# TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC

# NORTHEAST SUPPLY ENHANCEMENT PROJECT

## ENVIRONMENTAL REPORT

## APPENDIX N. BARRED OWL PRESENCE/ABSENCE SURVEY REPORT (MAY 2025)

**NOVEMBER 2026**

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D1067.090
May 15, 2025

# BARRED OWL PRESENCE/ABSENCE SURVEY REPORT

## TRANSCO/WILLIAMS PROPERTY

**BLOCK 5.02, LOT 25**
**FRANKLIN TOWNSHIP, SOMERSET COUNTY, NEW JERSEY**

***PREPARED FOR:***

**WSP USA INC.**
**350 MOUNT KEMBLE AVENUE, SUITE 300**
**MORRISTOWN, NJ 07960**

***PREPARED BY:***


DuBois & ASSOCIATES

**190 North Main Street**
**Manahawkin, NJ 08050**

**ETHAN DUBOIS**
**STAFF BIOLOGIST**

**BRYON DUBOIS**
**PRINCIPAL BIOLOGIST**

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## I. INTRODUCTION

This report summarizes the results of an extensive survey for the state-threatened barred owl (*Strix varia*) on the parcel of land designated as Block 5.02, Lot 25; located within Franklin Township, Somerset County, New Jersey (herein termed 'the site'). DuBois and Associates, L.L.C. (DuBois), an environmental consulting firm that performs threatened/endangered species studies, were retained in April of 2025 to document the presence/absence of the state-threatened raptor on or within the immediate vicinity of the site. It has been historically documented that barred owl habitat is present on or within the vicinity of the subject site. According to the New Jersey Department of Environmental Protection (NJDEP) Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife (version 3.4), portions of the site and vicinity are mapped as containing breeding habitat occurrences for barred owl, last documented in 2018. DuBois performed direct surveys to determine the presence or absence of barred owl from the site or vicinity during the breeding season on April 14, April 17, April 23, April 30 and May 13, 2025. DuBois employed survey methodologies that are consistently acceptable and approved by the NJDEP and New Jersey Pinelands Commission (NJPC) in past barred owl surveys, and all pertinent information regarding the survey and its methodologies are presented as part of this report.

The methodology used by DuBois biologists for the presence/absence survey was the technique/survey methodology outlined in the *Protocols for the Establishment of Exceptional Resource Value Wetlands Pursuant to the Freshwater Wetlands Protection Act (N.J.S.A. 13:9B-1 Et Seq.) Based on Documentation of State or Federal Endangered or Threatened Species*, last updated January 2013, as prepared by the NJDEP Land Use Regulation Program, Office of Natural Lands Management, Division of Parks & Forestry and The Division of Fish, Game & Wildlife Endangered and Nongame Species Program. The survey methodology also followed the methodologies outlined within the *Woodland Raptor Survey Protocol* developed by the NJDEP Division of Fish and Wildlife and the Conserve Wildlife Foundation of New Jersey.

## II. SITE DESCRIPTION

### A. Location

The site is located on Block 5.02, Lot 25 within Franklin Township, Somerset County. The site itself is relatively remote but can be accessed from an off-road access path associated with an existing gas line which bisects the site. The access path can be entered from the entrance of the Trap Rock Quarry (refer to *Figure 1: New Jersey Road Map*). It is located on the SW Monmouth Junction United States Geological Survey (USGS) Quadrangle with state plane coordinates (feet) of E(x) 467,647; N(y) 571,751 located at the approximate center of the site (refer to *Figure 2: SW Monmouth Junction USGS Quadrangle Map*).

### B. Land-Use/Land Coverage

The site consists of approximately 52.36-acres and is entirely undeveloped. An existing gas line easement enters the site from the south before turning west and continuing off site. Vegetation communities vary throughout the site and have been discussed in depth in subsequent portions of this report. A mixture of forested uplands and wetlands were noted throughout the site, although a majority of the utility easement appears to be associated with wetland conditions. Dense swaths of green briar were dominate throughout the forested portions of the site. Refer to *Appendix A: Site Photographs* and *Figure 3: Aerial Map* for a depiction of the proposed project area and surrounding landscape. Surrounding land use is dominated by undeveloped land, agricultural fields and the Trap Rock Quarry. Additionally, residential homes are present along County Route 518 and State Highway 27.

### C. Freshwater Wetlands/Hydrology

According to the geographic information systems (GIS) data layer entitled "NJDEP Wetlands 2012", published by the NJDEP, freshwater wetlands are mapped in the eastern half on the site (refer to *Figure 4: NJDEP Freshwater Wetland Map*). It is DuBois' understanding that wetlands on site have been historically delineated by WSP. The site is located in the Millstone River (WMA 10) Watershed Management Area, within the Millstone River (below/incl Carnegie Lk) watershed, and the Heathcote Brook sub watersheds. The Carters Book and one of its tributaries are mapped in the northeastern portion of the site, associated with the wetlands.

D. Vegetation Communities

Based on the field investigations the following vegetation communities have been identified to be present within the project site, which include deciduous forested and brush/shrubland uplands, deciduous wetlands and utility line (refer to *Figure 5: Vegetation Communities Map*).

Undeveloped upland area of the site is a deciduous hardwood community. Canopy and subcanopy species include red maple (*Acer rubrum*), eastern red cedar (*Juniperus virginiana*), hickory (*Carya spp.*), tulip poplar (*Liriodendron tulipifera*), shagbark hickory (*Carya ovata*), American beech (*Fagus grandifolia*), white pine (*Pinus strobus*), sweet gum (*Liquidambar styraciflua*), and black cherry (*Prunus serotina*). Species observed within shrub stratum was dominated by greenbrier (*Smilax rotundifolia*), but included multiflora rose (*Rosa multiflora)* and wineberry (*Rubus phoenicolasius*). Garlic mustard (*Alliaria petiolata*), and Japanese stilt grass (*Microstegium vimineum*) are herbaceous species. The vegetation upon a forested upland areas of the site is consistent with upland conditions and does not exceed the 50 percent dominance criterion and the hydrophytic vegetation parameter is not met.

Within the forested wetland complex throughout the eastern portion of the site, dominate vegetation includes red maple, sweet gum, and black gum (*Nyssa sylvatica*) in the overstory and subcanopy. Species observed within the shrub stratum includes primarily highbush blueberry (*Vaccinium corymbosum*) and spicebush (*Lindera benzoin*). Species observed within the herbaceous stratum include Japanese stiltgrass, cinnamon fern (*Osmunda cinnamomea*), sensitive fern (*Onoclea sensibilis*,) and green briar (*Smilax rotoundifolia*). The vegetative composition of the wetland areas exceeds the 50 percent dominance criterion, and the hydrophytic vegetation parameter is met.

The utility easement which bisects the site is actively maintained and appeared to be recently mowed during DuBois' site visits. Common reed (*Phragmites australis*) is dominant throughout this portion of the site, although additional species such as soft rush (*Juncus effusus*), sensitive fern, sweet gum (*Liquidambar stryaciflua*), as well as additional *Carex spp* are present.

## III. TARGET SPECIES DESCRIPTION

Barred Owl (*Strix varia*), State Threatened

Barred owls are forest dwellers which rarely stray from forested swamps, or other mature old growth woodlands. Nesting habitat for this species requires extensive contiguous forests containing large, mature trees and snags for suitable cavity nests. They are typically found in remote wilderness areas and typically shun human activity by avoiding residential, agricultural, or commercial areas (Liguori 2003). Typical nesting trees are large, greater than 20 inches dbh, live or dead (NJDEP 2013). Foraging usually occurs in and along open areas where prey can be easily seen, but because of the ability to pounce on prey rather than swoop, barred owls are able to forage in dense habitats.

In their analysis of barred owl habitat use in southern New Jersey, Laidig and Dobkin (1992) found barred owls to be primarily associated with three habitat types; Atlantic white cedar swamp, pitch pine lowland habitat, and hardwood swamp. Cedar swamp habitats featured typical understory vegetation of sweetbay (*Magnolia virginiana*) and highbush blueberry (*Vaccinium corymbosum*), while pitch pine lowlands featured inkberry (*Ilex glabra*) and highbush blueberry. Overstory tree species in hardwood swamps included tulip-tree (*Liriodendron tulipifera*), sweet gum (*Liquidambar styraciflua*), black gum (*Nyssa sylvatica*), and red maple (*Acer rubrum*). Understory species were the same as those in the softwood swamps. In both cases, understory vegetation was considered dense and often contained large amounts of catbrier (*Smilax* spp.).

The diet of the barred owl consists of predominantly small mammals such as mice, voles, shrews, squirrels, rabbits, moles, rats and chipmunk. Barred owls may also consume frogs, lizards, small snakes, salamanders, spiders, crayfish, snails, slugs, fish, opossums, bats or small birds.

The following factors should be considered when evaluating a property for potentially critical barred owl habitat:

- Locational factors, such as proximity to development, density of development, other human factors, and agricultural lands
- Forest block size and community
- Vegetative factors such as forest age, canopy height, species composition, stem density
- Competitor influences

## IV. MATERIALS AND METHODS

### A. Call Playback Vocalization Survey

The methodology used by DuBois biologists for the presence/absence survey was the technique/survey methodology outlined in the *Protocols for the Establishment of Exceptional Resource Value Wetlands Pursuant to the Freshwater Wetlands Protection Act (N.J.S.A. 13:9B-1 Et Seq.) Based on Documentation of State or Federal Endangered or Threatened Species*, last updated November 2023, as prepared by the NJDEP Land Use Regulation Program, Office of Natural Lands Management, Division of Parks & Forestry and The Division of Fish, Game & Wildlife Endangered and Nongame Species Program (NJDEP 2023). The survey methodology also followed the methodologies outlined within the *Woodland Raptor Survey Protocol* developed by the NJDEP Division of Fish and Wildlife and the Conserve Wildlife Foundation of New Jersey.

Due to the size of the site, seven (7) calling locations were chosen and sampled within the site in an effort to elicit a response from any barred owls within the parcel or off-site vicinity (refer to *Figure 6: Barred Owl Call Playback Survey Point Location Map*). The locations were chosen based on the ability of the vocalization broadcasts to accurately cover all land within the site as well as the off-site vicinity. Call playback surveys were performed on five (5) nights through the latter portion breeding season survey period based on timeframe DuBois was retained.

