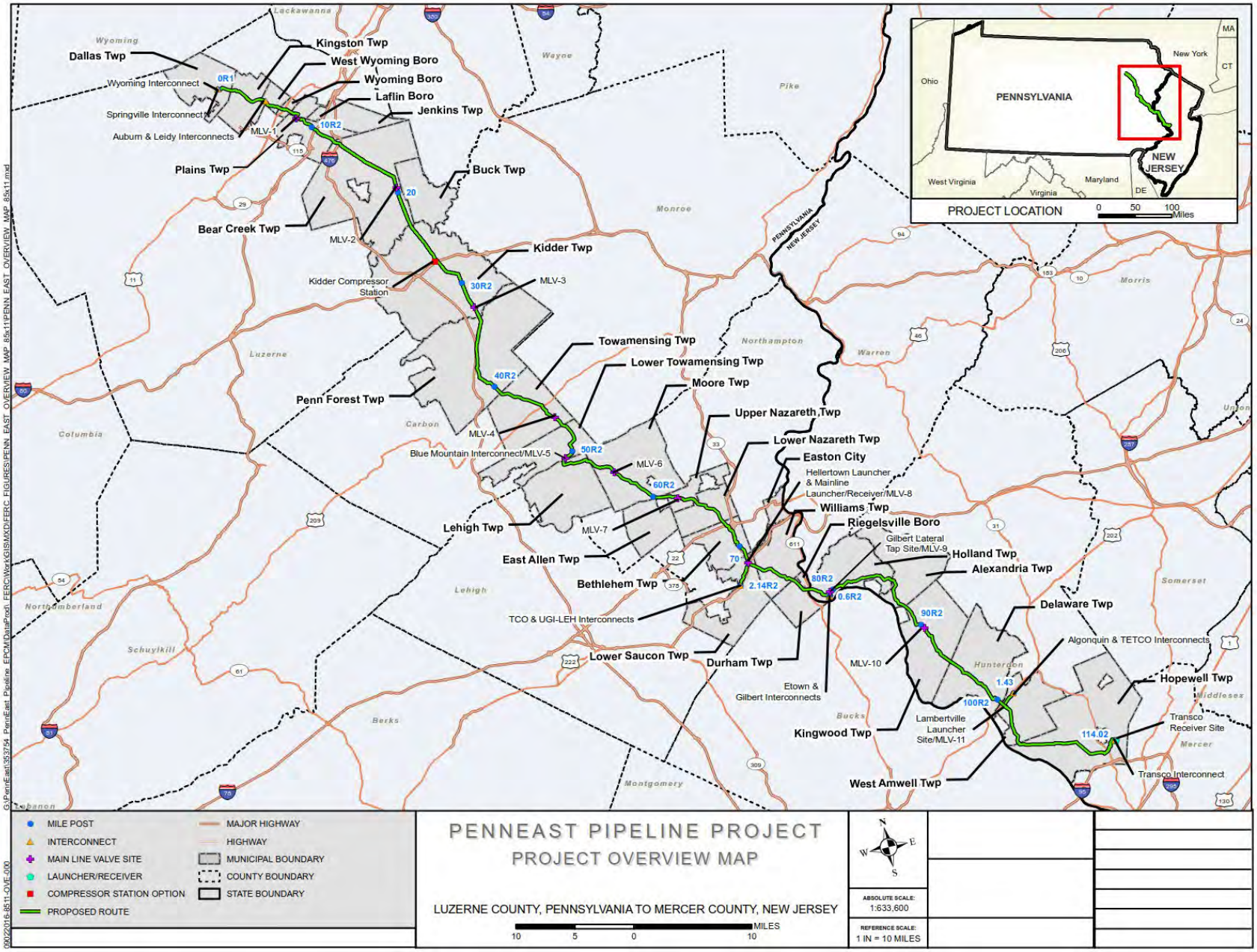


Figure 1. PennEast Pipeline Action Project Area. Figure adapted from the PennEast Pipeline Final Environmental Impact Statement, Federal Energy Regulatory Commission.

- Project contractors will receive site-specific environmental training related to the environmental review process, minimizing wetland impacts, species of concern, bog turtle habitat, and special protections for specific watershed areas (this is typically done by the RQBTS).
- Construction activities near areas that could support bog turtles will be confined by the installation of habitat exclusion barriers designed to keep turtles from entering the limit of disturbance outside of the wetland. This barrier will consist of backfilled 24-inch-high silt fence without voids. This barrier will be installed manually under the supervision of a RQBTS, in areas of soft soils and muck, and by equipment in uplands and areas containing 3-18 inch firm soils. Habitat exclusion barriers will be removed by hand immediately upon completion of all construction activities.
- Prior to construction, a RQBTS will oversee hand-clearing and removal of vegetation along the access path, the installation of the habitat exclusion barrier, and the placement of timber matting within the habitat exclusion barrier.
- Timber mats and equipment will be either new or pressure-washed of free-standing soil and vegetative materials prior to arrival on-site. This minimizes the potential impacts that could occur from the introduction of invasive plants, contaminants, or bog turtle pathogens or that can make their habitats unsuitable.
- Any matted wetland crossings will be completed in a manner that does not lower the water table or alter the hydrological characteristics of the wetland.
- Any horizontal directional drilling (HDD) work proposed for crossing a wetland or waterbody with known, or presumed, bog turtle presence will take place outside of the winter hibernation months (October 15 to March 31), to avoid any potential subterranean disturbance that may occur during an inadvertent return of drilling fluid.
- At the known bog turtle wetland crossing in Carbon County, PA, PennEast will have a RQBTS on site before and during the auger bore installation in accordance with the measures outlined in Appendix C, or PennEast will complete the crossing between October 15 and March 31, during a time when bog turtles are assumed to be inactive.
- PennEast's Plans and Procedures will be adhered to for all activities in wetlands, including but not limited to signage, restrictions on fueling activities and repairs, and wetland restoration measures. The RQBTS will forward the results of pre-construction surveys, construction monitoring, Project timelines, and photographic documentation of site restoration to the Service and FERC. The Service will be contacted immediately if bog turtles are observed or if take occurs.

Northern Long-Eared Bat

- PennEast will only clear trees ≥5 inches diameter-at-breast-height (dbh) between November 1 and March 31 (this restriction would be implemented Project-wide).
- PennEast will conduct all tree removal (regardless of tree dbh) between November 1 and

March 31 at the following mileposts (MP) within 150 feet of known maternity roosts, in addition to any areas identified by the Service: MPs 38.7 and 42.2R2.

- PennEast will only clear trees ≥3 inches dbh between November 15- March 31 at the following mileposts within swarming habitat, in addition to any areas identified by the Service: MP 4.6R2-16 and MP 65.7-82.7 (PennEast email November 16, 2017, see Consultation History).
- Prior to construction, PennEast will file with the Secretary, for review and written approval by the Director of the Office of Energy Projects, a list of locations by milepost where, in accordance with this Opinion, the Service is requiring tree clearing restrictions that are specifically applicable to Federally listed bat species.
- PennEast will minimize noise from blasting at MPs 41.9-42.4R2 and Lambertville Lateral MPs 1.1-1.4 where two northern long-eared bat maternity colonies are known within 300 feet of the ROW by applying one or more of the following avoidance and minimization measures: confining the charge with fill, covering the charge site with blasting mats, minimizing charge weight to the minimum practical to fracture the rock. PennEast has also volunteered to monitor vibration disturbance level at the above-identified MPs to ensure vibrations experienced from blast charges are below the New Jersey State standard of two inches per second peak particle velocity within 150 feet of the blast (PennEast email November 16, 2017, see Consultation History).
- PennEast will not blast within 0.25-mile of known northern long-eared bat hibernacula (PennEast email September 19, 2017, see Consultation History).
- PennEast will work with the Service to conduct vibration, and/or temperature and humidity monitoring within subterranean features found at [redacted] prior to, during, and after construction as long as landowner access continues to be granted.
- Prior to construction, PennEast will file with the FERC Secretary a plan for Pre-Construction Winter Surveys that will be conducted at all caves, abandoned or reclaimed mines, or other potential habitats that may be used as hibernacula by Indiana bats and northern long-eared bats within 0.25 mile of the Project. PennEast will also provide documentation of the consultation with the Service on this plan.

ACTION AREA

Service regulations define "Action Area" as all areas affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR §402.02). Because there may be indirect effects from the Federal actions included in the consultation that occur outside of the geographic area of the proposed action as described by the action agency, the Action Area of the Opinion may not be the same as the actual geographic area of the proposed action. The Service has determined that the action area for this Project is all lands in PA and NJ affected directly or indirectly by the Project's components described in Description of Proposed Action.

STATUS OF THE SPECIES

Per the ESA section 7 regulations (50 CFR 402.14(g)(2)), it is the Service's responsibility to "evaluate the current status of the listed species or critical habitat."

To assess the current status of the species, it is helpful to understand the species' conservation needs which are generally described in terms of reproduction, numbers, and distribution (RND). The Service frequently characterizes RND for a given species via the conservation principles of resiliency (ability of species/populations to withstand stochastic events – numbers, growth rates), redundancy (ability of a species to withstand catastrophic events – number of populations and their distribution), and representation (variation/ability of a species to adapt to changing conditions) (collectively known as the three Rs).

Bog turtle

The bog turtle is the smallest emydid turtle and one of the smallest turtles in the world, with an adult carapace length of 7.9 to 11.4 cm (3.1 to 4.5 inches). The turtle's identifying characteristic is a large reddish-orange to yellow blotch is visible behind and above each tympanum, sometimes merging into a continuous band on the neck (Ernst *et al.* 1994; Harding 1997). Bog turtles typically occur in small, discrete populations, located in open-canopy, herbaceous sedge meadows and fens bordered by wooded areas (U.S. Fish and Wildlife Service 2001). These wetlands are a mosaic of micro-habitats that include dry pockets, saturated areas, and areas that are periodically flooded. Bog turtles depend upon this diversity of micro-habitats for foraging, nesting, basking, hibernation, and shelter. Unfragmented riparian systems that are sufficiently dynamic to allow the natural creation of open habitat are needed to compensate for ecological succession (U.S. Fish and Wildlife Service 2001).

The primary factors influencing the status of the species include loss, alteration, and fragmentation of habitat, habitat succession, illicit collection and predation (U.S. Fish and Wildlife Service 2001). Currently, as a whole, the range-wide status of the species is likely declining (Erb 2017). As described in the Bog Turtle Northern Population Recovery Plan conservation needs for the bog turtle include: securing permanent protections for viable bog turtle populations across the species' range, elimination of the threats posed by illicit collection and trade, and a sufficient understanding of long-term habitat dynamics to allow for management and monitoring threats to both habitats and turtles, including succession, invasive wetland plants, and predation by species sustained by human activities (U.S. Fish and Wildlife Service 2001).

For a more detailed account of the species description, life history, population dynamics, threats, and conservation needs, refer to https://ecos.fws.gov/ecp0/profile/speciesProfile?spcode=C048.

Northern Long-Eared Bat

The northern long-eared bat is a medium-sized bat about 3 to 3.7 inches in length but with a wingspan of 9 to 10 inches (U.S. Fish and Wildlife Service 2015). As its name suggests, this bat is distinguished by its long ears, particularly as compared to other bats in its genus, Myotis, which are actually bats noted for their small ears (Myotis means mouse-eared). The species' range includes 37 states across the eastern and north-central United States and all Canadian provinces. This species hibernates in caves and mines in the winter and roosts in trees in the summer (U.S. Fish and Wildlife Service 2015).

The primary factor influencing the status of the northern long-eared bat is white-nose syndrome (WNS), a fungal disease known to affect bats, especially throughout the northeast where the species has declined by up to 99 percent from pre-WNS levels at many hibernation sites (81 FR 1900-1922). Other factors influencing the status of this species are tree removal during summer months contributing to the loss of maternity colonies, modification of hibernacula entrances and subterranean tunnels, and disturbance to bats during hibernation. Currently, as a whole, the range-wide status of the species is declining. The northern long-eared bat conservation needs include protecting and reducing disturbance of hibernacula, summer roosts, particularly within the buffer zone known as "WNS zone" (81 FR 1900-1922).

In listing the northern long-eared bat as threatened, the Service developed a 4(d) rule[1] that specifically defines "take" prohibitions for the species (81 FR 1900-1922). For the section of the northern long-eared bat's range that is impacted by WNS, the 4(d) rule prohibits all "purposeful take" as well as "incidental take" of the northern long-eared bats within known hibernacula, tree removal within 0.25 mile of a known hibernaculum year-round, and incidental take resulting from removal of a known maternity roost tree or trees within 150 feet of a known maternity roost tree during pup season (June 1-July 31) without authorization (81 FR 1900-1922).

For a more detailed account of the species description, life history, population dynamics, threats, and conservation needs, refer to https://ecos.fws.gov/ecp0/profile/speciesProfile?spcode=A0JE.

STATUS OF CRITICAL HABITAT

No critical habitat has been designated for the bog turtle or the northern long-eared bat.

[1] Section 4(d) of the Endangered Species Act directs the Service to issue regulations deemed "necessary and advisable to provide for the conservation of threatened species."

ENVIRONMENTAL BASELINE

Regulations implementing the ESA (50 CFR 402.02) define the environmental baseline as the past and present impacts of all Federal, State, or private actions and other human activities in the action area. Also included in the environmental baseline are the anticipated and/or ongoing impacts of all proposed Federal Projects in the action area that have undergone Section 7 consultation, and the impacts of state and private actions which are contemporaneous with the consultation in progress.

Status of the Species within the Action Area

Bog Turtle

All counties crossed by the proposed Project are in the range of the bog turtle except for Luzerne County and parts of Carbon County, PA. The Project crosses the Delaware Recovery Unit of the bog turtle range, which is characterized as the most ecologically diverse of the five recovery units and also the most heavily developed (U.S. Fish and Wildlife Service 2001). This recovery unit has the highest densities of roads and major urban areas, as well as the highest number of lost bog turtle sites range-wide (U.S. Fish and Wildlife Service 2001). In New Jersey, there are no extant bog turtle occurrences in Mercer County but several known sites exist in Hunterdon County, with the closest being approximately 1.5 miles from the Project route. There are also several known extant bog turtle occurrences in Bucks, Northampton and Carbon Counties, PA, with one known bog turtle site located within the Project action area.

According to the survey status table included in the September 13, 2017, bog turtle survey report by AECOM, 209 Phase one habitat surveys (130 in NJ and 79 in PA), 28 Phase 2 species surveys (eight in NJ and 20 in PA), have been completed within the Project action area using the Service's Guidelines for Bog Turtle Surveys (2006). One Phase 3 trapping survey has been completed in PA. No bog turtles have been found during survey efforts. In Pennsylvania, 14 wetlands remain unsurveyed, while 100 wetlands are unsurveyed in New Jersey. The Assessment states that PennEast will conduct all remaining bog turtle surveys in the 2018 bog turtle survey season, prior to Project construction.

Northern Long-Eared Bat

The entire length of the proposed Project falls within the range of the northern long-eared bat. Approximately 26.3 miles of the proposed Project pipeline is located within documented northern long-eared bat maternity habitat, while approximately 28.4 miles of the Project is located within spring staging and fall swarming habitat. Staging/swarming habitat and maternity

habitat are not mutually exclusive, so the two categories of habitat can overlap. There are two known hibernacula, [redacted], within 0.25 mile of the pipeline route. Another hibernaculum, [redacted], is located just outside of this 0.25-mile buffer, but it likely has extensive subterranean tunnels that would pass beneath the Project route. Northern long-eared bats are believed to rely on forested habitat within five miles of a hibernacula entrance prior to migration in the spring and in preparation for hibernation in the fall, along with occasional males that utilize the site during the entire active season. There are several other known northern long-eared bat hibernacula within five miles of the pipeline route.

PennEast completed bat mist-net surveys to provide additional information on northern long-eared bat maternity habitat use within the Project action area and inform the Project's avoidance and minimization measures for this species. According to the mist-net survey reports by Wildlife Specialists, LLC (2015 and 2017) and email correspondence with Wildlife Specialists, LLC on November 13, 2017, mist-net surveys were conducted at 167 sites (56 in NJ and 111 in PA) along the pipeline route during the Indiana bat survey window in accordance with the Service's Indiana Bat Summer Survey Guidelines (2017). In total, 1451 bats of eight species were captured during the two years of summer sampling, including 20 northern long-eared bats. As per the Service's survey methodology, 10 northern long-eared bats were fitted with transmitters and seven were successfully tracked to their roosts. In total, nine roost trees were identified due to one bat switching roosts twice and of those, two roosts were identified to be within 150 feet of the ROW. All mist-net surveys have been completed in Pennsylvania and three mist-net surveys remain in New Jersey, but the Assessment states PennEast will complete all remaining species surveys prior to the commencement of Project construction.

