

**Michael P. Gallagher, PE**  
Vice President  
License Renewal Projects

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Kennett Square, PA 19348

January 19, 2011

Mr. Chris Urban  
PA Fish and Boat Commission  
Nongame & Endangered Species Unit  
450 Robinson Lane  
Bellefonte, PA 16823-7437

Re: Renewal of Operating Licenses for Limerick Generating Station, Units 1 and 2  
Request for Information on Listed Threatened and Endangered Species

Dear Mr. Urban:

In mid-2011, Exelon Generation Company, LLC (Exelon Generation; a subsidiary of Exelon Corporation) plans to apply to the U.S. Nuclear Regulatory Commission (NRC) for renewal of the operating licenses for Limerick Generating Station, Units 1 and 2 (LGS). The existing license for Unit 1 will expire on October 26, 2024 and the existing license for Unit 2 will expire on June 22, 2029. The renewal term for each unit would be an additional twenty years beyond the existing license expiration date.

The NRC requires that license renewal applications include environmental reports assessing potential environmental impacts from license renewal activities. One such impact would be effects of license renewal activities on threatened and endangered species that are listed or proposed for listing in accordance with the Endangered Species Act (ESA) (16 USC 1531, et seq.) (10 CFR 51.53(c)(3)(ii)(E)). Accordingly, we are contacting you to obtain input for use in addressing these effects in the LGS license renewal environmental report. Later, NRC may also request an informal consultation with your office under Section 7 of the ESA (16 USC 1536(a)).

### **Project Features**

LGS existing features that are relevant to the effects of license renewal on threatened and endangered species include the following:

1. The LGS plant site, which hosts the two generating units, is located on Exelon Generation-owned properties that are mostly situated in Limerick Township, Montgomery County, but some of which are in the adjacent Lower Pottsgrove Township, Montgomery County or directly across the Schuylkill River in East Coventry Township, Chester County.

2. The LGS makeup water supply system, which conveys water from approved sources to LGS for use in its circulating water system, is composed of the following components:
  - The Perkiomen Pumphouse, located in Graterford Township, Montgomery County, and an associated underground 7.6-mile long Perkiomen Pumphouse-to-LGS pipeline; both are located along an easement held by Exelon Generation within an electrical transmission line right-of-way (ROW) controlled by PECO, a subsidiary of Exelon Corporation;
  - The Bradshaw Reservoir and Bradshaw Pumphouse, which are both situated in Plumstead Township, Bucks County, on Exelon Generation-owned properties totaling 42 acres;
  - The Bedminster Water Processing Facility, which is situated in Bedminster Township, Bucks County, on a 3-acre Exelon Generation-owned property; and
  - An underground water transmission main, which is routed within a natural gas pipeline ROW along an easement held by Exelon Generation that runs from the Bradshaw Pumphouse to the East Branch Perkiomen Creek by way of the Bedminster Facility.

The buried Perkiomen Pumphouse-to-LGS water pipeline and the underground water transmission main are located below ground within ROWs that exist for other purposes, and their operation requires no independent vegetation management or ground disturbing activities along these ROWs. Hence, these underground components of the makeup water supply system are assumed to have no effects on threatened and endangered plant species.

3. The LGS transmission system is composed of the following components:
  - Two electrical transmission lines constructed to connect the LGS main power transformers with two onsite electrical substations (these components are located on the LGS plant site); and
  - Four 230-kiloVolt (kV) and one 500-kV electrical transmission lines, with associated structures and offsite electrical substations, constructed to connect the onsite electrical substations to the regional electricity grid.

All offsite substations and transmission lines are operated by PECO and are located in ROWs situated in Montgomery and Chester Counties either on PECO-owned properties or on properties for which PECO holds permits, grants, easements, or licenses. Onsite transmission lines traverse only land disturbed during initial station construction.

Figures 1 through 9 showing the locations of the existing LGS project features are provided in Attachment 3.

### **Activities During the License Renewal Terms**

LGS license renewal will involve no new construction, refurbishment, ground disturbing activities, changes to operations, or changes to existing land-use conditions. Operation and maintenance activities during the terms of the renewed LGS licenses are only expected to occur in previously disturbed areas or existing ROWs. Hence, no new adverse impacts to threatened and endangered species are anticipated from license renewal.

## Identification of Threatened and Endangered Species Resources

Using the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Tool, a web-based application sponsored by the Pennsylvania Natural Heritage Program (PNHP), Exelon Generation has reviewed the potential for the LGS plant site area and the properties associated with the LGS makeup water supply system to adversely affect known occurrences of species or natural communities of concern. Receipts for PNDI search #s 20100421240174 (LGS plant site), 20100421240163 (Perkiomen Pumphouse area), 20100406237563 (Bradshaw Reservoir and Pumphouse area), and 20100407237630 (Bedminster Water Processing Facility area) are attached (Attachment 1). Two species under the jurisdiction of the PFBC were identified for the LGS plant site: one sensitive species (unidentified) with threatened status and the Pizzini's cave amphipod (*Stygobromus pizzinii*) with "special concern species" status. Also, one sensitive species (unidentified) with threatened status under the jurisdiction of the PFBC was identified for the Bradshaw Reservoir and Pumphouse location. The responses for the other project sites stated that no impact is anticipated to threatened and endangered species and/or special concern species or resources.

Given the sizable acreage and distances associated with the LGS transmission line corridors, no PNDI searches were conducted for this project component. For review by your office in identifying species of concern, we instead offer the figures in Attachment 3 showing the routes and widths of the corridors.

A review of the PNHP web site for state-listed endangered and threatened species indicates that a number of state-listed reptile and amphibian, fish, and invertebrate species could occur in Montgomery, Chester, and Bucks Counties. The enclosed Attachment 2 contains a list of these species. One amphibian species, the bog turtle (*Glyptemys muhlenbergii*), state-listed as endangered with recorded locations in the three counties of interest, also is federally-listed as threatened. Two fish species, the shortnose sturgeon (*Acipenser brevirostrum*) and the Atlantic sturgeon (*Acipenser oxyrinchus*), which are state-listed as endangered with Bucks County as their recorded locations, also are federally-listed as endangered and candidate species, respectively. One invertebrate species, the dwarf wedgemussel (*Alasmidonta heterodon*), state-listed as endangered with recorded locations in the three counties of interest, also is federally-listed as endangered. Exelon Generation is not aware that these or any other state-listed reptile and amphibian, fish, or invertebrate species are present on or near the properties associated with LGS or its associated transmission lines.

Because license renewal involves no new construction, refurbishment, ground disturbing activities, changes to operation, or changes to existing land use conditions, Exelon Generation does not expect LGS license renewal to adversely affect threatened and endangered reptile and amphibian, fish, and invertebrate species located near the LGS plant site, makeup water supply system, or transmission system ROWs. Nevertheless, we are requesting your help to identify the two unidentified sensitive species under PFBC jurisdiction that were identified by our PNDI searches, as well as other issues we may have overlooked that need to be addressed in the LGS license renewal environmental report. We are also interested in learning of any information your staff believes could help expedite the NRC's review of the LGS license renewal application. Hence, in closing, we would appreciate receiving a response from you detailing the requested information for the LGS plant site, makeup water supply system and transmission system. We would also welcome your confirmation of our conclusion that LGS license renewal would not adversely affect threatened and endangered reptile and amphibian, fish, and invertebrate species.

Because we plan to incorporate a copy of your response, as well as this letter, into the LGS license renewal environmental report that will be submitted to the NRC as part of the LGS license renewal application, your response will be most helpful if we receive it by March 10, 2011.

Please call Nancy Ranek (610-765-5369), our License Renewal Environmental Lead, if there are questions or you require additional information.

Sincerely,



Michael P. Gallagher

Enclosures:

- Attachment 1: Receipts for PNDI Search #s 20100421240174, 20100421240163, 20100406237563, and 20100407237630
- Attachment 2: Threatened and Endangered Reptile and Amphibian, Fish, and Invertebrate Species that could occur in Montgomery, Chester, and Bucks Counties
- Attachment 3: Figures Depicting LGS Project Features (Figures 1 through 9)

**ATTACHMENT 1**

**Receipts for PNDI Searchs**

<u>Receipt for PNDI Search # 20100421240174, Limerick GS .....</u>	<u>2</u>
<u>Receipt for PNDI Search # 20100421240163, Perkiomen Pumphouse.....</u>	<u>7</u>
<u>Receipt for PNDI Search # 20100406237563, Bradshaw pump .....</u>	<u>11</u>
<u>Receipt for PNDI Search # 20100407237630, Bedminster WPF.....</u>	<u>16</u>

PNDI Project Environmental Review Receipt

Project Search ID: 20100421240174

## 1. PROJECT INFORMATION

Project Name: **Limerick G5**

Date of review: **4/21/2010 4:33:48 PM**

Project Category: **Energy Storage, Production, and Transfer, Energy Production (generation), Nuclear Power Plant – maintenance, modification, or expansion**

