

*Threatened and Endangered Species
Habitat Suitability Assessment Report*

850 Route 28, LLC Site
Town of Kingston
Ulster County, NY

October 14, 2017
Revised February 18, 2019

Prepared by:

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1.0 INTRODUCTION

Ecological Solutions, LLC completed a threatened and endangered species habitat assessment on a site totaling 109.96 acres located at 850 Route 28 in the Town of Kingston, New York (Figure 1). The proposed project is in two phases and includes a proposed structural steel and precast concrete manufacturing facility situated on a former rock mine. The proposed steel and concrete manufacturing facilities will be built in two phases. One building per phase is to encompass approximately 120,000 sq ft. The initial phase will combine both steel and concrete operations under one building until the second phase is constructed. The total land disturbance is to be +-35 acres.

The New York State Department of Environmental Conservation (NYSDEC) Natural Heritage Program correspondence dated October 12, 2017 indicates that there are no known occurrences of State regulated threatened or endangered species on the site but that an Indiana bat maternal roost exists approximately 2 miles from the site (Attached Letter).

A review of the US Fish and Wildlife Service (USFWS) list of federal threatened and endangered species for the site indicates that there is the potential for Indiana bat (*Myotis sodalis*), Northern long-eared bat (*Myotis septentrionalis*), and bog turtle (*Glyptemys muhlenbergii*) to be located on or in the vicinity of the site.

Field assessments were conducted on October 18 and 22, 2017 to determine whether suitable habitat for these species is present on the site. Habitat cover types were also observed and are described below.

**TABLE 1
COVER TYPES IDENTIFIED ON THE SITE**

NO.	DESCRIPTION
1	Wetlands/Ponds
2	Impacted Area
3	Mixed Upland Forest

Detailed descriptions of each natural cover type are outlined below.

Wetlands/Ponds - The wetlands delineated on the site are generally scrub/shrub wetland and associated open water ponds dominated by red maple, red-osier dogwood, red maple, swamp white oak, and green ash, as well as skunk cabbage, tussock sedge, reed grass, and reed canary grass. The site contains approximately 3 acres.

Impacted Area/Bedrock - There are several locations where previous activities including a quarry and other excavation has taken place. These areas total about 22 acres.

Mixed Upland Forest – The site contains a mixed upland forest with hemlock, white pine, oaks, maples, shagbark hickory, black cherry, red maple, white ash, crab apple, and understory species. Trees are mainly in the 8-15 inch dbh range with larger trees located throughout the site and some contain the deadwood, exfoliating bark, crevices, and holes. There are approximately 81.5 acres on the site.