The call playback survey points were surveyed by DuBois biologists on the following dates in 2025: April 14, April 17, April 23, April 30 and May 12, 2025, for a total of approximately 24 person-hours expended in the field. This time included broadcast vocalizations, periods of silence listening, and elicited visual observations for the target species.

DuBois utilized both an external broadcast speaker linked to recorded barred owl calls derived from Cornell Laboratories Macualay Library, as well as a hand-held sportsmen's owl-call to mimic barred owl vocalizations during nightly surveys. Both call types were utilized spatially and in unison during nightly surveys in an effort to elicit responses or fly-ins from barred owl on the site or vicinity. The survey at the calling station consisted of three periods: a five-minute period of silence, a five-minute species-specific vocalization broadcast period, and a five-minute post-broadcast listening and observation period. During the 15-minute process, all raptor contacts (visual and audible) were recorded, if applicable. During the five-minute broadcast period, the vocalizations were played/called for 15 seconds followed by 45 seconds of silence. During the 45 seconds of silence, the player/caller was rotated 180 degrees and then repeated so that each opposing direction received equal sets of vocalizations. Survey dates were selected based on the following criteria: wind speeds were reported to be less than eight (8) miles per hour, visibility exceeded one mile and precipitation was absent or light and intermittent. Surveys were conducted at or shortly after sunset.

### B. Nesting Survey

A visual survey for nests and cavities was also performed on the site for barred owl prior to each vocalization survey. DuBois personnel were required to enter the site earlier in the evening in order to enter the site. Therefore, the time in between entrance and the commencement of vocalization surveys were utilized to evaluate potential nests. Owls will inhabit suitable tree cavities; however, they may also utilize platform stick nests as well. The entire site was systematically searched by one to two biologists for any stick nests, tree cavities or snags that could potentially be used by the target species. In addition to nests, other evidence of raptor habitation was searched for on the forest floor including scat (white wash), cough pellets (indigestible regurgitated matter), prey remains or flight/plume feathers. Approximately 8 person-hours were expended conducting the nesting investigation on-site.

## V. RESULTS OF SURVEY

### A. Call Playback Vocalization Survey

There were neither return calls nor visual observations of barred owl during any of the call playback surveys on the site. Our survey noted marginal levels of anthropogenic noise audible from surrounding areas including distant cars and dogs from nearby residences barking in response to call playbacks. Although this noise had no bearing on our ability to hear nocturnal animal calls emanating from the site or vicinity, it provides further evidence of habitat degradation of the site for this forest-interior sensitive species. Natural responses were dominated by coyotes and amphibians, although a great horned owl was heard off-site to the west during the April 17 survey. Although the site is primarily associated with undeveloped forest, anthropogenic features dominate the immediate vicinity including an active quarry. It is likely that these features and existing operations have diminished habitat suitability for the barred owl.

*Table 1. Dates, personnel, conditions, and results for Barred Owl vocalization surveys.*

| Date | Surveyors | Survey Time | Conditions | Results |
|---|---|---|---|---|
| 4/14/2025 | Bryon DuBois<br>Kirsty Cronin | 7:00pm – 11:00pm | 60°F, 40% clouds, Winds 6 mph, Humidity 42%, Sunset @ 7:37pm | No Barred Owl call backs or visual fly-ins. Dog barking from residences in vicinity and distant road noise. Coyotes heard north of utility easement. Spring peepers heard throughout wetlands. |
| 4/17/2025 | Ethan DuBois<br>Frank Tutelian | 8:00pm-10:00pm | 56°F, 0% clouds, Winds 6 mph, Humidity 43%, Sunset @ 7:40pm | No Barred Owl call backs or visual fly-ins. Dog barking from residences in vicinity and distant road noise. Great horned owl heard off-site to the west of CL 2. Coyotes heard throughout the site and its vicinity. Spring peepers heard throughout wetlands. |
| 4/23/2025 | Israel Berrios<br>Ben Rochat | 8:00pm-10:00pm | 71°F, 0% clouds, Winds 4 mph, Humidity 41%, Sunset @ 7:46pm | No Barred Owl call backs or visual fly-ins. Dog barking from residences in vicinity and distant road noise. Coyotes heard throughout the site and its vicinity. Spring peepers, northern grey treefrogs heard throughout wetlands. |
| 4/30/2025 | Bryon DuBois<br>Ethan DuBois | 8:00pm – 10:00pm | 66°F, 0% clouds, Winds 4 mph, Humidity 16%, Sunset @ 7:54pm | No Barred Owl call backs or visual fly-ins. Dog barking from residences in vicinity and distant road noise. Coyotes heard throughout the site and its vicinity. Spring peepers, northern grey treefrogs heard throughout wetlands. |
| 5/12/25 | Amy Jones<br>Ben Rochat | 8:15pm -10:15pm | 75°F, 20% clouds, Winds 5 mph, Humidity 60% Sunset @ 8:06 | No Barred Owl call backs or visual fly-ins. Dog barking from residences in vicinity and distant road noise. Coyotes heard throughout the site and its vicinity. No amphibians heard. |

DuBois visited control sites on March 5 and 7, 2023 to confirm that barred owls were active during the survey period. The control sites, located in Barnegat Township, Ocean County and Freehold Township, Monmouth County produced positive vocalizations and fly-in of barred owl after 10-minutes of survey effort.

*Table 2. Dates, personnel, and results for Barred Owl control site call playback vocalization survey.*

| Date | Surveyors | Survey Time | Site | Results |
|---|---|---|---|---|
| 03/5/2023 | Bryon DuBois | 9:30 pm – 10:00 pm | Barnegat Township | One positive barred owl vocalization and fly-in |
| 03/7/2023 | Ethan DuBois<br>Israel Berrios | 8:00 pm-8:30 pm | Freehold Township | One positive barred owl vocalization |

Despite the call playback vocalization surveys being conducted during the appropriate season and under optimal weather conditions, no barred owls were heard or observed on the site during our survey. The negative survey results suggest that the site and vicinity are absent of habitat critical to the survival of a local population of barred owl.

B. Nesting Survey

The survey for potential nest trees resulted in the observation of several trees of sufficient size (i.e., +/- 20" dbh) for barred owl; however, most of these features do not contain suitable interior cavities or platform stick nests to support potential nesting by barred owl. Additionally, there was no observation of scat, cough pellets, prey remains or feathers at the bases of these trees or any other trees within the site. Several small dbh snags were observed on-site that fall well under the typical dimension of a barred owl host tree, and these were also absent of potential nesting cavities. Portions of the site which have been historically associated with the utility easement are primarily comprised of emergent vegetation and early successional sweet gum stands. No evidence of nesting activities were observed on site. The results of our nesting survey conclude that the site is absent of barred owl nest trees. The negative survey results suggest that the site is absent of habitat critical to the survival of a local population of barred owl.

*Table 3. Dates and results for Barred Owl nesting surveys.*

| Date | Surveyors | Survey Time | Results |
|---|---|---|---|
| 4/17/2025 | Ethan DuBois<br>Frank Tutelian | 7:00 pm - 8:00 pm | No cavities/nests identified. No roosting evidence. Several large dead trees were noted throughout the site. |
| 4/23/2025 | Israel Berrios<br>Ben Rochat | 7:00 pm – 8:00 pm | No cavities/nests identified. No roosting evidence. Several large dead trees were noted throughout the site. |
| 4/30/2025 | Bryon DuBois<br>Ethan DuBois | 7:00 – 8:00 pm | No cavities/nests identified. No roosting evidence. Several large dead trees were noted throughout the site. |
| 5/12/2025 | Amy Jones<br>Ben Rochat | 7:15 pm – 8:15 pm | No cavities/nests identified. No roosting evidence. Several large dead trees were noted throughout the site. |

## VI. DISCUSSION

A full presence/absence survey resulted in the absence of barred owl from the site and immediate vicinity. Based on the surveys and investigations performed, the following findings are made in support of the conclusion that critical habitat for a local population of barred owl is absent from the site:

- A full presence/absence call playback survey (five visits) during the latter portion of the breeding season resulted in the absence of barred owl from the site and vicinity;
- Four full site nesting investigations resulted in the absence of potentially critical nest trees from the site;
- A portion of the site was historically developed/disturbed and currently occupied by a utility easement which is routinely maintained
- Trafficked roadways, dogs, coyotes and other residential disturbances produce noise levels that are unfavorable for this forest-interior dwelling species;

The negative vocalization survey results provide strong evidence that the subject site and vicinity do not provide critical habitat for barred owl. Considering the absence of return vocalizations and no evidence of on-site inhabitation, it is in the opinion of DuBois that the subject site does not currently provide critical habitat for the barred owl.

## VII. REFERENCES

Bosakowski, T. 1987. Census of barred owls and spotted owls. In Proceedings on the Biology and Conservation of Northern Forest Owls, 307-308. USDA Forest Service General Technical Report RM-142.

Devereux, J.G. and A.J. Mosher. 1984. Breeding ecology of barred owls in the central Appalachians. Raptor Res. 18:49-58.

Elbroch, Mark, Eleanor Marks and C. Diane Boretos. Bird Tracks & Sign: A Guide to North American Species. 1st ed. 2001 Stackpole Books. 456 pp.

