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REPORT

August 2022

Taconic
136 Coon Brook Road
Petersburgh, New York 12138
(Site No. 442047)

Fish & Wildlife Impact Analysis (Steps 1 & 2A)

TABLE OF CONTENTS

Page

LIST OF FIGURES

LIST OF APPENDICES

1.0 INTRODUCTION AND BACKGROUND

Weston & Sampson Engineers, Inc. (Weston & Sampson) has prepared this Fish and Wildlife Impact Analysis (FWIA) report on behalf of Tonoga, Inc. dba Taconic (Taconic) for the Taconic Site located at 136 Coon Brook Road in the Town of Petersburgh, Rensselaer County, New York (the "Site"), see Figure 1, Site Locus. The New York State Department of Environmental Conservation (NYSDEC) and Taconic have entered into an Order on Consent and Administrative Settlement (Index No. CO 4-20160519-01) effective November 11, 2016. This order requires Taconic to conduct a Remedial Investigation/Feasibility Study (RI/FS) at the Site. This FWIA was prepared in accordance with the RI/FS process and consists of a combination of steps outlined in the NYSDEC's *Fish and Wildlife Impact Analysis (FWIA)* guidance document (NYS DEC, 1994), *DER 10/Technical Guidance for Site Investigation and Remediation* (NYSDEC, 2010), and the approved *FWIA Scope of Work* (April 2021).

This report presents the results of the approved scope of work by NYSDEC, which includes of Step I and parts A and B of Step II of the FWIA guidance document. The objective of Step I of the NYSDEC FWIA (Site Description) is to describe the Site and study area in terms of topography, cover types, surface hydrology/drainage, fish and wildlife resources and value, and to identify potentially applicable fish and wildlife criteria. Parts A and B of Step II, consist of an analysis of contaminant specific pathways, and criteria specific analysis has been performed of potential contaminants of concern. Included herein is information relevant to this FWIA from previous investigatory activities as documented in the *Interim Investigation Deliverable Taconic, Inc.* (Parsons, 2020).

2.0 SITE CONTEXT (STEP 1)

2.1 General

This section provides descriptions of the physical and biological components of the Site and the surrounding study area. For the purposes of this FWIA, the study area is defined as the Site and includes areas surrounding the Site located within a one-half mile radius of the site perimeter. Weston & Sampson has described ecological cover types/vegetative communities present within the one-half mile radius, as well as existing natural resources within a two-mile radius of the Site are also described. These resources include the following:

- NYSDEC significant habitats as defined by the NYS Natural Heritage Program,
- Habitats capable of supporting threatened and rare endangered species,
- NYS regulated wetlands, wild, scenic, and recreational rivers, significant coastal fish and wildlife habitats, and state forests, preserves, parks, and other designated open green spaces.

2.2 Site Description (Step 1-A)

The Taconic Site, located in Petersburg New York is northeast of the Little Hoosic river. The Site comprises approximately 23.54 acres and includes all or portions of three (3) individual parcels. The Parcels, listed on the Petersburg Assessor's Map are:

- 97.-1-64.2 – includes most of the Site buildings (Building 2/4/5 and Building 6/9/10/11 complexes)
- 97.-1-62 – includes the remaining buildings (Buildings 1 and 3)
- 97-.1-61 – vacant; a portion of this parcel contains the septic system for Building 1

The Site contains a developed area including buildings, paved surfaces, and stormwater management facilities along Coon Brook Road, as well as non- developed portions of the Site consisting of mowed lawn, ornamental landscaping, drainage swales, and woodlands (Figure 2). Site structures consist of manufacturing buildings arranged in three complexes. Buildings 1 and 3 are located in the central portion of the Site, on the west side of Coonbrook Road. Buildings 2, 4, and 5 are located on the northern portion of the Site on the east side of Coonbrook Road. Buildings 6, 9, 10 and 11 are located on the southern portion of the Site on the east side of Coonbrook Road.

The Site is located at: Latitude 42.74173 and
Longitude -73.36034

The Site is bounded to the south by forested lands and residential lots, to the east by Route 22 and the Little Hoosic River, to the west by Russell Road and Toad Point Road with extensive forested landscapes, and to the north by residential lots along Route 22, and Hewitt Road, as well as agricultural and forested lands. The Site is located in an area zoned for industrial use in the Town of

Petersburgh. The area surrounding the Site is generally characterized as undeveloped. A tributary to the Little Hoosic river runs through the Site from northwest to southeast (Figure 2).

The Site lies within the New England Uplands Physiographic Province of New York State (National Park Service, 2021). The New England Uplands Province extends north into Canada and is flanked by the Piedmont Plains to the south. The terrain is characterized by plateaus and narrow valleys and is closely bordered by the Taconic Mountains to the east.

As shown on Figure 3, which was provided by Taconic, stormwater runoff from the Site is collected and conveyed within a system of catch basins, storm sewers, and drainage swales. Stormwater for buildings 1 thru 5 is conveyed to Unnamed Pond 3 in the northern portion of the site, and then off-site under Route 22 to the Little Hoosic River. Stormwater from paved areas of the complex associated with Buildings 6, 9, 10, and 11 are collected in catch basins and conveyed through storm sewers which discharge to a low-lying wetland area east of Building 10. The parking lot north of Coon Brook Road and the low-lying wetland area south of Building 10 drain through an Unnamed Stream and culvert under Route 22 to the Little Hoosic River. During heavy rain events, a minor component of stormwater overland flow discharges directly to Unnamed Stream 1.

2.3 Description of Fish and Wildlife Resources (Step 1-B)

Fish and wildlife resources have been identified in the vicinity of the Site per the FWIA guidance (NYSDEC 1994). These resource communities are defined by the pattern of natural or cultural land use on the site and surrounding lands. Distinct ecological communities have been identified on and within a one-half mile radius of the Site, defined as the "study area" (Figure 4) and documented fish and wildlife resources have been identified within a two-mile radius of the Site (Figure 5).

2.3.1 Study Area Vegetation Communities:

Vegetation cover types were identified on site and within a one-half mile radius of the Site (study area) through on-site investigations, as well as from recent GIS land use mapping of the Taconic Site. Vegetation cover types are defined as areas characterized by general vegetation types across a landscape (NASA, 1999). Based primarily upon the dominant vegetation present as mapped by the Cornell University Geospatial Information Repository (CUGIR, 2021) and mapping produced by the Rensselaer Plateau Alliance (Data Basin, 2021), cover type designations were applied to the study area. Cover type designations follow the ecological community descriptions in the New York Natural Heritage Program (NYNHP) document Ecological Communities of New York State, Second Edition (Edinger, et al., 2014).

Cover types identified in the study area consist of natural and cultural terrestrial, wetland, and aquatic communities. The "cultural" designation reflects the degree of human disturbance to the study area, including residential, transportation, industrial or other human uses. Below are descriptions of the vegetation cover types identified within the study area.

2.3.2 Study Area Terrestrial Communities:

Upland Landscapes: Upland landscapes surrounding the Site are considered terrestrial systems, as described in (Edinger, et al., 2014). A portion of the natural habitat in the study area has been eliminated by Industrial and residential development. Semi-rural wildlife habitats consisting of mowed lawns, paved roads/parking lots, agricultural fields, and rural development have replaced the natural

habitats. The rural structure exterior cover type is characterized by the exterior surfaces of structures such as commercial buildings, residences, and bridges in a rural or sparsely populated suburban area (Edinger, et al., 2014). This cover type is present at the Site and to the south and east of the Site. This cover type is associated with sub-communities typical of the paved and unpaved roadways, mowed lawns/roadsides, and mowed lawn with trees cover types.

Other cultural cover types in the study area include those associated with agricultural activities and other rural land uses. *Cropland/field crops* are found in the southeastern portion of the study area, which include planted field crops. *Pasturelands* and other *cropland/field crops* land uses are found to the north and northeastern portion of the site, which are characterized by land permanently maintained as pasture for livestock and those rotated with hayfields. These sites are frequented by a variety of bird species.

Taconic Site: Most of the Site consists of the rural structure exterior cover type, with open areas of mowed grass with ornamental trees. These areas are classified as the mowed lawn cultural ecological community. Portions of the southeastern part of the site are classified as brushy/cleared land, which is comprised of patchy herb, shrub, and saplings. Areas of grass around facility buildings, parking lots, and associated facilities are less likely to be utilized commonly by wildlife due to the proximity of structures, noisy conditions, and the frequent presence of humans. Paved road/path and mowed roadside/pathways are endemic to the site, which maintains the areas immediately surrounding the roadways and parking lots associated with the building and operational facilities.

The area immediately surrounding the Site is a large forested ecological community, which is described in greater detail in the following section.

2.3.3 Off-Site Study Area:

Forested Ecological Communities

The hemlock-northern hardwood forest type is the largest natural ecological community in the study area. This forest type surrounds the site and is typically found on slopes and ravines, which are common throughout the study area (Data Basin, 2021). Successional northern hardwood forests are located on sites that have been cleared or disturbed by natural or cultural activities, while Beech-Maple Mesic forests are found on flat or rolling terrain with well-drained soils.

Hemlock-Northern Hardwood Forest

The canopy of hemlock-northern hardwood forest is typically arranged in a configuration of co-dominance between the eastern hemlock (Tsuga canadensis), and a few of the following species: sugar maple (Acer saccharum), red maple (Acer rubrum), yellow birch (Betula alleghaniensis), red oak (Quercus rubra), American beech (Fagus grandifolia), white ash (Fraxinus americana), chestnut oak (Quercus montana), white oak (Quercus alba), and white pine (Pinus strobus).

Beech-Maple Mesic Forest

This community is simpler in composition, with a codominance of sugar maple and American Beech. The saplings of these trees are abundant in these systems, and present as a shrub layer. Other trees found within this ecological community include yellow birch (Betula alleghaniencis), white ash (Fraxinus americana), hop hornbeam (Ostrya virginiana), and red maple (Acer rubrum).

Maple-Basswood Rich Mesic Forest
This cover type is correlated with bedrock outcrops and calcium rich herbaceous indicator species. High-species diversity is common, dominated by basswood (*Tilia americana*), white ash (*Fraxinus americana*), and sugar maple (*Acer saccharum*). Spring ephemeral herbaceous species and abundant ferns are common in this ecological community.

Successional Communities
This cover type results from either a naturally occurring or more often, human-induced disturbance such as logging or agricultural practices. The species found in these landscapes are those that existed in the seed bank in the soil or were dispersed by the wind, are adapted to landscape disturbance, and require sunny conditions.

Successional Northern Hardwood Forests
These forests are typically composed of opportunistic tree and shrub species that rapidly colonize disturbed landscapes. These include quaking aspen (*Populus tremuloides*), big-tooth aspen (*Populus grandidentata*), balsam poplar (*Populus balsamifera*), gray birch (*Betula populifolia*), pin cherry (*Prunus pennsylvanica*), black cherry (*Prunus serotina*), red maple (*Acer rubrum*), and white pine (*Pinus strobus*) (New York Flora Association, 2021). These terrestrial systems are typically found at the edges of developed residential, light industrial, and agricultural land uses.

Successional Red Cedar Woodland
This community is found where former agricultural lands have been abandoned in lower elevations (less than 1,000 ft) (Edinger, et al., 2014). Eastern red cedar (*Juniperus virginiana*) dominates this landscape, followed by gray birch (*Betula populifolia*), the non-native buckthorn (*Rhamnus cathartica*), hawthorn (*Crataegus spp.*), and shrubs and grasses commonly found in fields undergoing succession as described below.

Successional Old Field
These cover types are meadows that resulted from abandonment of agricultural fields or developed sites and consist of a mix of forbs and grasses. Goldenrods (*Solidago spp.*), timothy (*Phleum pratense*), bluegrasses (*Poa pratensis*), New England aster (*Sympyotrichum novae-angliae*), and evening primrose (*Oenothera biennis*) are a sampling of species found in this ecological community. Shrubs make up less than half of the total distribution of vegetation and consist primarily of dogwoods (*Cornus spp.*), sumac (*Rhus spp.*), and raspberries (*Rubus spp.*).