Figure 1 Location Map

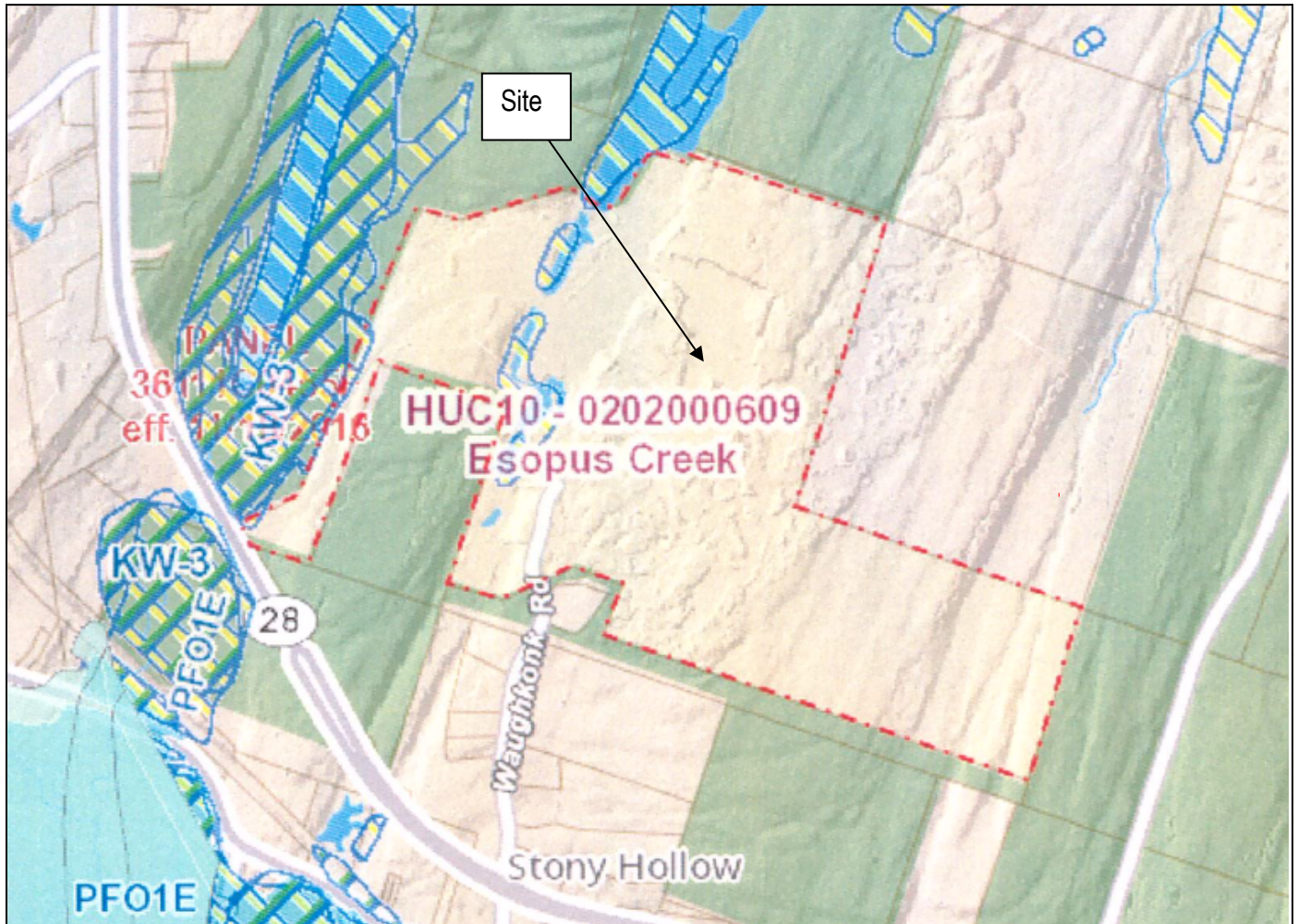
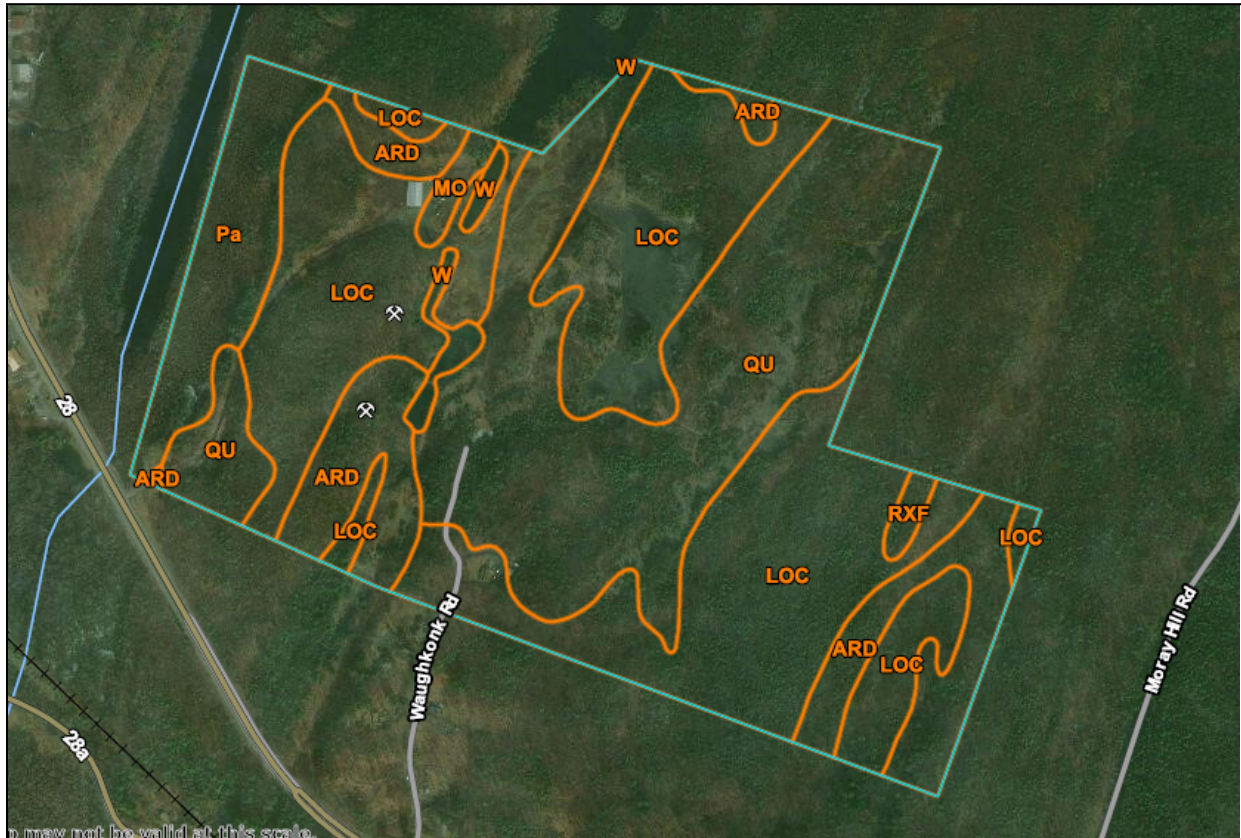


Figure 2 Soils Map



Map Unit Symbol	Map Unit Name
ARD	Amot-Lordstown-Rock outcrop complex, moderately steep
LOC	Lordstown-Amot-Rock outcrop complex, sloping
MO	Menlo very bouldery soils
NBF	Nassau-Bath-Rock outcrop complex, very steep
Pa	Palms muck
QU	Quarry
W	Water

2.0 HABITAT SUITABILITY ASSESSMENT/CONCLUSION

2.1 Indiana bats

The Indiana bat typically hibernates in caves/mines in the winter and roosts under bark or in tree crevices in the spring, summer, and fall. Suitable potential summer roosting habitat is characterized by trees (dead, dying, or alive) or snags with exfoliating or defoliating bark, or containing cracks or crevices that could potentially be used by Indiana bats as a roost. The minimum diameter of roost trees observed to date is 2.5 inches for males and 4.3 inches for females. However, maternity colonies generally use trees greater than or equal to 9 inches dbh. Overall, roost tree structure appears to be more important to Indiana bats than a particular tree species or habitat type. Females appear to be more habitat specific than males presumably because of the warmer temperature requirements associated with gestation and rearing of young. As a result, they are generally found at lower elevations than males may be found. Roosts are warmed by direct exposure to solar radiation, thus trees exposed to extended periods of direct sunlight are preferred over those in shaded areas. However, shaded roosts may be preferred in very hot conditions. As larger trees afford a greater thermal mass for heat retention, they appear to be preferred over smaller trees.