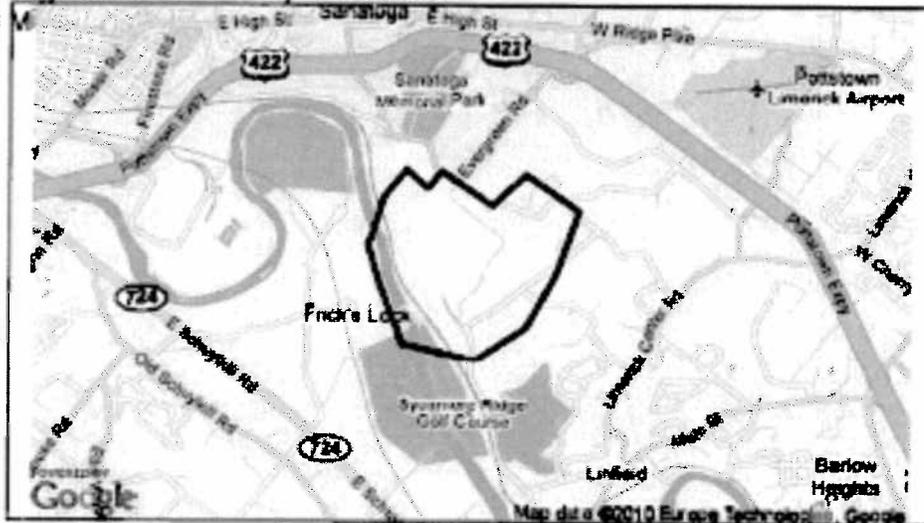
Project Area: **483.8 acres**

County: **Chester, Montgomery Township/Municipality: East Coventry, Limerick, Lower Pottsgrove**

Quadrangle Name: **PHOENIXVILLE ~ ZIP Code: 19465, 19464**

Decimal Degrees: **40.224106 N, -75.580658 W**

Degrees



## 2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	Potential Impact	<b>FURTHER REVIEW IS REQUIRED, See Agency Response</b>
PA Fish and Boat Commission	Potential Impact	<b>FURTHER REVIEW IS REQUIRED, See Agency Response</b>
U.S. Fish and Wildlife Service	No Known Impact	No Further Review Required

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate there may be potential impacts to threatened and endangered and/or special concern species and resources within the project area. If the response above indicates "No Further Review Required" no additional communication with the respective agency is required. If the response is "Further Review Required" or "See Agency Response," refer to the appropriate agency comments below. Please see the DEP Information Section of this receipt if a PA Department of Environmental Protection Permit is required.

PNDI Project Environmental Review Receipt      Project Search ID: 20100421240174

Note that regardless of PNDI search results, projects requiring a Chapter 105 DEP individual permit or GP 5, 6, 7, 8, 9 or 11 in certain counties (Adams, Berks, Bucks, Carbon, Chester, Cumberland, Delaware, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Schuylkill and York) must comply with the bog turtle habitat screening requirements of the PASPGP.

## RESPONSE TO QUESTION(S) ASKED

**Q1:** "Will the entire project (including any discharge) occur in or on an existing building, parking lot, driveway, road, road shoulder, street, runway, paved area, railroad bed, maintained (periodically mown) lawn, crop agriculture field or maintained orchard?"

Your answer is: **3. Unknown**

**Q2:** Accurately describe what is known about wetland presence in the project area or on the land parcel. "Project" includes all features of the project (including buildings, roads, utility lines, outfall and intake structures, wells, stormwater retention/detention basins, parking lots, driveways, lawns, etc.), as well as all associated impacts (e.g., temporary staging areas, work areas, temporary road crossings, areas subject to grading or clearing, etc.). Include all areas that will be permanently or temporarily affected -- either directly or indirectly -- by any type of disturbance (e.g., land clearing, grading, tree removal, flooding, etc.). Land parcel = the lot(s) on which some type of project(s) or activity(s) are proposed to occur.

Your answer is: **2. The project area (or land parcel) has not been investigated by someone qualified to identify and delineate wetlands, or it is currently unknown if the project or project activities will affect wetlands.**

**Q3:** Aquatic habitat (stream, river, lake, pond, etc.) is located on or adjacent to the subject property and project activities (including discharge) may occur within 300 feet of these habitats

Your answer is: **1. Yes**

## 3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are valid for one year (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt.

### PA Game Commission

**RESPONSE:** No impact is anticipated to threatened and endangered species and/or special concern species and resources.

### PA Department of Conservation and Natural Resources

PNDI Project Environmental Review Receipt

Project Search ID: 20100421240174

**DCNR Species:**

**Scientific Name:** Rotala ramosior

**Common Name:** Tooth cup

**Current Status:** Special Concern Species\*

**Proposed Status:** Special Concern Species\*

**RESPONSE:** Further review of this project is necessary to resolve the potential impacts(s). Please send project information to this agency for review (see WHAT TO SEND).

**PA Fish and Boat Commission**

**PFBC Species:**

**Scientific Name:** Sensitive Species\*\*

**Common Name:**

**Current Status:** Threatened

**Proposed Status:** Special Concern Species\*

**Scientific Name:** Stygobromus pizzinii

**Common Name:** Pizzini's Cave Amphipod

**Current Status:** Special Concern Species\*

**Proposed Status:** Special Concern Species\*

**RESPONSE:** Further review of this project is necessary to resolve the potential impacts(s). Please send project information to this agency for review (see WHAT TO SEND).

**U.S. Fish and Wildlife Service**

**RESPONSE:** No impacts to federally listed or proposed species are anticipated. Therefore, no further consultation/coordination under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq. is required. Because no take of federally listed species is anticipated, none is authorized. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

\* Special Concern Species or Resource - Plant or animal species classified as rare, tentatively undetermined or candidate as well as other taxa of conservation concern, significant natural communities, special concern populations (plants or animals) and unique geologic features.

\*\* Sensitive Species - Species identified by the jurisdictional agency as collectible, having economic value, or being susceptible to decline as a result of visitation.

**WHAT TO SEND TO JURISDICTIONAL AGENCIES**

If project information was requested by one or more of the agencies above, send the following information to the agency(s) seeking this information (see AGENCY CONTACT INFORMATION).

PNDI Project Environmental Review Receipt      Project Search ID: 20100421240174

**Check-list of Minimum Materials to be submitted:**

- \_\_\_ SIGNED copy of this Project Environmental Review Receipt
- \_\_\_ 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.
- \_\_\_ Project location information (name of USGS Quadrangle, Township/Municipality, and County)
- \_\_\_ 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.**

- \_\_\_ 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
- \_\_\_ The DEP permit(s) required for this project

## 4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. For cases where a "Potential Impact" to threatened and endangered species has been identified before the application has been submitted to DEP, the application should not be submitted until the impact has been resolved. For cases where "Potential Impact" to special concern species and resources has been identified before the application has been submitted, the application should be submitted to DEP along with the PNDI receipt, a completed PNDI form and a USGS 7.5 minute quadrangle map with the project boundaries delineated on the map. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. DEP and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at <http://www.naturalheritage.state.pa.us>.

PNDI Project Environmental Review Receipt

Project Search ID: 20100421240174

## 5. ADDITIONAL INFORMATION

The PNDI environmental review website is a preliminary screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page ([www.naturalheritage.state.pa.us](http://www.naturalheritage.state.pa.us)). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

## 6. AGENCY CONTACT INFORMATION

### PA Department of Conservation and Natural Resources

Bureau of Forestry, Ecological Services Section  
400 Market Street, PO Box 8552, Harrisburg, PA  
17105-8552  
Fax: (717) 772-0271

### U.S. Fish and Wildlife Service

Endangered Species Section  
315 South Allen Street, Suite 322, State College, PA  
16801-4851  
NO Faxes Please.

### PA Fish and Boat Commission

Division of Environmental Services  
450 Robinson Lane, Bellefonte, PA. 16823-7437  
NO Faxes Please

### PA Game Commission

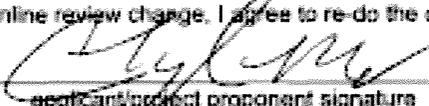
Bureau of Wildlife Habitat Management  
Division of Environmental Planning and Habitat Protection  
2001 Elmerton Avenue, Harrisburg, PA. 17110-9797  
Fax: (717) 787-6957

## 7. PROJECT CONTACT INFORMATION

Name: Cheryl Marks, Ecologist  
Company/Business Name: URS Corporation  
Address: 355 Commerce Dr, Suite 300  
City, State, Zip: Ft. Washington, PA 19024  
Phone: (215) 367-2598 Fax: (215) 367-1000  
Email: Cheryl\_marks@urscorp.com

## 8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

      4/2/10  
applicant/project proponent signature      Date

PNDI Project Environmental Review Receipt      Project Search ID: 20100421240163

## 1. PROJECT INFORMATION

**Project Name: Perkiomen Pumphouse**

**Date of review: 4/21/2010 4:16:12 PM**

**Project Category: Energy Storage, Production, and Transfer, Energy Production (generation), Nuclear Power Plant – maintenance, modification, or expansion**

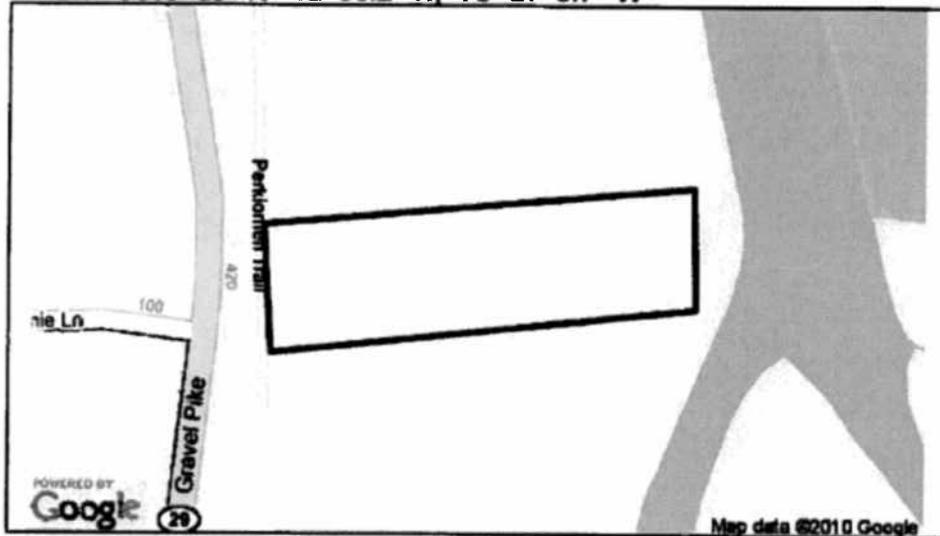
**Project Area: 3.5 acres**

**County: Montgomery Township/Municipality: Perkiomen**

**Quadrangle Name: COLLEGEVILLE ~ ZIP Code: 19426**

**Decimal Degrees: 40.215611 N, -75.451022 W**

**Degrees Minutes Seconds: 40° 12' 56.2" N, -75° 27' 3.7" W**



## 2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	No Known Impact	No Further Review Required
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	No Known Impact	No Further Review Required

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate no known impacts to threatened and endangered species and/or special concern species and resources within the project area. Therefore, based on the information you provided, no further coordination is required with the jurisdictional agencies. This response does not reflect potential agency concerns regarding impacts to other ecological resources, such as wetlands.