Successional Shrubland
Like *successional old fields*, this cover type has been disturbed and later colonized by successional vegetative species, but the distribution of these species is weighted more heavily in shrub types than grasses and forbs. Shrubby species make up more than half of the total distribution of vegetation and consist primarily of dogwoods (*Cornus spp.*), eastern red cedar (*Juniperus* virginiana), sumac (*Rhus spp.*), serviceberries (*Amelanchier spp.*), and raspberries (*Rubus spp.*). Often, non-native species occupy the disturbed sites and out-compete the native species. Invasive plants commonly consist of multiflora rose (*Rosa multiflora*), Russian olive (*Elaeagnus angustifolia*), buckthorns (*Rhamnus cathartica*/*Frangula alnus*), and honeysuckles (*Lonicera spp.*).

Cultural Ecological Communities
A number of cultural communities are present in the study area, where a mix of residential and agricultural uses have occurred over time. These systems are created by human activities and do not resemble the substrate or vegetative community that existed before human disturbance.

Rural Structure Exterior/Interior of Barns and Non-Agricultural Buildings
These cover types do not have an associated vegetative community other than those found growing in the cracks and ledges of buildings; rather, the structural surfaces of rural and suburban buildings provide nesting habitat for various birds, insects, and bats. The interior of buildings can also provide shelter for rodents and feral domestic species.

Conifer Plantation
This community type is found when the landowner has planted a monocultural stand of softwood evergreens to produce timber, to control erosion, to provide a windbreak/screen, or for wildlife habitat purposes. Trees found in these cover types include European larch (*Larix decidua*), Japanese larch (*Larix kaempferi*), and northern white cedar (*Thuja occidentalis*). Dense leaf-litter cover on the plantation ground-layer inhibits the growth of herbaceous and/or shrubby species.

Pine Plantation
The composition of tree species is typically comprised of either white pine (*Pinus strobus*), red pine (*Pinus resinosa*), Scotch pine (*Pinus sylvestris*), pitch pine (*Pinus rigida*), and jack pine (*Pinus banksiana*); while they are usually monocultures (one species selected), two or more species may be planted. As with the *conifer plantation*, understory and herbaceous vegetation is sparse.

Cropland/Row Crops/Field Crops
This community consists of row crops that are planted in agricultural fields. This type of landscape is found primarily in the northeastern and southern portion of the study area. Agricultural fields that have field crops used to feed livestock, such as timothy, oats, and alfalfa are also included in this cover type. Hayfields that are rotated to pasturelands are classified in the same community.

2.3.4 Study Area Aquatic Cover types:

Man-made and naturally occurring lacustrine, riverine, and palustrine cover types have been identified in the study area and are discussed in this section. Please refer to Figure 6 – waterbodies, and the half-mile radius and two-mile radius habitat maps in Figures 7 and 8, respectively. Figure 9 is the drainage map for the area.

2.3.5 Taconic Site:

Cultural Palustrine & Lacustrine Communities
These communities are a result of human activities, primarily those of stormwater management and drainage across developed sites. Modifications of the landscape to divert runoff change the hydrology of a site and can alter the substrate and ecological community to a substantial extent, resulting in a new system. At the Taconic Site, *Common reed marshes* were noted during site reconnaissance in the winter of 2021. This type of marsh is common along roadways and disturbed areas, and while remnant native plants can be found, the European common reed (*Phragmites australis*) frequently invades to such an extent that it becomes a monoculture. *Ditch/artificial intermittent streams* are located along

Route 22 and adjacent to Coon Brook Road. These ditches were constructed to handle drainage from impervious areas and to direct flows to stormwater retention and control structures. The sides of these ditches are usually dominated by non-native species such as reed canary grass (*Phalaris arundinacea*), European common reed (*Phragmites australis*), and sedges (*Carex spp.*).

Intermittent Stream

Multiple intermittent streams within the study area feed into the Little Hoosic River. Intermittent streams are small, ephemeral streambed communities in the uppermost segments of stream systems where water flows only during the spring or after a heavy rain, and often remains longer, ponded in isolated pools. These streams typically have a moderate to steep gradient and hydric soils. The streambed may be covered with diverse emergent and submergent bryophytes. Characteristic vascular plants are hydrophytic and may include American golden-saxifrage (*Chrysosplenium americanum*) and pennywort *(Hydrocotyle americana*). Fauna is diverse and limited to species that do not require a permanent supply of running water, which inhabit the streambed only during the rainy season, or that are pool specialists. Characteristic faunae include amphibians such as green frog (*Rana clamitans*) and northern two-lined salamander (*Eurycea bislineata*), and macroinvertebrates such as water striders (*Gerris spp*.), water boatman (*Corixidae*), caddisflies (*Trichoptera*), mayflies (*Ephemeroptera*), stoneflies (*Plecoptera*), midges (*Chironomidae*), blackflies (*Simulidae*), and crayfish (*Cambarus bartoni*).

These ecological communities are shown in Figures 4 and 5, however please note that data was unavailable for approximately half of project area.

2.3.6 Off-Site Study Area

Rocky Headwater Stream

The Little Hoosic River is classified as a rocky headwater stream in the study area. This riverine system has a moderate gradient and cold flowing water over bedrock. These types of rivers are typically found in valleys and do not meander much across the landscape. Water depths in Little Hoosic River depend on the time of year and quantity of rainfall. Flow rates ranged from 70.7 cubic feet per second to 148.7 cubic feet per second when the USGS gage was operational, between the years of 1952 and 1996 (USGS, 2021). Substrates in these types of streams are typically cobble and boulders, with organic matter from surrounding forests providing most of the food for the aquatic organisms in the stream.

Vegetation in rocky headwater streams is rare due to shading from the surrounding forest. The water is typically highly oxygenated and run clear. The Little Hoosic River is a Class C water body, which is appropriate for fishing and non-contact activities (NYS DEC, 2021). Additionally, several off-site unnamed Rocky Headwater Streams exist within the study area which feed into the Little Hoosic River.

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Shallow Emergent Marsh
Shallow emergent marshes occur primarily within the 2-mile radius west of the site. Upland drainage flows into these wetlands, which are permanently saturated and flooded seasonally. These types of marshes are very common in the region but can vary in species composition and topographic arrangement. Common herbaceous species include cattails (*Typha latifolia*), sedges (*Carex spp.*), sensitive fern (*Onoclea sensibilis*) as well as a variety of rushes and flowering species (EPA, 2018).

Hemlock-Hardwood Swamp
These mixed swamps have dense forested canopies with low species diversity and receive groundwater through an acidic substrate. They are located to the west of the study area, near the two-mile radius border. Tree species are dominated by yellow birch (*Betula alleghaniensis*) and eastern hemlock (*Tsuga canadensis*), with highbush blueberry in the shrub layer (which is often sparse).

Farm Pond/Artificial Pond
Within the 1/2 -mile radius portion of the study area, several *farm pond/artificial pond* aquatic communities are located to the east and west of the facility site. These ponds are typically man-made and generally lack regularly flowing inlets and outlets. Species are typically those that naturally migrate to the site or ones that were planted/stocked.

2.3.7 Site and Off-Site Study Area Fauna:

The presence of fish and wildlife in the study area was evaluated through correspondence with appropriate regulatory agencies and desktop literature and mapping reviews. Lists of avian, mammalian, amphibious, and reptilian wildlife species potentially inhabiting the identified cover types discussed in Section 2.2.2 and 2.2.3 are reviewed in the following paragraphs. Species endemic to Rensselaer County and where possible, the study area were ascertained using data from the New York State Herp Atlas Project (NYS DEC, 1999), the NYS Breeding Bird Atlas (NYS DEC, 2021), and the Ecological Communities of New York State (Edinger, et al., 2014). Bird species identified by the NYS Breeding Bird Atlas can be found in Appendix A – Project Documentation.
Taconic Site
Cultural Cover types
The crevices and eaves of buildings in the *rural structure exterior* cover type provide roosting, nesting, and shelter for insects and some commonly sighted birds. These include the non-native birds like rock doves (*Columba livia*), house sparrows (*Passer domesticus*), and European starlings (*Sturnus vulgaris*). Native birds include the American robin (*Turdus migratorius*), Eastern phoebe (*Sayornis phoebe*) and barn swallows (*Hirundo rustica*). *Mowed lawns* are also a popular habitat for the American robin, with the occasional sighting of killdeer (*Charadrius vociferus*).

Forested Ecological Communities

Although the site contains limited forested ecological communities, the surrounding areas consist predominately intact forests which support a wide range of mammalian, amphibian, and avian species. The limited forested areas on site located parallel to the unnamed tributary between the buildings 4, 5 and 9, 6 and 11 are fairly fragmented however**,** may support some habitat for fauna and bird species.

This limited forest area may support the following fauna:

Hemlock-northern hardwood forests provide habitat for the blue-headed vireo (*Vireo solitarius*), the Blackburian warbler (*Dentroica fuscal*), Acadian flycatchers (*Empidonax virescens*), and the black-throated green warbler (*Dendroica virens*), though these birds are not restricted to this cover type. *Beech-maple mesic forests* also support the black-throated green warbler, as well as the red-eyed vireo (*Vireo olivaceus*), oven birds (*Seiurus aurocapillus*), and black-throated blue warblers (*Dendroica caerulescens).* Insufficient research has been conducted to determine typical fauna in *Maple-bass rich mesic forests* (Edinger, et al., 2014).

Successional Ecological Communities

While more data is needed to determine migrating bird habitat, the chestnut-sided warbler (*Dendroica pensylvanica*) is characteristic of the *successional northern hardwood* cover type. Prairie warblers (*Dendroica discolor*) are found in *successional red cedar woodlands*, while a wider range of birds, including field sparrows (*Spizella pusilla*), savannah sparrows (*Passerculus sandwichensis*), and American goldfinch (*Carduelis tristis*) are often sighted in *successional old fields*. Field sparrows and chestnut-sided warblers are also common in *successional shrublands*, along with gray catbirds (*Dumetella caroliniencis*), blue-winged warblers (*Vermivora pinus*), brown thrashers (*Toxostoma rufum*), yellow-breasted chats (*Icteria virens*), eastern towhees (*Pipilo erythrophthalmus*), song sparrows (*Melospiza melodia*), and indigo buntings (*Passerina cyanea*).

Off-Site Study Area

The Taconic site may lie within a rich, biologically diverse landscape encompassing the western portion of the Rensselaer Plateau and the eastern border of the Taconic Foothills (National Park Service, 2021). Common mammals found in the cover types discussed in Section 2.2.2 include fisher (*Prionailurus viverrinus*), bobcat (*Lynx rufus*), American black bear (*Ursus americanus Pallas*), moose (*Alces alces*), porcupine (*Erethizon dorsatum*), white-tailed deer (*Odocolius virginanus*), chipmunk (*Tamias striatus*), and Eastern gray squirrel (*Sciurus carolinensis*) (Rensselaer Plateau Alliance, 2021).

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Cultural Ecological Communities

Rural structure exterior/interior of barns and non-agricultural buildings cover types in the larger study area are expected to provide habitat for the same species listed for the Taconic Site. Golden-crowned kinglets (*Regulus satrapa*), red-breasted nuthatches (*Sitta canadensis*), yellow-rumped warbler (*Dendroica coronata*), and Blackburnian warblers are all characteristic birds of *pine plantations*, while *conifer plantations* provide wildlife habitat but do not have species data included in the documents utilized for the development of this report.

Cropland/Row Crops/Field Crops

Farm pond/artificial ponds typically contain species introduced by the landowner but can also provide habitat for several amphibian species, as well as a source of water for birds and terrestrial creatures. Aquatically dependent species are described in greater detail in the following section.