Streams associated with floodplain forests, and impounded water bodies (ponds, wetlands, reservoirs, etc.) where abundant supplies of flying insects are likely found provide preferred foraging habitat for Indiana bats, some of which may fly up to 2-5 miles from upland roosts on a regular basis. Indiana bats also forage within the canopy of upland forests, over clearings with early successional vegetation (e.g., old fields), along the borders of croplands, along wooded fencerows, and over farm ponds in pastures. While Indiana bats appear to forage in a wide variety of habitats, they seem to tend to stay fairly close to tree cover.

Conclusion – The mixed upland forest occurs in discreet patches on the site including around the mined area and provides suitable foraging habitat for the Indiana bat. Phase 1 of the proposed project will impact 9.2 acres of mixed forest. Phase 2 of the project will impact 12.5 acres of the mixed forest.

The summer action area is defined as the project site and an area within 2.5 miles of the site to incorporate known and potential roosts and foraging areas. The site is surrounded by mixed upland forest, wetlands, open water, and other natural habitat except to the south which has a small commercial district and highway (Route 28). Contiguous forested habitat exists on adjacent properties and throughout the local area, with little evident fragmentation by residential or commercial development. Development is relatively light in the Route 28 corridor, with large blocks of undisturbed forested land in close proximity. Forested habitat makes up about 85% of the area within 2.5 miles of the site, which is a typical travel radius for a roosting Indiana bat during the summer months.

Indiana bats that may be within this action area are presumed to be part of the wintering population that hibernates in the Williams Lake Complex of hibernacula in Rosendale, Ulster County, NY. Bats typically disperse from the Williams Lake Complex and travel up to about 40 miles to their summer range. The proposed project site is about 7.5 miles due north of the Williams Lake Hibernacula Complex. The fall/winter action area is defined as the Williams Lake Hibernacula

Complex with a 10-mile radius. This area includes presumptive fall swarming and spring dispersal stopover areas in the vicinity of the hibernacula.

Potential Effects of the Project

Construction is considered a temporary activity, but in this case will occur over a 2-phase period. Activities during construction will include clearing trees, grading and earth-moving, building construction, addition of electric lights, increasing impervious surface area and altering site drainage. These actions may result in direct and indirect effects on Indiana bats by altering the quality and quantity of their summer habitat. Such alterations include removing potential roost trees, generating noise, generating dust, decreasing water quality, and creating visual disturbances.

Commercial land use (operation of the project) is considered a long-term activity. Most active, outdoor use of commercial properties occurs during daylight hours; however, limited night-time use also occurs. The proposed use of the subject property is for a manufacturing facility. Activities outside of the building will be limited to vehicular traffic in the parking lot, delivery, and maintenance activities. Anticipated effects from operation of the project include noise generation, decreasing water quality, and increasing human activity on the site.

The effects of a proposed action are either “not likely to adversely affect” or “likely to adversely affect” a listed species. If the anticipated effects of a proposed action can be discounted because they are extremely unlikely, considered insignificant because they cannot be detected or measured to a meaningful degree, or be considered beneficial without associated adverse impacts, then “not likely to adversely affect” is the appropriate classification for the action.

Since there is a known maternal colony roost about 2 miles from the site the Applicant will incorporate the following conservation measures as requested by the NYSDEC in correspondence dated August 28, 2018 to ensure no impact occurs to this species. The Applicant will avoid, minimize, and mitigate impacts to this species by:

Effects from Tree Clearing

Clearing activities could have an adverse impact on active roost trees. Such impacts will be avoided by conducting all clearing during winter months when Indiana Bats will be in hibernation off site. Proposed clearing for the project will remove ±21.7 acres of forested habitat, which represents about 33% of forested habitat on the site. The project will avoid impacts by

- Implementing tree clearing for site activities during timeframes when bats are not resident on the site October 1 – to March 31;
- Prior to clearing, the limits of proposed clearing will be clearly demarcated on the site with orange construction fencing (or similar) to prevent inadvertent overclearing of the site.

Effects from Lighting

Lighting is not anticipated during construction, but parking lot lights will remain on until 10:00 pm during business operation, and security lights will remain on all night. While this could cause bats to avoid these areas for foraging, the effect is not likely to be significant given the large wooded tracts surrounding the site. Thus, while lighting may cause bats to forage elsewhere, it is not likely to alter their roosting behavior beyond the impact of tree clearing so this effect would be insignificant and discountable. Lighting may affect Indiana bats, but is not likely to adversely affect them.