PNDI Project Environmental Review Receipt      Project Search ID: 20100421240163

Note that regardless of PNDI search results, projects requiring a Chapter 105 DEP individual permit or GP 5, 6, 7, 8, 9 or 11 in certain counties (Adams, Berks, Bucks, Carbon, Chester, Cumberland, Delaware, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Schuylkill and York) must comply with the bog turtle habitat screening requirements of the PASPGP.

### 3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for one year** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt.

#### PA Game Commission

**RESPONSE:** No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

#### PA Department of Conservation and Natural Resources

**RESPONSE:** No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

#### PA Fish and Boat Commission

**RESPONSE:** No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

#### U.S. Fish and Wildlife Service

**RESPONSE:** No impacts to federally listed or proposed species are anticipated. Therefore, no further consultation/coordination under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) is required. Because no take of federally listed species is anticipated, none is authorized. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

### 4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. For cases where a "Potential Impact" to threatened and endangered species has been identified before the application has been submitted to DEP, the application should not be submitted until the impact has been resolved. For cases where "Potential Impact" to special concern species and resources has been identified before the application has been submitted, the application

PNDI Project Environmental Review Receipt      Project Search ID: 20100421240163

should be submitted to DEP along with the PNDI receipt, a completed PNDI form and a USGS 7.5 minute quadrangle map with the project boundaries delineated on the map. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. DEP and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at <http://www.naturalheritage.state.pa.us>.

PNDI Project Environmental Review Receipt      Project Search ID: 20100421240163

## 5. ADDITIONAL INFORMATION

The PNDI environmental review website is a preliminary screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page ([www.naturalheritage.state.pa.us](http://www.naturalheritage.state.pa.us)). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

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Bureau of Forestry, Ecological Services Section  
400 Market Street, PO Box 8552, Harrisburg, PA.  
17105-8552  
Fax:(717) 772-0271

### U.S. Fish and Wildlife Service

Endangered Species Section  
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16801-4851  
NO Faxes Please.

### PA Fish and Boat Commission

Division of Environmental Services  
450 Robinson Lane, Bellefonte, PA. 16823-7437  
NO Faxes Please

### PA Game Commission

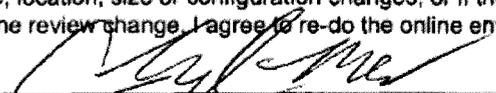
Bureau of Wildlife Habitat Management  
Division of Environmental Planning and Habitat Protection  
2001 Elmerton Avenue, Harrisburg, PA. 17110-9797  
Fax:(717) 787-6957

## 7. PROJECT CONTACT INFORMATION

Name: Cheryl Marks, Ecologist  
Company/Business Name: URS Corporation  
Address: 335 Commerce Dr Suite 300  
City, State, Zip: Ft. Washington PA 19034  
Phone: (215) 367-2598 Fax: (215) 367-1000  
Email: cheryl-marks@urscorp.com

## 8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

      4/2/10  
applicant/project proponent signature      date

PNDI Project Environmental Review Receipt

Project Search ID: 20100406237563

## 1. PROJECT INFORMATION

Project Name: **Bradshaw\_pump**

Date of review: **4/6/2010 3:53:37 PM**

Project Category: **Energy Storage, Production, and Transfer, Energy Production (generation), Nuclear Power Plant -- maintenance, modification, or expansion**

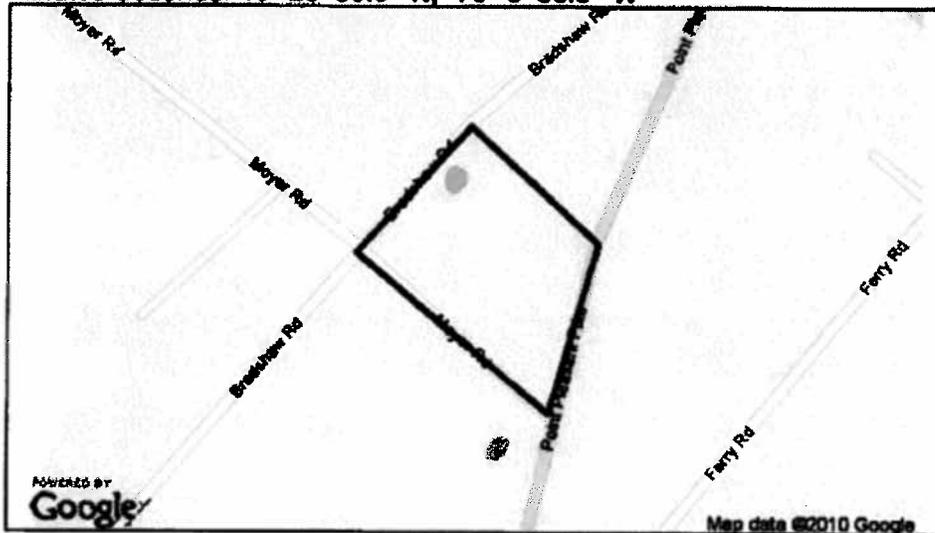
Project Area: **36.5 acres**

County: **Bucks Township/Municipality: Plumstead**

Quadrangle Name: **LUMBERVILLE ~ ZIP Code: 18947, 18901**

Decimal Degrees: **40.397483 N, -75.093140 W**

Degrees Minutes Seconds: **40° 23' 50.9" N, -75° 5' 35.3" W**



## 2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	No Known Impact	No Further Review Required
PA Fish and Boat Commission	Potential Impact	<b>FURTHER REVIEW IS REQUIRED, See Agency Response</b>
U.S. Fish and Wildlife Service	No Known Impact	No Further Review Required

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate there may be potential impacts to threatened and endangered and/or special concern species and resources within the project area. If the response above indicates "No Further Review Required" no additional communication with the respective agency is required. If the response is "Further Review Required" or "See Agency Response," refer to the appropriate agency comments below. Please see the DEP Information Section of this receipt if a PA Department of Environmental Protection Permit is required.

PNDI Project Environmental Review Receipt      Project Search ID: 20100406237563

Note that regardless of PNDI search results, projects requiring a Chapter 105 DEP individual permit or GP 5, 6, 7, 8, 9 or 11 in certain counties (Adams, Berks, Bucks, Carbon, Chester, Cumberland, Delaware, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Schuylkill and York) must comply with the bog turtle habitat screening requirements of the PASPGP.

## RESPONSE TO QUESTION(S) ASKED

**Q1:** Accurately describe what is known about wetland presence in the project area or on the land parcel. "Project" includes all features of the project (including buildings, roads, utility lines, outfall and intake structures, wells, stormwater retention/detention basins, parking lots, driveways, lawns, etc.), as well as all associated impacts (e.g., temporary staging areas, work areas, temporary road crossings, areas subject to grading or clearing, etc.). Include all areas that will be permanently or temporarily affected -- either directly or indirectly -- by any type of disturbance (e.g., land clearing, grading, tree removal, flooding, etc.). Land parcel = the lot(s) on which some type of project(s) or activity(s) are proposed to occur .

Your answer is: **2. The project area (or land parcel) has not been investigated by someone qualified to identify and delineate wetlands, or it is currently unknown if the project or project activities will affect wetlands.**

**Q2:** Aquatic habitat (stream, river, lake, pond, etc.) is located on or adjacent to the subject property and project activities (including discharge) may occur within 300 feet of these habitats

Your answer is: **3. Unknown**

## 3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for one year** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt.

### PA Game Commission

**RESPONSE:** No impact is anticipated to threatened and endangered species and/or special concern species and resources.

### PA Department of Conservation and Natural Resources

**RESPONSE:** No impact is anticipated to threatened and endangered species and/or special concern species and resources.

### PA Fish and Boat Commission

PNDI Project Environmental Review Receipt

Project Search ID: 20100406237563

**PFBC Species:**

**Scientific Name:** Sensitive Species\*\*

**Common Name:**

**Current Status:** Threatened

**Proposed Status:** Special Concern Species\*

**RESPONSE:** Further review of this project is necessary to resolve the potential impacts(s). Please send project information to this agency for review (see WHAT TO SEND).