PennEast completed harp-trapping surveys in fall 2017 at 11 portals in PA, including [redacted] and no Federally listed bat species were captured (Wildlife Specialists 2015). However, past hibernacula census surveys of [redacted] in 2001 encountered 34 individual bats, 11 of which were northern long-eared bats (Turner 2015). Based on this previous survey information, the FERC presumes that northern long-eared bats occur in [redacted] and [redacted], as well as in the extensive subterranean features associated with [redacted] that pass underneath the proposed Project's route (FERC 2017a).

EFFECTS OF THE ACTION

Direct effects are the direct or immediate effects of the Project on the species, its habitat, or designated/proposed critical habitat. Indirect effects are defined as those that are caused by the proposed action and are later in time, but still are reasonably certain to occur (50 CFR 402.02). An interrelated activity is an activity that is part of the proposed action and depends on the proposed action for its justification. An interdependent activity is an activity that has no independent utility apart from the action under consultation. Direct and indirect effects of the

proposed action along with the effects of interrelated/interdependent activities are all considered together as the "effects of the action."

Bog Turtle

The potential effect of the proposed Project and avoidance and minimization measures to ameliorate those effects are described in Appendix A. The Service concluded that the installation of the pipeline across the known bog turtle wetland in Carbon County, PA via auger bore is not likely to adversely affect the species. Using this installation method, drilling fluids are not under pressure as they would be in a horizontal directional drill (HDD). This significantly reduces the risk of an inadvertent return of drilling fluids occurring in or near the bog turtle wetland to very low or non-existent. Additionally, the Service conducted a site visit to the proposed pipeline crossing at the known bog turtle site on April 5, 2017. We determined that, although the site is a wetland connected to occupied bog turtle habitat, the wetland area at this location lacked suitable hibernating habitat for this species due the lack of mucky soils and significant flooding. This observation was also confirmed by a RQBTS during the site visit and at a subsequent site visit after the flood receded. Therefore, the installation of the pipeline under this wetland is not likely to adversely affect the bog turtle. Other Project sub-activities listed in Appendix A are likely to adversely affect the bog turtle and these effects are discussed in additional detail below:

Direct Effects to Bog Turtles

The operation of vehicles/heavy equipment near and within bog turtle wetlands (*e.g.* open trenching) may crush bog turtles and nests. Also, wetland crossing mats placed in bog turtle habitat and used as temporary crossings may crush (kill), injure/wound bog turtles. Though wetland crossing mats are used to reduce compaction of soils in wetlands and lower the pounds per square inch, turtles could still be crushed, suffocated, or injured if the mats are placed on top of them or if they try to take cover under the mats while construction is in process. This threat will be minimized through the implementation of the avoidance and minimization measures proposed in the BO and discussed in the terms and conditions; however, it is still probable that bog turtles could escape detection during a pre-construction survey based on their cryptic nature and small size.

Loss or Alteration of Bog Turtle Habitat

Heavy equipment operation, trenching, and wetland crossing mat use in occupied bog turtle wetlands may cause damage to nesting and foraging habitat by altering the micro-topography of the wetland (*e.g.,* creating vehicle tracks, crushing hummocks). Heavy machinery can also compact the soils at a site, altering the site hydrology and soil conditions. Deep, soft, mucky soils allow bog turtles to avoid predators and to escape climatic extremes such as hot and cold

temperatures, so altering spring flows that provide mucky soils needed by bog turtles, even for a relatively short time, may expose bog turtles to predators and affect their thermoregulation, which can result in death, reproductive failure, or induced migration to find suitable habitat (Shiels 1997). Groundwater springs, seeps, and subsurface flows also provide areas where the turtles can overwinter without the threat of freezing to death (Shiels 1997). Alterations to the site hydrology and mucky soils could preclude tunneling by the turtles thereby making hibernation sites unavailable following construction.

Over a period of a few years post-construction, the microhabitat elements that make areas suitable for foraging, nesting and hibernation are expected to gradually become re-established. However, until that occurs, any habitat in the work area will be unavailable to bog turtles, forcing them to find suitable habitat elsewhere, if available. When individual turtles are displaced from their home ranges, they will incur increased energy expenditures, are vulnerable to predation or road strikes, and could encounter intra-specific or inter-specific competition in locating and establishing alternative foraging, nesting, and hibernating sites. Such impacts could result in lethal take or sub-lethal take through decreasing the reproductive success of individuals, increasing exposure to predators, and failure to survive the winter. These threats will be minimized through the implementation of the avoidance and minimization measures proposed in the Assessment.

Horizontal Directional Drilling

HDD is a trenchless method of installing underground pipes in a shallow arc, along a prescribed bore path, by using a surface launched drilling rig. HDD uses bentonite drilling fluid under pressure to lubricate the pipe as it is being pushed through the ground. When bentonite fluid comes into contact with fissures and cracks in the subsurface geology, or if the pipeline is being installed in unconsolidated material, inadvertent returns (unintended transfer of drilling fluid to the surface) can occur. Although an inert material, bentonite is hazardous to animals and can cause stress or mortality by burying/suffocating individuals near an inadvertent return, altering site hydrology, and altering resources available at the site.

No bog turtle wetlands are currently proposed for crossing via HDD; however, many wetlands remain unsurveyed for the species and could potentially require crossing with this technique to avoid or minimize the risk of take. Based on the frequency of reported inadvertent returns to the Pennsylvania Field Office through HDD of streams/wetlands, the probability of an inadvertent return occurring is not insignificant. Inadvertent returns may result in take of bog turtles via smothering, hydrologic disruption, and habitat alterations (through the action of clean-up and the act of the inadvertent return). If future surveys indicate presence of a bog turtle wetland and crossing of a known bog turtle wetland is proposed, further coordination with the Service will occur to confirm whether a HDD is the appropriate pipeline installation method and that all appropriate avoidance and minimization measures are incorporated.

Northern Long-Eared Bat

Activities that may cause prohibited take were not evaluated in the existing *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions* (U.S. Fish and Wildlife Service 2016b), therefore, the FERC has opted not to use the existing programmatic biological opinion for consultation on the northern long-eared bat for the PennEast Project. Instead, the FERC is requesting consultation under the standard Interagency Cooperation (ESA Section 7) procedures for the northern long-eared bat. The potential effects of the proposed Project on the northern long-eared bat and avoidance and minimization measure commitments to ameliorate risk to the species are described in Appendix B.

As previously discussed, the proposed Project includes several activities which may cause take that is not exempted by the 4(d) rule that defines take that is not prohibited for northern long-eared bat. Specifically, tree removal proposed within 0.25 mile of [redacted], and impacts to these caves and [redacted] mine from vibrations associated with construction of the pipeline. Hibernation is a particularly critical and vulnerable time for the northern long-eared bat and incidental take of northern long-eared bat that occurs as a result of hibernacula disturbance is not exempt under the 4(d) rule. Similarly, incidental take resulting from tree removal within 0.25 mile of a hibernaculum is not exempted because nearby forests play critical roles in the life cycle of the northern long-eared bat and may also alter hibernation conditions through changes in humidity and temperature and airflow beyond the time when the bats are hibernating. However, the Service has determined the effects associated with the above-mentioned activities are not likely to rise to the level of take, or will not result in prohibited take, for the reasons discussed below. For all other activities included in the proposed Project that are not likely to adversely affect the northern long-eared bat, the effects analysis are detailed in Appendix B and are not discussed further in the BO.

Tree removal within 0.25 mile of hibernacula

Project construction will require removal of a maximum of 0.09 acre of forest within the 0.25-mile radius of [redacted] and [redacted] to widen an existing access road (PennEast email November 14, 2017, see Consultation History). Approximately 1,056 feet of the proposed pipeline ROW is located within the 0.25-mile radius of [redacted] and [redacted] in PA. Forested areas between MPs [redacted] and [redacted] within the 0.25-mile of the [redacted] hibernacula will have no tree removal because the area will be crossed as part of the HDD planned for the Delaware River crossing. The proposed route of the Project pipeline is located at least 1,000 feet from the cave entrances and all tree removal associated with the access road is at least 500 feet from the caves. Forest located within 0.25 mile of hibernacula can be important for maintaining

the microclimate characteristics of the hibernacula (U.S. Fish and Wildlife Service 2014). The 0.09 acre of forested habitat that will be cleared represents about 1.4% of the total 63.9 acres of forested habitat within 0.25 mile of the hibernacula. However, this loss is not likely to result in changes to the hibernacula microclimate based on the scale of tree removal and the distance between the removal and portal entrances.

Additionally, northern long-eared bats could be utilizing the habitat within 0.25 mile of a hibernaculum for spring staging, summer roosting or fall swarming. These bats could be injured or killed if occupied roost trees are felled. To avoid directly killing, injuring, or harassing northern long-eared bats engaged in spring staging, summer use, and fall swarming near hibernacula, the FERC and PennEast have committed to restricting the removal of trees 3 inches dbh between April 1 and November 15 within five miles of these hibernacula (the full extent of swarming habitat). Because the tree removal will occur in this area while the bats are hibernating and the overall loss of trees is not expected to impact the microclimate of the hibernacula, the Service believes the tree removal within 0.25 mile of the northern long-eared bat hibernacula activity is not likely to adversely affect the northern long-eared bat and will not result in prohibited take.

Effects of vibrations to hibernacula

Blasting and drilling may be necessary along many areas of the Project for pipeline installation where bedrock is close to the surface. These activities could affect nearby hibernacula [redacted] and [redacted]) through subsurface vibrations which have the potential to collapse or change portal openings, altering the delicate micro-climate (temperature and humidity) in the hibernacula and potentially making conditions unsuitable for hibernation. Rock collapse and shifting caused by subsurface vibrations could also trap bats inside during hibernation, or restrict access to the hibernacula the following season. To minimize potential disturbance to hibernacula, PennEast has committed to not utilize blasting techniques for pipeline installation within 0.25 mile of the known northern long-eared bat hibernacula, or near [redacted] Instead, pipeline installation in these areas will be completed through open trenching and partly through a HDD associated with the Delaware River Crossing.

Open trench installation of the pipeline will occur at least 1,000 feet from known portal entrances at [redacted]. At this distance, vibrations generated by the heavy machinery would likely be minimal and are not likely to result in alteration of hibernacula or disturbance to hibernating bats. The proposed pipeline route may also pass directly over subterranean tunnels associated with [redacted] via open trenching installation methods. PennEast determined in geotechnical investigations that approximately 20 feet of soil cover exists between MP [redacted] and [redacted] (depth to bedrock ranged from 10 to 23 feet below the surface). If subterranean tunnels occur under the Project area, the incidental vibrations from open trench installation are

not anticipated to impact the hibernacula due to the depth of the soil cover and the additional buffer provided by the bedrock. In addition, based on the geotechnical investigations, the subterranean tunnels appear to be at a sufficient depth that they are not at risk of being intercepted during pipeline installation.

The entry point for the Delaware River crossing HDD will occur within a 0.25-mile radius of the two caves. Subsurface vibrations could occur during drilling operation; however, the work will likely have minor vibrations similar to the open trench installation work. Vibration seismographic monitoring that has occurred during geotechnical investigations at several locations along the pipeline show that vibrations recorded at conventional bores at 19, 50, and 210 feet away are substantially below the general threshold limit of 0.75 inches per second used to evaluate sensitive receptors (PennEast September 19, 2017 email, see Consultation History). The proposed HDD will occur over 1,000 feet from the cave entrances and, therefore, the Service expects impacts to the physical integrity of the hibernacula and to hibernating northern long-eared bats to be insignificant.

Based on the above avoidance measures proposed within 0.25 mile of the known hibernaculum, particularly the commitment to avoid blasting and the construction distance from the known cave entrances, we do not anticipate that the proposed Project will result in surficial micro-climatic changes (*e.g.* temperature and humidity) in the hibernacula or structural changes to the hibernacula such that prohibited take occurs. To verify these assumptions regarding hibernation habitat, PennEast has committed monitoring of temperature, relative humidity and vibrations at the mine portals pre-, during and post construction, as long as landowner access continues to be granted.

Tree removal in maternity habitat within 150 feet of maternity roosts

Take (*e.g.,* kill, harm or harass) of northern long-eared bats that occurs due to tree removal within 150 feet of a known northern long-eared bat maternity habitat is not exempted under the 4(d) rule if it occurs during the pup season between June 1- July 31 (81 FR 1900-1922). Northern long-eared bats are highly sensitive to tree removal during this time period because recently born pups are cannot fly (non-volant) (81 FR 1900-1922). In other Myotis species, mother bats have been documented carrying flightless young to a new roosting location (Humphrey *et al*. 1977), however, the ability of a mother to move young may be limited by the size of the growing pup (81 FR 1900-1922). Because northern long-eared bats and their pups may not always be able to flee the tree, felling a maternity colony tree during the pup season would be likely to result in mortality of roosting northern long-eared bats. To avoid causing take of this species, the FERC has committed to restricting the removal of all trees, regardless of size, between November 1 and March 31 at mileposts within 150 feet of a known maternity colony roost. No known maternity roost trees are located within the proposed ROW for the Project, but the Service identifies MPs

[redacted] and [redacted] as being within 150 feet of maternity colony roosts. The proposed time of year restriction surpasses the designated months of protections per the 4(d) rule (*e.g.* June 1- July 31) and provides greater protection against direct mortality or injury of reproductive females and young during the active season, however, northern long-eared bats also have high roost fidelity to maternity colony roost trees (81 FR 1900-1922). Female northern long-eared bats may be forced to spend extra energy searching for new suitable roost trees to replace the one(s) lost or made unsuitable through the creation of the Project ROW. Only two maternity colony roosts were documented within 150 feet of the pipeline path based on radio telemetry tracking efforts, but it is likely that other undocumented roost trees exist in the area, or potentially within the path of the Project ROW. Therefore, the Service believes tree removal within the proposed time-of-year restriction is likely to adversely affect northern long-eared bat individuals with maternity colonies in close proximity to the pipeline path, but this take is not prohibited by the 4(d) rule because this tree removal will occur outside of the restricted pup season window.

Incidental Take Excepted by the Northern Long-Eared Bat 4(d) Rule

Several Project sub-activities may result in take of the northern long-eared bat, but any resulting take is exempted from Section 9 prohibitions as defined in the 4(d) rule developed for this species. Approximately, 600.9 acres of northern long-eared bat forest habitat in total will be removed across the Project action area. This acreage includes removal of both summer habitat used for foraging and roosting as well as habitat around hibernacula used for spring staging/swarming. The Project area also likely includes unidentified northern long-eared bat hibernacula and maternity colonies in the areas within five miles of the Project pipeline route. Project sub-activities that may cause take of northern long-eared bats are discussed below, but the take resulting for these activities is exempted by the 4(d) rule and, therefore, is not included in the accompanying Incidental Take Statement.