- Site lighting will use Town of Kingston Planning Board approved light fixtures that have tops that direct light down to minimize light pollution and not interfere with potential bat foraging activities;

Effects from Blasting/Noise

There are no hibernacula (cave/s) on the site. The closest known hibernacula is approximately 7.5 miles due south of the site. Proposed blasting on the site will not impact this feature. The impact from blasting on summer habitat (woodland) is primarily noise which should not interfere with potential bat use of the site as long as tree clearing occurs during the clearing restriction - October 1 to March 31.

Noise generated by construction equipment during the following activities could disturb roosting bats during the day.

- Early part of grading and drainage installation
- Early construction of the main building exterior
- Early paving, and curb and site lighting installation

No blasting or construction operations are anticipated on the site at night. No specific auditory data relating to disturbance of Indiana bats is available in the current literature. As per the Noise study for the proposed project, it is unlikely that noise generated during construction or operation of the facility will greatly exceed ambient noise levels. While noise during tree clearing and blasting may be more severe, these activities can be scheduled to take place when the bats will not be on the site, so it will avoid exposure. Blasting noise that is scheduled for the summer is a temporary impact and not likely to adversely effect this species.

Cumulative Effects

Construction activity and operation of a manufacturing enterprise will increase general human activity on the property, and increase the proximity of human activity and presence to potentially used foraging and roosting habitat for Indiana bats. Based on the proximity of the known roost about 2 miles away to existing human activity the proximity to human activity does not adversely affect Indiana bats. Since this effect is insignificant and discountable, and cannot be meaningfully measured, it is not likely to adversely affect Indiana bats.

Additional conservation measures that will be utilized include:

- Preserving the wetlands on the site to the maximum extent possible which can potentially be used by bats as travel corridors;
- Implementing soil conservation and dust control best management practices, such as watering dry disturbed soil areas to keep dust down, and using staked, recessed silt fence and anti tracking pads to prevent erosion and sedimentation in surface waters on the site, and;
- Stormwater pond/s will not be maintained with any chemicals that might adversely affect bats or insect populations on which they may feed.

These measures will result in minimizing potential adverse effects to Indiana bats as well as Northern long-eared bats that have a similar niche as the Indiana bat.

2.2 Northern long-eared bat

Winter Habitat: Same as the Indiana bat northern long-eared bats spend winter hibernating in caves and mines, called hibernacula. They typically use large caves or mines with large passages and entrances; constant temperatures; and high humidity with no air currents. Specific areas where they hibernate have very high humidity, so much so that droplets of water are often seen on their fur. Within hibernacula, surveyors find them in small crevices or cracks, often with only the nose and ears visible.

Summer Habitat: During summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees. Males and non-reproductive females may also roost in cooler places, like caves and mines. This bat seems opportunistic in selecting roosts, using tree species based on suitability to retain bark or provide cavities or crevices. It has also been found, rarely, roosting in structures like barns and sheds.

Feeding Habits: Northern long-eared bats emerge at dusk to fly through the understory of forested hillsides and ridges feeding on moths, flies, leafhoppers, caddisflies, and beetles, which they catch while in flight using echolocation. This bat also feeds by gleaning motionless insects from vegetation and water surfaces.

Conclusion - The northern long eared bat requires/occupies practically the same habitat niche as the Indiana bat. Impacts to habitat and mitigation would be consistent with the recommendations for the Indiana bat.

2.3 Bog turtle

The bog turtle is a semi-aquatic freshwater turtle that prefers open, shallow wetlands with soft soils that are saturated by perennial groundwater discharge. Habitat and associated flora vary throughout the bog turtle's range; however, in the northern part of its range (Connecticut, Massachusetts, New York, New Jersey, Pennsylvania) the bog turtle exhibits a strong preference for fens fed by calcium-rich groundwater from limestone, marble or other calcareous material. These palm-sized, secretive turtles spend much of their lives hidden in soft soils or under plant

material, which serves as a refuge and aids in thermoregulation. The bog turtle is one of the few turtles that remain within its core wetland habitat to nest, typically selecting hummock-forming plants on which to deposit its eggs. Bog turtles living in groundwater-fed, calcareous wetland habitats with low open vegetation may use areas of apparently less suitable habitat seasonally. Bog turtles are omnivorous and can live more than 50 years. The U.S. Fish and Wildlife Service listed the bog turtle as *Threatened* in 1997 because of loss of habitat. It is listed as *Endangered* by the New York State Department of Environmental Conservation (NYSDEC).

The wetlands on the property were surveyed and the wetland communities were assessed for the presence of habitat characteristics consistent with the bog turtle federal recovery plan (U.S. Fish and Wildlife Service, 2001): 1) soft, saturated organic and/or mineral soil; 2) hydrologic regime derived from perennial groundwater discharge; 3) plant community represented by a predominance of low-growing, native flora including sedges, rushes, grasses, forbs, mosses, and sometimes low shrubs; 4) tree canopy cover less than 50% allowing adequate sunlight to reach the ground, and 5) Fen indicator plants (calcicoles) including, shrubby cinquefoil (*Pentaphylloides floribunda*), grass-of-parnassus (*Parnassia glauca*), and tamarack (*Larix laricina*).