**U.S. Fish and Wildlife Service**

**RESPONSE:** No impacts to **federally** listed or proposed species are anticipated. Therefore, no further consultation/coordination under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) is required. Because no take of federally listed species is anticipated, none is authorized. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

\* Special Concern Species or Resource - Plant or animal species classified as rare, tentatively undetermined or candidate as well as other taxa of conservation concern, significant natural communities, special concern populations (plants or animals) and unique geologic features.

\*\* Sensitive Species - Species identified by the jurisdictional agency as collectible, having economic value, or being susceptible to decline as a result of visitation.

**WHAT TO SEND TO JURISDICTIONAL AGENCIES**

If project information was requested by one or more of the agencies above, send the following information to the agency(s) seeking this information (see AGENCY CONTACT INFORMATION).

**Check-list of Minimum Materials to be submitted:**

- \_\_\_ **SIGNED** copy of this Project Environmental Review Receipt
- \_\_\_ 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.
- \_\_\_ Project location information (name of USGS Quadrangle, Township/Municipality, and County)
- \_\_\_ 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.**

- \_\_\_ 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
- \_\_\_ The DEP permit(s) required for this project

PNDI Project Environmental Review Receipt

Project Search ID: 20100406237563

#### **4. DEP INFORMATION**

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. For cases where a "Potential Impact" to threatened and endangered species has been identified before the application has been submitted to DEP, the application should not be submitted until the impact has been resolved. For cases where "Potential Impact" to special concern species and resources has been identified before the application has been submitted, the application should be submitted to DEP along with the PNDI receipt, a completed PNDI form and a USGS 7.5 minute quadrangle map with the project boundaries delineated on the map. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. DEP and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at <http://www.naturalheritage.state.pa.us>.

PNDI Project Environmental Review Receipt      Project Search ID: 20100406237563

### 5. ADDITIONAL INFORMATION

The PNDI environmental review website is a **preliminary** screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page ([www.naturalheritage.state.pa.us](http://www.naturalheritage.state.pa.us)). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

### 6. AGENCY CONTACT INFORMATION

**PA Department of Conservation and Natural Resources**  
Bureau of Forestry, Ecological Services Section  
400 Market Street, PO Box 8552, Harrisburg, PA.  
17105-8552  
Fax:(717) 772-0271

**U.S. Fish and Wildlife Service**  
Endangered Species Section  
315 South Allen Street, Suite 322, State College, PA.  
16801-4851  
NO Faxes Please.

**PA Fish and Boat Commission**  
Division of Environmental Services  
450 Robinson Lane, Bellefonte, PA. 16823-7437  
NO Faxes Please

**PA Game Commission**  
Bureau of Wildlife Habitat Management  
Division of Environmental Planning and Habitat Protection  
2001 Elmerton Avenue, Harrisburg, PA. 17110-9797  
Fax:(717) 787-6957

### 7. PROJECT CONTACT INFORMATION

Name: Cheryl Marks, Ecologist  
Company/Business Name: URS Corporation  
Address: 335 Commerce Dr Suite 300  
City, State, Zip: Ft. Washington, PA 19034  
Phone: (215) 367-2598 Fax: (215) 367-1000  
Email: Cheryl-marks@urscorp.com

### 8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

      4/21/10  
applicant/project proponent signature      date

PNDI Project Environmental Review Receipt

Project Search ID: 20100407237630

## 1. PROJECT INFORMATION

Project Name: **Bedminster\_WPF**

Date of review: **4/7/2010 10:02:31 AM**

Project Category: **Energy Storage, Production, and Transfer, Energy Production (generation), Nuclear Power Plant -- maintenance, modification, or expansion**

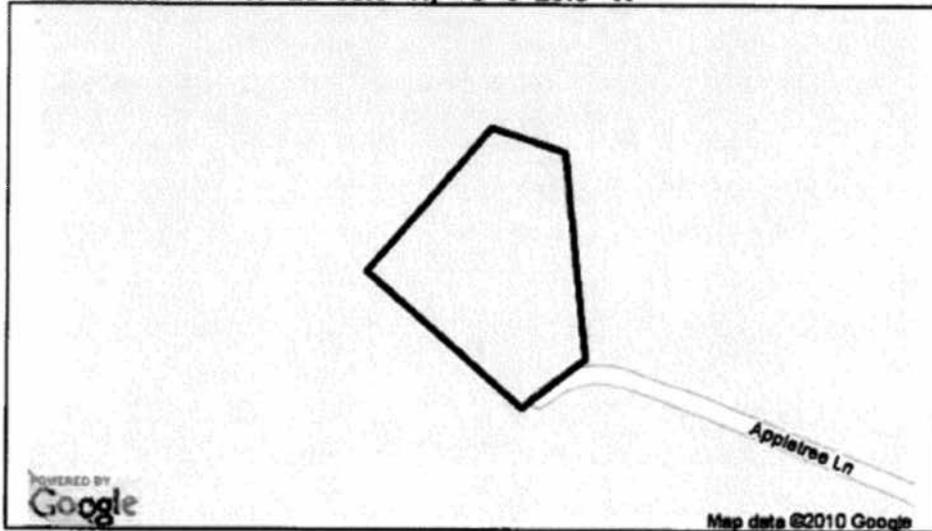
Project Area: **2.4 acres**

County: **Bucks** Township/Municipality: **Bedminster**

Quadrangle Name: **BEDMINSTER** ~ ZIP Code: **18947**

Decimal Degrees: **40.399023 N, -75.158205 W**

Degrees Minutes Seconds: **40° 23' 56.5" N, -75° 9' 29.5" W**



## 2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	No Known Impact	No Further Review Required
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	No Known Impact	No Further Review Required

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate no known impacts to threatened and endangered species and/or special concern species and resources within the project area. Therefore, based on the information you provided, no further coordination is required with the jurisdictional agencies. This response does not reflect potential agency concerns regarding impacts to other ecological resources, such as wetlands.

PNDI Project Environmental Review Receipt      Project Search ID: 20100407237630

Note that regardless of PNDI search results, projects requiring a Chapter 105 DEP individual permit or GP 5, 6, 7, 8, 9 or 11 in certain counties (Adams, Berks, Bucks, Carbon, Chester, Cumberland, Delaware, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Schuylkill and York) must comply with the bog turtle habitat screening requirements of the PASPGP.

### 3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for one year** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt.

#### PA Game Commission

**RESPONSE:** No impact is anticipated to threatened and endangered species and/or special concern species and resources.

#### PA Department of Conservation and Natural Resources

**RESPONSE:** No impact is anticipated to threatened and endangered species and/or special concern species and resources.

#### PA Fish and Boat Commission

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#### U.S. Fish and Wildlife Service

**RESPONSE:** No impacts to federally listed or proposed species are anticipated. Therefore, no further consultation/coordination under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) is required. Because no take of federally listed species is anticipated, none is authorized. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

### 4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. For cases where a "Potential Impact" to threatened and endangered species has been identified before the application has been submitted to DEP, the application should not be submitted until the impact has been resolved. For cases where "Potential Impact" to special concern species and resources has been identified before the application has been submitted, the application

PNDI Project Environmental Review Receipt      Project Search ID: 20100407237630

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PNDI Project Environmental Review Receipt      Project Search ID: 20100407237630

### 5. ADDITIONAL INFORMATION

The PNDI environmental review website is a **preliminary** screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page ([www.naturalheritage.state.pa.us](http://www.naturalheritage.state.pa.us)). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

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400 Market Street, PO Box 8552, Harrisburg, PA.  
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#### PA Game Commission

Bureau of Wildlife Habitat Management  
Division of Environmental Planning and Habitat Protection  
2001 Elmerton Avenue, Harrisburg, PA. 17110-9797  
Fax:(717) 787-6957

### 7. PROJECT CONTACT INFORMATION

Name: Cheryl Marks, Ecologist  
Company/Business Name: URS Corporation  
Address: 335 Commerce Dr, Suite 300  
City, State, Zip: Ft. Washington, PA 19034  
Phone: (215) 387-2598 Fax: (215) 387-1000  
Email: cheryl\_marks@urscorp.com

### 8. CERTIFICATION

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Cheryl Marks      4/21/10  
applicant/project proponent signature      date

**ATTACHMENT 2**

**Threatened and Endangered Reptile and Amphibian, Fish and Invertebrate Species  
that could occur in Montgomery, Chester, and Bucks Counties**

Attachment 2

<b>Threatened and Endangered Reptile and Amphibian, Fish and Invertebrate Species that could occur in Montgomery, Chester, and Bucks Counties</b>				
<b>Scientific Name</b>	<b>Common Name</b>	<b>Federal Status</b>	<b>State Status</b>	<b>Counties with Recorded Location</b>
<b>Reptiles and Amphibians</b>				
<i>Glyptemys muhlenbergii</i>	Bog Turtle	Threatened	Endangered	Montgomery, Chester, Bucks
<i>Opheodrys aestivus</i>	Rough Green Snake	--	Endangered	Chester
<i>Pseudacris triseriata kalmi</i>	New Jersey Chorus Frog	--	Endangered	Montgomery, Bucks
<i>Pseudemys rubriventris</i>	Redbelly Turtle	--	Threatened	Montgomery, Chester, Bucks
<i>Rana sphenoccephala</i>	Coastal Plain Leopard Frog	--	Endangered	Chester, Bucks
<i>Scaphiopus holbrookii</i>	Eastern Spadefoot	--	Endangered	Bucks
<b>Fish</b>				
<i>Acipenser brevirostrum</i>	Shortnose Sturgeon	Endangered	Endangered	Bucks
<i>Acipenser oxyrinchus</i>	Atlantic Sturgeon	Candidate	Endangered	Bucks
<i>Enneacanthus obesus</i>	Banded Sunfish	--	Endangered	Bucks
<i>Lepomis megalotis</i>	Longear Sunfish	--	Endangered	Bucks
<i>Notropis chalybaeus</i>	Ironcolor Shiner	--	Endangered	Montgomery, Bucks
<b>Invertebrates</b>				
<i>Alasmidonta heterodon</i>	Dwarf Wedgemussel	Endangered	Endangered	Montgomery, Chester, Bucks

Note: -- in the Federal Status column signifies that the species is not a federally-listed species.