Loss of maternity habitat

Northern long-eared bat maternity habitat is considered to be forested habitat within 1.5 miles of an identified maternity colony roost tree or, if the corresponding roost tree has not been identified, the area within 3 miles of the female northern long-eared bat capture during the maternity period. Forested habitat near maternity areas provides important foraging and roosting habitat for the species (U.S. Fish and Wildlife Service 2014). The PennEast Pipeline Project, as proposed, has approximately 26.3 miles of pipeline where tree removal will be necessary within identified northern long-eared bat maternity habitat (PennEast email November 18, 2017, see Consultation History). Of the 600.9 acres of forested habitat proposed for removal, approximately 222 acres are used by the species for maternity habitat (November 16, 2017, see Consultation History). This species may also have summer maternity colonies around the

[redacted] and [redacted] hibernacula, so the acreage calculated for loss of maternity habitat will overlap with losses of staging/swarming habitat near hibernacula. Individual northern long-eared bat home ranges have been estimated to occupy 148.8–173.7 acres (Owen *et al*. 2003, Lacki *et al*. 2009). The proposed clearing of 222 acres of maternity habitat represents a loss of 1.27-1.49 maternity colony home ranges. However, the proposed action is linear and tree removal is spread across 26.3 miles of maternity habitat, therefore, the effect of tree clearing is not anticipated to be incurred by a single northern long-eared bat maternity colony. Still, northern long-eared bats will be precluded from roosting in the permanently cleared Project ROW and affected individuals will need to locate alternate suitable forested habitat for roost sites. This will cause northern long-eared bats to expend more energy searching for roosting or foraging sites, which may delay post-hibernation weight-gain resulting in decreased growth and reproduction. To avoid direct take of northern long-eared bats, PennEast has committed to only clear trees ≥5 inches dbh between November 1 and March 31 for the entire Project area, except where other more restrictive time-of-year-restrictions apply near hibernacula and maternity roosts. The proposed time-of-year restriction reduces direct take of roosting bats during tree clearing activities but does not eliminate this risk because northern long-eared bats are known to roost in trees that are three to five inches dbh. The time of year restriction also reduces the risk of harm and harassment of the bats by removing trees after the bats have migrated from maternity habitat to swarming habitat. Overall removal of maternity habitat is likely to result in adverse effects to individual northern long-eared bats that may roost in trees smaller than five inches dbh or that fail to find suitable habitat upon returning to the area.

Loss of staging and swarming habitat

In early spring and fall, hibernacula and surrounding forested areas within five miles of hibernacula are the focus of bat activity during "spring staging" and "fall swarming" (U.S. Fish and Wildlife Service 2014). During spring staging, bats gradually emerge from hibernation and will exit the hibernacula to feed, but re-enter the same or alternate hibernacula to resume daily bouts of torpor until they migrate to summer areas. Fall swarming is an especially critical time of heightened activity in and around hibernacula when individuals mate and build up their fat reserves which are necessary to survive hibernation. In addition to the [redacted], several other hibernacula exist within five miles of the Project area. Project MP [redacted] and MP [redacted] are within documented northern long-eared bat staging/ swarming habitat, however, it is also likely that undocumented hibernacula exist within five miles of the Project and swarming habitat is present over a large percent of the Project action area. Specifically for the known staging/ swarming habitat around the [redacted], the proposed clearing of 61 acres within five miles of these hibernacula represents a loss of 0.25% of the total available forest around the hibernacula (PennEast email November 14, 2017, see Consultation History). As discussed above, the proposed action is linear and the loss of forested habitat will be distributed across the Project action area.

To reduce the risk of direct take of northern long-eared bats during tree removal activities, PennEast has committed to clear trees ≥3 inches dbh between November 16 and March 31 in areas of the Project that fall within five miles of identified northern long-eared bat hibernacula. Though in accordance with the 4(d) rule for this species since take that occurs in this area is exempted from Section 9 prohibitions, this avoidance and minimization measure decreases the likelihood of killing or injuring northern long-eared bats which are expected to have moved from swarming habitat into the hibernacula for the winter. The risk of indirect take is not eliminated because the bats must adjust to the loss of staging and swarming habitat when they emerge from hibernation and need to expend energy searching for alternative foraging and roosting sites. Spring emergence is a high-risk period for the bats that need to restore fat reserves prior to migration to maternity areas. Overall, this loss of forest habitat is likely to result in the adverse effects to individual northern long-eared bats that utilize the forested habitat that will be removed. This effect is expected to be temporary and last until alternate habitats are located.

Take of Northern Long-eared Bats during Swarming

As discussed above, Project MP [redacted]- MP [redacted] and MP [redacted]- MP [redacted] are within documented northern long-eared bat spring staging and fall swarming habitat, however, because of the karst topography and abundant abandoned coal mines in the Pennsylvania section of the Project area, it is likely that undocumented hibernacula exist within five miles of the Project. PennEast has committed to implementing a time-of-year restriction on removal of trees ≥5 inches dbh April 1-October 31 for the entire extent of the Project outside of swarming areas. Northern long-eared bats are known to utilize trees as small as 3 inches dbh and swarming activities can occur until approximately November 15, leaving bats that roost in smaller trees and those that remain active in latter 15 days of swarming period vulnerable to direct take during tree removal in undocumented swarming habitat (U.S. Fish and Wildlife Service 2014). Removing trees in swarming habitat before November 15 is likely to result in adverse effects to individual northern long-eared bats present on the landscape.

Incidental disturbance to maternity roosts

Blasting and drilling may be required along certain stretches of the Project to address issues posed by bedrock lying close to the surface, interfering with the installation of the proposed pipeline via traditional excavation techniques. PennEast will likely conduct blasting and drilling during the active season of the northern long-eared bat because it is their preferred construction season. Several known maternity roost trees are located along the pipeline route at varying distances from the ROW and could be disturbed by the incidental vibrations or the noise that accompanies blasting and drilling activities. PennEast has committed to minimizing

noise impacts from blasting at MPs [redacted] and Lambertville Lateral MPs [redacted] (where two northern long-eared bat maternity colonies are known within 300 feet of the ROW) by applying one or more of the following avoidance and minimization measures: confining the charge with fill, covering the charge site with blasting mats, minimizing charge weight to the minimum practical to fracture the rock. PennEast has also volunteered to monitor vibration disturbance at the above-identified MPs to ensure vibrations experienced from blast charges are below the New Jersey State standard of two inches per second peak particle velocity within 150 feet of the blast. However, other maternity colonies exist within 1,000 feet of the Project pipeline route and noise-producing activities (*e.g.* drilling) will occur within northern long-eared bat habitat during the active season with no sound minimization measures. Even with the conservation measures for blasting in place for the two maternity colonies within 150 feet of the ROW, the Project activities are likely to result in adverse effects to individual northern long-eared bats due to noise and vibration disturbance if northern long-eared bats are roosting nearby. This effect is expected to be temporary for adult females but may result in the death of pups if they are abandoned as a result of the disturbance at presumed, but yet unidentified, maternity areas.

Northern Long-Eared Bat Summary

The incidental take of northern long-eared bats from the activities discussed above (*e.g.* loss of maternity habitat, loss of staging/swarming habitat, take of swarming bats, noise and vibration disturbance) is exempt from section 9 prohibitions in accordance with the 4(d) rule developed for this species and the take does not incidental take authorization in the accompanying Incidental Take Statement. The Service has determined that effects of all other Project activities are not likely to rise to the level of take. If any forthcoming survey efforts produce information that negates assumptions made in the Service's analysis, and if take of the species cannot be avoided, the FERC commits to reinitiate formal consultation with the Service to address the unforeseen impacts to the species.

CUMULATIVE EFFECTS

Cumulative effects are those "effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur in the action area" considered in this Opinion (50 CFR 402.02). The Service is not aware of any future state, tribal, local, or private actions that are reasonably certain to occur within the action area at this time; therefore, no cumulative effects are anticipated.

JEOPARDY AND ADVERSE MODIFICATION ANALYSIS

Section 7(a)(2) of the ESA requires that Federal agencies ensure that any action they authorize,

fund, or carry out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat.

Jeopardy Analysis Framework

"Jeopardize the continued existence of" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR 402.02). The following analysis relies on 4 components: (1) Status of the Species, (2) Environmental Baseline, (3) Effects of the Action, and (4) Cumulative Effects. The jeopardy analysis in this Opinion emphasizes the range-wide survival and recovery needs of the listed species and the role of the action area in providing for those needs. It is within this context that we evaluate the significance of the proposed Federal action, taken together with cumulative effects, for purposes of making the jeopardy determination.

Analysis for Jeopardy/Adverse Modification

Bog Turtle

Effects to Individuals – The proposed action includes the temporary disturbance of breeding, foraging, and hibernating bog turtle habitat. As discussed in the Effects of the Action, potential effects of the action include effects to bog turtles though crushing of individuals and habitat loss or alteration. Effects generally include direct mortality from crushing or smothering and habitat modifications that reduce feeding, breeding, and sheltering habitat. In summary, there will be impacts to individual bog turtles in both their annual survival and reproductive rates.

Effects to Populations – As we have concluded that individual bog turtles are likely to be killed and/or experience some reductions in their annual or lifetime reproductive success, we need to assess the aggregated consequences of the anticipated losses/reductions in fitness (*i.e.*, reproductive success and long-term viability) of the exposed individuals on the population to which these individuals belong. We are defining population as the Delaware Recovery Unit. The effects of the action are not expected to measurably decrease the fitness of this population for several reasons. Habitat impacts are temporary and surrounding turtles should colonize the impacted area as it recovers. In addition, mitigating for impacts through vegetation management of an existing population, or acquiring an occupied wetland for permanent protection will enhance the species survival across a broader geographic area and aid in offsetting the adverse impacts associated with the Project.

Effects to Species – As we have concluded that populations of bog turtles are unlikely to experience reductions in their fitness, there will be no harmful effects (*i.e.*, there will be no reduction in reproduction, numbers, and distribution (RND)) on the species as a whole.

Northern Long-Eared Bat

Effects to Individuals - Individual northern long-eared bats may be affected by the loss of fall swarming, spring staging, and summer maternity habitat resulting in reduced overwinter survival or reproductive success. Any of the northern long-eared bat individuals associated with maternity and staging/swarming habitat removed within the Project ROW, individuals roosting in areas impacted by blasting and drilling noise and vibrations, as well as individuals present in undocumented swarming habitat during November 1- November 15 could be taken by Project activities.

Effects to Populations - As described above, individual northern long-eared bats may experience decreased reproductive success and survival as a result of Project construction, so we need to assess the aggregated consequences of the anticipated reductions in fitness of the exposed individuals on the population to which these individuals belong. Bats are expected to acclimate to this permanent habitat removal by shifting to alternative habitat, which has been determined to be available. All impacts are expected to be limited and some of the impacts are expected to be short-term in nature. We do not expect a long-term reduction in the [redacted] populations or a loss of potential maternity colonies because the northern long-eared bat is adapted to ephemeral environments and a significant portion of the spring staging/fall swarming winter habitat or potential maternity colony habitat will remain. Therefore, we conclude that the effects of the proposed action will not result in permanent population declines.

Effects to Species - As we have concluded that populations of northern long-eared bats are unlikely to experience reductions in their fitness, there will be no harmful effects (*i.e.*, there will be no reduction in RND) on the species as a whole.

CONCLUSION

Bog Turtle

We considered the current overall declining status of the bog turtle and the declining condition of the species within the action area (Environmental Baseline). We then assessed the effects of the proposed action and the potential for cumulative effects in the action area on individuals, populations, and the species as a whole. These types of effects of the proposed action are currently considered primary factors influencing the status of the bog turtle. While they may compound those factors, as stated above, we do not anticipate any reductions in the overall RND of the of the bog turtle. It is the Service's opinion that the action, as proposed, is not likely to jeopardize the continued existence of the bog turtle.

Northern Long-Eared Bat

We considered the current overall declining status of the northern long-eared bat and the declining condition of the species within the action area (Environmental Baseline). We then assessed the effects of the proposed action and the potential for cumulative effects in the action area on individuals, populations, and the species as a whole. These types of effects of the proposed action are not currently considered primary factors influencing the status of the species. As stated above, we do not anticipate any reductions in the overall RND of the northern long-eared bat. It is the Service's biological opinion that authorization to construct and operate the pipeline, as proposed, is not likely to jeopardize the continued existence of the northern long-eared bat.

Incidental take that is not expressly prohibited under the final 4(d) rule does not require exception in an Incidental Take Statement. This Opinion has evaluated major categories of actions that may affect the northern long-eared bat, but for which incidental take is not prohibited. Accordingly, there are no reasonable and prudent measures or terms and conditions that are necessary and appropriate for these actions.

INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and Federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without a special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to 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 § 17.3). Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns, which include, but are not limited to, breeding, feeding, or sheltering (50 CFR § 17.3). Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the ESA provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are nondiscretionary and must be undertaken by the FERC so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, for the exemption in section 7(o)(2) to apply. The FERC has a continuing duty to regulate the

activity covered by this incidental take statement. If the FERC: (1) fails to assume and implement the terms and conditions or (2) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, the FERC must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR 402.14(i)(3)].

On January 5, 2016, the Service published a final species-specific rule pursuant to Section 4(d) of the ESA for the Northern long-eared bat (50 CFR §17.40(o))(2016a), which became effective February 16, 2016. The Section 4(d) rule defines prohibited take of the northern long-eared bat, which is limited to certain circumstances and activities within the full suite of prohibitions otherwise applicable to threatened species under 50 CFR §17.31. Any incidental take of the northern long-eared bat that may occur from the proposed action is not considered prohibited take under the Northern Long-eared Bat 4(d) Rule. Therefore, the take does not require an exemption from the Service. Accordingly, there are no reasonable and prudent measures or terms and conditions required for the northern long-eared bat. This Opinion satisfies the FERC's responsibilities under Section 7(a)(2) of the ESA relative to the northern long-eared bat for the proposed action.

AMOUNT OR EXTENT OF TAKE ANTICIPATED

The Service analyzed the effects to the species above. According to the status of the species in the action area, the probability of take of this species is low. However, given 114 bog turtle surveys remain to be completed and the uncertainty of site-specific construction techniques, it is difficult to determine the number of bog turtles that may be killed, harmed or harassed, and the extent to which they may be affected. Based on the best available information, the Service anticipates the following level of cumulative take[2,3] for this species (Table 1).

[2] For Pennsylvania, the level of take was estimated based on the average population size for known bog turtle sites in Bucks, Northampton and Carbon Counties. For New Jersey, the level of take was estimated based on the average population size for known bog turtle sites in Hunterdon County.
[3] This take is cumulative with a total of 0-39 turtles potentially being taken by the Project.

Table 1. Incidental take estimate of bog turtles for the PennEast Pipeline Project

Species	Amount of Take Anticipated	Life Stage when Take is Anticipated	Type of Take	Take is Anticipated as a Result of
Bog turtle	0-13 turtles in the action area	Adults, juveniles, & hatchlings	Killed	Crushing during construction
Bog turtle	0-13 turtles in the action area	Adults, juveniles, & hatchlings	Harmed or harassed	Reduced fitness associated with loss or alteration of foraging, nesting, and hibernating habitat
Bog turtle	0-13 turtles in the action area	Adults, juveniles, & hatchlings	Killed	Loss of habitat due to alteration of site hydrology and mucky soils.

REASONABLE AND PRUDENT MEASURES

Bog Turtle

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize and monitor incidental take of the bog turtle in the action area of the PennEast Project:

1. As proposed in the Assessment, and consistent with the Bog Turtle Pre-Construction Survey Protocol (Appendix C), reduce the risk of take of bog turtle through pre-construction salvage surveys and fencing designed to prevent turtles from entering the construction areas.
2. Monitor the level of take of bog turtles in the action area to ensure that the effects of the Project on bog turtles and bog turtle habitat are consistent with those anticipated in this Opinion.
3. Conduct vegetative maintenance on the ROW near bog turtle wetlands in a manner that reduces the likelihood of taking bog turtles or degrading their habitat.
4. Plant native seed mixes (*e.g.*, Ernst PA Central Lowland Province OBL Mix) in wetlands that are disturbed to help establish new wetland vegetation and to help out-compete invasive plant species.

Northern Long-Eared Bat

The Service believes the following reasonable and prudent measures are necessary and appropriate to monitor incidental take of the northern long-eared bat in the action area of the PennEast Project:

1. Submit completed northern long-eared bat survey information to the appropriate Service field office as described in the Monitoring and Reporting Requirements.
2. Monitor the level of take of northern long-eared bats in the action area to ensure that the effects of the Project on northern long-eared bats and northern long-eared bat habitat are consistent with those anticipated in this Opinion.

TERMS AND CONDITIONS

In order to be exempt from the prohibitions of section 9 of the Endangered Species Act, the FERC must comply with the following terms and conditions and required reporting/monitoring requirements. These terms and conditions are nondiscretionary.