Aquatic Ecological Communities

Aquatic ecological communities, particularly those in the palustrine cover type, support a wide variety of insect, amphibian, fish, and terrestrial species. The study area has plentiful streams, seeps, and forested wetlands that provide habitat for species at several trophic levels. While this project does not have documented field data for the study area, the following lizards, snakes, and turtles are found in Rensselaer County and may inhabit the ecosystems in and around the Site: common garter snake (*Thamnophis sirtalis*), black rat snake (*Pantherophis obseltus*), northern water snake (*Nerodia sipedon*), milk snake (*Lampropeltis triangulum*), brown snake (*Storeria dekayi*), red bellied snake (*Storeria occipitomaculata*), smooth green snake (*Opheodrys vernalis*), wood frog (*Lithobates sylvatica*), American toad (*Bufo [Anaxyrus] americanus*), gray tree frog (*Hyla versicolor*), snapping turtle (*Chelydra serpentina*), musk turtle (*Sternotherus odoratus*), wood turtle (*Glyptemys insculpta*), and painted turtle (*Chrysemys picta*) (NYS DEC, 1999).

Species found in *rocky headwater streams* are dependent on the specific characteristics of the stream and the surrounding landscape. The chemistry of the water, the type of forest cover type, temperature, and underlying substrate all play a role in determining which aquatic organisms are likely to be present. Fish proposed for sampling in previous studies near the Taconic Site include rainbow trout (*Salmo gairdneri*), brown trout (*Salmo trutta*), white sucker (*Catostomus commersoni*), and minnow species (Division of Fish and Wildlife, 2016). *Shallow emergent marshes* support several birds in addition to the amphibious species commonly found, which include the marsh wren (*Cistothorus palustris*), red-winged blackbird (*Agelaius phoeniceus*), swamp sparrow (*Melospiza georgiana*), Virginia rail (*Rallus limicola*), and common yellow throat (*Geothylpis trichas*). While

hemlock-hardwood swamp can provide vernal pools for breeding amphibians, fauna most commonly associated with this ecological community are browsing mammals such as white-tailed deer and New England cottontails (*Sylvilagus transitionalis*) (MA Division of Fisheries and Wildlife, 2016).

2.3.8 Other Physical Resources:

This report identifies fish and wildlife resources that may be present within two miles of the Site, such as significant wildlife habitats as defined by the NYS Natural Heritage Program; habitats supporting rare, threatened, of endangered (RTE) species; regulated wetlands; waterways; wild, scenic, and recreational rivers; streams and lakes; and state forests, preserves, parks, and open green spaces. Documented resources were identified through contact with regulatory agencies and review of relevant NYS and Rensselaer County GIS data, New York State Freshwater Wetlands (NYSFW) and National Wetland Inventory (NWI) maps as discussed below. Mapping of relevant physical resources can be found in Figures 7 and 8.

Significant Habitats and Rare, Threatened, or Endangered Species

The presence of significant habitats and rare, threatened, or endangered (RTE) species within two miles of the Site was evaluated through correspondence with the NYNHP and a search of the United States Fish and Wildlife Information for Planning and Consultation Site (USFWS, 2021). The letter responses received from NYNHP is included in Appendix A: Project Documents.

Within two miles of the Site, significant natural communities were found in the southwestern portion of study area. Per the New York Natural Heritage Program, significant natural communities are location of rare or high-quality wetlands, forests, grasslands, ponds, streams and other types of habitats, ecosystems, and ecological areas (New York Natural Heritage Program, 2021). Comprehensive field surveys have not been conducted in the study area; therefore, it is not possible to provide a definitive conclusion regarding the presence of rare or state-listed species and natural communities. No surface waters of the study area and vicinity are designated as Wild, Scenic or Recreational in accordance with the Wild, Scenic and Recreational Rivers Act.

RTE plants or animals identified as potentially inhabiting the off-site study area is the northern long-eared bats (*Myotis septentrionalis*, state and federally threatened). Since this species can travel up to 5-miles from known locations, special consideration should be made to ensure this species is not impacted by activities occurring on the site or in the study area. Species of special concern within two miles of the Site include the following migratory birds: black-billed cuckoo (*Coccyzus erythropthalmus*), bobolink (*Dolichonyx oryzivorus*), Canada warbler (*Cardellina canadensis*), golden eagle (*Aquila chrysaetos*), and the wood thrush (*Hylocichla mustelina*). Finally, while not listed by New York State as Threatened or Endangered, the Southern Pygmy Clubtail (*Lanthus vernalis*) has been documented within two miles west of the site and has a critically imperiled status in New York State (New York Natural Heritage Program, 2021).

A review of the USFWS website (USFWS, 2021) indicated the following species and status in Rensselaer County:

- Monarch butterfly (*Danaus plexippus*) - candidate
- Indiana bat (winter/summer) (*Myotis sodalis*) – endangered
- Northern Long-Eared Bat (*Myotsis septentrionalis*) – threatened

In addition, certain birds are protected under the Migratory Bird Treaty Act, and the Bald and Golden Eagle Protection Act. As a result, any activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures.

Results of the associated USFWS Information for Planning and Consultation (IPaC) website search (2021) are provided in Appendix A: Project Documentation. Formal field surveys for the presence of these species were not performed within the Study Area.

Wetland Habitats

The potential presence of freshwater wetlands within a two-mile radius of the Site was evaluated through a review of the NYSDEC and USFWS NWI mapped data downloaded from the environmental mapper (NYS DEC, 2021). Freshwater emergent, freshwater forested/swamp, freshwater ponds, and riverine wetlands are all found within the study area. This mapping presents the approximate boundaries of wetlands regulated by the NYSDEC and the NWI Map presents wetlands inventoried by USFWS. NWI maps provide an indication of areas potentially meeting the federal wetland criteria for wetlands that are regulated by the US Army Corps of Engineers (USACE), but maps of these wetland areas do not have regulatory consequence. Refer to Section 2.2.3 for additional information about the specify types of wetlands found in the study area.

Three freshwater emergent wetlands, thirteen freshwater forested/shrub wetlands, four freshwater ponds, and six riverine wetlands are found within two miles of the site perimeter. The wetland closest to the Site is the NWI 0.44-acre freshwater pond (PUBH) immediately west of Russell Road, which is located just uphill and north of the facility on Coon Brook Road.

Surface Waters

Surface waters within the study area are identified in Figures 6 and 9 and include several manmade ponds, the Little Hoosic River, Dayfoot Brook, and several watershed intermittent streams descending from the surrounding hillsides. The estimated limits of the Little Hoosic watershed extend beyond the study area, as shown in mapping developed by the Rensselaer Land Trust (Rensselaer Land Trust, 2021). The watershed has areas of dolomite and limestone bedrock, and soils tend to be less acidic than other parts of Rensselaer County, leading to a unique range of plants adapted to these conditions.

All reaches and streams in the study area are designated as Class C Waters – C(T) Standard (6NYCRR Parts 701 and 897), which are suitable for fishing and contact recreation. In the case of the Little Hoosic River, the classification C(TS) indicates these waters are suitable for trout spawning. There are multiple public fishing rights areas within the study area along the Little Hoosic on the western shoreline.

Existing Fish and Wildlife Consumption Advisories

Unrelated to the Taconic Site, the Little Hoosic River is under a general advisory that restricts fish consumption to 4 meals/month in the study area. These guidelines are developed by the NYS Department of Health (NYSDOH) and are based on contaminate levels found in species sampled by the NYSDEC in 50 locations and waters across the state. The general advisory listed for the Little Hoosic is either because the fish have been found to have common chemicals (ex. mercury/PCBs),

the location has not been tested, or there are unidentified contaminants found in the tissues of the fish (NYS DOH, 2021).

Recorded Fish Kills

A review of available annual reports and coordination with the NYSDEC region 4 fisheries office with the did not reveal any recently recorded fish kills in the Little Hoosic River or in the vicinity of the study area (NYS DEC, 2021).

2.3.9 Observations of Stress

During field reconnaissance and the limited field review of the study area and immediate vicinity, Weston & Sampson did not observe or record any physical or biotic stressors (*e.g.,* discolored soils, abnormal fish and wildlife activity or mortality, stunted vegetative growth or changes in density, leachates, dead vegetation, abnormal or dead fish/wildlife) attributable to potential chemical exposures. In addition, as a part of the review of relevant literature, no recorded stressors have been documented to date.

2.4 Description of Fish and Wildlife Resource Value

The qualitative value of the study area cover types to wildlife and humans described in the sections below was based on the habitat requirements of identified wildlife species and potential resource utilization by humans for hunting, fishing, wildlife observation, scientific research, and other recreational and economic activities. The habitat requirements of wildlife using the study area as residents, migrants, and/or transients in accordance with Step I of the FWIA guidance document (NYSDEC 1994). A quantitative assessment of the habitat value of the study area was not performed as part of this FWIA.

2.4.1 Value of Habitat to Associated Fauna

Habitat value was evaluated qualitatively for fauna of each cover type at the immediate Site and off-Site study area within the 1/2-mile radius through desktop mapping and literature reviews.

Habitat components include shelter, water, forage, home range, breeding necessities, and territorial requirements. Additional information used in the evaluationof habitat quality included:

- the nature, extent and diversity of wildlife as determined by the desktop and literature review
- the availability of similar habitats adjacent to the study area
- the size of each of the cover types
- the land use patterns adjacent to the study area

2.4.2 Taconic Site

The industrialized nature of the *Terrestrial Cultural* portions of the Site reduces the habitat value of the immediate Site to fauna. Portions of the Site consist of lawn areas adjacent to developed areas that are periodically mowed, minimizing nesting and foraging potential for wildlife. Grassy lawns do provide invertebrate and vegetative food sources for a limited number of habitat generalist rodents and birds, including mice, shrews, voles, American robin, and killdeer that may forage in the *mowed lawn* cover type. Birds, amphibians, reptiles, and small mammals may forage and/or find shelter or nesting areas in the grassy areas adjacent to the *ditch/artificial intermittent streams* and bats may seek shelter in the

trees on the site but are not likely to choose these habitats over the long term, due to the availability of higher quality habitats surrounding the Site.

A densely wooded area separates the northern and southern buildings and associated infrastructure on the Site. This woodland may provide shelter, food, and breeding sites for larger mammals, such as deer, raccoons, opossums, and groundhogs. This woodland would also potentially provide habitat for birds and small mammals.

The onsite *Artificial Pond* (Unnamed Pond 3) is at the northern boundary of the site, which could provide marginal habitat for semi-aquatic and aquatic organisms, refer to Figure 2.

2.4.3 Off-Site Study Area

Hemlock-Northern Hardwood Forest
This forest cover type supports a wide range of mammalian and avian species and has a high number of associated potential rare plant and animal species. Hemlock seeds provide forage for wildlife, and the evergreen foliage is browsed in the winter by deer and rabbits. Because these trees are prone to cavities, they are often used as dens for bears. These forests provide cover for turkey, fishers, and grouse and has high thermal protection value in the winter (US Forest Service, 2021).

Beech-Maple Mesic Forest
While deer do not prefer beech trees for browsing, many animals do use the mast of this tree for forage. Alternately, maple is very heavily browsed by deer and rabbits, so this cover type is still likely to be a preferred habitat for these species. Cavities found amongst maples provide nesting habitat for owls, woodpeckers, ducks, and other birds. Mice, chipmunks, squirrels, bear, fox, and a variety of other birds are commonly found in this cover type.

Maple-Basswood Rich Mesic Forest
Forests dominated by maple and basswood may provide habitat for the types of species listed above. Additionally, basswood flowers are excellent sources of nectar for bees, and the wood, which decays readily, provides cavities for the nesting of woodchucks, woodpeckers, small mammals and other birds. Basswood is also commonly browsed by deer.