## **ATTACHMENT 3**

### **Figures Depicting LGS Project Features**

Figure 1 LGS Plant Site Property Boundaries

Figure 2 Perkiomen Pumphouse

Figure 3 LGS Makeup Water Supply System

Figure 4 Bradshaw Reservoir and Bradshaw Pumphouse Properties

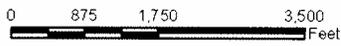
Figure 5 Bedminster Water Processing Facility Property

Figure 6 Limerick to Cromby 230 kV Transmission Line Route

Figure 7 Cromby to North Wales 230 kV Transmission Line

Figure 8 Cromby to Plymouth Meeting 230 kV Transmission Line Route

Figure 9 Limerick to Whitpain 500 kV Transmission Line Route

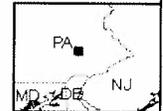


**Exelon.**

Reference:  
 DVRPC 2005 Aerial Imagery  
 ESRI 2009 Streets and Roads

NAD 1983 State Plane Pennsylvania South  
 Projection: Lambert Conformal Conic  
 Linear Unit: Foot US

Total Exelon Generation-owned property:  
 645 acres.

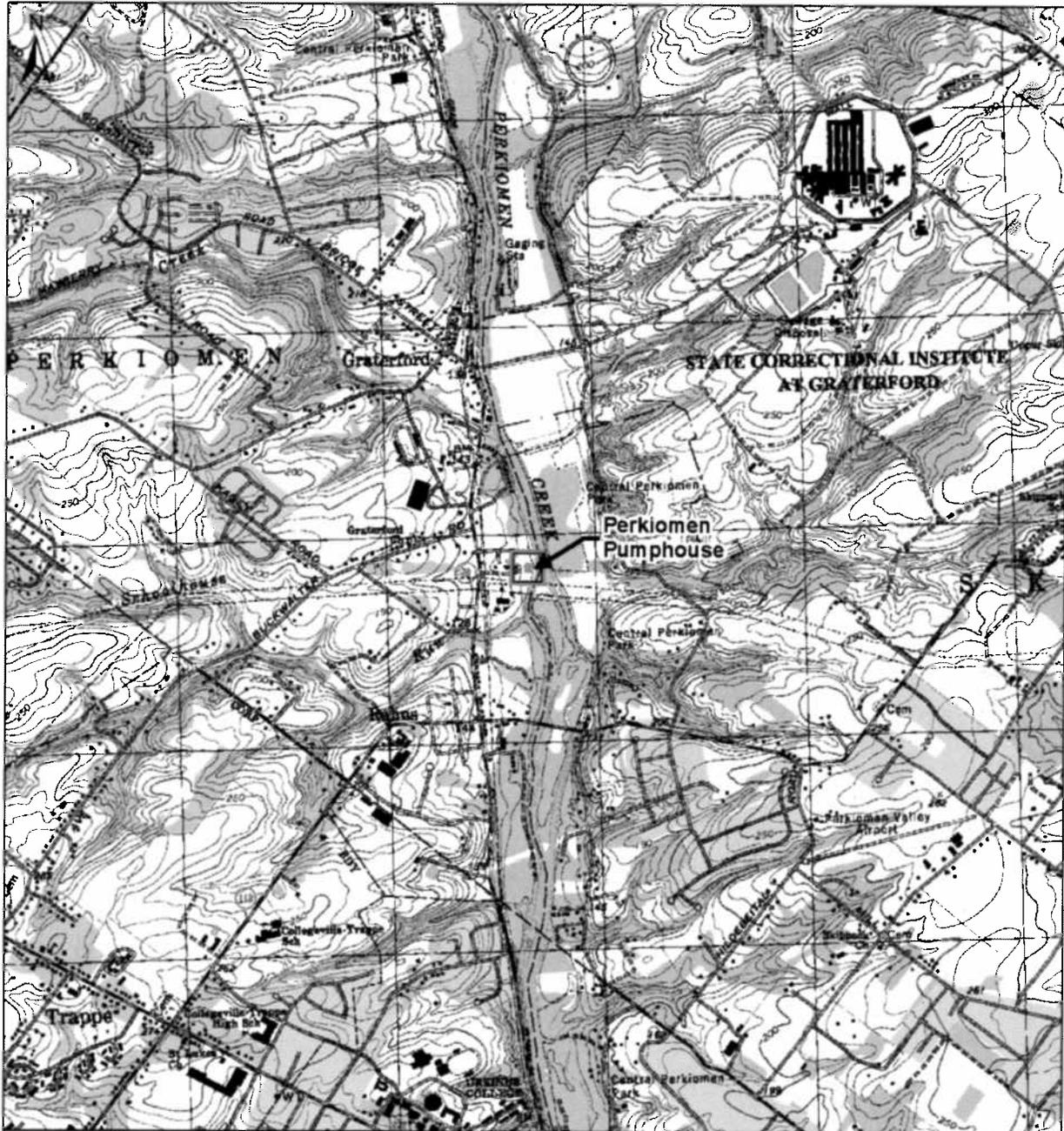


**Legend**

- Exelon Generation Property Boundary
- County Boundary
- Municipal Boundary
- 2500 Ft Radius Exclusion Area
- Conrail Line

**Figure 1 LGS Plant Site Property Boundaries  
 Exelon Generation  
 Limerick Generating Station**

Limerick Township, Montgomery County, PA



0 1,000 2,000 4,000 Feet

**Exelon.**

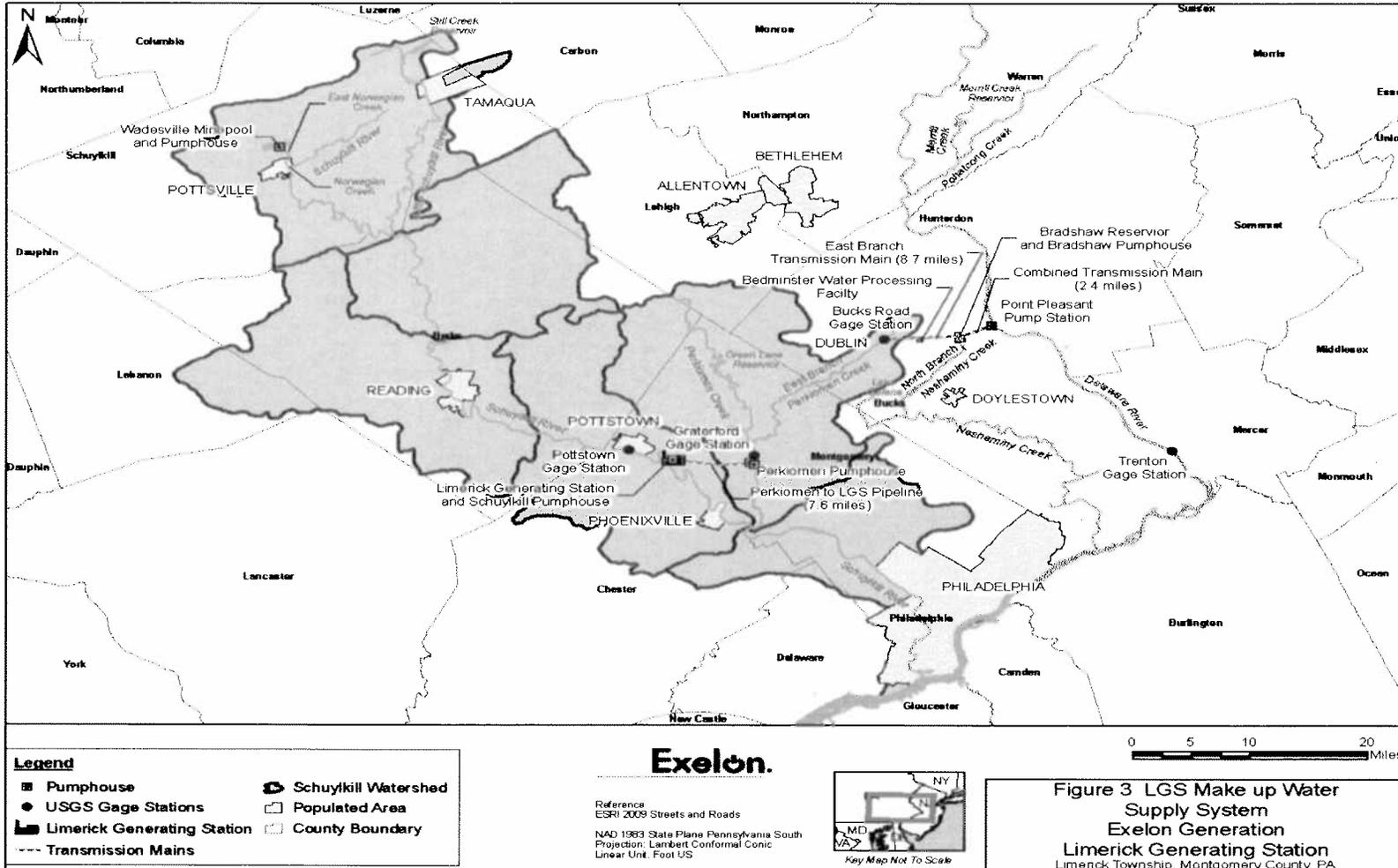
Reference:  
 USGS Topographic Quadrangle  
 Collegeville, 1958