Bog Turtle

1. The FERC will ensure the permittee implements all avoidance and minimization measures described in the April 2017 Assessment.
2. For wetlands with known presence, or where the presence of bog turtles is presumed (referred to as "bog turtle wetlands"), PennEast will coordinate with the Service in order to determine the appropriate method of wetland crossing to avoid and minimize impacts to bog turtles. PennEast will provide the Service with detailed site plans and additional information on their preferred crossing method and allow for Service comments at least 30 days prior to finalizing the wetland crossing plan. Each wetland is different so there is no suitable 'one size fits all' approach.
    a. Implement the conditions outlined in **Appendix C**, PennEast Pipeline Bog Turtle Pre-Construction Survey Protocol.
    b. Should bog turtle wetlands be crossed via open trenching, anti-seep collars shall be installed to maintain existing hydrological wetland characteristics.
    c. In the event that an HDD is proposed under a known bog turtle wetland, submit the inadvertent release contingency plan to the Service for review and comment a minimum of 30 days prior to HDD commencement. This should explain how an inadvertent release of drilling mud would be contained and remediated.
    d. If matted wetland crossings are required in a bog turtle wetland, PennEast will utilize low-pressure mats instead of timber mats. Low-pressure mats in bog turtle

wetlands will be installed during the active season (April 1- October 15) but installation shall not occur during the nesting season window (June 15- September 15), wherever possible, to avoid destroying bog turtle nests. Use the smallest number of mats necessary for the job and restrict foot traffic in the wetlands to the area that will be under the mat surface. The area to be matted is to be inspected for bog turtles by the qualified bog turtle surveyor immediately prior to mat installation, as per the guidelines in Appendix C.

e. When working within 300 feet of bog turtle wetlands, PennEast will fuel all equipment/ vehicles at least 150 feet away from the edge of the wetland, using spill containment trays where appropriate. PennEast will also adhere to the Spill Prevention, Containment and Countermeasures Plan which can be found in Appendix D of the FEIS (FERC 2017b).
f. If work with heavy machinery is necessary in a bog turtle wetland, PennEast will inspect all vehicles and equipment daily for leaks prior to entering the wetland. All equipment shall be decontaminated according to Northeast Partners in Amphibian and Reptile Conservation (NEPARC) Disinfection of Field Equipment to Minimize Risk of Spread of *Chytridiomycosis* and *Ranavirus* protocols upon exiting the wetland (NEPARC 2014).
g. Mitigation for the take of bog turtles shall occur within the Delaware Recovery Unit (the same recovery in which take is anticipated to occur). Mitigation can be in the form of land acquisition or vegetation maintenance. If subsequent survey results reveal no potential bog turtle habitat in remaining in wetlands for which surveys are pending, or if no bog turtles found on surveys, mitigation is not needed.
h. To reduce the take of bog turtles during periodic maintenance of vegetation on the right-of-way, conduct right-of-way maintenance within 300 feet of known bog turtle wetlands only between November 1 and March 31, when turtles are hibernating. Implement the conditions outlined in Appendix D, Recommended Conservation Measures to Minimize Adverse Effects to the Federally Listed (Threatened) Bog Turtle (Clemmys [Glyptemys] muhlenbergii), and to Known and Potential Bog Turtle Habitat, from Vegetation Management.
i. After conducting work in a bog turtle wetland or in uplands within 300 feet of the wetland (including but not limited to matted wetland crossings, open trench crossing, or other areas of disturbance), restore bog turtle habitat to pre-construction conditions.
    a. RQBTS will document pre-construction condition and PennEast will implement measures to restore the wetland within 1-year post-construction.
    b. Use native wetland seed mixes to aid in restoring native wetland vegetation.

3. No tree clearing or Project construction will occur until surveys for all Federally listed species are completed.
4. Should PennEast have to cross a known bog turtle site, prior to construction, the FERC will host a pre-construction meeting with the applicant's contractors and the Service to go over the Project restrictions, construction sequencing, etc.

Northern Long-Eared Bat

No terms and conditions are provided for the northern long-eared bat.

MONITORING AND REPORTING REQUIREMENTS

Bog Turtle

1. To ensure that take of bog turtles is consistent with the analysis completed in the biological opinion monitor and report of take of bog turtles take as follows.
    a. A qualified bog turtle surveyor will conduct vegetation monitoring of disturbed wetland areas, and the adjacent undisturbed wetland areas for a minimum of five years post-construction. The surveyor will provide annual reports to the Service's Pennsylvania and New Jersey Field Offices, including written and photo documentation of the site. The report will document the progression of revegetation, noting the types and densities of native and exotic plant species present. The presence of invasive species and/or non-native species within the Site should be documented during each monitoring event. If invasive plants and/or non-native species are found within the former construction area, the applicant will prepare a proposal to implement invasive species control in coordination with the Service.
    b. If a dead bog turtle is found, the individual(s) should be flash frozen on dry ice to preserve biological materials in the best possible state for later analysis. The individual should then be held in a freezer until it can be transferred to the Service. In conjunction with the care of injured endangered or threatened species or preservation of biological materials from a dead animal, the finder has the responsibility to ensure that evidence associated with the specimen is not unnecessarily disturbed. The Service is to be notified within one (1) calendar day upon locating a dead or injured bog turtle. Initial notification must be made to the nearest Service Office of Law Enforcement in PA at (717)221-4425 and the Pennsylvania Ecological Services Field Office at (814)234-4090 or to the Northern New Jersey Service Office of Law Enforcement at (908)787-1321 and the New Jersey Field Office at (609) 646-9310. Notification must include the date, time, county, state and precise location of the injured animal or carcass, and any other pertinent information, including age, sex, and reproductive condition of the individual(s). Formal written notification also must be submitted.

Northern Long-Eared Bat

1. The FERC must provide the results of any surveys for the northern long-eared bat to the appropriate Service Field Office within their jurisdiction.

2. Parties finding a dead, injured, or sick northern long-eared bat must promptly notify the appropriate Service Field Office as identified in the northern long-eared bat section of this document (above).

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

Bog Turtle

1. Participate in developing a bog turtle conservation banking program to benefit the species when its habitat is impacted.
2. FERC can sponsor a 'bog turtle avoidance training' for project applicants that reviews measures on how to avoid and reduce take, particularly highlighting horizontal directional drilling and the impacts of inadvertent returns. The Service can assist in implementing this conservation recommendation.

Northern Long-Eared Bat

1. Fund research on understanding, controlling, and mitigating the effects of WNS.
2. If authorized by the landowner, block (*e.g.*, gate) access roads and right-of-ways leading to known or presumed occupied hibernacula from unauthorized access.
3. Fund proactive surveys to learn more about northern long-eared bat distribution and occurrences across the landscape. Types of surveys include spring emergence radio tracking, fall radio tracking, summer netting, and summer acoustics.
4. Pursue acquisition of parcels or easements to protect northern long-eared bat roosting, foraging, and commuting habitat.

For the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION NOTICE

This concludes formal consultation on the action outlined in the request. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this Opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this Opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

If you have any questions regarding this Opinion, our response to your concurrence request(s), or our shared responsibilities under the ESA, please contact Pamela Shellenberger.

Sincerely,



11/28/2017

Catherine M. Gatenby, Ph.D.
Acting, Field Office Supervisor

Date:

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CONSULTATION HISTORY

August 13, 2014 - Initial correspondence received for this Project.

October 29, 2014 - PAFO met with Deborah Poppel of AECOM and Jon West of URS to discuss the Project. They discussed the FERC scheduling and outlined the Project area. We discussed bog turtle, dwarf wedgemussel, northeastern bulrush, Indiana bat and northern long-eared bat. We also discussed the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.

February 23, 2015 - NJFO sent letter to the FERC identifying Federally listed and proposed species that may occur in the action area of the Project in response to the FERC's notice of intent to prepare an environmental impact statement (EIS).

May 2015 - Indiana Bat and Northern Long-eared Bat Habitat Assessment Report and Phase 2 Mist-Net Study Plan received.

July 1, 2015 - Email from PAFO to AECOM discussing 3 northern long-eared bat hibernacula within 1/4 mile of PennEast pipeline Project.

August 12, 2015 - PAFO discussion with Jason Tesauro. Jason asked if Phase 1 and Phase 2 surveys have been conducted for the Project.

August 18, 2015 - Discussion between Greg Turner of PA Game Commission (PGC) and Deb Poppel of AECOM regarding [redacted] and [redacted] Greg said that it is likely the two caves are connected with air flow. The caves have very cold air temperatures, which make highly suitable hibernacula habitat for bats.

September 2015 - Indiana and Northern Long-eared Bat Mist-Net Survey Report received by the Service.

September 8, 2015 - Bog turtle survey information received by the Service from Jason Tesauro Consulting, LLC. Mr. Tesauro was retained by a landowner to conduct Phase 1 bog turtle surveys at wetlands associated with a segment of the currently proposed route for the PennEast natural gas pipeline (MP [redacted]) located south of Beltzville Lake in Towamensing Township, Carbon County, PA. All surveyed wetlands were located within Hunters Creek watershed, a tributary of the Aquashicola Creek. Wetlands were identified primarily with satellite photos and were surveyed on foot between 18 August and 3 September 2015. A total of 10

properties contained suitable bog turtle habitat, ranging from 0.1 acre to 1.5 acres in size.

December 7, 2015 - PAFO conducted a site visit with Jason Tesauro, a qualified bog turtle surveyor, in Hunter Creek Watershed, Carbon County to view wetlands that had not been surveyed by PennEast to date. PAFO concluded that the wetlands were potential bog turtle habitat and recommended that either a Phase 2 species survey be completed to determine species presence or the wetland be avoided by the Project.

February 10, 2016 - Discussion with National Park Service (NPS) regarding pipeline crossing along the Kittanny Ridge and Appalachian Trail.

December 1, 2016 - Conference call with AECOM, NJFO, and PennEast regarding the status of Project.

February 14, 2017 - Meeting between PennEast, AECOM, NJFO, and PAFO to discuss Project schedule, survey windows, and surveys or other information that could be used to inform the Endangered Species Act consultation.

February 15, 2017 - PAFO provided PennEast with revised information on northeastern bulrush recommending that surveys be completed in Luzerne, Carbon and Northampton Counties in wetlands/vernal pools that are 790' in elevation and greater. Surveys had been completed only in Carbon County as of this date. The Service provided a copy of our species conservation guidance, which outlines time of year restrictions for surveying and a decision matrix for conducting surveys.

April, 2017- NJFO received a revised bat mist-net study plan to account for Project re-routing.

April 5, 2017 - PAFO and NJFO biologists met in the field with PennEast representatives to view the proposed pipeline HDD crossing under two wetlands that are associated with known bog turtle habitat in Pennsylvania.

May 17, 2017 - NJFO sent a letter to AECOM approving the revised bat mist-net study plan.

July 14, 2017 – The FERC sent the Service the final Assessment and initiated formal Section 7 consultation.

August 3, 2017 - PAFO received a CD containing revised and updated mist net survey status table and figures; includes updates of surveys completed to date this summer (2017).

August 9, 2017 - The Service sent the FERC a letter acknowledging receipt of their request for formal Section 7 consultation and stated sufficient information was provided.

September 14, 2017 - PAFO receives study plan for fall trapping of bats at hibernacula portals in Pennsylvania near the Project right-of-way.

September 18, 2017 - PAFO concurs with the bat fall trapping study plan.

September 18, 2017 - Voicemail received from the FERC indicating they do not request a review of the draft Opinion.

September 18, 2017 - The PAFO received a comprehensive bog turtle survey update.

September 19, 2017 - PennEast provided an email to the Service that explains that they do not anticipate any blasting within 0.25 mile of known northern long-eared bat hibernacula or near [redacted], which is just outside of the 0.25-mile radius.

September 28, 2017 - PAFO and NJFO received a comprehensive Indiana bat and northern long-eared bat mist net survey update.

October 02, 2017 - PAFO and NJFO received a comprehensive dwarf wedgemussel survey update.

October 6, 2017 - PAFO and NJFO receive Comprehensive Bog Turtle Survey update.

October 23, 2017 - PennEast provided an email to the Service outlining their decision matrix and additional conservation measures if they encounter a wetland that contains the northeastern bulrush.

November 1, 2017 - PAFO and NJFO receive Comprehensive Northeastern Bulrush Survey updates. PennEast also provided an email to the Service committing to monitor temperature, humidity, and vibrations at known northern long-eared bat hibernacula within 0.25 mile of the Project area.

November 10, 2017 - PennEast provided an email to the Service committing to avoid and minimize impacts to known bog turtle wetlands, should any be discovered in future surveys.

November 14, 2017 - PennEast provided an email to the Service describing the quantity of forest impact within five miles of the [redacted].

November 16, 2017 - PennEast provided an email to the Service committing to implement a seasonal time of year restriction on tree clearing between November 15 and March 31, in the five-mile swarming area of known northern long-eared bat hibernacula.

November 16, 2017 - PennEast provided an email to the Service committing to minimize noise impacts from blasting at MPs [redacted] and Lambertville Lateral MPs [redacted] where 2 northern long-eared bat maternity colonies are known within 300 feet of the right-of-way by applying one or more of the following avoidance and minimization measures: confining the charge with fill, covering the charge site with blasting mats, minimizing charge weight to the minimum practical to fracture the rock.

November 16, 2017 - PennEast provided an email to the Service that explained the amount of forest acreage to be impacted in northern long-eared bat maternity areas by buffering female captures by 3 miles and maternity roost trees by 1.5 miles.

November 18, 2017 - PennEast provided an email to the Service describing the mileage of Project ROW within northern long-eared bat maternity areas.

November 28, 2017 - The Service provides the FERC with the final biological opinion.

Appendix A: Bog Turtle Effects Pathway Analysis

Sub- activity	**Direct interaction (vehicle strike, crushing, trampling, etc.) OR Indirect interaction (Stressor)** (a change in resource quantity or quality - clear descriptor of what can be avoided, minimized, or mitigated)	**Resources exposed** to Direct interaction or Indirect interaction (Stressor) **Resource or Individuals** (if direct), **Life stage** (of the species) & **Conservation Functions of the Resource**	**Species' Responses to Exposure** to Direct interaction or Indirect interaction (Stressor)	**Effect to individuals**	**Effect to population**	**Avoidance Minimization Mitigation**	**Effects remaining**	**Determination** (Not Likely to Adversely Affect (NLAA), Likely to Adversely Affect (LAA))
Horizontal directional drilling (HDD) and conventional bore drilling (under a bog turtle wetland)	(direct) Smothering of bog turtles or nests due to HDD inadvertent return of drilling mud	**Resource:** Individuals **Life stage:** adults, juveniles, eggs	Range of responses depending on scale of inadvertent return. Neglig ble to increased energy expenditure, injury or mortality	Ranges from negligible to direct mortality, reduced survival (injury), reduced reproductive success	Reduction in numbers	Bentonite drilling mud is not toxic to bog turtles but can impact individuals or their habitat if a substantial inadvertent return of drilling mud occurs. PennEast will prepare an inadvertent release contingency plan and submit it to the Service for review.	Horizontal directional drilling has inherent risks of inadvertent returns that can occur under even the best circumstances and may result in take of bog turtles via smothering, hydrologic impacts, and habitat alterations (through the action of clean-up and the act of the inadvertent return).	LAA
	(indirect) HDD or conventional boring could divert spring seeps and alter site hydrology	**Resource:** Mucky soils **Life stage:** Adults, juveniles, eggs **Function:** Feeding, sheltering	Range of responses depending on scale of disruption to hydrology. Neglig ble to increased energy expenditure, abandonment, predation (injury, mortality).	Ranges from negligible to direct mortality, reduced survival (injury), reduced reproductive success	Neglig ble to Reduction in numbers, Reduction in distribution	PennEast is completing Phase 1 and Phase 2 surveys of all accessible wetlands prior to beginning construction activities. The wetland crossing method will be chosen on a wetland by wetland basis in collaboration with the Service. If the wetland is unsuitable for HDD or drilling, a different method will be chosen. The RQBTS can object to the proposed crossing method and contact the Service if they believe it will result in take of turtles beyond what was accounted for in the BO.	Horizontal directional drilling can have impacts to a site that are difficult to predict. Changes to site hydrology may result from HDD construction activities.	LAA