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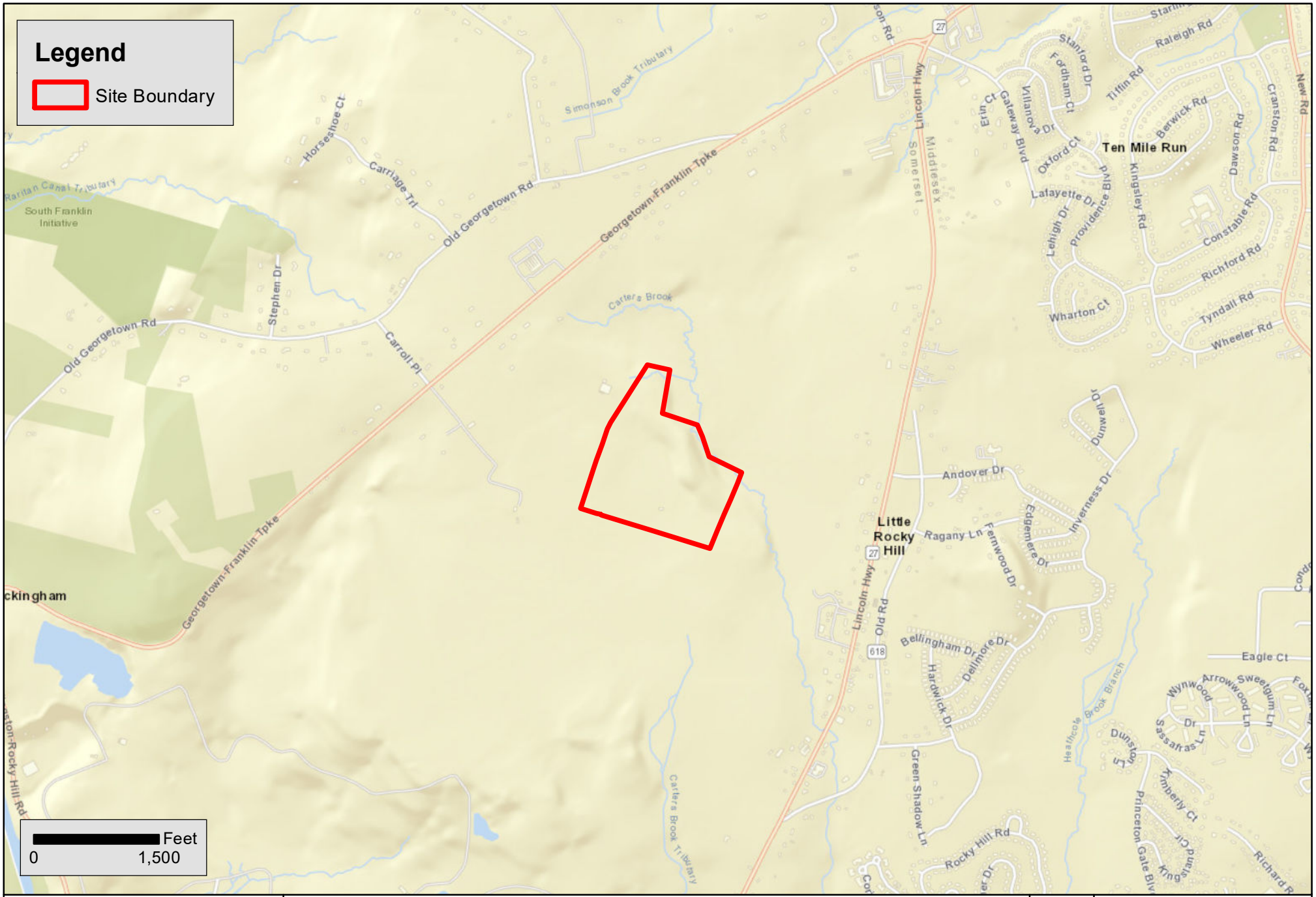
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New Jersey Department of Environmental Protection, Division of Land Use Regulation, Office of Natural Lands Management Division of Parks and Forestry and Endangered and Nongame Species Program Division of Fish and Wildlife. 2023. *Protocols for the Establishment of Exceptional Resource Value Wetlands Pursuant to the Freshwater Wetland Protection Act (N.J.S.A. 13:9B-1 Et Seq.)*.

New Jersey Pinelands Commission. General Guidelines for Conducting Threatened and Endangered Species Surveys in the Pinelands Area. March 25, 2006. 9 pp.

# *FIGURES*




DuBois & ASSOCIATES

# New Jersey Road Map

**Block 5.02 * Lot 25**
**Franklin Township, Somerset County, NJ**

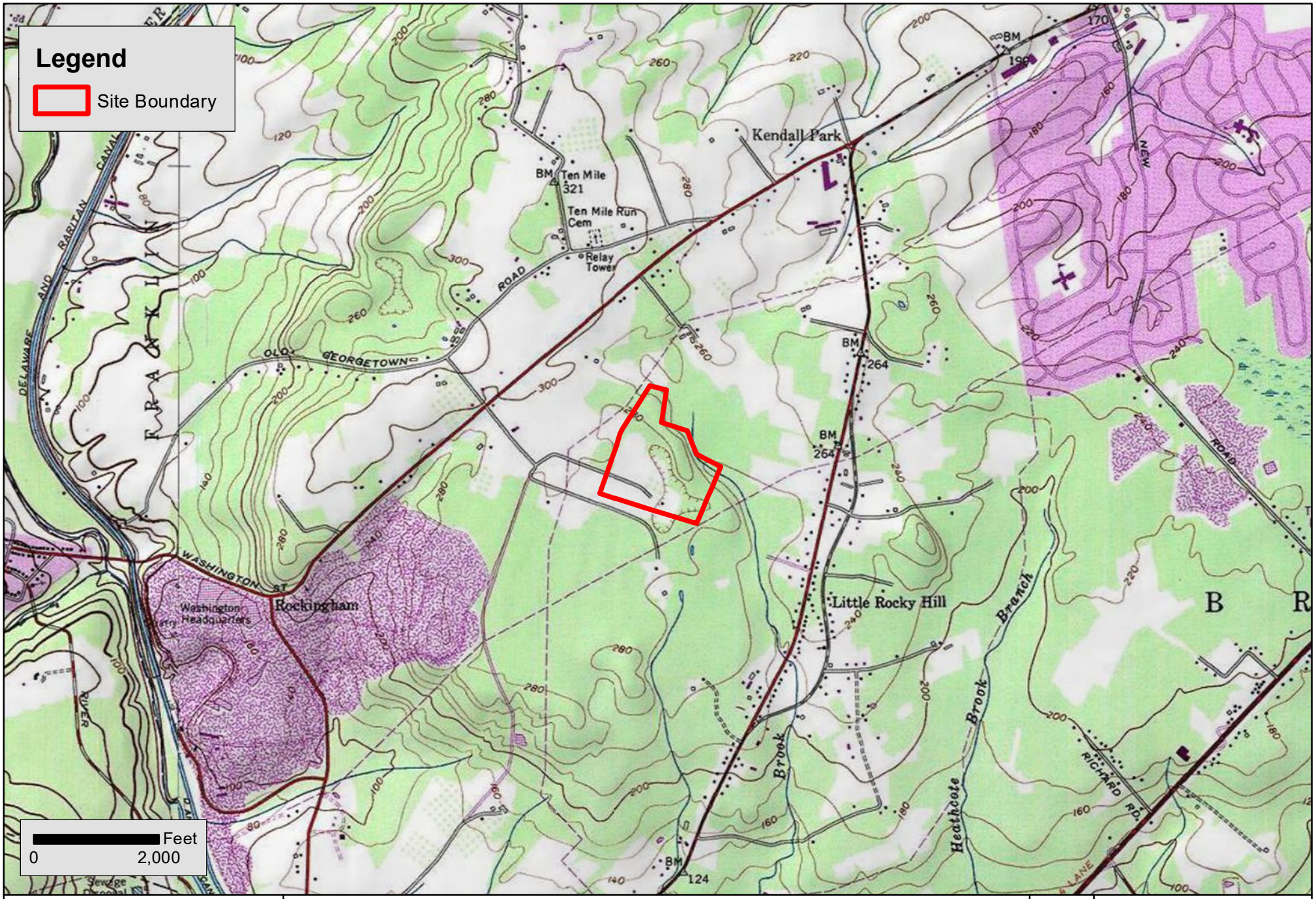
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Figure 1

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*This map was developed using Geographic Information Systems Digital Data. This map is for visual display purposes only and all locations are approximate.*




# SW Monmouth Junction NJ U.S.G.S. Quadrangle Map

**Block 5.02 * Lot 25**
**Franklin Township, Somerset County, NJ**

DuBois & ASSOCIATES

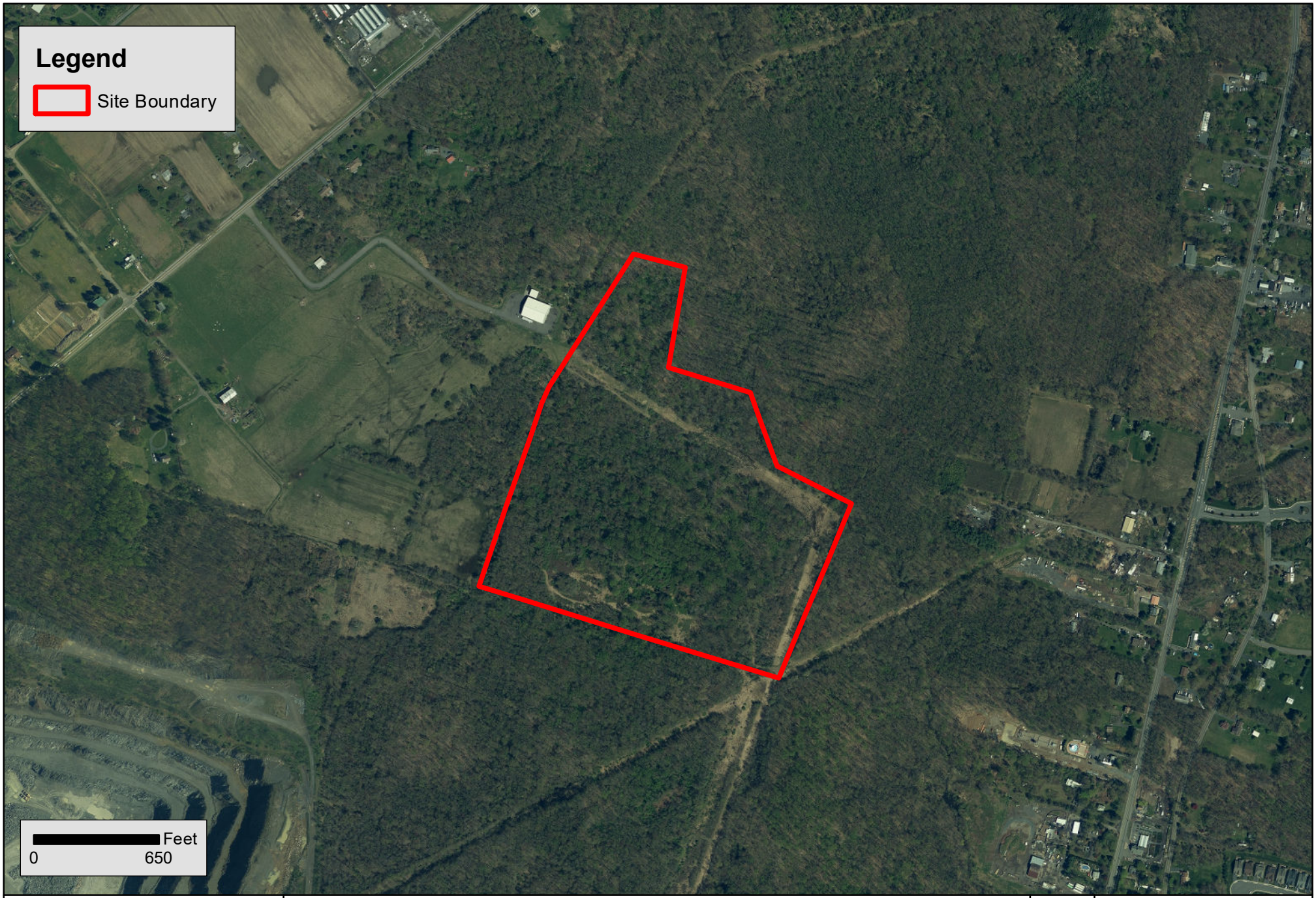
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Figure 2