NAD 1983 State Plane Pennsylvania South  
 Projection: Lambert Conformal Conic  
 Linear Unit: Foot US

**Legend**

■ Pumphouse Location

Figure 2 Perkiomen Pumphouse  
 Exelon Generation  
 Limerick Generating Station  
 Limerick Township, Montgomery County, PA



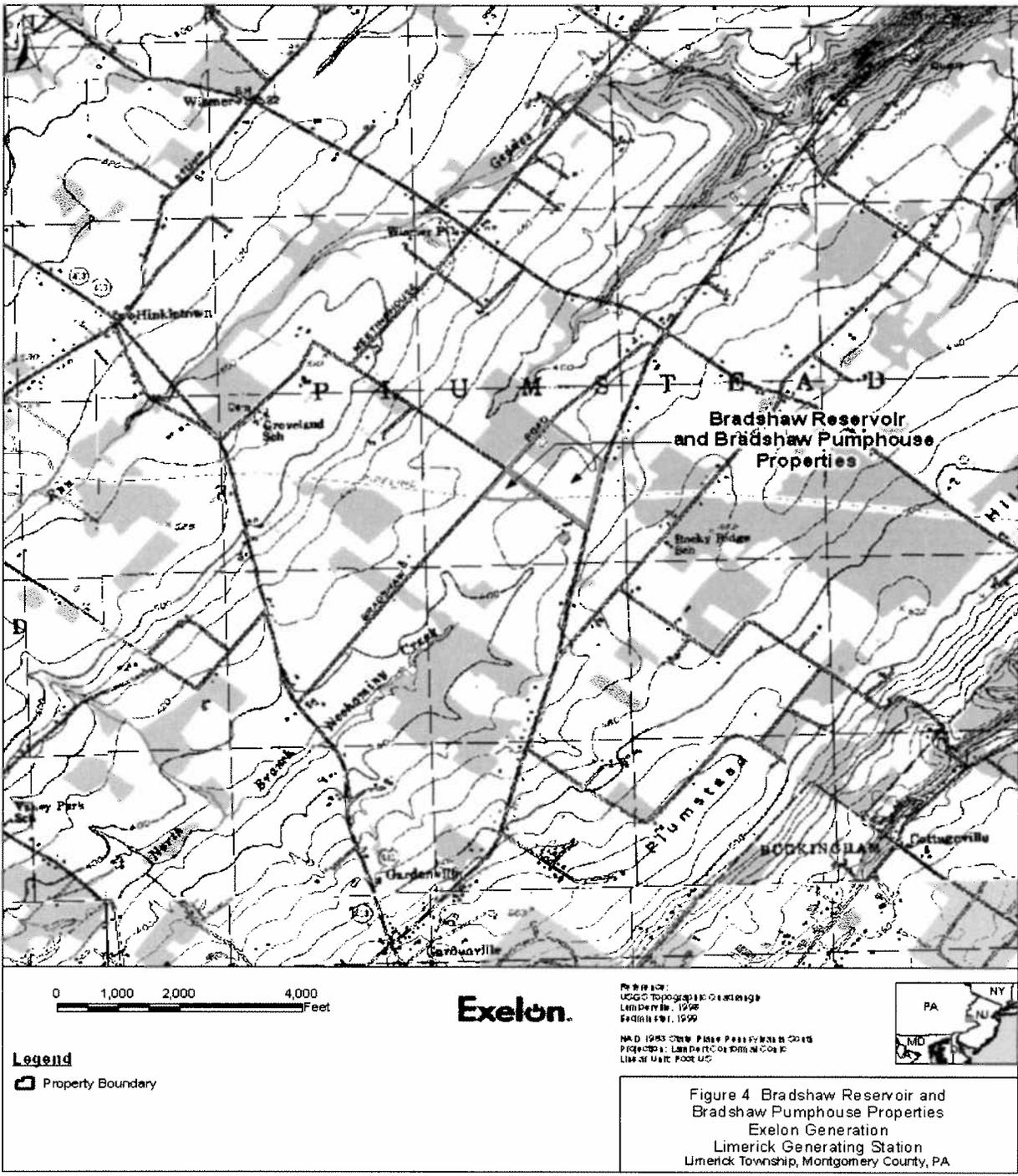
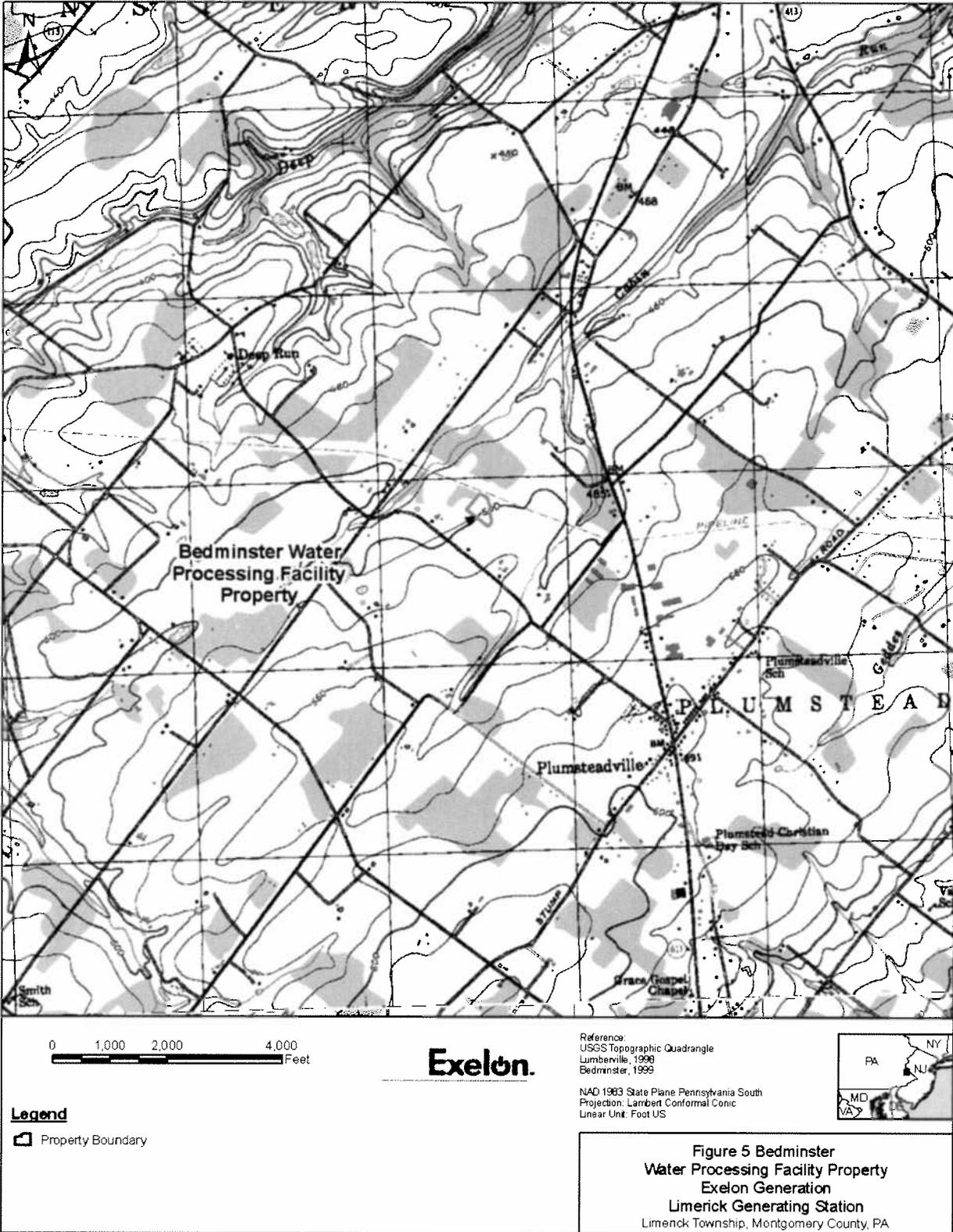
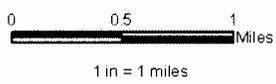
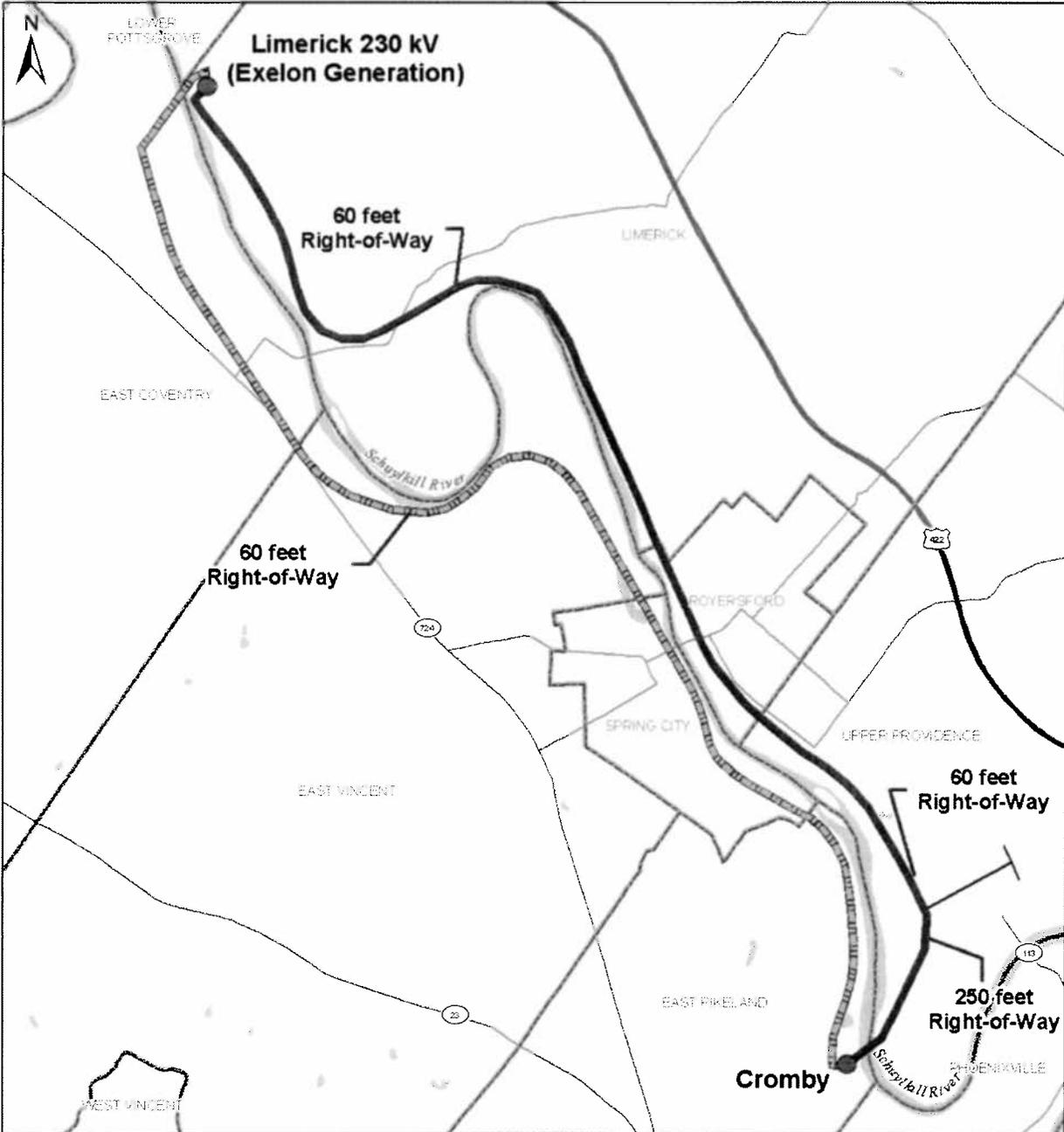