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Sub- activity	**Direct interaction (vehicle strike, crushing, trampling, etc.) OR Indirect interaction (Stressor)** (a change in resource quantity or quality - clear descriptor of what can be avoided, minimized, or mitigated)	**Resources exposed** to Direct interaction or Indirect interaction (Stressor) **Resource or Individuals** (if direct), **Life stage** (of the species) & **Conservation Functions of the Resource**	**Species' Responses to Exposure** to Direct interaction or Indirect interaction (Stressor)	**Effect to individuals**	**Effect to population**	**Avoidance Minimization Mitigation**	**Effects remaining**	**Determination** (Not Likely to Adversely Affect (NLAA), Likely to Adversely Affect (LAA))
Horizontal directional drilling (HDD) and conventional bore drilling (under a bog turtle wetland)	(direct) Crushing of bog turtles or nests during HDD inadvertent return clean up (foot traffic, deploying wetland crossing mats)	**Resource:** Individuals **Life stage:** Adults, juveniles, eggs	Injury, mortality	Ranges from direct mortality, reduced survival (injury), reduced reproductive success	Reduction in numbers	PennEast will prepare an inadvertent release contingency plan and submit it to the Service for review. The start of the HDD bore hole should be outside of the bog turtle wetland. Under the supervision of a RQBTS, the work area will be surveyed for turtles and silt fence exclusion barriers will be erected to prevent turtle access. RQBTS will oversee the placement of matting within habitat exclusion barrier. Mats in bog turtle wetlands shall be installed during the active season of bog turtles (April 1- October 15) but installation should be avoided during the nesting season window (June 15- September 15) wherever possible to avoid potential disturbance to potential bog turtle nests.	If the work is taking place in a wetland with bog turtles that has not been extensively studied and turtles aren't tagged with radio telemetry, it is still I kely that bog turtles could escape detection during a pre-construction survey based on their cryptic nature and small size.	LAA
	(indirect) Crushing/ eroding vegetation hummocks during an HDD inadvertent return event or subsequent clean up	**Resource:** Vegetation micro-topography **Life stage**: adults, juveniles, and eggs **Function**: breeding, feeding, and sheltering	Range of responses depending on scale and severity of habitat degradation. Negligible to decreased winter survival (injury or mortality), decreased foraging success, increased energy expenditure, abandonment/ displacement	Ranges from direct mortality, reduced survival (injury), reduced reproductive success, reduced growth rate	Neglig ble to reduction in numbers, reduction in distribution	PennEast will prepare an inadvertent release contingency plan and submit it to the Service for review. If matted wetland crossings are required in a bog turtle wetland, PennEast will utilize low-pressure mats instead of timber mats wherever possible. PennEast will use the smallest number of mats necessary for the job and minimize any foot traffic in the wetlands beyond the mat surface. PennEast will restore disturbed habitat in and around bog turtle wetlands to pre-construction condition.	PennEast will restore the bog turtle habitat but while it is being restored the function of the habitat is lost for that time period.	LAA

Appendix A: Bog Turtle Effects Pathway Analysis

Sub-activity	**Direct interaction (vehicle strike, crushing, trampling, etc.) OR Indirect interaction (Stressor)** (a change in resource quantity or quality - clear descriptor of what can be avoided, minimized, or mitigated)	**Resources exposed** to Direct interaction or Indirect interaction (Stressor) **Resource or Individuals** (if direct), **Life stage** (of the species) & **Conservation Functions of the Resource**	**Species' Responses to Exposure** to Direct interaction or Indirect interaction (Stressor)	**Effect to individuals**	**Effect to population**	**Avoidance Minimization Mitigation**	**Effects remaining**	**Determination** (No Effect, Not Likely to Adversely Affect, Likely to Adversely Affect)
Horizontal directional drilling (HDD) and convention-al bore drilling (under a bog turtle wetland)	(direct) Constant construction noise from HDD or conventional bore drilling causes turtles to potentially abandon feeding/ breeding activities	**Resource:** Individuals, **Life stage:** adults and juveniles	Range of response depending on timing, duration, scale of noise – Neglig ble to increased energy expenditure, decreased foraging success, decreased reproduction	Ranges from negligible to reduced growth rate, reduced reproductive success	Reduction in numbers	The construction method and timing of work will be chosen in collaboration with the Service to minimize disturbance to the bog turtles. Drilling is loud, so if the work is conducted during the active season, bog turtles will likely hear the noise. However this impact is not likely to rise to the level of take as the noise is fairly constant and will be short lived.	None	NLAA
Use of vehicles / heavy machinery	(direct) Crushing bog turtles or nests	**Resource:** Individuals **Life stage**: adults juveniles, eggs	Injury, mortality	Ranges from direct mortality, reduced survival (injury), reduced reproductive success	Reduction in numbers	Upstream and downstream areas of bog turtle wetlands will be marked and avoided by vehicles. Under the supervision of a RQBTS, silt fence exclusion barriers will be erected around work areas and access roads near wetlands with known or assumed presence of bog turtles. The RQBTS will search the areas for turtles before allowing wetland matted crossings to be installed. Mats will be installed only during the active season of the bog turtles and preferably before the bog turtle nesting season to avoid crushing unidentified bog turtle nests.	If the work is taking place in a wetland with bog turtles that has not been extensively studied and turtles aren't tagged with radio telemetry, it is still I kely that bog turtles could escape detection during a pre-construction survey based on their cryptic nature and small size.	LAA
	(indirect) Soil compaction in the wetlands causing alteration of site hydrology and soils	**Resource:** Mucky soil **Life stage**: adults, juveniles, eggs **Function**: breeding, sheltering	Range of response depending on scale of the soil compaction- negligible to displacement of bog turtles, decreased nesting success, injury or mortality (loss of hibernacula causing decreased winter survival)	Negligible to reduced survivorship (predation), reduced reproduction, reduced growth rate	Reduction in numbers	If work is needed in or around bog turtle wetlands, a RQBTS will oversee the placement of matting within habitat exclusion barrier. Any matted wetland crossings would be constructed in a manner that does not lower the water table or alter the hydrological characteristics of the wetland and low pressure matting would be used wherever possible. Upstream and downstream areas of bog turtle wetlands will be marked and avoided by vehicles.	Even with the use of low pressure matting, soil compaction is still likely to occur in the wetland and, depending on the scale of the work, impacts to site hydrology may still occur.	LAA

Appendix A: Bog Turtle Effects Pathway Analysis

Sub-activity	**Direct interaction (vehicle strike, crushing, trampling, etc.) OR Indirect interaction (Stressor)** (a change in resource quantity or quality - clear descriptor of what can be avoided, minimized, or mitigated)	**Resources exposed** to Direct interaction or Indirect interaction (Stressor) **Resource or Individuals** (if direct), **Life stage** (of the species) & **Conservation Functions of the Resource**	**Species' Responses to Exposure** to Direct interaction or Indirect interaction (Stressor)	**Effect to individuals**	**Effect to population**	**Avoidance Minimization Mitigation**	**Effects remaining**	**Determination** (No Effect, Not Likely to Adversely Affect, Likely to Adversely Affect)
Use of vehicles / heavy machinery	(indirect) Crushing of vegetation hummocks	**Resource:** Vegetation micro-topography **Life stage:** adults, juveniles, eggs **Function:** breeding, feeding, sheltering	Range of responses depending on scale and severity of habitat degradation. Negligible to decreased foraging success, increased energy expenditure, abandonment/ displacement from wetland, injury or mortality (loss of hibernacula causing decreased winter survival)	Ranges from direct mortality, reduced survival (injury), reduced reproductive success, reduced growth rate	Negligible to reduction in numbers, reduction in distribution	If matted wetland crossings are required in a bog turtle wetland, PennEast will utilize low-pressure mats instead of timber mats wherever possible. PennEast will use the smallest number of mats necessary for the job and minimize any foot traffic in the wetlands beyond the mat surface. Upstream and downstream areas of bog turtle wetlands will be marked and avoided by vehicles. PennEast will restore disturbed habitat in and around bog turtle wetlands to pre-construction condition.	PennEast will restore the bog turtle habitat but the habitat is still lost for that time required for restoration. Impacts to the turtles prior to restoration can vary greatly depending on the scale of the work in the wetland and proximity of the work to the turtle's core habitat. PennEast has not ruled out open trenching across a bog turtle wetland as a necessary component of the Project.	LAA
	(direct) Construction noise causes turtles to temporarily abandon feeding/ breeding activities	**Resource:** Individuals **Life stage:** adults and juveniles	Range of response depending on timing, duration, scale of noise – Negligible to increased energy expenditure, decreased foraging success, decreased reproduction	Ranges from negligible to reduced growth rate, reduced reproductive success	Reduction in numbers	The construction method and timing of work will be chosen in collaboration with the Service to minimize disturbance to the bog turtles. PennEast will attempt to avoid activity in bog turtle wetlands drilling under the wetland if appropriate, or otherwise avoiding the site where possible. Construction noise is limited in duration and operation of the pipeline would not result in noise disturbance.	None	NLAA
	(indirect) Introduction of invasive species changing vegetation community	**Resource:** vegetation **Life stage**: adults and juveniles **Function**: feeding, sheltering	Negligible to increased energy expenditure, decreased reproduction (loss of nesting sites), displacement of bog turtles, injury or mortality (loss of hibernacula causing decreased winter survival)	Negligible to reduced reproduction, reduced growth rate, reduced survival (injury), direct mortality	Reduction in numbers, reduction in distribution	Timber mats and equipment would be new or pressure-washed of free-standing soil and vegetative materials prior to arrival on-site to avoid introduction of contaminants.	None	NLAA

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Sub-activity	Direct interaction (vehicle strike, crushing, trampling, etc.) OR Indirect interaction (Stressor) (a change in resource quantity or quality - clear descriptor of what can be avoided, minimized, or mitigated)	Resources exposed to Direct interaction or Indirect interaction (Stressor) Resource or Individuals (if direct), Life stage (of the species) & Conservation Functions of the Resource	Species' Responses to Exposure to Direct interaction or Indirect interaction (Stressor)	Effect to individuals	Effect to population	Avoidance Minimization Mitigation	Effects remaining	Determination (No Effect, Not Likely to Adversely Affect, Likely to Adversely Affect)
Trenching/ Grading/ Backfilling (the impacts of sediment disturbance)	(indirect) Decreased soil stability causing sedimentation in the wetland	**Resource:** Invertebrate prey/ clean water **Life stage**: adults, juveniles **Function:** feeding, drinking	Range of response depending on severity of sedimentation – negligible to reduced feeding success	Ranges from negligible to reduced survivorship, reduced reproduction, reduced growth rate	Neglig ble to reduction in numbers	Standard soil erosion conservation measures and reseeding/replanting the disturbed areas.	None	NLAA
	(indirect) Decreased soil stability causing sedimentation in the wetland	**Resource:** h bernacula spaces between plant roots **Life stage**: adults, juveniles **Function:** sheltering	Range of responses depending on timing of sedimentation - negligible (if not during hibernation) to increased energy expenditure, injury or mortality	Ranges from negligible to reduced survivorship (injury) to direct mortality	Neglig ble to reduction in numbers	Standard soil erosion conservation measures and reseeding/replanting the disturbed areas.	None	NLAA
	(indirect) Change in topography causing alteration of site hydrology and soils	**Resource:** Mucky soil **Life stage**: adults, juveniles, eggs **Function:** breeding, sheltering	Range of response depending on scope of soil disturbance– Negligible to bog turtle displacement, abandonment of the wetland, abandonment, decreased nesting success, injury or direct mortality (loss of winter h bernacula)	Negligible to reduced survivorship (predation, decreased winter survival), reduced reproduction, reduced growth rate	Reduction in numbers, reduction in distribution	The construction method and timing of work will be chosen in collaboration with the Service to minimize disturbance to the bog turtles. If site hydrology is sensitive to disruption from trenching or other activities at the site, other crossing methods or rerouting will be considered. PennEast will attempt to avoid activity in bog turtle wetlands drilling under the wetland if appropriate, or otherwise avoiding the site where poss ble.	PennEast has not ruled out open trenching across a bog turtle wetland as a necessary component of the Project. PennEast will restore the bog turtle habitat but the habitat is still lost for that time required for restoration. If trenching is required across a wetland, impacts can vary depending on the scale of the work and proximity to core habitat.	LAA

Appendix A: Bog Turtle Effects Pathway Analysis

Sub-activity	***Direct interaction (vehicle strike, crushing, trampling, etc.) OR Indirect interaction (Stressor)*** *(a change in resource quantity or quality - clear descriptor of what can be avoided, minimized, or mitigated)*	***Resources exposed*** *to Direct interaction or Indirect interaction (Stressor)* ***Resource or Individuals*** *(if direct),* ***Life stage*** *(of the species) &* ***Conservation Functions of the Resource***	***Species' Responses to Exposure*** *to Direct interaction or Indirect interaction (Stressor)*	***Effect to individuals***	***Effect to population***	***Avoidance Minimization Mitigation***	***Effects remaining***	***Determination*** *(No Effect, Not Likely to Adversely Affect, Likely to Adversely Affect)*
Trenching/ Grading/ Backfilling	(indirect) Crushing/ removal of vegetation hummocks	**Resource:** Vegetation micro-topography **Life stage:** adults, juveniles, eggs **Function:** breeding, feeding, sheltering	Range of responses depending on scale and severity of habitat degradation. Negligible to decreased winter survival (injury or mortality), decreased foraging success, increased energy expenditure, abandonment/ displacement	Ranges from direct mortality, reduced survival (injury), reduced reproductive success, reduced growth rate	Neglig ble to reduction in numbers, reduction in distribution	If matted wetland crossings are required in a bog turtle wetland, PennEast will utilize low-pressure mats instead of timber mats wherever possible. PennEast will use the smallest number of mats necessary for the job and minimize any foot traffic in the wetlands beyond the mat surface. PennEast will restore disturbed habitat in and around bog turtle wetlands to pre-construction condition.	PennEast will restore the bog turtle habitat but the habitat is still lost for that time required for restoration. Impacts to the turtles prior to restoration can vary greatly depending on the scale of the work in the wetland and proximity of the work to the turtle's core habitat. PennEast has not ruled out open trenching across a bog turtle wetland as a necessary component of the Project.	LAA
Stream crossing (at tr butaries that feed into bog turtle wetlands)	(indirect) Disruption of stream flow into bog turtle wetland causing changes to site hydrology and soils	**Resource:** Mucky soil **Life stage**: adults, juveniles, eggs **Function:** breeding, sheltering	Negligible- Flow of streams will not be stopped during stream crossing work. The environment at the pipeline crossing will be restored and flow will not be significantly altered by the pipeline installation.	-	-	-	-	NLAA
	(indirect) Sediment pulse into bog turtle wetland impacting invertebrate prey and clean drinking water	**Resource:** Invertebrate prey/ clean water **Life stage**: adults and juveniles **Function**: feeding, drinking	Range of response depending on scale of sediment pulse– Negligible to reduced foraging success,	Negligible to Reduced growth rate	Reduction in numbers	Standard stream sedimentation BMPs will be implemented at stream crossings.	None	NLAA

Appendix A: Bog Turtle Effects Pathway Analysis

Sub-activity	***Direct interaction (vehicle strike, crushing, trampling, etc.) OR Indirect interaction (Stressor)*** *(a change in resource quantity or quality - clear descriptor of what can be avoided, minimized, or mitigated)*	***Resources exposed*** *to Direct interaction or Indirect interaction (Stressor)* ***Resource or Individuals*** *(if direct),* ***Life stage*** *(of the species) &* ***Conservation Functions of the Resource***	***Species' Responses to Exposure*** *to Direct interaction or Indirect interaction (Stressor)*	***Effect to individuals***	***Effect to population***	***Avoidance Minimization Mitigation***	***Effects remaining***	***Determination*** *(No Effect, Not Likely to Adversely Affect, Likely to Adversely Affect)*
Stream crossing (at tr butaries that feed into bog turtle wetlands)	(indirect) Sediment pulse into bog turtle wetland filling in h bernacula spaces between plant roots	**Resource:** h bernacula spaces between plant roots **Life stage**: adults, juveniles **Function:** sheltering	Range of responses depending on timing of sedimentation - negligible (if not during hibernation) to increased energy expenditure, injury or mortality	Ranges from negligible to reduced survivorship (injury) to direct mortality	Neglig ble to reduction in numbers	Standard soil erosion conservation measures and reseeding/replanting the disturbed areas.	None	NLAA
Rock blasting (outside of a bog turtle wetland)	(indirect) Incidental vibration disturbance to bog turtles	**Resource:** Individuals **Life stage**: adults, juveniles	Neglig ble- Blasting is specific to areas of bedrock. No blasting will occur in or in the immediate vicinity of bog turtle wetlands. Bedrock does not occur close to the surface in bog turtle wetlands.	-	-	-	-	NLAA
	(direct) Noise disturbance causing turtles to potentially abandon feeding/ breeding activities	**Resource:** Individuals **Life stage**: adults and juveniles	Neglig ble- Blasting is specific to areas of bedrock. No blasting will occur in or in the immediate vicinity of bog turtle wetlands. Bedrock does not occur close to the surface in bog turtle wetlands.	-	-	-	-	NLAA
Access roads (structure)	(indirect) Soil compaction causing alteration of site hydrology and soils	**Resource:** Mucky soil **Life stage**: adults, juveniles, eggs **Function:** breeding, sheltering	Negligible to displacement of bog turtles and mortality	Negligible to Reduced survivorship (mortality)	Neglig ble to reduction in numbers, reduction in distribution	A 300 foot buffer will be provided between construction activities and bog turtle wetlands wherever poss ble. With present survey results, there are no known or assumed bog turtle wetlands in close proximity to proposed access roads.	None	NLAA