Conclusion – The wetlands on the site are a complex of habitat types and include open marsh wetland and associated ponds. The marsh community features a few tussock sedge (*Carex stricta*), cattail (*Typha* sp.), reed grass (*Phragmites* spp.) reed canary grass (*Phalaris arundinaceae*), and a scrub-shrub/swamp community which includes red maple (*Acer rubrum*), green ash (*Fraxinus pennsylvanica*) and various shrubs (*Cornus*, *Salix*, *Viburnum*). The hydrology in the wetland complex ranged from dry to inundated with water levels ranging between 30-60 cm in the ponded areas and dry areas within the marsh. Soils within the wetland are Palms muck and are deep organic soil. Hydrology is generally surface from the ponds and beaver activity may further impact the site hydrology. The site does not contain bog turtle habitat but offsite areas associated with Onteora pond offers potential generic habitat. No mitigation measures are proposed for any site work.

3.0 PHOTOGRAPHS

Wetland/Pond



Mixed Upland Forest – center of site



**Attachment - NYSDEC Letters
October 12, 2017 and August 28, 2018**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, New York Natural Heritage Program
625 Broadway, Fifth Floor, Albany, NY 12233-4757
P: (518) 402-8935 | F: (518) 402-8925
www.dec.ny.gov

October 12, 2017

Michael Nowicki
Ecological Solutions, LLC
1248 Southford Road
Southbury, CT 06488

Re: 850 Route 28, LLC
County: Ulster Town/City: Kingston

Dear Mr. Nowicki:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

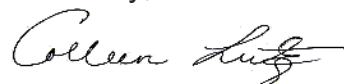
We have no records of rare or state-listed animals or plants, or significant natural communities directly at the project site.

About two miles from the project site is a documented maternity roost of **Indiana bat** (*Myotis sodalis*, state and federally listed as Endangered). These bats may travel 2.5 miles or more from documented locations. The main impact of concern for bats is the cutting or removal of potential roost trees. For information about any permit considerations for your project, contact the Permits staff at the NYSDEC Region 3 Office at dep.r3@dec.ny.gov, (845) 256-3054. For information about potential impacts of your project on this species and how to avoid, minimize, or mitigate any impacts, contact the Region 3 Wildlife staff at Wildlife.R3@dec.ny.gov, (845) 256-3098.

For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other resources may be required to fully assess impacts on biological resources.

For information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the NYS DEC Region 3 Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Sincerely,



Colleen Lutz
Assistant Biologist
New York Natural Heritage Program

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits, Region 3
21 South Putt Corners Road, New Paltz, NY 12561-1620
P: (845) 256-3054 | F: (845) 255-4659
www.dec.ny.gov



**Department of
Environmental
Conservation**

August 28, 2018

Ryan Loucks
4411 Rte 9, Suite 200
Hudson, NY 12534

RE: SEQR LEAD AGENCY DESIGNATION
850 Route 28 LLC, Site Plan
Town of Kingston, Ulster County

CHID: 7784

Dear Mr. Loucks:

This is in response to your notice dated August 13, 2018 on behalf of the Town of Kingston Planning Board requesting SEQR Lead Agency Status for the above noted project. From the information provided, it is apparent that the project is a Type 1 action disturbing more than 10 acres in which the Town of Kingston Planning Board has coordinated the review of the potential environmental impacts.

Based upon our review of the circulated documents, this office has identified the following environmental concerns:

PROTECTION OF WATERS

The following waterbody is located within or near the site you indicated:

Name	Class	DEC Water Index Number	Status
Tributary of Praymaher Brook	C[T]	H-171-25-5 or 6	Protected

However, effluent from onsite retention ponds should not increase the temperature of Praymaher Brook regardless of seasonality.

If a permit is not required, please note, however, you are still responsible for ensuring that work shall not pollute any stream or waterbody. Care shall be taken to stabilize any disturbed areas promptly after construction, and all necessary precautions shall be taken to prevent contamination of the stream or waterbody by silt, sediment, fuels, solvents, lubricants, or any other pollutant associated with the project.



-OVER PLEASE-

FRESHWATER WETLANDS

The project/site is near or in Freshwater Wetland KW-3, Class 2. Be aware that a Freshwater Wetlands permit is required for any physical disturbance within these boundaries or within the 100 foot adjacent area, which includes improvements to the access road.

The United States Department of the Army, Corps of Engineers' New York District Office (ACOE) also has authority under federal law to regulate wetlands in New York State. An ACOE permit may be required for this proposal. You should have the project sponsor contact the ACOE telephone: (917) 790-8411 as early as possible in the planning process to determine if the project will involve additional ACOE approval. If federal wetlands are involved, the ACOE may require a Water Quality Certification from DEC.

STATE-LISTED SPECIES

According to Department records, the following state-listed species have been recorded within or near the project site: Bald Eagle (NYS Threatened) and Indiana bat (NYS Endangered). The potential impacts of the proposed project on these species should be fully evaluated during the review of the project pursuant to SEQR. In addition, project modification may be needed to adequately mitigate any potential impacts identified.

Bald Eagle

Bald Eagles nests have been documented in proximity to the project location, these occurrences are associated with the Ashokan Reservoir, located to the west of the site. While at this time no additional submission is needed to evaluate impacts to Bald Eagles, the project sponsor should keep in mind new nests on the reservoir can be established each nesting season. In some locations on the reservoir, a new nest would be within the distance where the Department would require additional review of impacts related to noise. As such, the locations of nests should be reevaluated annually with regard to this project.