Successional Northern Hardwoods
This cover type can support significant diversity of wildlife species. The area is capable of supporting a variety of birds and small mammals because of the high productivity of this early succession mast producing forest. Use of this cover type by larger mammals such as white-tailed deer and bear is possible due to the provision of food sources and the contiguous connection with palustrine and lacustrine systems in the eastern portion of the study area.
Successional Red Cedar Woodland
Seeds of the red cedar are readily eaten by a variety of birds, who disperse its seeds and assist with the successional progression of this cover type. In fact, birds are primarily responsible for the establishment of this ecological community, particularly robins and waxwings (Ecology Center, 2021). The dense cover of these communities also provides shelter and nesting sites for rabbits, rodents, foxes, coyotes hawks, songbirds, owls, and insectivorous birds.

Successional Old Fields & Shrublands

These cover types support a reasonable diversity of wildlife species, especially as wildlife transition from juvenile life stages into adulthood. The structure of these systems and prevalence of fruits supports many species of birds who are seeking protection from predators and dense vegetative cover for nesting. Smaller terrestrial mammals also use these communities for shelter, especially where they are near the edge of a *mowed lawn* or *cropland* landscape (King & Schlossberg, 2013).

Rocky Headwater Stream

Open and forested areas surrounding *rocky headwater streams* create habitat opportunities for forage, shelter for many wildlife species in the study area. These streams provide water for terrestrial, avian, amphibian, and reptile species and breeding sites for the cold-blooded organisms of the group. Benthic macroinvertebrate communities found in these streams provide a critical component of the food chain. These communities also provide a food source for piscivorous wildlife, such as great blue heron, eagle, and mink. This wildlife finds the dense shoreline cover afforded by the forest canopy and shrub layer beneficial for isolation from predators and humans and for hunting. *Rocky headwater streams* filter pollutants as they move downstream, improving water quality in the greater watershed.

Evaluations of the water quality in the Little Hoosic River were performed in 2014 by the Hoosic River Watershed Association which included sampling of the macroinvertebrate community in multiple locations along the river. Of the sampling site, 3 of the locations were recorded downstream from the Site. The study revealed very good to excellent (non-impacted) macroinvertebrate diversity with signs of negative impacts to the stream quality. These impacts are likely the result of non-point source pollution (sewage, animal manure) and removal of shading (Schlesinger, 2006). Due to the relative age of the study, the results described above may not be reflective of the current condition of the Little Hoosic River in the vicinity of the Site.

Shallow Emergent Marsh

The shallow emergent marsh cover type is dominated by reeds and bulrushes, which provide cover, breeding, and forage for a variety of waterfowl, small mammals, birds, amphibians, reptiles, and muskrats. This community supports a high diversity of plant species, which in turn sustain a wider variety of wildlife than would be anticipated if the size of these systems were the only factor under consideration.

Hemlock-Hardwood Swamp

These palustrine environments are prime breeding sites for amphibians and reptiles, and host species of butterfly whose larvae are laid on shrubs common in this cover type. Rare turtle species are found in this community, and waterfowl, songbirds, mink and beaver are also associated with this habitat. Due to the abundant water, these cover types host organisms on all trophic levels (VT Fish & Wildlife, 2020).

Other Cultural Cover types

Rural residential and industrial areas, with their mowed lawns, ornamental trees, and building exteriors provide habitat for generalist, adapted bird and mammal species. As natural habitat communities become fragmented and subsequently reduced in size and quality, wildlife is forced to cope with human environments. A range of species can be found at the periphery of many suburban, urban, and industrial landscapes but most are unable to thrive in these habitats, which are low in vegetative diversity, structure, and connectivity.

Conifer and Pine Plantation

These cover types have less diversity than the habitats endemic to the ecoregion but do support a range of species when the structure of the plantation is varied. Mature plantations are deeply shaded and result in low understory species composition; however, cleared areas adjacent to these cover types can still offer forage, nesting, and cover for birds and mammals.

Cropland, Row Crops, and Field Crop

Agricultural cover types provide habitat value in the form of shelter for birds and mammals and can be utilized for breeding and forage when not in production. Rotation of fields (resting, crop diversity) to maintain soil health and structure results in open spaces that are favored among resident and migrating bird populations. In particular, hay fields, if mowed late in the season, provide valuable nesting habitat for some birds. Furthermore, agricultural communities are often adjacent to forested areas and wetlands, providing an overlap of two adjacent ecosystems. Called “ecotones”, these areas are often more diverse than the systems individually because the resources from each community are obtainable in one location (Science Direct, 2021).

Farm Pond/Artificial Pond

Within the 1/2 -mile radius portion of the study area, several *farm pond/artificial pond* aquatic communities are located to the east and west of the facility site. These ponds are typically man-made and generally lack regularly flowing inlets and outlets. Species are typically those that naturally migrate to the site or ones that were planted/stocked.

2.4.4 Value of Resources to Humans

Fish and wildlife resources are valuable to humans for recreational, consumptive, and cultural reasons. People hunt, fish, and eat what they catch, or use the hides, bones, and other parts of the creature for decorative purposes and clothing. Wildlife is important to naturalists who enjoy observing and studying wildlife during outdoor recreational activities. Furthermore, research about the biology and distribution of fish and wildlife is important to furthering scientific knowledge and the understanding of the impact of human activities on the natural world. Fish and wildlife are abundant in the study area due to the Site’s location in a largely rural and forested setting. Fishing is a popular activity in the Little Hoosic there are ample hunting opportunities surrounding study area, on private and public lands. Unique flora found in the varied wetland ecological communities enhances biological diversity and attracts wildlife popular for observation and study by naturalists and scientists alike.

3.0 IDENTIFICATION OF APPLICAPLE FISH AND WILDLIFE REGULATORY CRITERIA (FWRC)

As summarized in the Phase 1 Interim Investigation Deliverable (Parsons 2020), the Per- and Poly-Fluoroalkyl Substances (PFAS) Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS), and several metals are the primary hazardous substances (as defined in 6NYCRR Part 597) identified to date during the on-going Remedial Investigation (RI).

The NYSDEC has established FWRC for metals in soil, sediment, groundwater and surface water. The following metals have been reported as present above the applicable criteria in at least one environmental media at the Site: Aluminum (Al), Arsenic (As), Cobalt (Co), Copper (Cu), Lead (Pb), Nickel (Ni), and Zinc (Zn).

PFOA, PFOS, and other PFAS have been detected at and in the vicinity the site during the on-going Remedial Investigation (RI). PFOA and PFOS are defined as hazardous substances in 6 NYCRR 375-1.2(g). The other PFAS detected during the RI, primarily perfluorocarboxilic acids (PFCAs) of varying carbon chain length, are not listed as hazardous substances in 6 NYCRR Part 597 and do not meet the definition of a contaminant in 6NYCRR 375-1.2(g). However, the NYSDEC has requested this Step 1 of the FWIA address the broader class of PFAS contamination detected during the RI.

Current NYSDEC guidance regarding PFAS assessment (Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances, 6/21, Appendix G) provides a PFAS Analyte List used in the RI. The analyte list of 21 PFAS is included below:

Group	Chemical Name	Abbreviation	CAS Number
Perfluoroalkyl sulfonates	Perfluorobutanesulfonic acid	PFBS	375-73-5
	Perfluorohexanesulfonic acid	PFHxS	355-46-4
	Perfluoroheptanesulfonic acid	PFHpS	375-92-8
	Perfluorooctanesulfonic acid	PFOS	1763-23-1
	Perfluorodecanesulfonic acid	PFDS	335-77-3
Perfluoroalkyl carboxylates	Perfluorobutanoic acid	PFBA	375-22-4
	Perfluoropentanoic acid	PFPeA	2706-90-3
	Perfluorohexanoic acid	PFHxA	307-24-4
	Perfluoroheptanoic acid	PFHpA	375-85-9
	Perfluorooctanoic acid	PFOA	335-67-1
	Perfluorononanoic acid	PFNA	375-95-1
	Perfluorodecanoic acid	PFDA	335-76-2
	Perfluoroundecanoic acid	PFUA/PFUdA	2058-94-8
	Perfluorododecanoic acid	PFDoA	307-55-1
	Perfluorotridecanoic acid	PFTriA/PFTrDA	72629-94-8

Group	Chemical Name	Abbreviation	CAS Number
	Perfluorotetradecanoic acid	PFTA/PFTeDA	376-06-7
Fluorinated Telomer Sulfonates	6:2 Fluorotelomer sulfonate	6:2 FTS	27619-97-2
	8:2 Fluorotelomer sulfonate	8:2 FTS	39108-34-4
Perfluorooctane - sulfonamides	Perfluroroctanesulfonamide	FOSA	754-91-6
Perfluorooctane-sulfonamidoaceti c acids	N-methyl perfluorooctanesulfonamidoacetic acid	N-MeFOSAA	2355-31-9
	N-ethyl perfluorooctanesulfonamidoacetic acid	N-EtFOSAA	2991-50-6

As there are limited applicable criteria and guidance related to PFAS impacts on fish and wildlife resources, Subsection 3.3 below contains a review of some published values guidance values related to the assessment of PFAS impacts on fish and wildlife.

3.1 Contaminant Specific Criteria

3.1.1 PFAS

There are currently no contaminant specific New York State or Federal regulations/standards developed for the protection of fish and wildlife applicable to PFAS. There are no Sediment Guidance Values (SGVs) for PFAS in the NYSDEC Division of Fish, Wildlife, and Marine Resources Technical Guidance for Screening and Assessment of Contaminated Sediments.

In April 2022, EPA published draft recommended aquatic life criteria for PFOA and PFOS. According to EPA, these criteria reflect the latest scientific knowledge regarding the effects of PFOA and PFOA on freshwater organisms. EPA draft recommended Freshwater Aquatic Life Water Quality Criteria are as follows:

EPA Draft Recommended Freshwater Aquatic Life Water Quality Criteria for PFOA and PFOS

Criteria Component	Acute Water Column (CMC)[1]	Chronic Water Column (CCC)[2]	Invertebrate Whole-Body	Fish Whole-Body	Fish Muscle
PFOA Magnitude	49 mg/L	0.094 mg/L	1.11 mg/kg ww	6.10 mg/kg ww	0.125 mg/kg ww
PFOS Magnitude	3.0 mg/L	0.0084 mg/L	0.937 mg/kg ww	6.75 mg/kg ww	2.91 mg/kg ww
Duration	1-hour average	4-day average	Instantaneous[3]		
Frequency	Not to be exceeded more than once in three years, on average	Not to be exceeded more than once in three years, on average	Not to be exceeded more than once in ten years, on average		

[1] Criterion Maximum Concentration.
[2] Criterion Continuous Concentration.
[3] Tissue data provide instantaneous point measurements that reflect integrative accumulation of PFOA or PFOS over time and space in aquatic life population(s) at a given site.

PFOS was included in the October 2021 proposed revisions to the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1 based upon the supporting technical document "New York State Aquatic Fact Sheet, Ambient Water Quality Value for Protection of Aquatic Life for PFOS", dated 7/08/2019. These proposed revisions to TOGS 1.1.1 include ambient water quality guidance values for PFOS, but does not provide guidance values for PFOA, or any other PFASs. The proposed aquatic life guidance values for PFOS are:

- Chronic (propagation) 160 ug/L
- Acute (survival) 710 ug/L

In October 2016, the NYSDEC Division of Fish and Wildlife-Bureau of Habitat, published a Technical Memorandum titled Evaluation of the Environmental Risk: PFOA Ammonium Perfluorooctonoate (PFOA-Salt) and Perfluorooctonic Acid (PFOA-Acid). This technical memorandum concluded that PFOA is not acutely toxic in water unless concentrations are in excess of 100 mg/L. This memorandum also summarizes published data on potential chronic toxicity of PFOA to various aquatic organisms. Potential chronic impacts reported in the literature cited range from 0.1 to 12.5 mg/L. PFOA is reported in surface water at the Site above the potential chronic impact concentration citations.