Appendix A: Bog Turtle Effects Pathway Analysis

Sub-activity	***Direct interaction (vehicle strike, crushing, trampling, etc.) OR Indirect interaction (Stressor)*** *(a change in resource quantity or quality - clear descriptor of what can be avoided, minimized, or mitigated)*	***Resources exposed*** *to Direct interaction or Indirect interaction (Stressor)* ***Resource or Individuals*** *(if direct),* ***Life stage*** *(of the species) &* ***Conservation Functions of the Resource***	***Species' Responses to Exposure*** *to Direct interaction or Indirect interaction (Stressor)*	***Effect to individuals***	***Effect to population***	***Avoidance Minimization Mitigation***	***Effects remaining***	***Determination*** *(No Effect, Not Likely to Adversely Affect, Likely to Adversely Affect)*
Access roads (structure)	(indirect) Increase in movement corridors for bog turtle predators/ facilitates illegal collection	**Resource:** Hidden/ difficult to access wetlands **Life stage:** adults, juveniles, eggs **Function**: Sheltering	Negligible to decreased nest success, injury or mortality	Negligible to reduced reproduction, reduced survivorship (injury), direct mortality	Negligible to reduction in numbers, reduction in distribution	A 300 foot buffer will be provided between construction activities and bog turtle wetlands wherever possible. With present survey results, there are no known or assumed bog turtle wetlands in close proximity to proposed access roads.	None	NLAA
Tree/ vegetation removal (right-of-way construction only, outside and within bog turtle wetlands)	(indirect) Decrease in woody vegetation in or around a bog turtle wetland	**Resource**: Open, primary succession wetlands **Life stage**: adults, juveniles, eggs **Function**: feeding, breeding, sheltering	Vegetation removal will only occur by hand removal in the winter. The removal of the woody vegetation in such a manner would keep succession of the wetland habitat at bay and is beneficial to the survival of the bog turtles at the site long-term.	Increased growth rate, increased survival	Increase in numbers	Conservation measures restricting the use of heavy machinery in wetlands for vegetation maintenance and time of year restrictions are requested in the terms and conditions of the BO and are outlined in Appendix C. Only glyphosate-based herbicides will be utilized within the wetland.	None	NLAA
	(indirect) Loss of spaces in roots for refugia (hibernacula)	**Resource**: Spaces in tree roots/ Hibernacula **Life stage**: adults, juveniles **Function**: sheltering	Range of responses depending on timing and manner of vegetation removal- negligible to increased energy expenditure, injury or mortality (exposure to the elements in subpar h bernacula)	Ranges from negligible to reduced survivorship (injury) or direct mortality	Negligible to reduction in numbers	Within the wetland, vegetation will be removed by hand under the supervision of a RQBTS.	None	NLAA

Appendix A: Bog Turtle Effects Pathway Analysis

Sub-activity	***Direct interaction (vehicle strike, crushing, trampling, etc.) OR Indirect interaction (Stressor)*** *(a change in resource quantity or quality - clear descriptor of what can be avoided, minimized, or mitigated)*	***Resources exposed*** *to Direct interaction or Indirect interaction (Stressor)* ***Resource or Individuals*** *(if direct),* ***Life stage*** *(of the species) &* ***Conservation Functions of the Resource***	***Species' Responses to Exposure*** *to Direct interaction or Indirect interaction (Stressor)*	***Effect to individuals***	***Effect to population***	***Avoidance Minimization Mitigation***	***Effects remaining***	***Determination*** *(No Effect, Not Likely to Adversely Affect, Likely to Adversely Affect)*
Tree/ vegetation removal (right-of-way construction only, outside and within bog turtle wetlands)	(indirect) Decreased soil stability causing sedimentation in the wetland	**Resource:** Invertebrate prey/ clean water **Life stage**: adults, juveniles **Function:** feeding, drinking	Range of response depending on severity of sedimentation – negligible to reduced feeding success	Ranges from negligible to reduced survivorship, reduced reproduction, reduced growth rate	Negligible to reduction in numbers	Standard soil erosion conservation measures and reseeding/replanting the disturbed areas outside of bog turtle wetlands. Within the wetland, vegetation will be removed by hand under the supervision of a RQBTS. Vegetation will not be removed with the roots.	None	NLAA
	(indirect) Decreased soil stability causing sedimentation in the wetland	**Resource:** h bernacula spaces between plant roots **Life stage**: adults, juveniles **Function:** sheltering	Range of response depending on severity and timing of sedimentation – negligible to increased energy expenditure, injury or mortality	Ranges from negligible to reduced survivorship (injury) or direct mortality	Negligible to reduction in numbers	Standard soil erosion conservation measures and reseeding/replanting the disturbed areas. Within the wetland, vegetation will be removed by hand under the supervision of a RQBTS. Vegetation will not be removed with the roots.	None	NLAA
	(indirect) Loss or fragmentation of travel corridors	**Resource:** Vegetated travel corridors **Life stage:** adults, juveniles **Function**: Dispersal	Negligible to decreased dispersal success	Ranges from negligible to Reduced survivorship, increased energy expenditure	Reduction in numbers, reduced distribution	If the wetland is part of an important bog turtle corridor, PennEast will attempt to avoid impacts by drilling under it or rerouting where possible. Pipeline construction will result in temporary loss of travel corridors during construction but the pipeline right-of-way is not likely to be a barrier to dispersal.	None	NLAA

Appendix A: Bog Turtle Effects Pathway Analysis

Sub-activity	***Direct interaction (vehicle strike, crushing, trampling, etc.) OR Indirect interaction (Stressor)*** *(a change in resource quantity or quality - clear descriptor of what can be avoided, minimized, or mitigated)*	***Resources exposed*** *to Direct interaction or Indirect interaction (Stressor)* ***Resource or Individuals*** *(if direct),* ***Life stage*** *(of the species) &* ***Conservation Functions of the Resource***	***Species' Responses to Exposure*** *to Direct interaction or Indirect interaction (Stressor)*	***Effect to individuals***	***Effect to population***	***Avoidance Minimization Mitigation***	***Effects remaining***	***Determination*** *(No Effect, Not Likely to Adversely Affect, Likely to Adversely Affect)*
Application of Herbicide via Backpack Spraying (Associated with vegetation maintenance in the right-of-way)	(direct) crushing of bog turtles or their nests	**Resource:** Individuals **Life stage:** adults, juveniles, eggs	Injury, mortality	Ranges from direct mortality, reduced survival (injury), reduced reproductive success	Reduction in numbers	Conservation measures restricting the use of heavy machinery in wetlands for vegetation maintenance and time of year restrictions are requested in the terms and conditions of the biological opinion and are outlined in Appendix C. Foot traffic is also restricted in the wetland during the bog turtle nesting season.	None	NLAA
	(direct) Introduction of chemicals to bog turtles and their habitat	**Resource:** Individuals **Life stage:** adults, juveniles, eggs	Negligible- Appendix D of the PennEast biological opinion details that only glyphosate herbicides are approved for use in bog turtle wetlands. Glyphosate herbicides have been shown to not adversely affect reptiles.	-	-	-	-	NLAA
	(indirect) Decrease in woody vegetation in or around a bog turtle wetland	**Resource**: Open, primary succession wetlands **Life stage**: adults, juveniles, eggs **Function**: feeding, breeding, sheltering	Vegetation removal will only occur by hand removal in the winter. The removal of the woody vegetation in such a manner would keep succession of the wetland habitat at bay and is beneficial to the survival of the bog turtles at the site long-term.	Increased growth rate, increased reproductive success, increased survival	Increase in numbers	None needed	None	NLAA

Appendix B: Northern Long-Eared Bat (NLEB) Effects Pathway Analysis

Sub- activity	**Direct interaction (vehicle strike, crushing, trampling, etc.) OR Indirect interaction (Stressor)** (a change in resource quantity or quality - clear descriptor of what can be avoided, minimized, or mitigated)	**Resources exposed** to Direct interaction or Indirect interac ion (Stressor) **Resource or Individuals** (if direct), **Life stage** (of the species) & **Conservation Functions of the Resource**	**Species' Responses to Exposure** to Direct interaction or Indirect interaction (Stressor)	**Effect to individuals**	**Effect to population**	**Avoidance Minimization Mitigation**	**Effects remaining**	**Determination** (Not Likely to Adversely Affect (NLAA), Likely to Adversely Affect (LAA))
Tree Removal	(direct) Flushing or crushing roosting bats	**Resource:** Individual bats **Life stage:** Juveniles, adults	Range of responses from increased energy expenditure (fly from trees during activity at or near tree being felled) to injury or mortality (particularly flightless pups)	Ranges from negligible to reduced survivorship (injury) or direct mortality	Negligible to reduction in numbers	Time of year restriction (TOYR) April 1- Oct 31 on clearing trees >5" DBH project-wide. TOYR April 1- Oct 31 on clearing all trees within 150 feet of maternity colonies. TOYR April 1- Nov 15 on clearing trees >3" DBH in known swarming habitat.	No remaining impacts to bats in summer habitat. There are likely several undocumented hibernacula along the Project in eastern Pennsylvania. Bats utilizing undocumented swarming habitat could be impacted Nov 1- Nov 14, as the project-wide TOYR doesn't cover the entire swarming period.	LAA, but take not prohibited by the 4(d) rule
	(indirect) Loss or fragmentation of summer habitat	**Resource:** Forest (suitable roosts and foraging space) **Life stage:** Juveniles, adults **Function:** Feeding and sheltering	Range of response depending on scope of removal – Negligible to abandonment of habitat or displacement of bats, increased energy expenditure	Ranges from negligible to reduced reproduction, reduced growth rate	Negligible to reduction in numbers, reduction in distribution	Pipeline was co-located with existing utility right-of-ways (ROW) wherever possible.	222 acres of known NLEB maternity summer habitat will be removed, though not when bats are active on the landscape. With the creation of the permanent ROW, NLEBs are precluded from roosting within the cleared areas and will expend energy seeking alternate roosting habitat.	LAA, but take not prohibited by the 4(d) rule
	(indirect) Loss or fragmentation of spring staging/ swarming habitat	**Resource:** Forest (suitable roosts and foraging space) **Life stage:** Juveniles, adults **Function:** Feeding, breeding, sheltering	Range of response depending on scope of removal – Negligible to abandonment of habitat or displacement of bats, increased energy expenditure	Ranges from negligible to reduced reproduction, reduced growth rate	Negligible to reduction in numbers, reduction in distribution	Pipeline was co-located with existing utility ROWs wherever possible.	A small percentage of forest will be lost within the 5 mile swarming distance of several known NLEB hibernacula, though not when bats are active on the landscape. With the creation of the permanent ROW, NLEBs are precluded from roosting within the cleared areas and will expend energy seeking alternate roosting habitat.	LAA, but take not prohibited by the 4(d) rule

Appendix B: Northern Long-Eared Bat (NLEB) Effects Pathway Analysis

Sub- activity	**Direct interaction (vehicle strike, crushing, trampling, etc.) OR Indirect interaction (Stressor)** (a change in resource quantity or quality - clear descriptor of what can be avoided, minimized, or mitigated)	**Resources exposed** to Direct interaction or Indirect interac ion (Stressor) **Resource or Individuals** (if direct), **Life stage** (of the species) & **Conservation Functions of the Resource**	**Species' Responses to Exposure** to Direct interaction or Indirect interaction (Stressor)	**Effect to individuals**	**Effect to population**	**Avoidance Minimization Mitigation**	**Effects remaining**	**Determination** (Not Likely to Adversely Affect (NLAA), Likely to Adversely Affect (LAA))
Tree Removal	(indirect) Loss of trees within 0.25 miles of a hibernacula causing changes to the h bernacula microclimate	**Resource:** Hibernacula **Life stage:** Adults **Function:** Sheltering	Tree removal within the 0.25 mi buffer of [redacted] amounts to 0.3 acres in total, but is considered insignificant based on the distance between the ROW and the h bernacula portal entrances as well as the scale of tree removal. It is unlikely the tree removal will result in any increased risk of flooding or changes in microclimate.	-	-	Pipeline was co-located with existing utility ROWs wherever poss ble. Part of the 0.25 buffer around [redacted] will be crossed via horizontal directional drilling and will not result in tree removal.	-	NLAA
	(indirect) Loss or fragmentation of travel corridors	**Resource:** Trees- forested travel corridors **Life stage:** Juveniles, adults, **Function:** Feeding, sheltering	NLEBs are not forest interior specialists so it is unlikely that the scale of the forest removal associated with this linear Project would adversely impact the bat's willingness to travel across the landscape.	-	-	-	-	NLAA
	(direct) Noise during tree removal which results in temporary disturbance of habitat	**Resource:** Individuals **Life stage:** Juveniles, adults	TOYRs will be implemented to avoid actively removing trees during the time of year when bats may be present in the habitat. Bats will not be adversely affected by tree-removal noises if they are not present in the immediate vicinity.	-	-	TOYR April 1- Oct 31 on clearing trees > 5" DBH project-wide. TOYR April 1- Oct 31 on clearing all trees within 150 feet of maternity colonies. TOYR April 1- Nov 15 on clearing trees > 3" DBH in known swarming habitat.	None	NLAA

Appendix B: Northern Long-Eared Bat (NLEB) Effects Pathway Analysis

Sub- activity	**Direct interaction (vehicle strike, crushing, trampling, etc.) OR Indirect interaction (Stressor)** (a change in resource quantity or quality - clear descriptor of what can be avoided, minimized, or mitigated)	**Resources exposed** to Direct interaction or Indirect interac ion (Stressor) **Resource or Individuals** (if direct), **Life stage** (of the species) & **Conservation Functions of the Resource**	**Species' Responses to Exposure** to Direct interaction or Indirect interaction (Stressor)	**Effect to individuals**	**Effect to population**	**Avoidance Minimization Mitigation**	**Effects remaining**	**Determination** (Not Likely to Adversely Affect (NLAA), Likely to Adversely Affect (LAA))
Tree Removal	(indirect) Tree removal causing decreased soil stability and sedimentation	**Resource:** Water source **Life stage:** Juveniles, adults **Function:** Drinking	Scale of tree removal associated with the Project is likely to have neglig ble impacts.	-	-	Standard soil erosion conservation measures and reseeding/replanting the disturbed areas.	-	NLAA
	(indirect) Creation of new foraging flyways along access roads (temporary or permanent)	**Resource:** Trees- travel corridors **Life stage:** Juveniles, Adults, **Function:** Feeding, sheltering	The impact of the added access roads associated with the Project is likely negligible, or potentially has a short-term beneficial impact on NLEB foraging areas.	Neglig ble to decreased energy expenditure	Increase in numbers	None	None	NLAA
Trenching, grading, backfilling	(indirect) Sediment erosion and sedimentation causing a decline in invertebrate prey	**Resource:** Invertebrate prey **Life stage:** Juveniles and adults **Function:** Feeding	Scale of soil disturbance for the Project construction is likely to have a negligible impact on the invertebrate prey base for NLEBs.	-	-	Standard soil erosion conservation measures will be implemented.	-	NLAA