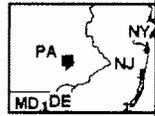
Figure 4 Bradshaw Reservoir and Bradshaw Pumphouse Properties  
Exelon Generation  
Limerick Generating Station  
Limerick Township, Montgomery County, PA





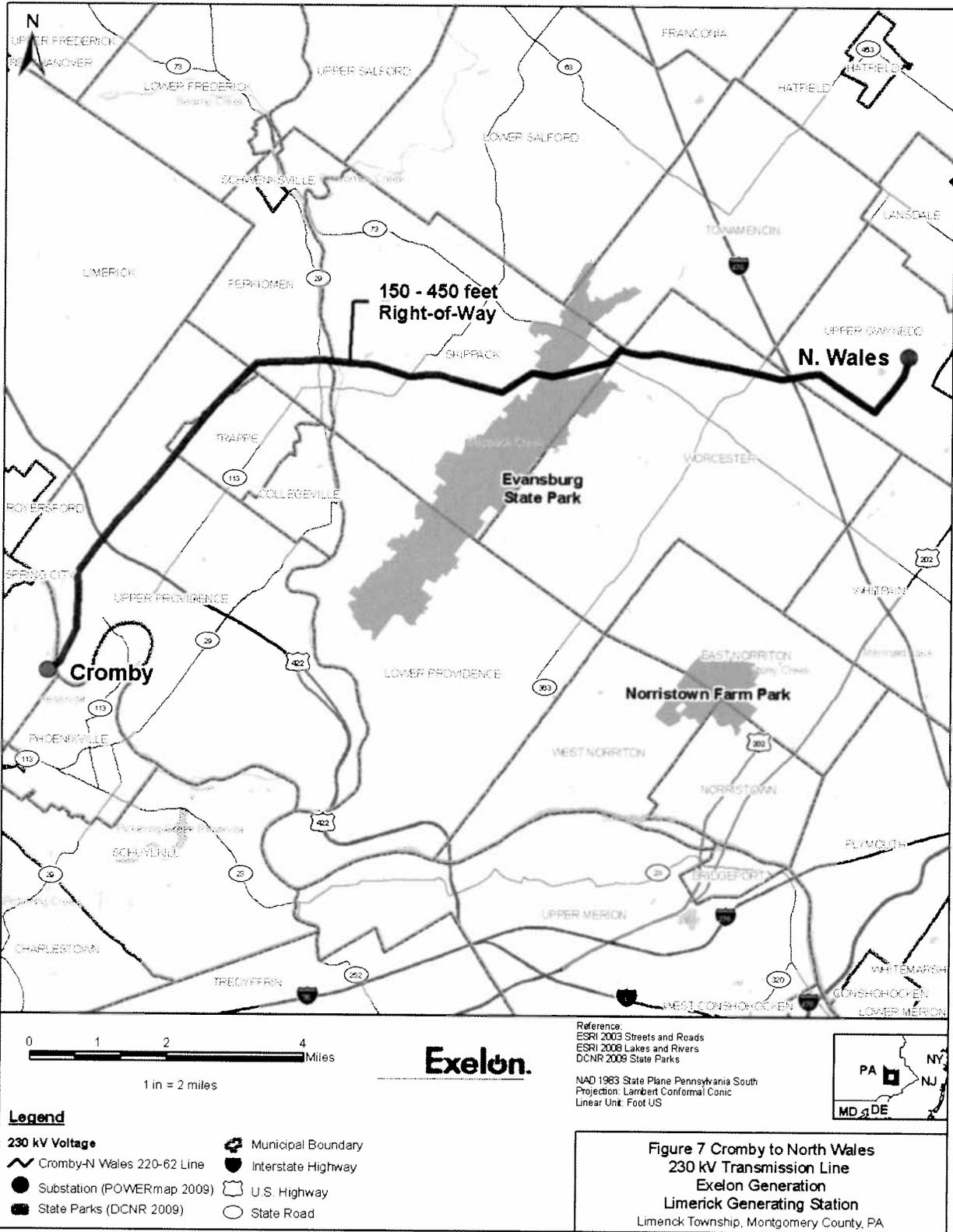
**Exelon.**

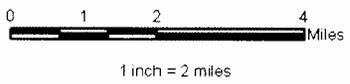
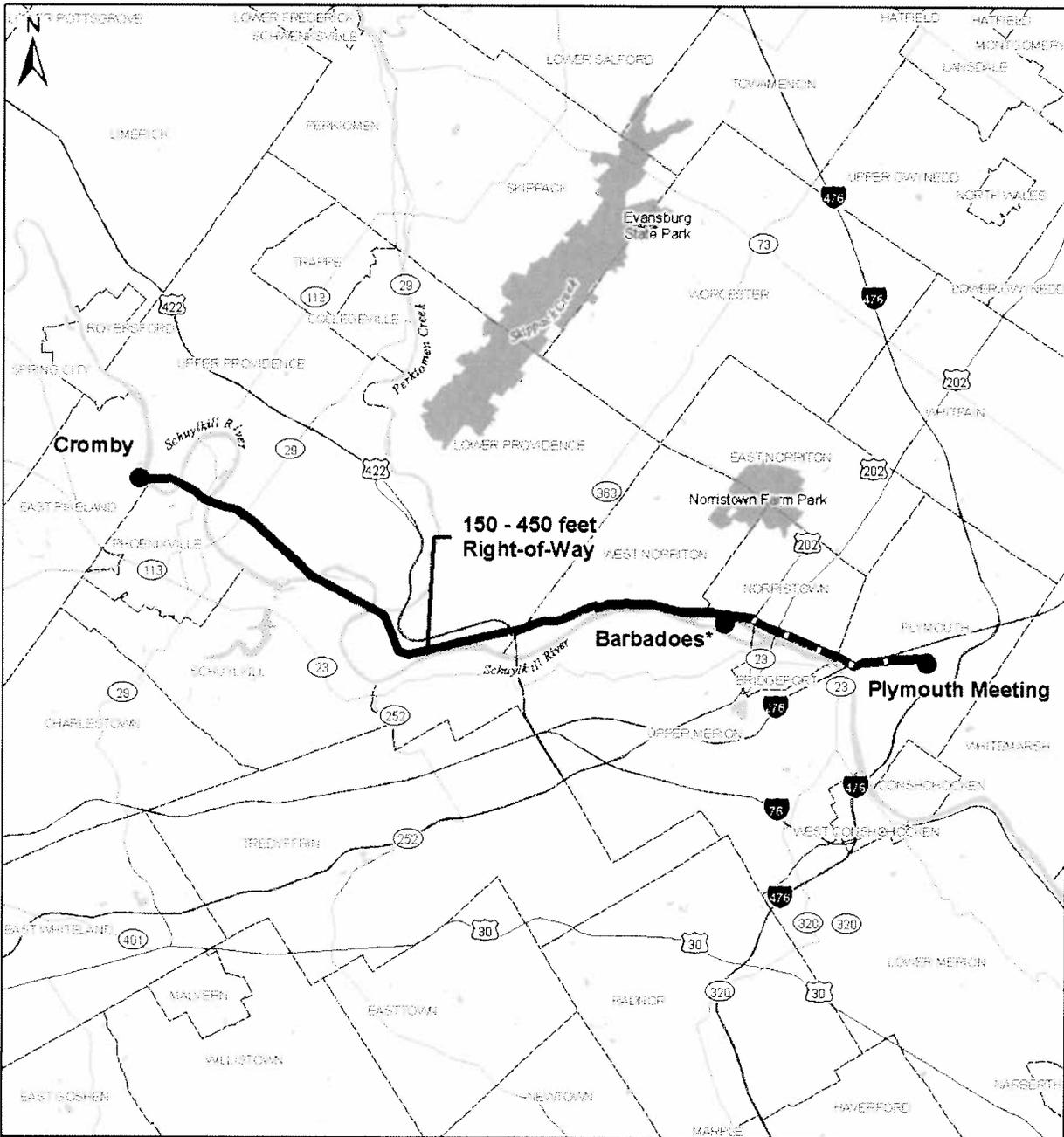
Reference:  
 ESRI 2003 Streets and Roads  
 ESRI 2008 Lakes and Rivers  
 NAD 1983 State Plane Pennsylvania South  
 Projection: Lambert Conformal Conic  
 Linear Unit: Foot US