In 2016, the NYSDEC/NYSDOH initiated a study into the impacts of PFAS on fish in Hoosick Falls and Petersburgh, NY area. This study included sampling of fish tissues from fish caught in the Little Hoosic River near the Site. Preliminary results of this study were published in July 2017. State officials compared the levels observed in Hoosick Falls and Petersburgh to specific advisories for Michigan and Minnesota, as well as other available sources of relevant health information. As noted by the DEC, this research is showing that PFOA is not impacting fish in the Petersburgh area.

3.1.2 Metals

Criteria and guidance values for metals that are potentially applicable to the evaluation of potential impacts to fish and wildlife resources as a result of exposures to chemicals in environmental media are identified in the FWIA Guidance (NYSDEC 1994). Several metals have been reported above soil, sediment, surface water and/or groundwater criteria at the Site. The contaminant specific New York State regulations/standards applicable to the metal contaminants identified at the Site are as follows:

New York Codes, Rules and Regulations (6 NYCRR)

- Part 375.6.8 Remedial Program Soil Cleanup Objectives - Restricted Use Soil Cleanup Objectives; Protection of Ecological Resources
- Part 701 Classifications - Surface Waters and Groundwaters
- Part 702 Derivation and Use of Standards and Guidance Values
- Part 703 Surface Water and Groundwater Quality Standards and Groundwater Effluent Standards

Criteria and Guidelines

- Technical Guidance for Screening Contaminated Sediment, June 24, 2014, NYSDEC Division of Fish and Wildlife.
- Division of Water Technical and Operational Guidance Series 1.1.1., Ambient Water Quality Standards and Guidance Values. June 1998 updated June 2004 NYSDEC.
- NYSDEC Policy CP-51/Soil Cleanup Guidance, October 21, 2010

3.2 Site Specific Criteria

Site-specific criteria include the Freshwater Wetlands Act and its implementing regulations (NYS Environmental Conservation Law [ECL] Article 24, 6 NYCRR Parts 663 and 664), and the laws and regulations governing streams and navigable water bodies (ECL Article 15, 6 NYCRR Part 608). Site specific criteria may be set in the future relating to potential remedial actions to be implemented.

3.3 Literature Review

As requested by the NYSDEC, the following is a summary of peer reviewed literature regarding the potential ecotoxicity of PFAS. The Interstate Technology Regulatory Council (ITRC) is recognized as the group leading the compilation of current knowledge regarding PFAS. The ITRC has compiled peer reviewed toxicologic data for numerous biotas in the January 2021 PFAS Technical/Regulatory Guidance document. Excerpts of several of the ITRC summary tables are included below. The following caveats are provided in the ITRC document:

"The focus of most ecotoxicity studies to date has been primarily on PFOS and PFOA. Therefore, most of the data discussed and summarized in this section are for those compounds. However, data for other PFAS, including short-chain PFAS and precursors (Section 2.2), are also presented where available. Given the historical differences among older analytical methods and more recent advances in analyzing PFAS, the focus of the ecotoxicity studies covered in this review is generally on those published from approximately the year 2000 and later.

It is important to note that neither this spreadsheet nor this section is intended to represent an exhaustive review of PFAS ecotoxicity studies. Toxicological effects presented and discussed herein are generally those considered most relevant to ecological communities—mainly survival, growth, and reproduction. Both acute and chronic exposure studies are included. Although data have been generated for other toxicological endpoints, these studies are not the focus of this section, but may occasionally be referenced."

ITRC Summary Table 7-5. Typical range of acute toxicity values for aquatic invertebrates for select PFAS

PFAS	Range of Toxicity Values (mg/L)	Reference(s)
PFBA	182–5251	Ding et al. 2012[999]; Barmentlo et al. 2015[1010]
PFBS	2,183	Ding et al. 2012[999]
PFHxA	1,048	Barmentlo et al. 2015[1010]
PFOS	57.9–169	3M Company 2003[168]; Boudreau et al. 2003[1545]
PFOA	131–477	Ji et al. 2008[1002]; Ding et al. 2012[999]
PFNA	31–151	Zheng et al. 2011[1023]
PFDA	26–163	Ding et al. 2012[999]
PFUnA	19–133	Ding et al. 2012[999]
PFDoDA	28–66.3	Ding et al. 2012[999]
PFBS	NOEC 13–42.7 LOEC 4.8– >42.7	Sant et al. 2018[1544] McCarthy et al. 2021[1929]
PFOS	NOEC 0.0004–94.9	MacDonald et al. 2004[1040]; Boudreau et al. 2003[1545]; McCarthy et al. 2021[1929]; Stefani et al. 2014[1019]; Marziali et al. 2019[1744]
	LOEC 0.00209-42.9	
PFOA	NOEC 3.125– >227	Li 2010[1016]; Ji et al. 2008[1002]; McCarthy et al. 2021[1929]
	LOEC 6.25– >227	
PFNA	NOEC 0.008–1.36 LOEC 0.04– >1.36	Lu et al. 2015[1015]; McCarthy et al. 2021[1929]

Note: Refer to the PFAS ecotoxicology data summary Table 7-1 in the separate Excel spreadsheet for toxicological endpoints and values.
EC50 = median effective concentration. The concentration of test substance that results in a 50% reduction in growth or growth rate
LC50 = concentration of test substance lethal to 50% of test population
LOEC = lowest observed effect concentration
NOEC = no observed effect concentration

ITRC Summary Table 7-6. Typical range of benthic invertebrate toxicity values for select PFAS

PFAS	Range of Toxicity Values (mg/kg or mg/L)	Reference(s)
PFOS	132 (LC10)–150 (LC50) mg/kg, at 1% organic carbon in sediment	Simpson et al. 2021[1869]
PFOS	21 (EC10), 35 (EC20), and 89 (EC50) mg/kg at 1% organic carbon in sediment	Simpson et al. 2021[1869]
PFOS (acid)	0.00001 (NOEC)–59 (LC50), in mg/L	Drottar and Krueger 2000[1243]; Fabbri et al. 2014[1006]; OECD 2002[1249]; MPCA 2007[1639]
PFOA (acid)	0.00001 (NOEC)–0.0001 (LOEC), in mg/L	Fabbri et al. 2014[1006]
PFOS (salt)	<0.0023 (NOEC)– >0.150 (EC50), in mg/L	MacDonald et al. 2004[1040]
PFOA (acid)	0.0089, 100 (NOEC, chronic), in mg/L	MacDonald et al. 2004[1040]; Stefani et al. 2014[1019]
PFBS (acid)	0.0077 (NOEC, chronic), in mg/L	Stefani et al. 2014[1019]

Note: Refer to the PFAS ecotoxicology data summary Table 7-1 in the separate Excel spreadsheet for toxicological endpoints and values.
EC10 = concentration of test substance at which 10% of the test organisms exhibit a statistically significant effect
EC20 = concentration of test substance at which 20% of the test organisms exhibit a statistically significant effect
EC50 = median effective concentration. The concentration of test substance that results in a 50% reduction in growth or growth rate
LC10 = concentration of test substance lethal to 10% of test population
LC50 = concentration of test substance lethal to 50% of test population
LOEC = lowest observed effect concentration
NOEC = no observed effect concentration

ITRC Summary Table 7-8. Typical range of fish toxicity values for select PFAS

PFAS	Range of Toxicity Values: EC or LC50 (mg/L)	Reference(s)
PFBA	2,200 (EC50; developmental); >3,000 (LC50; survival)	Ulhaq et al. 2013[1037]
PFBS	450 (EC50; developmental); 1,500 (LC50; survival)	Ulhaq et al. 2013[1037]
PFOS	7.8 (EC50)–22 (EC50; survival)	Robertson 1986[1546]; Palmer, Van Hoven and Krueger 2002[1640]
PFOA	430 (LC50)	Ulhaq et al. 2013[1037]
PFNA	84 (LC50)	Zhang et al. 2012[1641]
PFDA	5 (EC50; developmental); 8.4 (LC50)	Ulhaq et al. 2013[1037]
PFOS	NOEC 0.29; EC50 7.2	Drottar and Krueger 2000[1243]; Oakes et al. 2005[1642]
PFNA	LOEC 0.01 (growth)	Zhang et al. 2012[1641]
Note: Refer to Table 7-1 in the separate Excel spreadsheet for toxicological endpoints and values. EC50 = median effective concentration. The concentration of test substance that results in a 50% reduction in growth or growth rate LC50 = concentration of test substance lethal to 50% of test population LOEC = lowest observed effect concentration NOEC = no observed effect concentration		

ITRC Summary Table 7-9. Typical range of amphibian toxicity values for select PFAS

PFAS	Range of Toxicity Values–NOEC/LOEC (mg/L)	Reference(s)
Acute Studies		
PFOS	3.6 (NOEC)–81 (EC50)	Yang et al. 2014[286]; Stevens and Coryell 2007[1258]; Ankley et al. 2004[1011]; OECD 2002[1249]
PFOA	115 (LC50)	Yang et al. 2014[286]
Chronic Studies (EC10)		
PFOS	1 (LOEC; metamorphosis)– 2 (EC10)	Fort et al. 2019[1735]; Yang et al. 2014[286]

PFAS	Range of Toxicity Values–NOEC/LOEC (mg/L)	Reference(s)
PFOA	5.89 (EC10; longevity)	Yang et al. 2014[286]
Note: Refer to Table 7-1 in the separate Excel spreadsheet for toxicological endpoints and values. EC10 = concentration of test substance at which 10% of the test organisms exhibit a statistically significant effect EC50 = median effective concentration. The concentration of test substance that results in a 50% reduction in growth or growth rate LC50 = concentration of test substance lethal to 50% of test population LOEC = lowest observed effect concentration NOEC = no observed effect concentration		

3.3.1 Terrestrial Biota Screening

There is currently a lack of consensus in the scientific and regulatory communities regarding PFAS exposure impacts to biota. At this time there are no federal guidance or regulatory limits for soils with regard to terrestrial biota or plant uptake for human or biota consumption. ITRC ecotoxicity data from several peer reviewed references are presented below.

ITRC Summary T*able 7-7.* Typical range of terrestrial invertebrate toxicity values for select PFAS

PFAS	Range of Toxicity Values (mg/kg)	Reference(s)
Acute Studies		
PFOS	77 (NOEC)–373 (LC50)	Sindermann et al. 2002[1256]
Chronic Studies		
PFOS	1 (NOEC)–233 (LOEC)	Mayilswami 2014[1247]; Xu et al. 2013[1020]; Sindermann et al. 2002[1256] Princz et al. 2018[1491]; Zhao et al. 2014[1022]; Zareitalabad, Siemens, Wichern, et al. 2013[1036]
PFOA	1 (NOEC)–84 (LC50)	He, Megharaj, and Naidu 2016[1000]; Zareitalabad, Siemens, Wichern, et al. 2013[1036]
6:2 FTS	30 (EC10)–566 (EC50)	NPCA 2006[1248]
PFBS	100 (NOEC)	Karnjanapiboonwong et al. 2018[1490]
PFHxS, PFHpA	100 (LOEC)	Karnjanapiboonwong et al. 2018[1490]

PFAS	Range of Toxicity Values (mg/kg)	Reference(s)
PFNA	100 (LOEC)	Karnjanapiboonwong et al. 2018[1490]
Note: Refer to Table 7-2 in the separate Excel spreadsheet for toxicological endpoints and values. EC10 = concentration of test substance at which 10% of the test organisms exhibit a statistically significant effect EC50 = median effective concentration. The concentration of test substance that results in a 50% reduction in growth or growth rate LC50 = Concentration of test substance lethal to 50% of test population LOEC = lowest observed effect concentration NOEC = no observed effect concentration		

ITRCS Summary Table 7-11. Typical range of terrestrial plant toxicity values for select PFAS