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*This map was developed using Geographic Information Systems Digital Data. This map is for visual display purposes only and all locations are approximate.*




DuBois & ASSOCIATES

# Aerial Map

**Block 5.02 * Lot 25**
**Franklin Township, Somerset County, NJ**

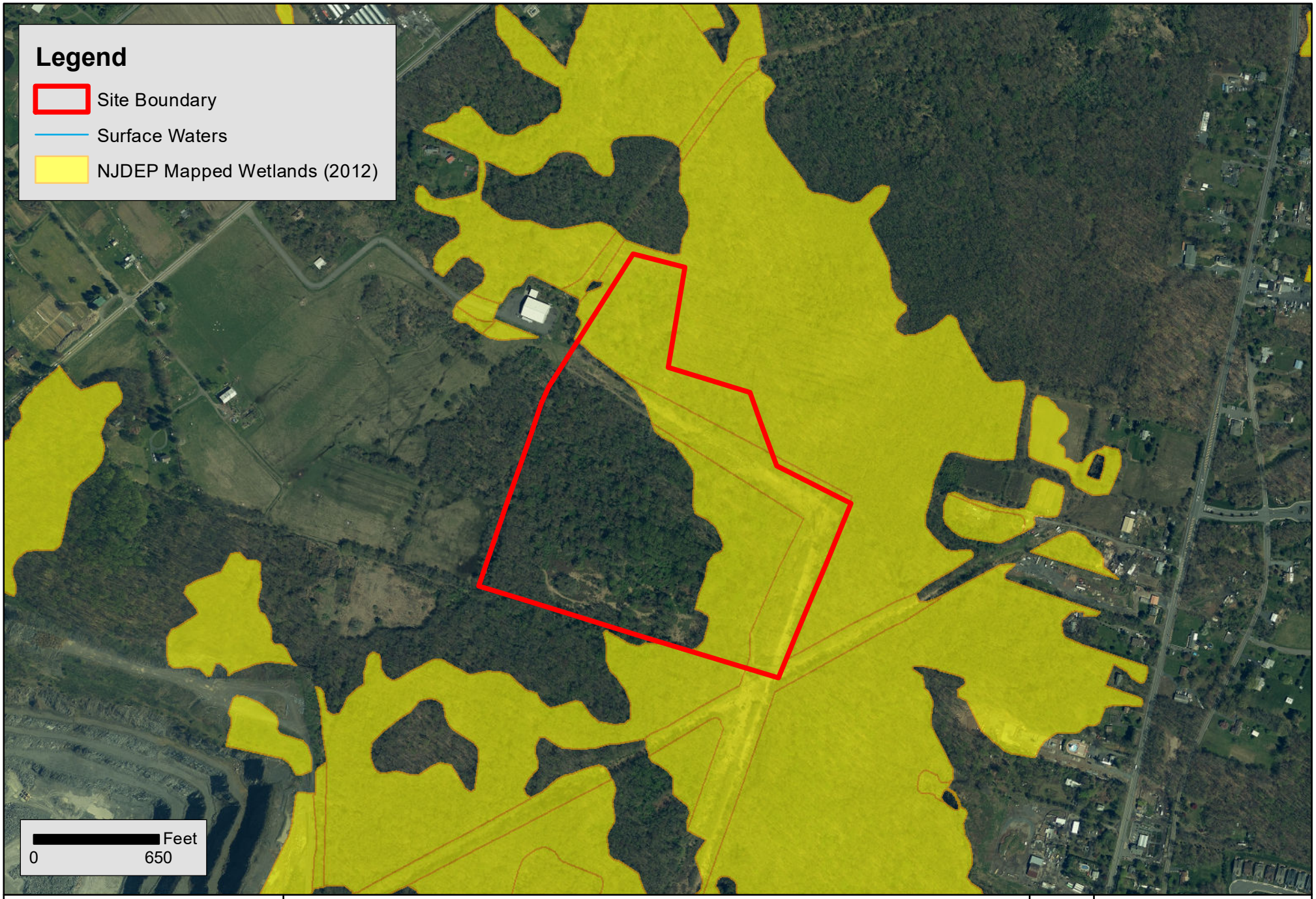
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Figure 3

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DuBois & ASSOCIATES

# NJDEP Freshwater Wetlands Map

**Block 5.02 * Lot 25**
**Franklin Township, Somerset County, NJ**

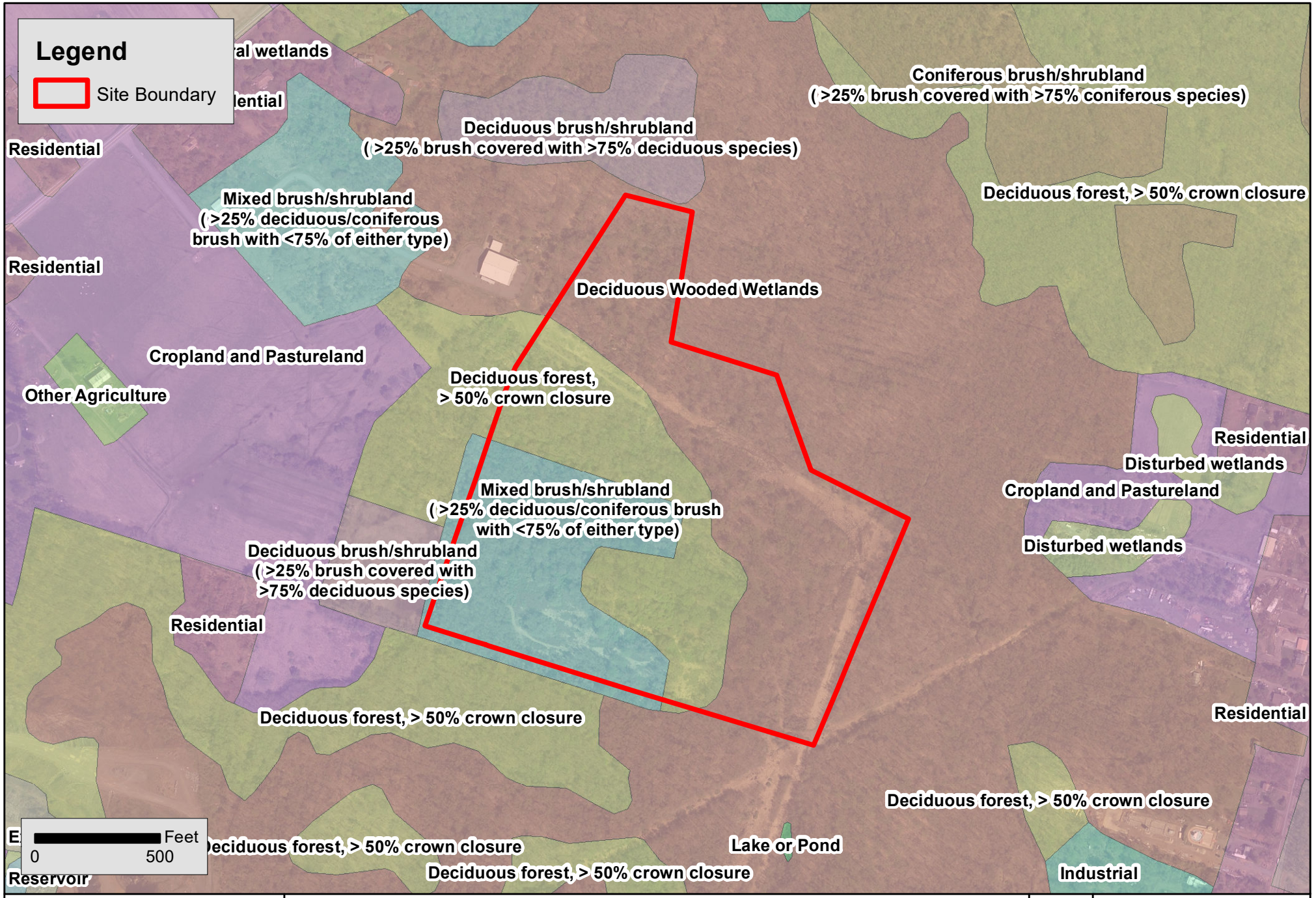
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Figure 4

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*This map was developed using Geographic Information Systems Digital Data. This map is for visual display purposes only and all locations are approximate.*