Indiana Bat

Indiana bat roost trees are located within 2.5 miles of this project site. Impacts to Indiana bats could result from activities at the site. Of particular concern would be activities that remove forested habitat, and when those activities would take place. Additional concerns include impacts to water quality of the surrounding wetlands, and noise, dust, and pesticide use from the construction and operation of the facility. The attached USFWS Indiana Bat Factsheet includes additional information on potential impacts to this species. Since the construction will impact more than 10 acres of forested habitat, an analysis of % forest cover within 2.5 miles of the known roost tree should be undertaken. The following information at this point is needed for the proposed project:

- A time of year tree cutting restriction of (October 1 to March 31) would be required to avoid direct impacts to bats.

- Additional mitigation measures may be required.
- Habitat loss/fragmentation – due to clearing over 10-acres, applicant must show that over 35% of forest coverage remains within 2.5 mile radius of the known roost tree after clearing. Please contact DEC during application review to begin this process.
- A full assessment of impacts that would result from the construction and operation of the site would be needed, then measures may be required to avoid and minimize those impacts. If impacts cannot be fully avoided and minimized, there may be the need for additional study and/or an Incidental Taking permit. All efforts should be made to reduce the size of the clearing footprint. Justification must be made for proposed footprint remaining.

Please note a project sponsor may not commence site preparation, including tree clearing, until the provisions of SEQR are complied with and all necessary permits issued for the proposed project.

The absence of other species data does not necessarily mean that additional rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

SPDES STORMWATER (CONSTRUCTION)

If project activities will disturb over 1 acre of land, the project sponsor must obtain coverage under the current SPDES General Permit (GP-0-15-002) for Stormwater Discharge from Construction Activities, and a Stormwater Pollution Prevention Plan (SWPPP) must be developed which conforms to requirements of the General Permit. As the Town of Kingston is an MS4 community (Municipal Separate Storm Sewer System), the Town is responsible for review and acceptance of the SWPPP. [The MS-4 Acceptance Form must be submitted to the Department.] Authorization for coverage under the SPDES General Permit is not granted until the Department issues any other necessary DEC permits.

MINED LAND RECLAMATION

On the provided Full Environmental Assessment Form (fEAF), the project sponsor indicated 200,000 cubic yards of material must be moved around the site to create a level pad for building construction. A Mined Land Reclamation permit may be required for this activity. Please provide the following additional information for Department review:

- Plans showing the limit of disturbance
- A topographic map
- Excavation/Grading plan
- Information on rock removal
 - Amount and where material is being placed
 - Timeframe/Schedule for site preparation, if different from periods listed in the fEAF. Please also provide when you think Phase 1 would be complete.
 - Description of rock crushing and blasting activities
- Information on visual and noise mitigation structures considered such as berms
- A statement that all material will be retained onsite

AIR REGISTRATION

Air permits or registrations may be required for the proposed activity. Please provide additional information as follows:

- Use of rock crushing machinery or other dust producing equipment
- Generator use for construction and operation

BENEFICIAL USE DETERMINATION

Please confirm no outside fill will be brought to the property as part of this project. If fill is needed, information on source of the fill and type of material will be required. Additional testing may also be required.

In addition to transmitting the above comments, this letter also serves to convey that we have no objection to the Town of Kingston Planning Board assuming lead agency status for this project. As such, it will be the responsibility of the Town of Kingston Planning Board to determine the significance of the action (i.e. positive/negative declaration).

Please contact this office if you have questions regarding the above information. Thank you.

Sincerely,



Michael Grosso
Division of Environmental Permits
Region 3, Telephone No. 845/256-3165

cc: D. Lefever
J. Fisher, R3 Ecosystem Health
L. Masi, R3 Wildlife
H. Duda, Division of Mineral Resources

enc: Indiana Bat Project Review Fact Sheet

Indiana Bat Project Review Fact Sheet

New York Field Office

The following fact sheet is intended to provide information to assist project sponsors, as well as any involved Federal and State agencies, with the review of activities that occur within the likely range of the Indiana bat (*Myotis sodalis*) within the State of New York. This fact sheet can be used to assist with compliance with the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*). **PLEASE NOTE - this fact sheet does not apply to wind development projects as they involve many unique considerations.** Contact the U.S. Fish and Wildlife Service (Service) directly for technical assistance for wind projects. In addition, information on evaluating impacts from wind projects on Indiana bats can be found at <http://www.fws.gov/midwest/endangered/mammals/inba/WindEnergyGuidance.html>.

Background

The Indiana bat is federally- and New York State-listed as an endangered species with a range that extends from the Midwest to northeastern and southeastern parts of the United States. Additional information on Indiana bat occurrences can be found at <http://ecos.fws.gov> and <https://www.fws.gov/northeast/nyfo/es/NYSpecies.htm>.