PFAS	Range of Toxicity Values (mg/kg)	Reference(s)
Acute Studies		
PFOS	<3.9 (NOEC; growth)– >1,000 (EC50; survival)	Qu et al. 2010[384]; Zhao et al. 2014[1022]; Li 2009[1004]; Brignole et al. 2003[1240]
PFOA	107 (EC50; growth)–170 (EC50; growth)	Li 2009[1004]; Zhao et al. 2011[1021]
Chronic Studies		
PFOS	1 (NOEC; growth)	Zhao et al. 2014[1022]
PFOA	30 (NOEC; growth)	Zhao et al. 2014[1022]
Note: Refer to Table 7-2 in the separate Excel spreadsheet for toxicological endpoints and values. EC50 = median effective concentration. The concentration of test substance that results in a 50% reduction in growth or growth rate NOEC = no observed effect concentration		

ITRCS Summary Table 7-11. Typical range of avian toxicity values for select PFAS

PFAS	Range of Toxicity Values	Reference(s)
Acute Studies–Dietary (mg/kg-bw/d)		
PFOS	LD50s: 38–150	Newsted et al. 2006[1899]; Bursian et al. 2021[1739]
PFOA	ADD50: 68	Bursian et al. 2021[1739]
PFBS	NOAEL: 774-2,190	Newsted et al. 2008[1001]
Chronic Studies – Dietary/ Drinking Water (mg/kg-bw/d)		
PFOS	LOAEL: 0.00245-0.77	Dennis et al. 2020[1738]; Newsted et al. 2007[1042]
PFOS + PFHxS	LOAEL: 0.0031	Dennis et al. 2020[1738]
PFBS	NOAEL: 87.8	Newsted et al. 2008[1001]
Note: Refer to Table 7-2 in the separate Excel spreadsheet for toxicological endpoints and values. ADD50 = average daily dose resulting in 50% mortality LD50 = dose that is lethal to 50% of test population LOAEL = lowest observed adverse effect level NOAEL = no observed adverse effect level		

4.0 PATHWAY ANALYSIS

This pathway analysis is presented to describe the methods by which contaminants of ecological concern may have been released to the environment and subsequently migrated through and/or to potential Fish and Wildlife resources identified above. A summary of Taconic operations and potential uses of PFAS containing materials is included in the Remedial Investigation/Feasibility Study Work Plan completed by O'Brien and Gere Engineers, Inc. (OBG) dated April 9, 2018. Preliminary Conceptual Site Model is presented in Section 3 of the Interim Investigation Deliverable completed by Parsons (Parsons) dated February 2020. Potential historical PFAS release mechanisms associated with Taconic operations included:

1) Discharge of PFAS containing air emissions.
2) Discharge of PFAS containing process waters to several on-site, subsurface soil based, wastewater disposal systems; and,
3) Incidental spillage to surface soils during the handling of PFAS containing process wastewater and sludges.

4.1 Air

4.1.1 Potential Exposures

Direct exposure of fish and wildlife resources to air emissions from environmental media is unlikely as the contaminants of potential ecological concern are not volatile.

4.1.2 Migration Pathways

Historical air emissions and subsequent deposition to surface soil and surface water have likely occurred within the study area. Potential exposures and migration of this historical air deposition mechanism is discussed in Section 4.2 below.

4.2 Soil and Sediment

4.2.1 Potential Exposures

Potential exposures of fish and wildlife resources to contaminated soil and sediment could occur through:

- direct contact with and ingestion of contaminated soil and sediment; and,
- ingestion of plants and animals from within contaminated soil and sediment areas.

4.2.2 Migration Pathways

Potential migration pathways for contaminated soil and sediment include:

- stormwater runoff from areas with contaminated soil and sediment may contain dissolved contaminants; impacted surface soil particles may become suspended in the runoff if velocity is sufficient.
- precipitation leaching through soil and transport of the contamination to groundwater, with subsequent migration with the groundwater.

4.3 Surface Water

4.3.1 Potential Exposures

Potential exposure of fish and wildlife resources to contaminated surface water can occur through:

- direct contact with and ingestion of contaminated surface water; and,
- ingestion of plants and animals from within areas of contaminated surface water.

4.3.2 Migration Pathways

Potential migration pathways for impacted surface water are as follows:

- contaminated suspended solids and dissolved phase contaminants may be transported by storm and surface water;
- contaminated suspended particles can be deposited and then re-suspended and transported during varying flow conditions; and,
- contaminated surface water may recharge into groundwater transporting dissolved contaminants to the soil and groundwater.

4.4 Groundwater

4.4.1 Potential Exposures

Potential exposure of fish and wildlife to contaminated groundwater can occur through:

- direct contact with and ingestion of contaminated groundwater; and,
- ingestion of plants and animals from within areas impacted by contaminated groundwater.

4.4.2 Migration Pathways

Potential migration pathways for contaminated groundwater include:

- transport of dissolved phase contaminants along groundwater flow paths.
- discharge of impacted groundwater to streams and ponds.

5.0 CONTAINMENTS OF ECOLOGICAL CONCERN

"Contaminants" are defined in 6NYCRR Part 375 as including those substances appearing on the list of hazardous substances and/or petroleum promulgated under 6NYCRR Part 597. "Contaminants of Potential Ecological Concern" are defined in DER-10 as:

i. those contaminants that have been identified by the investigation as having been discharged or disposed at a site, which have been determined to exist in areas of identified fish and wildlife resources at concentrations that are known to:

(1) bioaccumulate or biomagnify in the aquatic, marine or terrestrial food chain;

(2) result in toxic effects in biota; and/or

(3) potentially contribute to the need for a health advisory for the consumption of fish or wildlife; and

ii. identified at a site by:

(1) comparing site contaminants to SCGs for the protection of biota in each medium of concern (surface water, sediments, soil or biota); or

(2) if such SCGs do not exist, criteria should be derived using methods established in SCGs (e.g., 6 NYCRR Part 706 for surface water) and/or by a toxicity assessment. A toxicity assessment should:

A. be conducted using applicable state or federal guidance;

B. be based on available scientific literature; and

C. compare levels of site contaminants to the reference toxicity values developed; and

iii. are considered to be present at a site when the contaminant concentrations exceed the applicable SCGs or the developed reference toxicity values, identified by subparagraph ii. above.

Based upon the initial results of the RI as summarized in the IID, the following contaminants have been identified at the Site and within the Study area for this FWIA:

- Metals - Aluminum (Al), Arsenic (As), Cobalt (Co), Copper (Cu), Lead (Pb), Nickel (Ni), Sodium (Na) and Zinc (Zn)
- PFOA;
- PFOS;
- Other PFAS

An assessment of the status of these substances as contaminants of potential ecological concern is presented in the following sections.

5.1 PFOA

PFOA has been documented as an ingredient in the chemical formulations used at the Taconic Site. Sampling of environmental media indicates PFOA has been discharged at the Site and has been determined to exist in the areas of fish and wildlife resources identified in the FWIA.

As discussed in more detail in Section 3 above, there are currently no SCGs related for the protections of fish and wildlife resources for PFOA. However, EPA published draft recommended Freshwater Aquatic Life Water Quality Criteria for PFOA including water column and fish tissue concentrations. EPA's recommended chronic water column concentration is 94 ug/L (ppb), which is well above the concentrations reported in surface water samples in the Study Area.

Further data collection and evaluation within the RI may be needed to determine if tissue concentrations are below the aquatic criteria proposed by the EPA and to assess potential impacts to terrestrial ecological communities.

5.2 PFOS

Sampling of environmental media indicates PFOS exists in the areas of fish and wildlife resources identified in the FWIA.

As discussed in more detail in Section 3 above, there are currently no SCGs related for the protections of fish and wildlife resources for PFOS. However, the NYSDEC has proposed an Ambient Water Quality Standard for PFOS for the protection of aquatic life of 160 ug/L. EPAs draft recommended Freshwater Aquatic Life Water Quality Criteria included PFOS in the water column and fish tissue concentrations. EPA's recommended chronic water column concentration is 8.4 ug/L (ppb) All PFOS concentrations in surface water in the Study Area are below both the NYSDEC and EPA criteria.

Based upon the NYSDEC proposed Ambient Water Quality Standard, EPAs Draft Freshwater Aquatic Life Water Criteria, and a review of current literature, PFOS does not appear to be a potential contaminant of ecological concern,

5.3 Other PFAS

Sampling of environmental media indicates other PFAS, primarily PFCAs of varying carbon chain lengths exist in the areas of fish and wildlife resources.

As discussed in more detail in Section 3 above, there are currently no SCGs related for the protection of fish and wildlife resources for PFAS other than PFOA and PFOS. Many of the PFAS identified during the RI are present at concentrations many orders of magnitude less than the literature referenced concentrations for impacts to fish and wildlife. Others have no literature references regarding potential toxicity to fish and wildlife.

Further evaluation of PFAS other than PFOA and PFOS is necessary to determine if these PFAS may be contaminants of potential ecological concern.

5.4 Heavy Metals

Several metals have been reported above soil, sediment, and/or surface water criteria at the Site are as follows:

- Surface Water –Aluminum, Copper, Iron and lead were detected in surface water slightly above the TOGs 1.1.1 Ambient Water Quality Standards for the protection of fish propagation Type A(C) for Class C surface waters.
- Sediment - Arsenic, Copper, Lead, Nickel and Zinc are present above the Sediment Guidance

Values in the NYSDEC Screening of Contaminated Sediment, June 24, 2014.

- Surface Soils - Copper, Nickel, and Zinc were detected in concentrations above the SCOs for protection of Restricted Use – Protection of Ecological Resources (6NYCRR375-6.8(b)). Cobalt was reported slightly above the Protection of Ecological Resources SCOs in Table 1 of NYSDEC CP-51.

Further evaluation in the RI is needed to define the nature and extent of these metals, to determine if they are related to Site operations, and to evaluate potential impacts to fish and wildlife resources.