DuBois & ASSOCIATES

# Vegetation Communities Map

**Block 5.02 * Lot 25**
**Franklin Township, Somerset County, NJ**

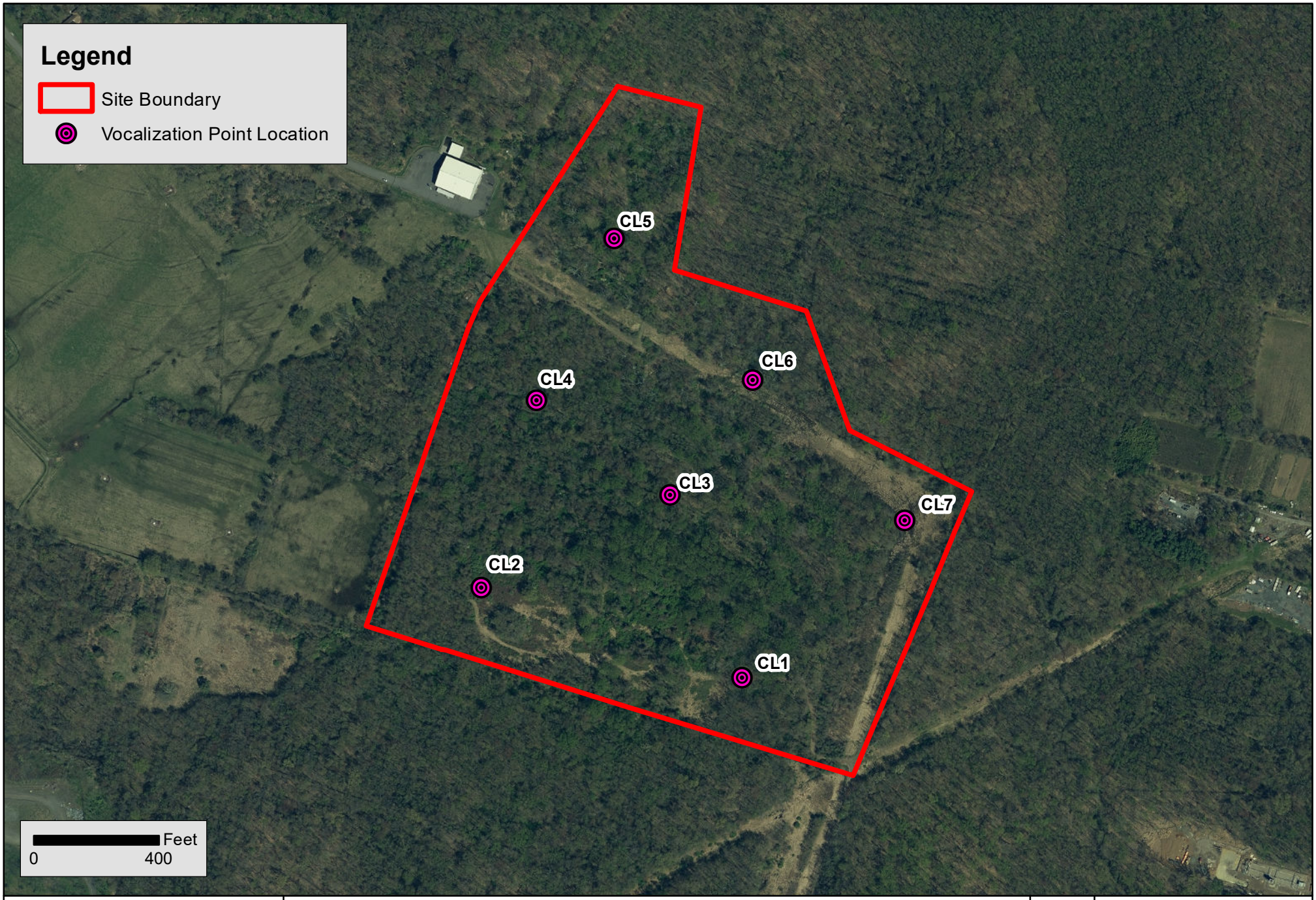
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Figure 5

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This map was developed using Geographic Information Systems Digital Data. This map is for visual display purposes only and all locations are approximate.




DuBois & ASSOCIATES

# Barred Owl Call Playback Survey Point Location Map

**Block 5.02 * Lot 25**
**Franklin Township, Somerset County, NJ**

NORTH

Figure 6

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| Job No.: D1067.090 | |
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*This map was developed using Geographic Information Systems Digital Data. This map is for visual display purposes only and all locations are approximate.*

# *APPENDIX A*

*SITE PHOTOGRAPHS*



Photo 1: Representative view of the existing utility easement which bisects the site.



Photo 2: View of interior upland forest observed throughout various portions of the site.



Photo 3: View of central portion of the site and the dense green briar observed throughout the understory.



Photo 4: Representative view of one of the monitored snags observed on site.



Photo 5: Additional view of a snag observed in the northern portion of the site.



Photo 6: Representative view of the vegetation composition near CL2.



Photo 7: Additional view of the dense understory observed within forested portions of the site.



Photo 8: Additional view of the vegetation composition within the central portion of the site.

# *APPENDIX B*

*STATEMENT OF QUALIFICATIONS*

Bryon DuBois
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**Education:**

B.S. Biology & Ecology,
West Chester University, 1993

**Professional Affiliations:**

NJ Department of Environmental Protection Wetland Mitigation Council 2003 – 2013; 2016 - Present

New Jersey Builders Association 1999 – Present

Shore Builders Association 2001 – 2013

Builders League of South Jersey 2013 - Present

Member: Society of Wetland Scientists 1997 – Present

Member: The Ecological Society of America 1998 – Present

Member: New Jersey Division of Fish, Game and Wildlife Conservation Corps. 2000 – Present

Member: Pine Beach Environmental Commission 1995 – 2003

Association of N.J. Environmental Commission (ANJEC) 1995 – 2010

N.J. Concrete & Aggregate Society 2003 – 2013

Southern Ocean County Chamber of Commerce 2014 - Present

**Fields of Competence:**

Mr. Bryon DuBois has over 30 years' experience in the fields of regulatory compliance, ecology, biology, wetland science, wildlife management, hydrology and habitat restoration. He has managed numerous large-scale projects through the approval process in New Jersey, Pennsylvania, Maryland and Delaware. Mr. DuBois is highly respected by the regulatory agencies in N.J. and Pennsylvania. He has made positive contributions to policies effecting protected species (both state and federal), wetland mitigation, regulation and coastal zone policies through NJDEP, PAFBC, MDDNR, DEDNR and ACOE. These contributions have also been through invited participation and professional guidance provided in regulatory agency stakeholder processes.

**Professional Experience:**

After seven (7) early years in the consulting business Mr. Bryon DuBois created an environmental consulting firm in 2000 that focused on ecological and environmental issues that the regulated community was facing. Mr. DuBois has applied logical and objective solutions to some of the most difficult environmental projects and has constantly found a balance between environmentalists and developers alike. Mr. DuBois currently operates the firm and ensures successful completion of projects through management and coordination of numerous like minded employees. Mr. DuBois operates the firm to promote the client's interest while providing the regulatory agencies with the documentation they require for approvals. The end result is typically a project or product that is both environmentally sound and in the best interest of the client.

Mr. DuBois has been requested to present topics related to environmental regulations at the Atlantic City Builders Convention, the Eastern Regional Airports Conference in Hershey, Pennsylvania, the U.S. Fish and Wildlife Bog Turtle Conventions, the N.J. Pinelands Commission, the Louisiana Fish and Game and dozens of planning boards in towns across N.J. and P.A. His diverse experience has made him a respectable candidate to speak publicly on projects that require many different issues from ecology to water quality.

Mr. DuBois is responsible for performing wetland delineations under the jurisdiction of multiple agencies and has more than 30 years of experience performing wetland delineations on more than 5000 projects over three states. Mr. DuBois authors Freshwater Wetland Delineation Reports and has prepared more than 3,000 Freshwater Wetland Letter of Interpretation applications for submittal to the NJDEP for verification of the delineated wetland limits.

In 1998 Mr. DuBois began designing and managing the construction of wetland mitigation projects tailored to a specific habitat type or land use. Over the years his projects were approved and exceeded the standard requirements without increasing costs for the client. These mitigation projects helped Mr. DuBois become nominated to the State of New Jersey's Wetland Mitigation Council in 2003 by the Governor of New Jersey. Mr. DuBois has reviewed and received approval for numerous mitigation related projects and banks in New Jersey, Pennsylvania and Maryland since that time.

Ecologically, from 2003 to the present-day Mr. DuBois has successfully managed, designed and received approval for projects ranging from airports to industrial centers, wastewater management facilities and large commercial areas along with thousands of residential dwellings. This has involved performing numerous long-term studies on several influential species such as Bog Turtles, Pine Snakes, and Indiana Bats along with assessments of habitat and creation of mitigation measures. Mr. DuBois has held over 400 scientific collecting permits for surveys performed within the Mid-Atlantic States, many of which involve a telemetry component.

Mr. DuBois also has extensive experience coordinating with various utility companies to provide wetland, ecological surveys and monitoring services necessary to support utility line improvement and upgrade projects, which also involves regulatory agency coordination

Bryon DuBois
Principal Senior Biologist
bdubois@denviro.com

190 North Main Street
Manahawkin, NJ 08050
609-488-2857

**Certifications:**

Professional Wetland Scientist # 1219 Society of Wetland Scientist

Sr. Ecologist, The Ecological Society of America

Recognized Qualified Bog Turtle Surveyor – N.J., N.Y., P.A., D.E., M.D.

Recognized Qualified Indiana and Northern Long Eared Bat Surveyor – N.J., N.Y., P.A.

Recognized Qualified Delmarva Fox Squirrel Surveyor – M.D., D.E.

Pennsylvania Qualified Herpetologist for Numerous Species

Pinelands Qualified Biologist for Numerous Species

through implementation of both Pennsylvania Fish and Boat Commission and New Jersey Department of Environmental Protection standards

The projects of relevance presented below have been successfully completed through the management and coordination of Mr. DuBois with the client and regulatory agencies.