- Legend**
- 230 kV Voltage**
  - Limerick-Cromby 220-60 Line
  - Limerick-Cromby 220-61 Line
  - Substation (POWERmap 2009)
  - Municipal Boundary
  - Interstate Highway
  - U.S. Highway
  - State Road

**Figure 6 Limerick to Cromby  
 230 kV Transmission Line Route  
 Exelon Generation  
 Limerick Generating Station  
 Limerick Township, Montgomery County, PA**

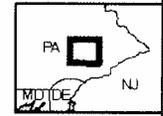




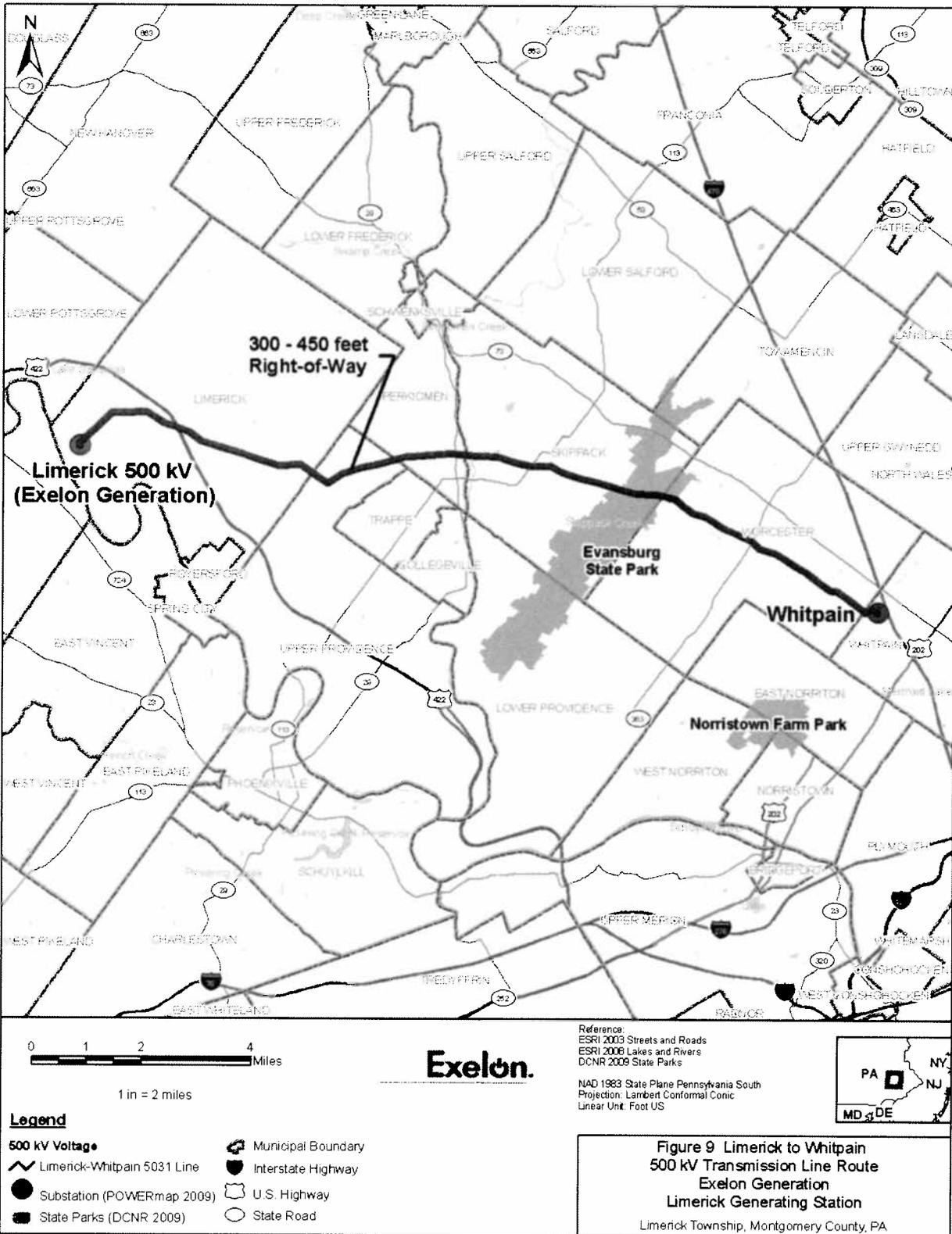
**Exelon.**

- Legend**
- 230 kV Voltage
  - Cromby-PlymMeeting 220-63
  - Cromby-PlymMeeting 220-64
  - Substation (POWERmap 2009)
  - State Parks (DCNR 2009)
  - Interstate Highway
  - U.S. Highway
  - State Road

Reference:  
 ESRI 2003 Streets and Roads  
 ESRI 2008 Lakes and Rivers  
 DCNR 2008 State Parks  
 NAD 1983 State Plane Pennsylvania South  
 Projection: Lambert Conformal Conic  
 Linear Unit: Foot US  
 Note: \*Location of Barbadoes substation  
 not confirmed



**Figure 8 Cromby to Plymouth Meeting  
 230-kV Transmission Line Route  
 Exelon Generation  
 Limerick Generating Station  
 Limerick Township, Montgomery County, PA**





# Pennsylvania Fish & Boat Commission

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

February 11, 2011

**IN REPLY REFER TO**  
SIR # 35712

NANCY RANEK  
EXELON NUCLEAR  
200 EXELON WAY  
KSA/2-E  
KENNETT SQUARE, PA 19348

**RE: Species Impact Review (SIR) - Rare, Candidate, Threatened and Endangered Species  
RENEWAL OF OPERATING LICENSES FOR LIMERICK GENERATING  
STATION UNITS 1 & 2  
MONTGOMERY AND CHESTER Counties, Pennsylvania**

Dear Ms. RANEK:

The staff of the Natural Diversity Section has examined the map accompanying your recent correspondence which shows the location of the above referenced project. Based on records maintained in the Pennsylvania Natural Diversity Inventory (PNDI) database and Pennsylvania Fish & Boat Commission files, the eastern redbelly turtle (*Pseudemys rubriventris*, PA threatened) and globally rare amphipod and/or isopod species are known from the vicinity of the project sites.

The eastern redbelly turtle is one of Pennsylvania's largest native aquatic turtles. This turtle species is known to inhabit relatively large, deep streams, rivers, ponds, lakes and marshes with permanent water and ample basking sites. Redbelly turtles are restricted to the southcentral and southeastern regions of the Commonwealth. The existence of this turtle species is threatened by habitat destruction, poor water quality and competition with aggressive non-native turtle species that share its range and habitat (e.g., red-eared slider, *Trachemys scripta elegans*).

Isopods and amphipods are small invertebrate species (crustaceans) that inhabit coldwater springs, seeps, on hillsides and in caves. Although these species are not listed as candidate, threatened, or endangered, they may be listed in the not so distant future. These rare invertebrate species are threatened by habitat destruction and poor water quality.

**Given that the proposed license renewal will involve no new construction, earth disturbance, or changes to existing land uses, I do not anticipate the proposed activity to have any significant adverse impacts to the species of concern under PFBC jurisdiction.**

Note that this office performed no field inspection of the project area. Consequently, comments in this letter are not meant to address other issues or concerns that might arise concerning matters under Pennsylvania Fish and Boat Commission jurisdiction or that of other authorities. If you have any questions regarding this response, please contact Kathy Gipe of my staff (814-359-5186) and **refer to the SIR number at the top of this letter**. Thank you for your cooperation and attention to this matter

**Our Mission:**

[www.fishandboat.com](http://www.fishandboat.com)

*To protect, conserve and enhance the Commonwealth's aquatic resources and provide fishing and boating opportunities.*

SIR #35712  
Ranek  
Page 2

of endangered species conservation and habitat protection.

Sincerely,

A handwritten signature in black ink, appearing to read "Christopher A. Urban". The signature is written in a cursive, somewhat stylized font.

Christopher A. Urban, Chief  
Natural Diversity Section

CAU/KDG/mr