Appendix B: Northern Long-Eared Bat (NLEB) Effects Pathway Analysis

Sub- activity	**Direct interaction (vehicle strike, crushing, trampling, etc.) OR Indirect interaction (Stressor)** (a change in resource quantity or quality - clear descriptor of what can be avoided, minimized, or mitigated)	**Resources exposed** to Direct interaction or Indirect interac ion (Stressor) **Resource or Individuals** (if direct), **Life stage** (of the species) & **Conservation Functions of the Resource**	**Species' Responses to Exposure** to Direct interaction or Indirect interaction (Stressor)	**Effect to individuals**	**Effect to population**	**Avoidance Minimization Mitigation**	**Effects remaining**	**Determination** (Not Likely to Adversely Affect (NLAA), Likely to Adversely Affect (LAA))
Trenching, grading, backfilling	(indirect) Sediment erosion and sedimentation causing a decline in water quality	**Resource:** Water source **Life stage:** Juveniles, adults **Function:** Drinking	Scale of soil disturbance associated with the Project is likely to have neglig ble impacts.	-	-	Standard soil erosion conservation measures and reseeding/replanting the disturbed areas.	-	NLAA
	(direct) Noise disturbance during pipeline installation which results in temporary disturbance of habitat	**Resource:** Individuals **Life stage:** Juveniles, adults	Range of response depending on scope of project work and proximity of forested habitat– Negligible to abandonment of habitat or displacement of bats, increased energy expenditure	Neglig ble to decreased reproductive success or decreased growth rate	Reduction in numbers	No avoidance or minimization measures are proposed to address construction noise associated with trenching, grading or backfilling activities.	Based on the temporary nature of the disturbance and moderate level of disturbance, the Service does not believe these actions will result in take.	NLAA
Blasting, Boring, and Horizontal Directional Drilling (HDD) (Pipeline installation)	(direct) Incidental vibrations in h bernacula	**Resource:** Individuals **Life stage:** Adults **Function:** Sheltering	Collapse of hibernacula walls, disturbance to h bernating bats	Neglig ble to decreased growth rate, decreased reproduction, decreased survival (injury), or direct mortality	Reduction in numbers	Blasting will not occur within 0.25 miles to NLEB hibernacula or [redacted]. Areas will be crossed by trenching/digging or HDD to install the pipeline.	Incidental vibrations from underground boring or HDD is expected to be negligible to h bernating bats and will not result in any changes to the microclimate of the hibernacula-	NLAA

Appendix B: Northern Long-Eared Bat (NLEB) Effects Pathway Analysis

Sub- activity	**Direct interaction (vehicle strike, crushing, trampling, etc.) OR Indirect interaction (Stressor)** (a change in resource quantity or quality - clear descriptor of what can be avoided, minimized, or mitigated)	**Resources exposed** to Direct interaction or Indirect interac ion (Stressor) **Resource or Individuals** (if direct), **Life stage** (of the species) & **Conservation Functions of the Resource**	**Species' Responses to Exposure** to Direct interaction or Indirect interaction (Stressor)	**Effect to individuals**	**Effect to population**	**Avoidance Minimization Mitigation**	**Effects remaining**	**Determination** (Not Likely to Adversely Affect (NLAA), Likely to Adversely Affect (LAA))
Blasting, Boring, and Horizontal Directional Drilling (HDD) (Pipeline installation)	(direct) Incidental vibrations to maternity colony roost trees	**Resource:** Individuals **Life stage:** Juveniles, adults **Function:** Sheltering	Range of response depending on proximity to blast site- Neglig ble to abandonment of roost, increased energy expenditure, injury or mortality	Neglig ble to decreased growth rate, decreased reproduction, decreased survival (injury), or direct mortality	Reduction in numbers	Several NLEB roost trees exist at varying distances from the pipeline ROW in areas where blasting may be needed. Conservation measures to minimize blasting disturbance will be implemented for the two areas with 150 feet of maternity colonies if blasting is required during the summer active season.	Besides the two closest known maternity colony roost trees addressed in the conservation measures, several other known maternity colonies exist within 1,500 feet of the Project ROW. No conservation measures are proposed to mitigate impacts of blasting for these areas.	LAA, but take not proh bited by the 4(d) rule
Above-ground Pipeline facilities (compressor station)	(direct) Flight path obstacles for bats/ opportunity for window strikes	**Resource:** Individuals **Life stage:** Juveniles, adults	In the context of the developed landscape this Project traverses, the bats' response to a new building is likely to be negligible.	-	-	-	-	NLAA
	(indirect) Permanent lighting which may result in alteration of habitat	**Resource:** Forested habitat **Life stage:** Juveniles, adults **Function:** Feeding, breeding, sheltering	The compressor station is expected to have limited permanent lighting which is expected to have a negligible impact on NLEB habitat in the surrounding areas.	-	-	-	-	NLAA
Project Construction Lighting	(indirect) Use of temporary construction lighting which may result in alteration of habitat	**Resource:** Forested habitat **Life stage:** Adults and juveniles **Function:** Feeding, sheltering	Neglig ble to avoidance of the habitat during construction, increased energy expenditure	Neglig ble to decreased growth rate, decreased reproduction	Reduction in numbers	-	Based on the developed nature of the landscape crossed by the Project and the temporary nature of the light disturbance, the Service does not believe this impact will rise to the level of take.	NLAA

Appendix B: Northern Long-Eared Bat (NLEB) Effects Pathway Analysis

Sub- activity	**Direct interaction (vehicle strike, crushing, trampling, etc.) OR Indirect interaction (Stressor)** (a change in resource quantity or quality - clear descriptor of what can be avoided, minimized, or mitigated)	**Resources exposed** to Direct interaction or Indirect interac ion (Stressor) **Resource or Individuals** (if direct), **Life stage** (of the species) & **Conservation Functions of the Resource**	**Species' Responses to Exposure** to Direct interaction or Indirect interaction (Stressor)	**Effect to individuals**	**Effect to population**	**Avoidance Minimization Mitigation**	**Effects remaining**	**Determination** (Not Likely to Adversely Affect (NLAA), Likely to Adversely Affect (LAA))
Access roads (structure)	(direct) Creation of travel corridors for predators of bats increasing the likelihood of predation	**Resource:** Individuals **Life stage:** Adults and juveniles	Negligible to increased energy expenditure, injury or mortality	Negligible to decreased reproduction, decreased growth rate, decreased survival (injury), or direct mortality	Reduction in numbers	Access roads were aligned with areas of pre-existing disturbance or co-located with existing paths wherever possible. A limited number of access roads are proposed for the Project, some of which are temporary. Overall impact on NLEB predation is likely negligible.	None	NLAA
Waterbody Crossing Work (stream and wetlands)	(indirect) Sedimentation disrupts aquatic life stage of invertebrate prey base	**Resource:** Invertebrate prey **Life stage:** Juveniles and adults **Function:** Feeding	Range of response depending on stream crossing technique - negligible to reduced feeding success, increased energy expenditure	Negligible to reduced reproductive success, reduced growth rate	Reduction in numbers	Standard stream sedimentation BMPs will be implemented to reduce sediment pulses and disturbance to stream environments.	None	NLAA
	(indirect) Increase in stream turbidity decreasing quality of drinking water source	**Resource:** Clean drinking water **Life stage:** Juveniles, adults **Function:** Drinking	The scope of stream crossing work associated with the Project is unlikely to contaminate drinking water sources and is likely to have a negligible impact.	-	-	Standard stream sedimentation BMPs will be implemented to reduce sediment pulses.	None	NLAA

Appendix C

PennEast Pipeline
Bog Turtle Pre-Construction Survey Protocol

The following are bog turtle (*Clemmys* (=*Glyptemys) muhlenbergii*) habitat avoidance measures for work associated with pipeline construction in proximity to known or assumed bog turtle habitat during the turtle's active season (April 1 – October 31).

1. Prior to construction, one pre-construction bog turtle clearance search of the area/s of effect will be completed prior to any earth disturbance activity, fencing installation or other construction. The search area will extend to include an area 10 feet beyond the planned limit of disturbance, any temporary staging areas and the area where the silt fence is proposed to be installed. The pre-construction bog turtle clearance search must be performed by a qualified bog turtle surveyor, who will be obtained from the most current list of U.S. Fish and Wildlife Service "recognized, qualified bog turtle surveyors" available at the New Jersey and Pennsylvania field offices. The bog turtle clearance search must be completed immediately prior to the installation of the habitat protection fence described below.

2. Except as otherwise noted within these avoidance measures, the pre-construction bog turtle clearance search will be conducted according to the most current survey protocol provided by the U.S. Fish and Wildlife Service.

3. Herbaceous vegetation within the survey area will be cut to a height of four to six inches prior to the survey in order to promote search effectiveness. Vegetation will be cut using a handheld trimmer/weed cutter and then carefully raked away from the area to be searched. The qualified surveyor will conduct the vegetation clearing.

4. No other construction activities may begin until installation of habitat protection fencing is completed. The habitat protection fence will act as a barrier to prevent possible bog turtles from moving into the construction area, and as a visual barrier to prevent construction activity from entering the wetland. The habitat protection fencing will be installed as indicated as soon as practicable following the preconstruction survey. The fencing will be installed only after receiving approval to do so from the qualified bog turtle surveyor following completion of their site search for bog turtles.

5. Installation of all habitat protection fencing and silt barrier fence for erosion and sediment control will be the responsibility of the contractor and will be installed and removed by hand within the wetland. The qualified bog turtle surveyor will be present during the erection of the habitat protection fence to ensure that it is properly installed at the correct location and depth. Immediately following the fence installation, it will be inspected by the qualified bog turtle surveyor to ensure that no trench, which could act as a pitfall trap to turtles, occurs on either side of the fencing. After installation, the habitat protection fence will be inspected and logged daily by the qualified bog turtle surveyor to

ensure that no holes are present that turtles can crawl through and no turtles are stuck in or around the fence. If at any time there are holes in the habitat protection fence, OR any turtle (alive, injured, or dead) is observed within the limit of disturbance, construction will stop immediately and Condition 11 below will be followed.

6. If any part of a known or assumed bog turtle wetland requires a matted access route, a recognized, qualified bog turtle surveyor must conduct the pre-construction survey of the work area *immediately* prior to the installation of the mats, as the silt fence barrier can be an imperfect turtle exclusion method depending on site conditions. The surveyor will provide guidance when choosing the mat access routes to the monitoring well sites to avoid crossing areas of ideal bog turtle habitat, wherever possible. Mats in bog turtle wetlands should be installed during the active period of bog turtles (April 1- October 15) but not during the nesting season window (June 15- September 15) to avoid potential disturbance to incubating nests wherever possible.

7. All work associated with the Project will be conducted in accordance with the Erosion and Sediment Pollution Control Plan approved by the County Conservation District.

8. All equipment and machinery will avoid wetland/watercourse habitat upstream and downstream of the proposed construction area. Orange construction fence will be installed to delineate these avoidance areas and will act as a visual warning to prevent construction equipment and personnel from entering and disturbing the potential bog turtle habitat outside the Limit of Disturbance. PennEast or its designated representative(s) will identify and clearly delineate all wetlands for the contractor(s) and will either attach the orange construction fence onto the habitat protection fence or install it immediately in front of the habitat protection fence within the Limit of Disturbance.

9. No material will be excavated, deposited, or positioned so as to lower the water table or impede the flow of water to any wetland areas; that is, implementation of the Project will not directly or indirectly affect the water quality and quantity of any wetland areas.

10. The qualified bog turtle surveyor will forward the results of the pre-construction bog turtle survey in writing to the U.S. Fish and Wildlife Service Pennsylvania and New Jersey Field Offices as well as the Pennsylvania Fish and Boat Commission and the New Jersey Endangered and Nongame Species Program via mail, facsimile, or e-mail within 48 hours of installation of the habitat protection fence.

11. During construction, if any turtle is observed at a location more than 100 feet from the Limit of Disturbance, then construction may continue so long as there are no holes in the habitat protection fence. However, if any turtle (alive, injured, or dead) is observed at any time within the Limit of Disturbance, OR if a hole is observed in the habitat protection fence, then construction will cease immediately and the following steps will be taken:

a. The contractor will immediately inform the pre-designated site manager who will immediately contact the qualified bog turtle surveyor. The site manager will then immediately implement the following measures:

b. If the turtle appears dead or immobile, the turtle will be left where it was initially observed. If the turtle appears to be mobile, efforts will be made to temporarily contain the turtle until the qualified bog turtle surveyor can take possession of it. Temporary containment will consist of placing the turtle in a thoroughly clean bucket that has a depth of more than 18 inches. Less than one inch of water should be placed in the bucket with the turtle to keep the animal cool and hydrated. The bucket should be placed in a quiet, well-shaded area, preferably within the wetland. The turtle should be handled as little as possible, and temporary containment must not exceed 6 hours.

c. The qualified bog turtle surveyor will identify the species of turtle found and document the location and condition of the turtle. The qualified bog turtle surveyor will also inspect the habitat protection fence and direct any repairs of the fence as needed. If there are holes in the habitat protection fence and/or the turtle is found to be a bog turtle, construction will remain ceased until the agency consultation procedures described herein are fully implemented, and the habitat protection fence is repaired to re-establish an effective turtle exclusion barrier.

d. If the qualified bog turtle surveyor identifies the turtle species as a bog turtle (*Clemmys* (*=Glyptemys) muhlenbergii*), then this biologist will immediately notify endangered species biologists at <u>both</u> the U.S. Fish and Wildlife Service Pennsylvania and New Jersey Field Offices as well as the Pennsylvania Fish and Boat Commission and the New Jersey Endangered and Nongame Species Program. The elapsed time for contacting both of these jurisdictional agencies from the time of bog turtle discovery should be as soon as possible but must not exceed twenty-four (24) hours. Following the arrival of the qualified bog turtle surveyor at the Project site, the turtle may be handled only by this biologist according to the recommendations of the U.S. Fish and Wildlife Service, the New Jersey Endangered and Nongame Species Program and/or the Pennsylvania Fish and Boat Commission. The biologist will consult with these agencies concerning safe handling and possible relocation of the turtle. Construction will resume only at the completion of this consultation.

e. If the qualified bog turtle surveyor identifies the turtle as a species other than the bog turtle, and the turtle appears healthy, then the qualified surveyor will mark the turtle for future identification and release it unharmed no more than 300 feet from the site of discovery to a safe location outside of the Limit of Disturbance. The site manager will be shown how and where to release the turtle if it is again found outside of the Limit of Disturbance. Construction may continue once the turtle is relocated. The site manager must log all turtle relocations.

f. If any turtle found appears injured or dead, consult with the U.S. Fish and Wildlife Service, the New Jersey Endangered and Nongame Species Program and/or the Pennsylvania Fish and Boat Commission concerning safe handling of an injured turtle, and the taking of possession of the specimen, whether injured or dead, by one of the jurisdictional agencies. Only the qualified bog turtle surveyor will handle the turtle. Construction will resume only at the completion of consultation.

12. The contractor will remove the habitat protection fencing and all silt barrier fencing by hand immediately upon completion of all construction activities, including stabilization of earth disturbance areas.

13. PennEast Pipeline or its designated representative(s) will submit a brief final report including bog turtle survey results and a summary of the field construction completed, including color photographs, to the U.S. Fish and Wildlife Service Pennsylvania and New Jersey Field Offices. The final report will be submitted thirty (30) days after construction is completed and the habitat protection fencing is removed.

Appendix D

Conservation Measures to Minimize Adverse Effects to the Federally Listed (Threatened) Bog Turtle (*Clemmys [Glyptemys] muhlenbergii*), and to Known and Potential Bog Turtle Habitat, from Vegetation Management

This document only provides examples of typical Conservation Measures frequently recommended by the Service in the course of consultation or technical assistance for vegetation maintenance in utility right-of-ways. Even with the adoption of these measures, any vegetation management associated with the maintenance of the PennEast pipeline right-of-way should still follow consultation procedures for Service review.

Emergency tree clearing or other measures necessary to protect human safety and/ or public or private property from an imminent hazard should proceed without delay. In an emergency, the recommendations in this document should be implemented only if doing so does not impede the emergency response. The Service should be contacted following the emergency if work took place in or near bog turtle habitat.

CONSERVATION MEASURES

- Use a recognized, qualified, surveyor to flag documented and potential bog turtle habitat, plus a 150-foot buffer, prior to the start of any work. Remove all flagging upon completion of work
- Have a recognized, qualified bog turtle surveyor on-site during all activities in flagged areas, or work with the Service to develop a project-specific bog turtle monitoring plan. Lists of qualified surveyors are available at the New Jersey and Pennsylvania Field Offices.