**Projects of Relevance:**

**NEW JERSEY:**

- *NJ DOT Permitting and Threatened and Endangered Species*
  - Route 206 – NJDOT, Atlantic County, NJ
  - Route 46 - NJDOT, Warren County, NJ
- *Ecological Monitoring, Threatened/Endangered Species Studies & Wetlands Assessments*
  - South Jersey Multiple Transmission Line Upgrades
    - BL England Transmission Line Upgrade, Atlantic, Burlington & Salem Counties
    - Cove Road Transmission Line Upgrade, Cape May County
    - Orchard to Lewis Transmission Line Upgrades, Atlantic County
    - Oyster-Creek Cardiff Transmission Line Wetland Mitigation, Ocean County
- *Threatened/Endangered Species Studies & Permitting- Pinelands*
  - NJNG Southern Reliability Line – Townships of Manchester, Jackson, Lakehurst, Plumsted, Chesterfield, and North Hanover, Ocean and Burlington Counties, NJ
  - Shulton Property, Glidden Sand Mine & Woodmansie Sand Mine – Ocean and Burlington Counties, NJ
  - Cutt Brothers Farm Service Restoration project- Burlington County
- *Federal Involvement/Federal Oversight*
  - Swamp Pink Monitoring at Various Sites – Atlantic, Warren Counties, NJ
  - Various Distribution Center Applications; Bat Studies – Warran Township, Montville Township, Morris Co, NJ, Mt. Pocono, Northampton Co, PA.
  - Bear Creek Construction Monitoring- Burlington County, NJ.
- *Wetland Mitigation Approvals/Monitoring*
  - GEHR Mitigation Bank - Gloucester County, NJ
  - MBB Mitigation Bank – Monmouth County, NJ
  - Bell Labs – Riparian Mitigation - Monmouth County, NJ
  - Bamm Hollow – Wetland Mitigation - Monmouth County, NJ

**PENNSYLVANIA:**

- *Threatened/Endangered Species Studies*
  - Westtown Lake Turtle Relocation, Westtown School, Chester County, PA
  - Haverford College Red Bellied Turtle Relocation, Delaware County, PA
- *Threatened/Endangered Species Studies & ACOE Permitting*
  - Scudder Falls Bridge Replacement, Yardley, PA
- *Permitting and Jurisdictional Determinations*
  - Brookdale – 1200 Acre wetland delineation, Monroe County PA
  - Shartlesville – 520-acre wetland delineation in Berks County, PA
  - 2016 Reliability Project – Surveyed approximately 100 Miles of PPL Right of way throughout Lancaster, Lebanon and Berks County.

**DELAWARE:**

- *Threatened/Endangered Species Studies, Permitting & Wetlands*
  - Church to Wye Mills Transmission Line Upgrade, Kent County, DE
  - DE- MD Transmission Line Upgrades from 2009-2014 Kent County to Sussex County DE

**MARYLAND:**

- *Threatened/Endangered Species Studies, Permitting & Wetlands*
  - Bald Eagle Hazing and Nest Construction, Brandywine MD.
  - Kent County Wetland Mitigation Project, Delineation and Assessment

Ethan DuBois
Staff Biologist
edubois@denviro.com

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609-488-2857

**Education:**

B.S. Environmental Science
Elizabethtown College - 2020

M.S. Wildlife & Fisheries Resources
Clemson University - 2021

**Certifications:**

Certified Ecologist - Ecological Society of America

USFWS Qualified Bog Turtle Surveyor - NJ, PA

Open Water Scuba Certified - Scuba Diving International

Delaware DNREC Sediment & Stormwater Program Blue Card

**Continuing Education:**

Rutgers N.J. Agricultural Experiment Station Office of Continuing Professional Education -Identification of Wetland Plants in Winter Form

Rutgers N.J. Agricultural Experiment Station Office of Continuing Professional Education - Hydric Soils

Bat Conservation & Management - Bat Acoustic Workflow & Eastern Call ID Workshop

Bats and Bridges Survey Training hosted by USFWS and NJDEP

Vespor Bats - Acoustic ID of Eastern Bats

N.J. Conservation Foundation & P. P. A: Fundamentals of Pinelands Botany

**Qualifications:**

Mr. Ethan DuBois is a Staff Biologist with the firm of DuBois & Associates. He is responsible for performing and assisting with faunal and floral sampling investigations, environmental site assessments and on-site soil analysis. Mr. E DuBois has conducted various rare, threatened and endangered species studies. Since starting at DuBois & Associates, Mr. E. DuBois has participated in numerous studies on various species such as Bog Turtles, Indiana Bats, Northern Long-eared Bats, Northern Pine Snakes, Timber Rattlesnakes, Pine Barrens Treefrogs, Northern Red-Bellied Cooters, Red-headed Woodpeckers, Barred Owl, Blue Spotted Salamanders, Eastern Tiger Salamanders and state-listed mussels.

Mr. E. DuBois has performed and assisted in habitat and visual surveys for Bog Turtles in New Jersey, Pennsylvania, and Maryland. These activities include directed visual surveys, implementation of data collection, population and habitat management, identification of nesting locations, along with habitat analysis. He has also been responsible for the maintenance and operation of multiple ecological trapping arrays, including drift fence-box funnel trap arrays designed to capture threatened and endangered snake species, as well as bog turtle trapping arrays in Pennsylvania.

Mr. E DuBois has assisted and performed threatened/endangered species assessments, monitoring, and reporting under the jurisdiction of USFWS, NJDEP and New Jersey Pinelands Commission. He regularly performs evaluations on utility easements throughout the state of New Jersey evaluating habitats for state listed reptiles and amphibians, raptors, bats and grassland birds. In conjunction with these surveys, a variety of Geographic Information Systems (GIS) products are developed and distributed to vegetation maintenance and utility construction crews in efforts to remain in compliance. Mr. E DuBois has played an intergral role in developing these tools that reflect best management practices and time-of-year restrictions created by the State of New Jersey.

In addition to the above responsibilities, Mr. E DuBois assisted with numerous acoustic and mist net surveys for federally listed bat species dating back to 2016. Efforts include but are not limited to assisting in the installation of mist net regimes and acoustic detectors, recording of data upon collection, analysis of acoustic calls and reporting.

Mr. E. DuBois also performs biological/environmental construction monitoring associated with utility right-of-way's throughout New Jersey, Pennsylvania, Delaware and Maryland. Environmental oversight ensures the project is conducted in an environmentally responsible manner and in accordance with all applicable soil erosion and sediment control (SESC) standards and best management practices. Biological oversight in and around sensitive habitats ensures that the project does not have any adverse impacts to sensitive habitats or rare faunal and floral species.

Ethan DuBois
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**Professional Affiliations:**

The Wildlife Society - National Member, NJ Chapter Member

Member: Northeast Partners in Amphibian and Reptile Conservation & Turtle Working Group

**Career Positions:**

DuBois & Associates, Manahawkin, NJ – Staff Biologist, 2014 – Present

**Projects of Relevance:**

*JCP&L Vegetation Management Program*

Since 2020, Mr. E DuBois has been apart of a team which develops and provides GIS mapping products which depict best-management-practices and time-of-year restrictions to maintenance crews throughout the northern half of New Jersey. Mr. E DuBois has assisted in habitat evaluations associated with numerous state and federally listed species to aid in the conservation of them along utility easements. These efforts include monitoring while work is being conducted to ensure the protection of listed fauna an flora documented within the easement. All surveys utilize coordination with local USFWS offices as well as NJDEP.

*Marsh Creek Reservoir Restoration Project*

Mr. E. DuBois played an integral role in several facets of the Marsh Creek Reservoir Restoration Project. The initial objective was document and estimate the northern red-bellied cooter population in a portion of the overall reservoir (Ranger Cove) prior to the removal and relocation of individuals before the commencement of construction. In total 73 Pennsylvania-threatened northern red-bellied cooters were trapped and relocated outside the turbidity curtain prior to construction. Mr. E DuBois assisted in monitoring efforts and post-construction habitat enhancements which included the installation of basking structures and additional nesting areas in the vicinity of Ranger Cove.

*South Jersey Transit Authority - Atlantic City Expressway Widening Project*

Mr. E DuBois has conducted and assisted in a series of environmental and ecological surveys for the Atlantic City Expressway Widening Project. Assessments include but are not limited to Phase II surveys associated with the bog turtle, acoustic surveys associated with federally-listed bat species, raptor nest surveys as well wetland evaluations. Following these assessments, Mr. E DuBois has assisted in the reporting and data interpretation.

Additionally, Mr. E DuBois has assisted in several large scale presence/absence surveys including trapping surveys, visual surveys as well as vocalization and auditory surveys throughout the Pinelands. Targeted species include he northern pine snake, northern long-eared bat, red-headed woodpecker, barred owl, pine barrens treefrog and the timber rattlesnake.

**Education:**

Mr. E. DuBois received a Bachelor of Science degree in Environmental Science with a Business Administration Minor in May of 2020. Following graduation, Mr. E. DuBois enrolled in an M.S Program in Wildlife and Fisheries Resources at Clemson University which he completed in December 2021. While at Clemson, Mr. E. DuBois selected graduate level classes including Wildlife Habitat Management, Restoration Ecology, Plant Biology, Global Change Ecology, Fisheries Management and Conservation, as well as Conservation Issues.

Amy Jones
Senior Biologist/Project Manager
ajones@denviro.com

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609-488-2857

**Education:**

B.S. Ecology
Juniata College – 2000

**Certifications:**

Professional Wetland Scientist-
Society of Wetland Scientists

Qualified Specialist (Ecologist & Ornithologist) able to certify ESA Protection Plans

USFWS Recognized Qualified Bog Turtle Surveyor – NJ

NJDEP ENSP Recognized Qualified Venomous Snake Monitor

**Continuing Education:**

*Rutgers University*
Methodology for Delineating Wetland & Wetland Vegetation Identification

Threatened and Endangered Species of Northern and Southern New Jersey (field and classroom courses)

*Richard Stockton College of NJ*
Ornithology

*Shepherd College*
Shorebird Management & Ecology

*Bowman's Hill Wildflower Preserve*
Identification of Cool Season Grasses, Sedges and Rushes
Plant Stewardship Index (PSI)

**Professional Affiliations:**

The Wildlife Society
-National Member
-NJ Chapter Member
-NJ Chapter Secretary
2007 – 2014
-NJ Chapter Board Member
2014 – 2016
-NJ Chapter Newsletter Editor
2017 – present

**Fields of Competence:**

Amy Jones has over 25 years of experience in the fields of biology, ecology, wetland science, and land use regulatory compliance. She conducts various environmental site assessments, development feasibility studies, wetland delineations, rare species habitat evaluations and population surveys. She has extensive experience in managing a variety of projects from the initial field study stage through various regulatory application and approval processes, including extensive coordination with regulatory personnel. Mrs. Jones has a respected professional relationship with various municipal and county agencies, NJDEP, USFWS and USDA NRCS personnel.

**Professional Experience:**

Mrs. Jones is a senior biologist and project manager with the firm of DuBois and Associates. She manages all aspects of a project and coordinates specifically with a variety of clients to organize projects and proposals. Mrs. Jones manages each individual project to ensure all appropriate and applicable regulations and tasks are implemented to facilitate successful completion/approval of the project.