6.0 REFERENCES

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FIGURES

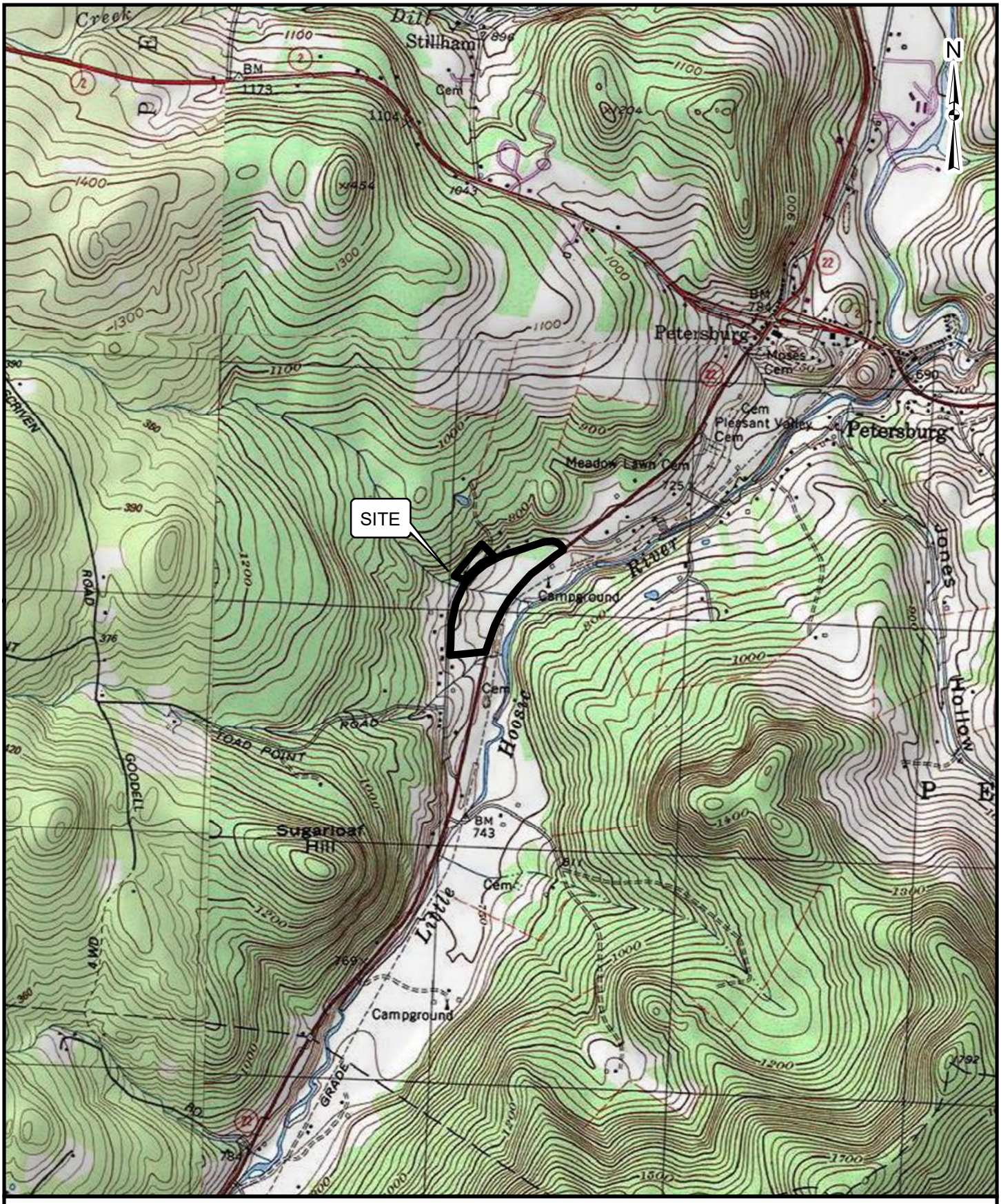


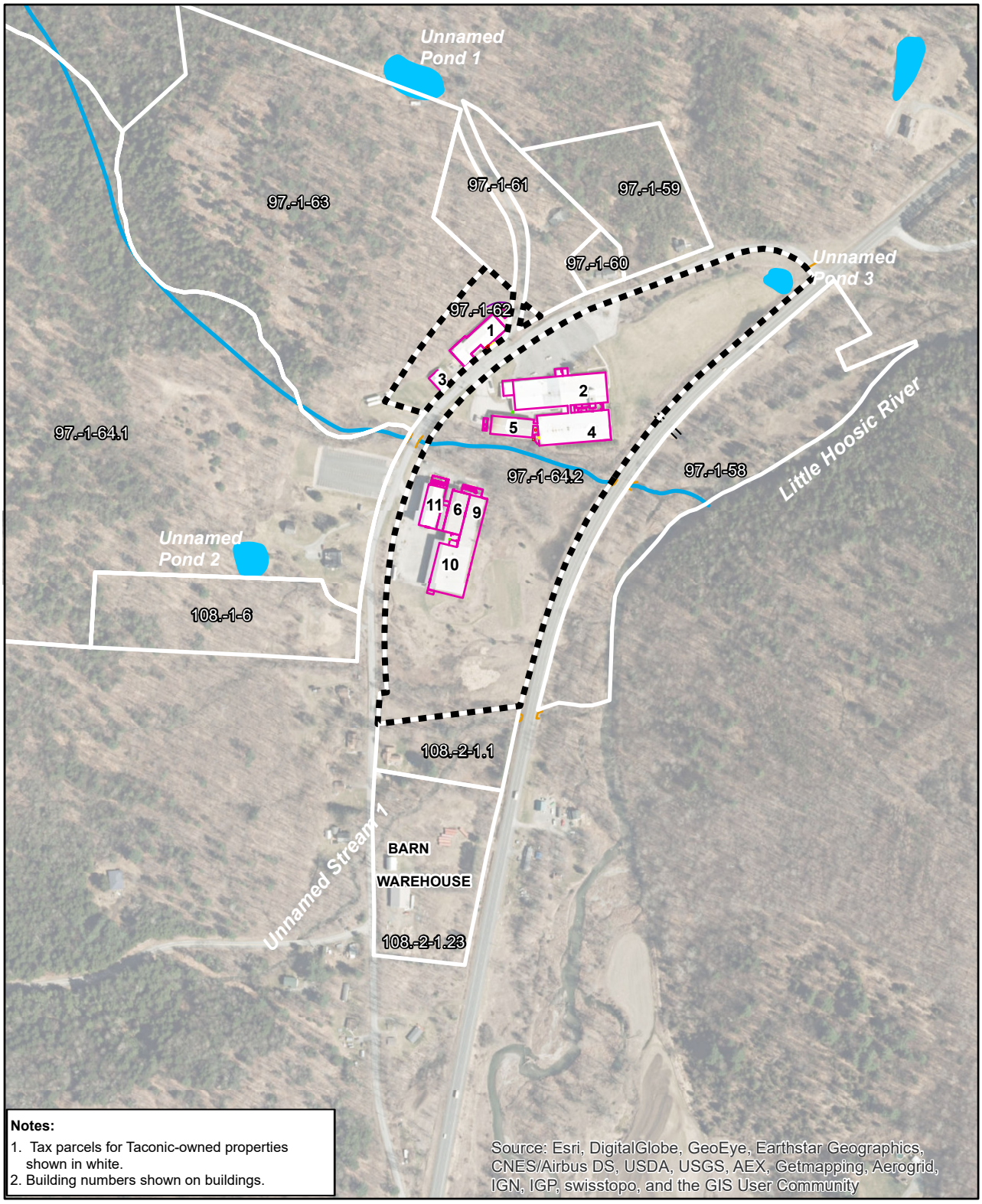
FIGURE 1
PETERSBURG, NY
TACONIC FWIA

LOCUS MAP

2,000 0 2,000

Scale In Feet

Weston & Sampson



LEGEND

- Site Outline
- Pond
- Surface Water

N

SITE PLAN

FIGURE 2

PETERSBURG, NEW YORK

0 250 500 1,000

Feet

SOURCE: TACONIC

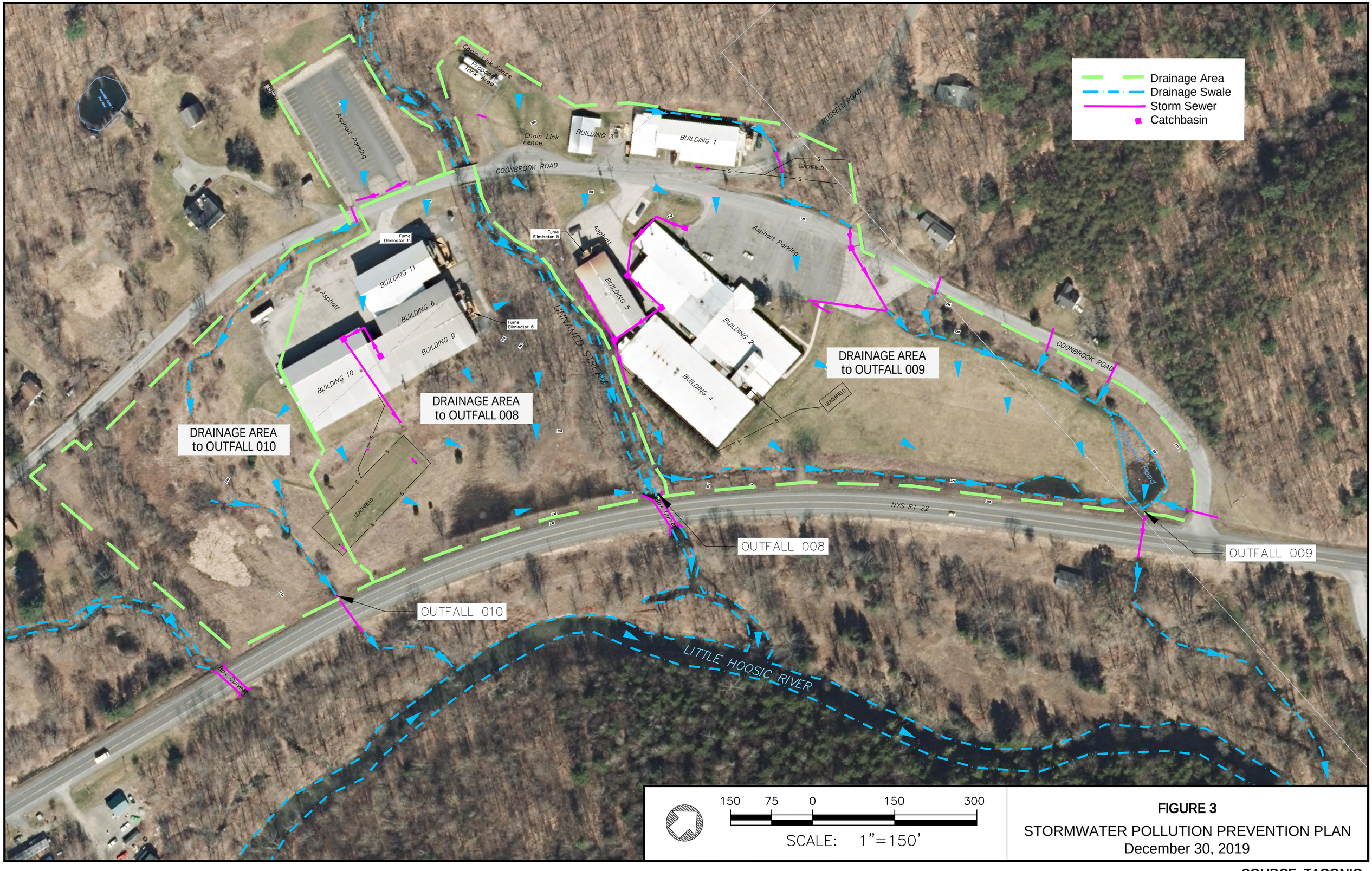


FIGURE 3

STORMWATER POLLUTION PREVENTION PLAN
December 30, 2019

SOURCE: TACONIC

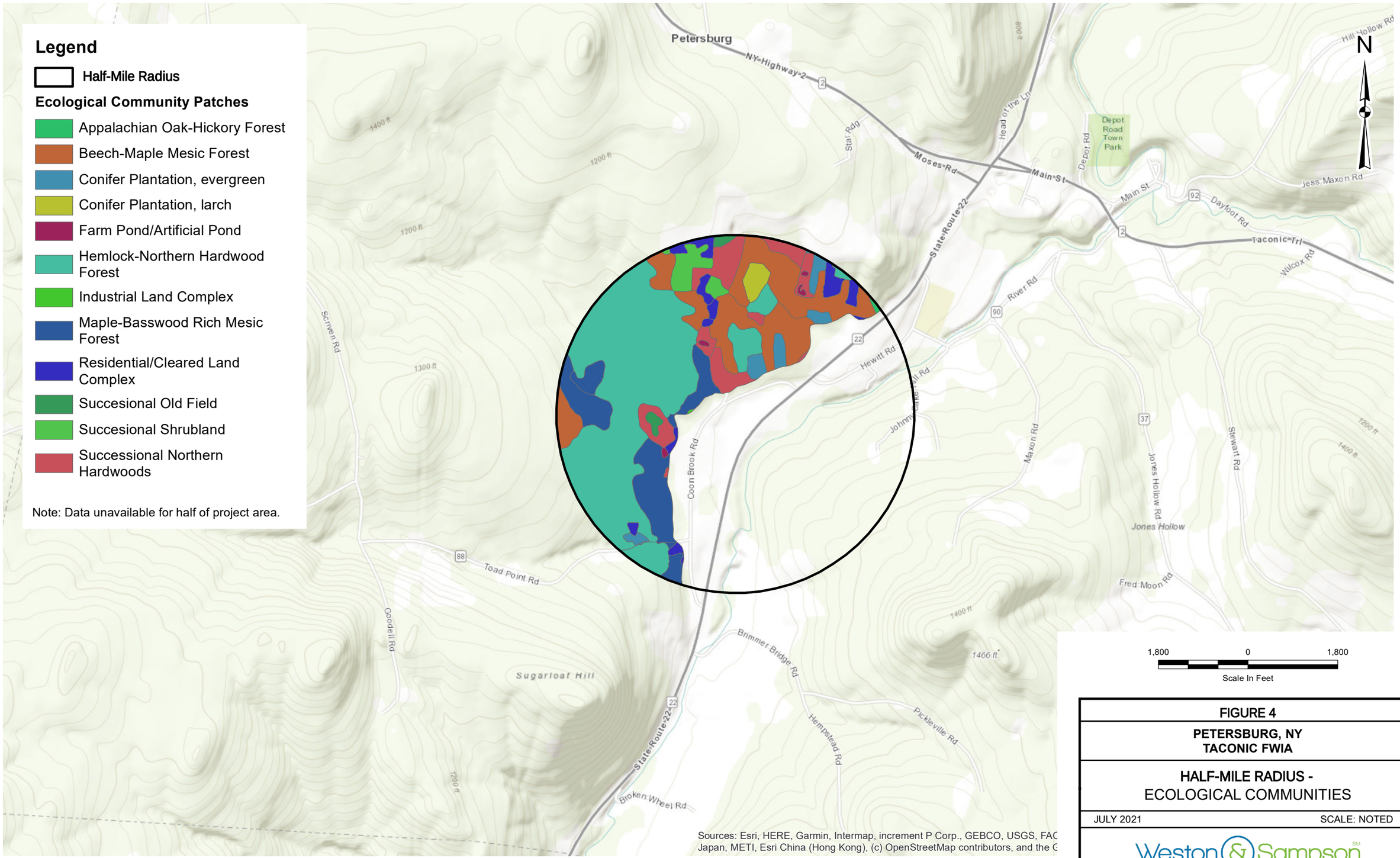
Legend

- Half-Mile Radius

Ecological Community Patches

- Appalachian Oak-Hickory Forest
- Beech-Maple Mesic Forest
- Conifer Plantation, evergreen
- Conifer Plantation, larch
- Farm Pond/Artificial Pond
- Hemlock-Northern Hardwood Forest
- Industrial Land Complex
- Maple-Basswood Rich Mesic Forest
- Residential/Cleared Land Complex
- Succesional Old Field
- Succesional Shrubland
- Successional Northern Hardwoods

Note: Data unavailable for half of project area.



1,800 0 1,800

Scale In Feet

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAC
Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the G

FIGURE 4

PETERSBURG, NY
TACONIC FWIA

HALF-MILE RADIUS -
ECOLOGICAL COMMUNITIES

JULY 2021 SCALE: NOTED

Weston & Sampson℠

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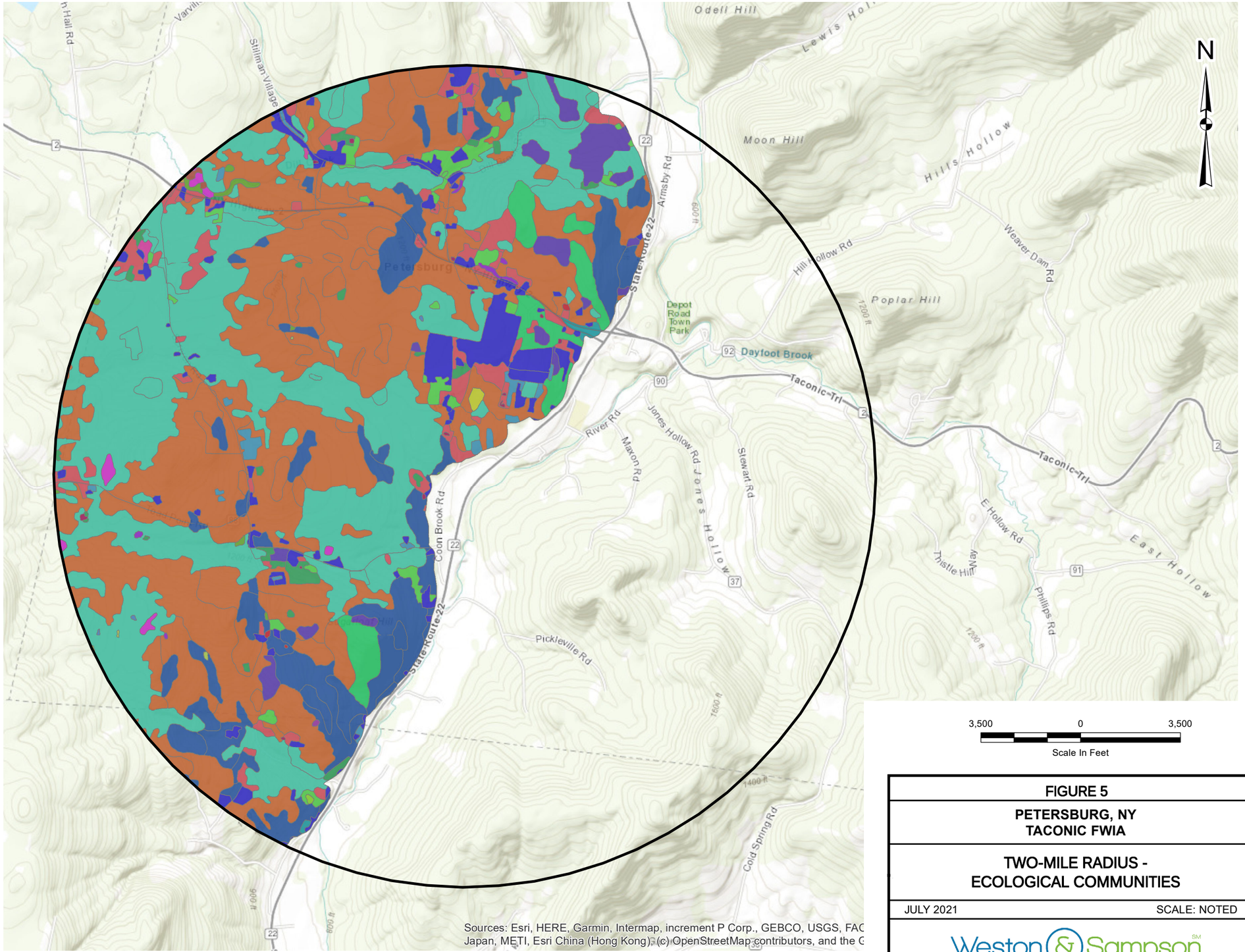
Legend

Two-Mile Radius

Ecological Community Patches

- Appalachian Oak-Hickory Forest