The Indiana bat typically hibernates in caves/mines in the winter and roosts under bark or in tree crevices in the spring, summer, and fall. Suitable potential summer roosting habitat is characterized by trees (dead, dying, or alive) or snags with exfoliating bark, or containing cracks or crevices that could potentially be used by Indiana bats as a roost. The minimum size roost tree observed to date is 2.5 inches diameter breast height (d.b.h.) for males and 4.3 inches d.b.h. for females. However, maternity colonies generally use trees greater than or equal to 9 inches d.b.h. Overall, roost tree structure appears to be more important to Indiana bats than a particular tree species or habitat type. Females appear to be more habitat specific than males presumably because of the warmer temperature requirements associated with gestation and rearing of young. As a result, they are generally found at lower elevations than males may be found. Roosts are warmed by direct exposure to solar radiation, thus trees exposed to extended periods of direct sunlight are preferred over those in shaded areas. However, shaded roosts may be preferred in very hot conditions. As larger trees afford a greater thermal mass for heat retention, they appear to be preferred over smaller trees. Additional information on potentially suitable summer habitat can be found in the Draft Indiana Bat Recovery Plan (Service 2007) at <http://www.fws.gov/northeast/nyfo/es/IndianaBatapr07.pdf> and at <http://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html>

Streams associated with floodplain forests, and impounded water bodies (ponds, wetlands, reservoirs, etc.) where abundant supplies of flying insects are likely found, provide preferred foraging habitat for Indiana bats, some of which may fly up to 2-5 miles from upland roosts on a regular basis. Indiana bats also forage within the canopy of upland forests, over clearings with early successional vegetation (*e.g.*, old fields), along the borders of croplands, along wooded fencerows, and over farm ponds in pastures (Service 2007). While Indiana bats appear to forage in a wide variety of habitats, they seem to tend to stay fairly close to tree cover.

Threats include disease (white-nose syndrome), habitat loss or degradation, human disturbance, contaminants, and collision with wind turbines.

Indiana Bat Project Review Fact Sheet

New York Field Office

Evaluation of Presence or Probable Absence

To determine whether the proposed project site may be occupied by the Indiana bat, the Service recommends the following analytical approach¹:

Step 1. Is the proposed project within an area² identified by the Service as known or likely to contain Indiana bats?

- No: No further coordination regarding the Indiana bat is necessary at this time.
- Yes: Proceed to Step 2.

Step 2. Is there existing information regarding probable presence/absence of Indiana bats (e.g., proximity to hibernacula, prior summer netting/acoustics)³?

- No: Proceed to Step 3.
- Yes: Document existing information and coordinate with the Service.

Step 3. Is there any suitable Indiana bat habitat⁴ present within the proposed action project area?

- No: No further coordination regarding the Indiana bat is necessary at this time.
- Yes: Determine whether the proposed project involves any effects to Indiana bats.

Determination of Effects

Determine for each project whether effects to Indiana bats or their habitat are expected. If there are impacts to habitat while bats are not present, assess the scale and scope of those impacts to determine whether bats returning in the spring may be affected.

For example, consider whether a project may result in temporary or permanent increases in noise, vibration, dust, chemical use, lighting, vehicle use, and general levels of human activity. Also, consider whether a project may result in temporary or permanent loss, degradation, and/or fragmentation of roosting, foraging, swarming, commuting, or wintering habitat.

Certain transportation projects have already been evaluated and processes developed in accordance with a Rangewide Consultation and Conservation Strategy:

<https://www.fws.gov/Midwest/endangered/section7/fhwa/>

Surveys for Indiana Bats

Should suitable Indiana bat habitat be present and should the proposed project have the potential for impacting Indiana bats, coordinate with the Service to determine whether 1) assuming presence or 2) conducting surveys⁵ is the best approach. Due to the limited time frame when bat surveys can be completed and in order to avoid project delays, it is strongly recommended that the project sponsor (or involved Federal agency) contact the Service as early as possible during

¹ This reflects our current understanding but future studies may require a revision to this guidance.

² <https://ecos.fws.gov/ipac/>

³ <http://www.fws.gov/northeast/nyfo/es/NYSpecies.htm> and <http://www.dec.ny.gov/animals/38801.html>

⁴ <http://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html>

⁵ <http://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html>

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project planning to determine if surveys or additional avoidance and/or minimization measures are appropriate. Should Indiana bat presence be detected, the Service should be contacted immediately for further assistance in determining whether your action may impact Indiana bats. If no bats are detected after protocol surveys, submit the results as soon as possible for our review in accordance with the timeframes agreed upon during the review of the survey scope of work.

Conservation Measures

Conservation measures are designed to minimize the likelihood of adverse impacts or result in beneficial effects to Indiana bats from projects. The following guidance represents general recommendations that may be incorporated into the proposed project design as appropriate.

Project Siting

- Avoid removing or damaging documented roosts or trees surrounding roosts.
- Avoid impacts to forest patches with documented roosts/foraging use (e.g., forest within 0.25 mile of known roosts).
- Minimize impacts to all forest patches.
- Maintain forest patches and forested connections (e.g., hedgerows, riparian corridors) between patches.
- Maintain natural vegetation between forest patches/connections and developed areas.
- Maintain at least 35%⁶ of forest habitat within maternity colony home range⁷.
- Restore and/or protect on- and off-site habitat.
- Avoid impacting potential roost trees to the greatest extent practicable
 - Retain standing live trees that have exfoliating (separated from cambium) bark.
 - Retain black locust, shellbark, shagbark, and bitternut hickories as possible, regardless of size or condition (live, dead, or dying).
 - Retain standing snags as much as possible regardless of species.

Project Construction

- When >10 miles from a P3 or P4 hibernaculum or >20 miles from a P1 or P2 hibernaculum⁸, but within the summer range of the Indiana bat, the clearing of potential roost trees, generally ≥ 4 inches should occur from October 1 through March 31⁹.
- When <10 miles from a P3 or P4 hibernaculum or <20 miles from a P1 or P2 hibernaculum, clearing should be conducted from October 31 to March 31.
- Use bright flagging/fencing to demarcate trees to be cleared.