Mrs. Jones is responsible for conducting development feasibilities, wetland delineations, natural resource inventories, threatened/endangered species habitat assessments and directed surveys, and monitoring activities. Mrs. Jones has extensive experience with the survey and sampling protocols required under the jurisdiction of the USFWS, NJDEP, PAFBC, and Pinelands Commission for threatened and endangered species surveys. This survey work includes experience in various snake and salamander species drift fence trapping, numerous raptor and woodpecker nest investigations and breeding vocalization broadcast surveys, shorebird and colonial waterbird nesting and monitoring surveys, opportunistic and visual encounter turtle surveys, amphibian monitoring and call detection/playback surveys, and bat studies. Mrs. Jones has received numerous scientific collection permits from regulatory agencies as both the primary permittee and sub-permittee.

Specific experience and responsibilities include ecological and environmental monitoring activities for various linear development and improvement projects. This monitoring oversight and coordination ensures the construction activities are in compliance with county, state, and federal conditions and standards, and all best management practices are implemented as required. Monitoring activities also serve to ensure the construction activities will not result in adverse impacts to environmentally sensitive areas, or rare faunal or floral habitats and/or populations.

Mrs. Jones conducts vegetation inventories within a variety of biotic communities throughout New Jersey. These have included species specific surveys for numerous target plants considered rare or State and/or Federally listed. Mrs. Jones has conducted numerous botanical investigations for rare plant species within the jurisdiction of the Pinelands Commission and NJDEP. Specifically, these directed evaluations have included surveys for the Federally listed swamp pink, seabeach amaranth, and Knieskern's beaked rush plants, results of which have been accepted by all regulatory state agencies and the USFWS.

Mrs. Jones is responsible for performing wetland delineations under the jurisdiction of multiple agencies, which are conducted pursuant to the interagency evaluation procedures. This includes expertise in analyzing the vegetation and technical indicators of hydrology and soils. She authors Freshwater Wetland Delineation Reports and prepares Freshwater Wetland Letter of Interpretation applications for submittal to the NJDEP for verification of the delineated wetland limits.

Amy Jones
Senior Biologist/Project Manager
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NJ Builders Association
-Environmental Commission
2016 – present

The Society of Women Environmental Professionals
-Greater Philadelphia
2017 - present

**Career Positions:**

U.S. Fish & Wildlife Service
E.B. Forsythe NWR
Brigantine, NJ-
Wildlife Biologist
2000-2002

Habitat Management & Design, Inc.
Trenton, NJ-
Sr. Environmental Consultant
2002-2007

Water's Edge Environmental, LLC
Ocean City, NJ-
Senior Biologist
2007-2014

DuBois and Associates, LLC
Manahawkin, NJ –
Sr. Biologist/Environmental Scientist
2014 – Present

Mrs. Jones coordinates directly with professional engineers, attorneys, clients, and regulatory agencies to evaluate compliance and design of projects pursuant to various environmental regulations, inclusive of the Freshwater Wetlands Protection Act Rules, Flood Hazard Area Control Act Rules, and coastal/waterfront development regulations. Based on these permit analyses and project designs, she prepares the applicable permit applications pursuant to the NJDEP and USACOE regulations.

Mrs. Jones has also conducted numerous volunteer survey efforts in coordination with the NJDEP, NJ Audubon Society, and NJ Conserve Wildlife Foundation. These survey efforts include State directed Bog Turtle surveys, participation in grassland bird surveys as part of the Landowner Incentive Program, the Calling Amphibian Monitoring Program (CAMP), and regional Wood Turtle monitoring surveys.

**Representative Projects of Relevance:**

*Burlington County Park Projects*
Ecological and environmental work was completed to assist Burlington County in conducting environmental constraints evaluations and permit analyses for improvements on numerous County owned park and greenway projects. Mrs. Jones works directly with the landscape architects and engineers in assisting with design of the project to ensure compliance of proposed improvements pursuant to State waterfront development, freshwater wetlands, and flood hazard regulations. Mrs. Jones also coordinates with the NJDEP and USACOE with regard to permit requirements and to ensure no adverse impacts to documented state and federal threatened and endangered species habitat, including the bald eagle and bog turtle. Mrs. Jones prepared all necessary permit applications and ensured continued cooperative coordination with the regulatory agencies to ensure receipt of the applicable permit approvals for the park projects. Mrs. Jones has respected professional relationship with Burlington County and is involved in ongoing and future park improvement projects.

*Holly Realty Project*
Conducted red-headed woodpecker, barred owl, red-shouldered hawk, and northern long eared bat surveys in order to determine presence/absence and evaluate compliance with the New Jersey coastal regulations. These included nest cavity searches and call playback surveys for the red-headed woodpecker, barred owl, and red-shouldered hawk, and mist net surveys for the northern long-eared bat. These surveys were conducted pursuant to accepted state and federal survey methods. Survey methodology and results summaries have been prepared for the client and state agency review for continued impact and mitigation review.

*New Jersey Department of Transportation Roadway Improvement Projects*
Coordination with the NJDOT and project engineer to conduct the necessary field investigations and prepare full permit applications pursuant for various roadway and bridge improvement and development projects throughout the state. This has included wetland delineations, vegetation and wildlife inventories, and preparation and submission of state wetland and flood hazard permit and waiver applications, USACOE permit applications, and coastal and waterfront development permit applications.

*Atlantic Cape Community College – Cape May Campus*
Mrs. Jones conducted extensive monitoring of habitat mitigation measures implemented as part of CAFRA approval for construction the Cape May campus facilities. This included eastern tiger salamander trapping to evaluate success of the constructed breeding pond on the site. Monitoring resulted in the positive capture and identification of juvenile tiger salamanders, demonstrating success of the breeding pond. Additional monitoring and surveys included barred owl call playback surveys and long term avian point count surveys to evaluate impacts.

Israel Berrios
Environmental Scientist
iberrios@denviro.com

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**Education:**

B.S. Biology with a Concentration in Ecology
West Chester University – 2014

**Certifications:**

USFWS Qualified Bog Turtle Surveyor – NJ

PA DCNR Wild Plant Management Permittee - #22-842

Delaware DNREC Sediment & Stormwater Program Blue Card Certification B 2018/12/13 004

State of Maryland Erosion & Sediment Control Certification No. RPC015013

**Continuing Education**:

N.J. Conservation Foundation & P.P.A: Fundamentals of Pinelands Botany

N.J. Department of Agriculture – State Soil Conservation Committee: N.J. Soil Erosion & Sediment Control Standards Training Course

Swamp School LLC
USACOE Hydric Soils Indicators Online Training Course

Rutgers N.J. Agricultural Experiment Station Office of Continuing Professional Education – Vegetation Identification for South N.J.

Bats & Bridges Survey Training Hosted by USFWS & NJDEP

Vespor Bats – Acoustic ID of Eastern Bats

**Fields of Competence:**

Mr. Berrios has 9 years of experience in the fields of regulatory land use, radio telemetry, wetland science, soil science, biology and ecology.

**Professional Experience:**

Mr. Berrios is a biologist and environmental scientist with the firm of DuBois & Associates. He is responsible for assisting with faunal and floral sampling investigations, site assessments, monitoring, and threatened/endangered species habitat assessments. He is also technical support for the maintenance of a variety of ecological trapping arrays and herptile surveys. Furthermore, Mr. Berrios has participated in conducting studies on various species throughout New Jersey, the Pinelands of New Jersey, and Pennsylvania including Cope's gray treefrog, Pine Barrens treefrog, barred owl, red-shouldered hawk, wood turtle, bog turtle, northern red-bellied cooter, red-headed woodpecker, northern pine snake, among others.

Mr. Berrios has assisted in habitat and visual surveys for Bog Turtles in New Jersey, Delaware, and Pennsylvania. These activities include helping with directed visual surveys, implementation of data collection and habitat analysis. Mr. Berrios is also a USFWS Recognized Qualified Bog Turtle Surveyor in the State of New Jersey.

Mr. Berrios is also responsible for the organization and execution of various environmental reports including Letters of Interpretation (LOIs), feasibility studies, site assessments, field and lab analysis of soils, and permitting for a wide variety of projects.

In conjunction with performing surveys for a variety of environmental/ecological assessments, Mr. Berrios has gained experience using ESRI Arc Map Geographic Information Systems (GIS) software and global positioning systems (GPS). Maps are created to depict a visual representation for clients of site-specific characteristics in relation to various projects. These tools are also used in mapping species movements such as turtles, bats and snakes.

In addition to the above responsibilities, Mr. Berrios has assisted in/ conducted plant surveys within various vegetation communities, which have included numerous species considered rare or listed as protected in various states. Mr. Berrios has assisted in/conducted numerous botanical investigations for rare plant species within the jurisdiction of the New Jersey Pinelands Commission, the New Jersey Department of Environmental Protection, and the Pennsylvania Department of Conservation of Natural Resources. Many projects include botanical surveys along existing transmission line rights-of-ways; investigations have led to the delineation and protection of rare plant occurrences while permitting utilities to perform upgrades and maintenance operations within their easements.

Mr. Berrios also performs biological/environmental construction monitoring associated with utility projects throughout New Jersey. Environmental oversight ensures the project is conducted in an environmentally responsible manner and in accordance with all applicable SESC standards, best management practices, and any local, state or federal permit conditions. Biological oversight in and around environmentally sensitive and regulated areas ensures that the project does not

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Environmental Scientist
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**Career Positions:**

DuBois & Associates, Manahawkin, NJ – Environmental Scientist 2015 – Present

have any adverse impacts to critical habitats, rare faunal and floral species, or environmentally regulated areas.

**Education:**

Mr. Berrios received a Bachelor of Science degree in Biology with a concentration in Ecology in December of 2014. While attending West Chester University, Mr. Berrios selected upper-level classes including Freshwater Ecology, Vertebrate Ecology, Plant Physiology, and Population Biology/Invasive Ecology. All classes were supplemented with hands-on laboratory experience using professional techniques, as well as site-specific trips for fieldwork.