In Flagged Areas:

- Do not mow or use motorized vehicles/ heavy equipment (including vegetation chipper, grubbers). Do not stage or store materials or equipment.
- Do not enter or traverse known bog turtle nesting areas between June 1 and September 30.
- Remove woody vegetation by hand between November 1 and March 31. Have all such activities monitored by a recognized, qualified bog turtle surveyor. If hand machinery is required for vegetation removal (*i.e.* chainsaws), fuel all equipment outside of flagged areas in spill trays.
- Ensure that workers avoid stepping on hummocks and tussocks (*i.e.*, clumps of vegetation, often slightly higher than surrounding ground), to avoid the damage to the fragile micro-topography.
- Do not pull woody vegetation out by the roots in mucky areas, to avoid destruction of potential hibernacula. Avoid stockpiling vegetation that may attract predators. Cutting woody vegetation as early as September 16 to allow for stump treatment with herbicide may be acceptable with careful monitoring and other site-specific conservation measures as may be appropriate.
- Do not use herbicide within documented bog turtle hibernation areas. Limit herbicide use to glyphosate-based herbicide applied manually to cut stumps or to the bark along the bottom 12-18” of woody stems, between September 16 and March 31 OR work with the Service to develop a project-specific herbicide plan.
- Contact the Service immediately if a bog turtle is found, and note the location. Do not move the animal except to avoid imminent injury. If present, a recognized, qualified, surveyor should collect data as called for in his/her New Jersey or Pennsylvania Scientific Collecting Permit.

April 17, 2018
Ms. Pamela Shellenberger
U.S. Fish & Wildlife Service
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, PA 16801

Re: PennEast Pipeline Project
USFWS Project # 20141013 (PAFO) & 05E2NJ00-2014-F-0543 (NJFO)
Agency Review Summary and Update

Dear Ms. Shellenberger:

On behalf of PennEast Pipeline Company, LLC (PennEast), we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project (Project). On January 19, 2018, the Federal Energy Regulatory Commission (FERC) released its order issuing Certificates for Public Convenience and Necessity for the Project under Parts 157 and 284 of the FERC's regulations. PennEast continues to work through the regulatory processes to obtain the federal permits and approvals necessary to construct the Project.

The purpose of this update letter is to summarize the current status of surveys for federally listed species and consultations under the jurisdiction of the United States Fish & Wildlife Service (USFWS), as well as provide information regarding Project changes, including a new alternative route that PennEast is evaluating at the request of the Bethlehem Water Authority (BWA), National Park Service (NPS) and the Pennsylvania Game Commission (PGC).

Summary of Previous Consultations and Survey Statuses

On July 17, 2017, the FERC submitted its Biological Assessment (BA) of the Project to the USFWS and requested to enter into formal consultations regarding impacts to federally listed species. On November 28, 2017, the USFWS released their Biological Opinion (BO) regarding the Project. Since November 2017, PennEast has conducted Phase 1 bog turtle (*Clemmys [Glyptemis] muhlenbergii*) surveys on a few wetlands. Phase 1 and Phase 2 bog turtle surveys continue on accessible properties in spring 2018. Completion of the few remaining surveys that were requested by USFWS for Indiana bats (*Myotis sodalis*), northern long-eared bats (*Myotis septentrionalis*), dwarf wedgemussels (*Alasmidonta heterodon*), and northeastern bulrush (*Scirpus ancistrochaetus*) will be conducted in summer 2018, as represented in previous discussions.

Consultation on Project Changes

Potential Appalachian Trail/PPL Route Alternative

The Appalachian Trail PPL Alternative (AT/PPL Alternative), is a potential 4.98-mile route deviation that PennEast is considering from MP 48.6R2 to MP 54.7R2 (See Enclosed Route Alternative Figure). It crosses Lower Towamensing Township in Carbon County, Eldred Township in Monroe County, and Moore Township in Northampton County, Pennsylvania. This modification has been assessed by PennEast to address concerns from a multitude of agencies, specifically BWA, NPS and the PGC. This route would be co-located with an approximately 100-foot wide high voltage power line, reducing visual impacts across the Appalachian Trail and reducing the overall Project length. This crossing location has been approved by the PGC, NPS, and Appalachian Trail Conservancy (ATC). This Alternative would be fully co-located with existing ROW, and the abutting ROW has been utilized for workspace to the maximum extent practicable to reduce tree clearing. Within State Game Land (SGL) 168, the construction ROW width has been reduced to 75 feet, wherever feasible, to minimize earth disturbance.

As a proactive first step, PennEast used the Pennsylvania Natural Heritage Program (PNHP)'s Pennsylvania Natural Diversity Inventory (PNDI) Project Environmental Review Tool to obtain information on potential federal- and state-listed species impacts along the AT/PPL Alternative and Blue Mountain Interconnect (addressed below). The PNDI indicated that there are potential impacts to federally listed species, and further review by the USFWS is required. In anticipation of the USFWS requesting similar surveys be conducted along the new AT/PPL Alternative, PennEast has assumed that surveys will be needed for Indiana and northern long-eared bats, bog turtles, and northeastern bulrush. Surveys for bog turtles and northeastern bulrush are being conducted as wetland delineation surveys are completed, following the same survey guidelines as the rest of the Project.

Four new mist netting sites were selected along the proposed AT/PPL Alternative, to supplement four previously surveyed sites. Three were surveyed in 2017, and one remains to be surveyed in 2018. No federally listed species were captured at the three surveyed sites. Sites were selected following the methods outlined in the *2017 Range Wide Summer Survey Guidance* for linear project types.

Table 1. AT/PPL Mist Net Sites

Nearest Milepost	County	State	Segment	Mist Net Site ID	Survey Status
AT/PPL	Carbon	Pennsylvania	Mainline	PE 076B	Restricted access; survey not completed
AT/PPL	Monroe	Pennsylvania	Mainline	PE 077B	Access granted; survey completed
AT/PPL	Northampton	Pennsylvania	Mainline	PE 078B	Access granted; survey completed
AT/PPL	Northampton	Pennsylvania	Mainline	PE 079B	Access granted; survey completed

Potential Blue Mountain Interconnect Change and Associated Lateral Pipeline

If the AT/PPL Alternative is incorporated in the Project design, the Blue Mountain Interconnect that was previously proposed at MP 50.9R2 would be relocated to MP 49.8R3 along the AT/PPL Alternative (See Enclosed Route Alternative Figure). The station would be connected to the PennEast mainline pipeline with approximately 0.5 mile of 4-inch diameter lateral pipeline (Blue Mountain Lateral). The new location of the Blue Mountain Interconnect is adjacent to an existing PPL powerline corridor and utilizes an existing access road.

One mist netting site was completed on the Blue Mountain Lateral during the 2017 survey season. USFWS was notified regarding the capture of a federally listed species.

Table 2. Blue Mountain Interconnect Mist Net Site

Nearest Milepost	County	State	Segment	Mist Net Site ID	Survey Status
Blue Mountain Lateral	Carbon	Pennsylvania	Mainline	PE 075B	Access granted; survey completed

Surveys for bog turtles and northeastern bulrush are being conducted as wetland delineation surveys are completed, following the same survey guidelines as the rest of the Project.

Other Project Changes

Since PennEast's October 2016 consultation, PennEast has incorporated several minor Project changes to avoid and minimize impacts to sensitive resources and address landowner and constructability concerns. All of these proposed minor workspace changes are within 0.25 mile of the workspace on which PennEast has previously consulted. These changes are included in the consultation area shapefiles on the enclosed CD.

Conclusion:

In order to conclude consultation with USFWS regarding the Project, PennEast understands that the following items are required:

Surveys

- Completion of surveys for federally listed species, and submission of final survey reports; and

- USFWS review of the newly proposed AT/PPL Alternative and associated Blue Mountain Lateral, and input regarding any additional survey needs

Reports

- USFWS review of the enclosed PennEast Pipeline Project – Appalachian Trail PPL Alternative: Indiana and Northern Long-eared Bat Mist Net Report

Mitigation

- Monitoring plan for known northern long-eared bat hibernacula ([redacted] and [redacted]) as outlined in the BO issued by the USFWS on November 28, 2017; and
- Bog turtle monitoring and mitigation as outlined in the BO issued by the USFWS on November 28, 2017

PennEast looks forward to continuing working with you and your colleagues on this important project. At this time, we request that the USFWS respond with their concurrence regarding this characterization of PennEast's consultation status or with corrections if the USFWS disagrees.

We also request information about surveys that may be required along the AT/PPL Alternative, so that any necessary surveys can be scheduled during the 2018 survey season. Shapefiles of the area on which PennEast requests USFWS feedback are included on the enclosed CD. If you have any questions or would prefer hardcopy maps showing the consultation area, I can be reached by phone at (610) 832-2457 or by email at brian.cooper@aecom.com.

Sincerely,

Brian L. Cooper

Brian Cooper
Environmental Scientist

AECOM

Enclosures

1. *PennEast Pipeline Project – AT/PPL Alternative: Indiana and Northern Long-eared Bat Mist Net Report*
2. Route Alternative Figure
3. CD containing updated consultation area shapefiles

CC: Alicia Protus, USFWS (NJFO)
Amber Holly, UGI Energy Services

August 31, 2018
Ms. Pamela Shellenberger
U.S. Fish & Wildlife Service
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, PA 16801

Re: PennEast Pipeline Project
USFWS Project # 20141013 (PAFO) & 05E2NJ00-2014-F-0543 (NJFO)
Bog Turtle Wetland Crossing Plans
[redacted] Population & [redacted] Population

Dear Ms. Shellenberger:

On behalf of PennEast Pipeline Company, LLC (PennEast), we would like to thank you for your continued coordination on the proposed PennEast Pipeline Project (Project). On January 19, 2018, the Federal Energy Regulatory Commission (FERC) released its order issuing Certificates for Public Convenience and Necessity for the Project under Parts 157 and 284 of the FERC's regulations. PennEast continues to work through the regulatory processes to obtain the federal permits and approvals necessary to construct the Project. To that end, please find enclosed the following documents:

Memo 1: [redacted] Crossing Methods

At the request of PennEast, Mott MacDonald, the lead engineering firm for the Project, evaluated the existing geotechnical conditions (Section 1 in the attached memo) and feasibility of various trenchless construction techniques (Section 2) for crossing [redacted] and its adjacent wetland complex, located near Little Gap in Carbon County, PA. Mott MacDonald considered four trenchless crossing technologies: horizontal directional drill (HDD), direct pipe, auger bore, and guided bore. Of these four technologies, auger bore and guided bore were considered to be feasible crossing methodologies based on constructability constraints and consideration of potential impacts to bog turtles. Of the two feasible crossing methods, auger bore is preferred due to having fewer steps and lower cost than a guided bore.

Mott MacDonald also provided input on vibration resulting from trenchless crossing activity. Mott MacDonald measured vibration levels at multiple geotechnical test boring sites to determine a conservative estimate of vibrations that could be expected at a trenchless crossing bore. At each of the test sites, vibrations were found to be *de minimis*, below the most stringent, general limit established by the US Bureau of Mines and US Army Corps EM 385-1-1 criteria. Based on this information and the avoidance measures PennEast has committed to through USFWS consultation, vibration due to trenchless crossing is unlikely to have any adverse effect on nearby bog turtles.

Trenchless crossing of [redacted] and its adjacent wetlands will require the dewatering of bore pits to maintain safe working conditions to accomplish the crossing. Mott MacDonald provided an

analysis of the potential amount of dewatering expected during the trenchless crossing (Section 3), as well as an assessment of the potential impacts to the wetlands from dewatering (Section 4).

Memo 2: [redacted] Crossing Methods

PennEast has coordinated with the USFWS regarding appropriate crossing methodologies to be implemented at the known bog turtle site located near [redacted], Northampton County, PA. PennEast has proposed to use traditional trenched crossing methodology in this area while committing to avoidance and minimization measures (AMMs) to limit the potential take of bog turtles. The attached memo describes these AMMs, some of which include:

- Seasonal activity restrictions;
- Route adjustments to minimize impacts to bog turtle wetlands;
- RQBTS supervision;
- Hand-clearing of vegetation;
- Bog turtle exclusion measures; and
- Bog turtle wetland mitigation measures.

Also included in this memo are site plans showing the proposed construction limits, erosion and sedimentation control devices, and bog turtle exclusion fencing.

PennEast appreciates your continued input on this important project. At this time, we respectfully request that the USFWS respond with their guidance regarding this the need for additional consultation on the proposed crossing methods at the two bog turtle sites addressed in this memo. If you have any questions, I can be reached by phone at (610) 832-2457 or by email at brian.cooper@aecom.com.

Sincerely,

Brian L. Cooper

Brian Cooper
Environmental Scientist

AECOM

Enclosures

1. Memo 1: [redacted] Crossing Methods
2. Memo 2: [redacted] Crossing Methods

CC: Alicia Protus, USFWS (NJFO)
Gregory Lech, PA Fish & Boat Commission
Amber Holly, UGI Energy Services

Cooper, Brian

From: Ranalli, Nicole <nicole_ranalli@fws.gov>
Sent: Wednesday, October 10, 2018 11:06 AM
To: Cooper, Brian
Cc: Pamela Shellenberger; Binckley, Sarah; aholly@ugies.com; cmonagan@ugies.com; jdoersom@ugies.com; Daniel.Hartman@mottmac.com
Subject: Re: [EXTERNAL] PennEast - Followup on N. Mink Road Discussion

Brian,
Thank you for providing information regarding your proposed wetland crossing methods. You appear to be following the recommended avoidance and minimization measures within the 2017 Biological Opinion. In addition, you have clarified some points regarding the open trench method, which clarifies the extent of anticipated impacts utilizing this method.

Should you have any questions, please feel free to call or e-mail.

Thanks!
Nicole

On Fri, Oct 5, 2018 at 1:10 PM Cooper, Brian <Brian.Cooper@aecom.com> wrote:

> Hi Nicole,
>
> I wanted to follow up on the discussion you had with Sarah while I was in the field. First, with regards to dewatering impacts/duration at the [redacted] site, I have received the following input from the engineers:
>
> *Depending on site conditions during the time of construction at the [redacted] wetlands, the open trench could accumulate water, either from groundwater seepage or from precipitation. In order to complete a safe installation, water must be removed from the trench. During trench dewatering, water will be relocated from the trench and discharged away using a pump(s) into an adjacent vegetated upland area(s). The discharged water will pass through DEP approved filtration devices such as straw bale structures and/or filter bags prior to it infiltrating back into the subsurface. The rate of discharge will be regulated (by using one or more dewatering structures / locations) to prevent scouring, runoff, and excessive silt-laden water into adjacent surface water or wetlands. Upon the installation of the pipe, trench plugs will be installed at the wetland boundaries to prevent the linear excavation from acting as a French drain and the surface will be restored to pre-construction contours to maintain the original wetland hydrology. Duration of construction will be heavily dependent on site conditions at the time of construction. If drought conditions exist during the time of construction, it is anticipated that the total duration of wetland impact will be 3-4 days and involve minimal temporary groundwater relocation. If a wet season exists during the time of construction, the total duration of wetland impact is anticipated to increase to 6-8 days and involve greater groundwater relocation, however, allow for quicker groundwater subsurface stabilization.*

Next, Sarah mentioned that you had some questions regarding how we were planning to handle the nesting season in these wetlands. The season start and end dates referenced below come from our November 2017 BO and consultation letters from USFWS-PA. At this site, we plan to do all work during the active season, to avoid impacts to any potential bog turtle hibernacula during the winter months. In order to avoid the possibility of placing mats on bog turtle nests or turtles in the process of nesting, PennEast has committed to the measures below, which are also included in the [redacted] crossing plan memo:

AMM heading 3 – Seasonal Construction Activities:

c. Only low-pressure mats will be utilized in bog turtle wetlands. All matting will be installed during the active season (April 1- October 15) following the procedures previously described. However, matting installation shall not occur during the nesting season window (June 15- September 15), wherever possible, to avoid destroying bog turtle nests.

d. If PennEast's construction schedule does not allow for the nesting season restriction, the RQBTS will inspect the construction workspace between April 1 and June 15, and will oversee the installation of exclusion fencing to prevent bog turtles from nesting in the workspace. Workspace will still be inspected and cleared by the RQBTS prior to installation of matting or any surface disturbance during the active season.

Please feel free to reach out by phone or email if the information provided here doesn't fully answer your questions, or if you need additional details. Enjoy your weekend!

-Brian

Brian Cooper, AECOM
Environmental Scientist, USFWS Qualified Bat Surveyor

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Built to deliver a better world

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