⁶ Minimum % forest cover within Indiana bat maternity colony home range (NYSDEC unpublished data)

⁷ For explanation of how to delineate Indiana bat maternity colony home range, please see the Indiana Bat Section 7 and Section 10 Guidance for Wind Energy Projects document located at <http://www.fws.gov/midwest/Endangered/mammals/inba/index.html>

⁸ See Service 2007 for definitions of Priority 1-4 hibernacula. Contact the NYFO for information regarding the closest hibernaculum to your project

⁹ Site specific information may allow for deviations from the listed dates. Also, there may be cases (e.g., very small number of trees) when we believe the likelihood of impacts is low regardless of when tree removal occurs.

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Project Operations/Maintenance

- Minimize lighting impacts (*e.g.*, limit number of lights, direct lights downward, fully shield lights, use motion sensors or timers).
- Conduct activities in a manner that will minimize impacts to potential drinking water sources for bats.

As we better understand a given proposed project, including any proposed conservation measures for Indiana bats, we may have additional recommendations. Project sponsors should seek assistance from the Service to develop these measures.

Information to Provide to the Service

The project's environmental documents should identify project activities that might result in impacts to the Indiana bat or their habitat. Information on any potential impacts and the results of any recommended habitat analyses or surveys for the Indiana bat should be provided to the New York Field Office and will be used to evaluate potential impacts to the Indiana bat and/or their habitat, and to determine the need for further coordination or consultation pursuant to the ESA. We encourage the project sponsor to submit these materials as early in the planning process as possible to all appropriate parties (*e.g.*, involved Federal/State agencies, the New York State Department of Environmental Conservation, Service).

Specifically, the following information should be provided:

- whether a Federal agency is involved or not;
- a detailed project description;
- a map of the proposed project area with coarse vegetation cover types (*e.g.*, emergent wetland, open field) in acres;
- a summary table of current vs. proposed future acreage of each cover type;
- provide number or acreage of trees proposed for removal and timing of removal;
- an overlay of the project on the vegetation map;
- a description of the forested area onsite, including the type of forest (*e.g.*, oak-hickory), approximate stand age, and presence of dead or live trees with split branches or trunks or exfoliating bark;
- photographs representative of all cover types on the site and encompassing views of the entire site;
- a topographic map with the project area identified; and
- a summary of proposed conservation measures.

References:

U.S. Fish and Wildlife Service. 2007. Indiana Bat (*Myotis sodalis*) Draft Recovery Plan: First Revision. U.S. Fish and Wildlife Service, Fort Snelling, MN. 258 pp.

Attachment - USFWS List

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

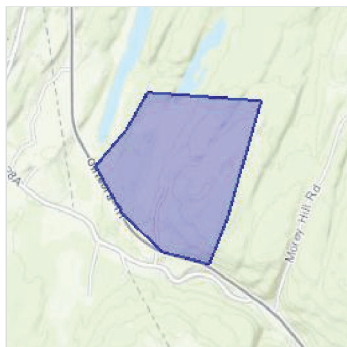
Project information

NAME

850 Route 28, LLC Site

LOCATION

Ulster County, New York



Local office

New York Ecological Services Field Office

☎ (607) 753-9334

📠 (607) 753-9699

3817 Luker Road
Cortland, NY 13045-9349

<http://www.fws.gov/northeast/nyfo/es/section7.htm>

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species¹ are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service.

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Threatened

Reptiles

NAME	STATUS
Bog Turtle <i>Clemmys muhlenbergii</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6962	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any activity that results in the take (to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service³. There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured. Any person or organization who plans or conducts activities that may result

in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

MIGRATORY BIRD INFORMATION IS NOT AVAILABLE AT THIS TIME

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Such measures are particularly important when birds are most likely to occur in the project area. To see when birds are most likely to occur in your project area, view the Probability of Presence Summary. Special attention should be made to look for nests and avoid nest destruction during the breeding season. The best information about when birds are breeding can be found in [Birds of North America \(BNA\) Online](#) under the "Breeding Phenology" section of each species profile. Note that accessing this information may require a [subscription](#), [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) that might be affected by activities in your project location. These birds are of priority concern because it has been determined that without additional conservation actions, they are likely to become candidates for listing under the [Endangered Species Act \(ESA\)](#).

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#). The AKN list represents all birds reported to be occurring at some level throughout the year in the counties in which your project lies. That list is then narrowed to only the Birds of Conservation Concern for your project area.

Again, the Migratory Bird Resource list only includes species of particular priority concern, and is not representative of all birds that may occur in your project area. Although it is important to try to avoid and minimize impacts to all birds, special attention should be made to avoid and minimize impacts to birds of priority concern. To get a list of all birds potentially present in your project area, please visit the [E-bird Explore Data Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird entry on your migratory bird species list indicates a breeding season, it is probable the bird breeds in your project's counties at some point within the time-frame specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

Facilities

Wildlife refuges

Any activity proposed on [National Wildlife Refuge](#) lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGES AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

This location overlaps the following wetlands:

FRESHWATER FORESTED/SHRUB WETLAND

[PFO1/EM1E](#)

FRESHWATER POND

[PUBHh](#)

[PUBHx](#)

A full description for each wetland code can be found at the National Wetlands Inventory website: <https://ecos.fws.gov/ipac/wetlands/decoder>

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.