Ben Rochat
Staff Biologist
brochat@denviro.com

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**Certifications:**

DEP Certified Venomous snake monitor (Tertiary)

Delaware DNREC Sediment & Stormwater Program Blue Card Certification

State of Maryland Erosion & Sediment Control Certification No. RPC015013

**Career positions:**

DuBois & Associates,
Manahawkin, NJ
Field Biologist 2019 – Present

**Professional Affiliations:**

Member: The Wildlife Society National Member/NJ Chapter

Volunteer: Wildlife Conservation Corps

Volunteer: New Jersey Conservation Foundation

Volunteer: NJ Rattlesnake Response Team

Member: Northeast Partners in Amphibian and Reptile Conservation

Volunteer: Pinelands Commission

Volunteer: Rutgers University Research Project

**Continuing Education:**

Pinelands Plant Course – Fundamentals. 2023

Native Plant Trust of Massachusetts - Exploring the Rushes: Identification and Taxonomy Webinar. 2021

Northeast Partners of Amphibian and Reptile Conservation -
Annual Conferences

**Fields of Competence:**

Mr. Rochat has over 8 years of experience in the fields of herpetology, ecology, and biology, and over 4 years of experience in soil science.

**Professional Experience:**

Mr. Rochat is a Biologist and environmental scientist with the firm of DuBois and Associates. He is responsible for conducting faunal and floral sampling investigations, and environmental site assessments. He also provides technical support in various rare, threatened, and endangered species studies. Mr. Rochat also performs biological/environmental construction monitoring.

Mr. Rochat has assisted with studies on several fauna and flora species such as northern red-bellied cooter, osprey, and bald eagle, and other state listed raptors. These activities include helping with directed visual surveys, implementation of data collection and habitat analysis. Additionally, Mr. Rochat has participated in numerous vocalization surveys for a variety of wildlife species including Pine Barrens treefrog, Cope's gray treefrog, barred owl, black rail, red-shouldered hawk, and red-headed woodpecker.

Mr. Rochat has over 8 years of experience performing surveys for rare snakes in the pinelands. He has performed surveys to identify nesting areas, hibernacula, shed stations and other areas of sensitive habitat for northern pine snakes, timber rattlesnakes, and corn snakes. Additionally, He has experience performing radio telemetry on a state listed snake species. Mr. Rochat has also been responsible for the maintenance and operation of multiple ecological trapping arrays, including drift fence-box funnel trap arrays and artificial cover surveys designed to capture threatened and endangered snake species.

Mr. Rochat also performs biological/environmental construction monitoring associated with utility right-of-ways throughout New Jersey. Environmental oversight ensures the project is conducted in an environmentally responsible manner and in accordance with all applicable SESC standards and best management practices. Biological oversight in and around environmentally sensitive and regulated areas ensures that the project does not have any adverse impacts to critical habitats, rare faunal and floral species, or environmentally regulated areas. Mr. Rochat is recognized by the NJDEP as a qualified venomous snake monitor.

Mr. Rochat has assisted in habitat and visual surveys for Bog Turtles in Pennsylvania. These activities include helping with directed visual surveys, implementation of data collection and habitat analysis.

In conjunction with performing surveys for a variety of environmental/ecological assessments, Ben Rochat has gained experience using ESRI Arc Map Geographic Information Systems (GIS) software and global positioning systems (GPS). Maps are created to depict a visual representation for clients of site-specific characteristics in relation to various projects. These tools are also used in mapping species movements such as turtles, bats, and snakes.

Mr. Rochat has assisted in/conducted numerous botanical investigations for rare plant species within the jurisdiction of the New Jersey Pinelands Commission, the New Jersey Department of Environmental Protection, and the Pennsylvania Department of Conservation of Natural Resources. Many projects include botanical surveys along existing transmission line rights-of-ways; investigations have led to the delineation and protection of rare plant occurrences while permitting utilities to perform upgrades and maintenance operations within their easements.

Mr. Rochat is also responsible for the organization and execution of various environmental reports including Letters of Interpretation (LOIs), feasibility studies, site assessments, field, and lab analysis of soils, and permitting for a wide variety of projects.

Ben Rochat
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**Education:**

Washington Township High School graduate 2001

**Projects of Relevance:**

*Transmission line upgrades, A. C. Electric Co., Several Locations within Atlantic, Cape May, Salem, Camden, and Gloucester Counties, NJ:* Conducted ecological services for transmission line upgrades at several locations throughout NJ. Tasks included preliminary habitat suitability assessments for Federal and state listed T&E flora and fauna; performed surveys for northern pine snake, barred owl, Pine Barrens and Cope's gray tree-frogs, osprey, bald eagle, red-shouldered hawk, various colonial waterbirds, and swamp pink, which are all identified on the States T&E Species List; delineated T&E plant populations for protective initiative during construction phases of the proposed project and aided in environmental monitoring of these sites. Coordinated with the USFWS, NJDEP and New Jersey Pinelands Commission to ensure compliance with all applicable regulations. All surveys were performed in accordance with USFWS Section 7 consultation and State protocols.

*Transmission line upgrades, First Energy Corp., Several Locations within Monmouth and Ocean Counties, NJ:* Conducted ecological services for transmission line upgrades at several locations throughout NJ. Tasks included preliminary habitat suitability assessments for Federal and state listed T&E flora and fauna; performed surveys for northern pine snake, corn snake, barred owl, Pine Barrens and tree-frogs, osprey, bald eagle, and swamp pink, which are all identified on the States T&E Species List; delineated T&E plant populations for protective initiative during construction phases of the proposed project and aided in environmental monitoring of these sites. Coordinated with the USFWS, NJDEP and New Jersey Pinelands Commission to ensure compliance with all applicable regulations. All surveys were performed in accordance with USFWS Section 7 consultation and State protocols.

*Stavola Concrete plant Pine Snake Trapping, Ocean County NJ*: Constructed, maintained, and surveyed drift fence and box trap arrays for the state threatened pine snake and state endangered corn snake. Each array consisted of 2,000 ft. of silt fence lined with funnel/box traps spaced evenly along the fence. Additionally, an artificial cover survey consisting of tin and boards placed on habitats identified as sensitive for snake usages, along with nesting and hibernacula surveys. These projects functioned as presence/absence surveys prior to construction or expansion of existing operations. USFWS, NJDEP and New Jersey Pinelands Commission were coordinated with to ensure compliance with all applicable regulations.

*Phase 1 and Phase 2 Bog Turtle Surveys along Several Transmission Line Upgrade Projects within Lancaster, Northampton, Lebanon, and Berks Counties, PA*: Performed phase 1 and phase 2 bog turtle surveys under the supervision of a qualified bog turtle surveyor. Assessed numerous wetlands for bog turtle habitat suitability and performed phase 2 surveys within wetlands determined to contain suitable habitat parameters. These surveys were coordinated with the USFWS, the PA Fish and Boat Commission, and the NJDEP.

Frank Tutelian
Environmental Consultant
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**Education:**

B.S. in Agricultural Business Pennsylvania State University -- 2020

Minor in Environmental Resource management with a Concentration in sustainability Pennsylvania State University 2020

**Certifications:**

Delaware DNREC Sediment & Stormwater Program Blue Card Certification B 2021/3/17 000

Pennsylvania Certified in ESM of Dirt and Gravel Roads 2020/5/30

**Career Positions:**

DuBois & Associates, Manahawkin, NJ – Environmental Consultant, 2020 – Present

**Continuing Education:**

Bats and Bridges Survey Training hosted by USFWS & NJDEP

Rutgers N.J. Agricultural Experiment Station Office of Continuing Professional Education -Identification of Wetland Plants in Winter Form

**Professional Experience:**

Mr. Frank Tutelian is an Environmental Consultant with the firm of DuBois & Associates. He is responsible for faunal and floral sampling investigations, environmental site assessments and on-site soil analysis. He also handles any technical support needed in various rare, threatened and endangered species studies. Since starting at DuBois & Associates, Mr. Tutelian has assisted with studies on several species such as Northern Red-bellied Cooter, Pine Snakes, Barred Owls, Evening Bats, Indiana Bats, Northern Long Eared Bats, Ospreys, and Bald Eagles. These activities include helping with directed visual surveys, implementation of data collection and habitat analysis.

Mr. Tutelian has assisted in habitat and visual surveys for Bog Turtles in New Jersey and Pennsylvania. He has also assisted with the maintenance and operation of multiple ecological trapping arrays, including drift fence-box funnel traps designed to capture threatened and endangered snake species.

Mr. Tutelian is also responsible for the organization and execution of various environmental reports including Letter of Interpretation (LOIs), feasibility studies, site assessments, CAFRA permits, and various State General Permits for submittal to the New Jersey Department of Environmental Protection (NJDEP).

In conjunction with performing surveys for a variety of environmental/ecological assessments, Mr. Tutelian has gained extensive experience using ESRI Arc Map Geographic Information Systems (GIS) software and global positioning systems (GPS). Maps are created to depict a visual representation for clients of site-specific characteristics in relation to various projects. These tools are also used in mapping species such as turtles, bats and snakes.

Mr. Tutelian also performs biological/environmental construction monitoring associated with utility right-of-way's throughout New Jersey. Environmental oversight ensures the project is conducted in an environmentally responsible manner and in accordance with all applicable SESC standards and best management practices. Biological oversight in and around sensitive habitats ensures that the project does not have any adverse impacts to sensitive habitats or rare faunal and floral species.

**Projects of Relevance:**

*Phase 1 and Phase 2 Bog Turtle Surveys along Several Transmission Line Upgrade Projects within Lancaster, Northampton, Lebanon, Adams and Berks Counties, PA*: Performed phase 1 and phase 2 bog turtle & Red-bellied Cooter surveys under the supervision of a qualified bog turtle and Northern red-bellied cooter surveyor. Assessed numerous wetlands for bog turtle habitat suitability and performed phase 2 surveys within wetlands determined to contain suitable habitat parameters. These surveys were coordinated with the USFWS, the PA Fish and Boat Commission, and the NJDEP.

Frank Tutelian
Environmental Consultant
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190 North Main Street
Manahawkin, NJ 08050
609-488-2857

**Education:**

Mr. Tutelian received a Bachelor of Science degree from Pennsylvania State University in Agricultural Business and a Minor in Environmental Resource Management in May of 2020. While attending Pennsylvania State University Mr. Tutelian completed high level courses dealing with soil erosion, BMPs and sustainability.