- Appalachian Oak-Pine Forest
- Beech-Maple Mesic Forest
- Conifer Plantation, evergreen
- Conifer Plantation, larch
- Farm Pond/Artificial Pond
- Hemlock-Hardwood Swamp
- Hemlock-Northern Hardwood Forest
- Industrial Land Complex
- Maple-Basswood Rich Mesic Forest
- Pine-Northern Hardwood Forest
- Red Maple-Hardwood Swamp
- Reservoir/Artificial Impoundment
- Residential/Cleared Land Complex
- Rocky Summit Grassland
- Sedge Meadow
- Shallow Emergent Marsh
- Shrub Swamp
- Spring
- Succesional Old Field
- Succesional Shrubland
- Successional Northern Hardwoods
- Successional Red Cedar Woodland
- Successional Southern Hardwoods
- Vernal Pool

Note: Data unavailable for half of project area.



3,500 0 3,500

Scale In Feet

FIGURE 5

PETERSBURG, NY
TACONIC FWIA

TWO-MILE RADIUS -
ECOLOGICAL COMMUNITIES

JULY 2021 SCALE: NOTED

Weston & Sampson

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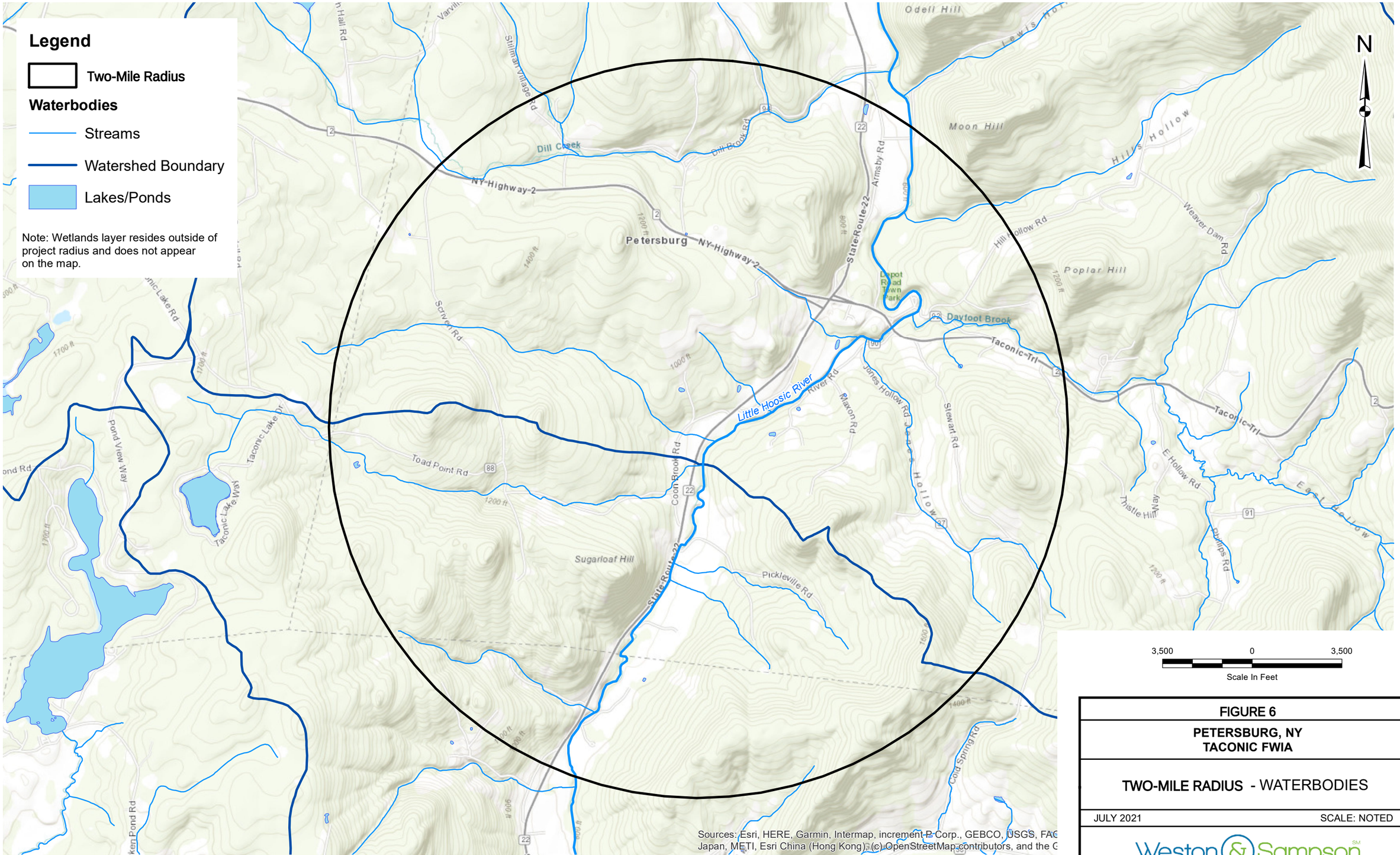


3,500 0 3,500

Scale In Feet

FIGURE 6

PETERSBURG, NY
TACONIC FWIA

TWO-MILE RADIUS - WATERBODIES

JULY 2021 SCALE: NOTED

Weston & Sampson

Legend

Waterbodies

- Streams
- Watershed Boundary

Natural Heritage Communities (2019)

- Uplands

Important Areas/Habitats for Animals

- Coldwater Stream Habitat
- Aquatic Habitat
- Bats Foraging
- Amphibian Habitat (covers entire map extent)
- Butterflies (covers entire map extent)
- Bird Surveys

Forest Blocks and Linkages

Matrix Forest Block Tier

- Tier 1
- Tier 2

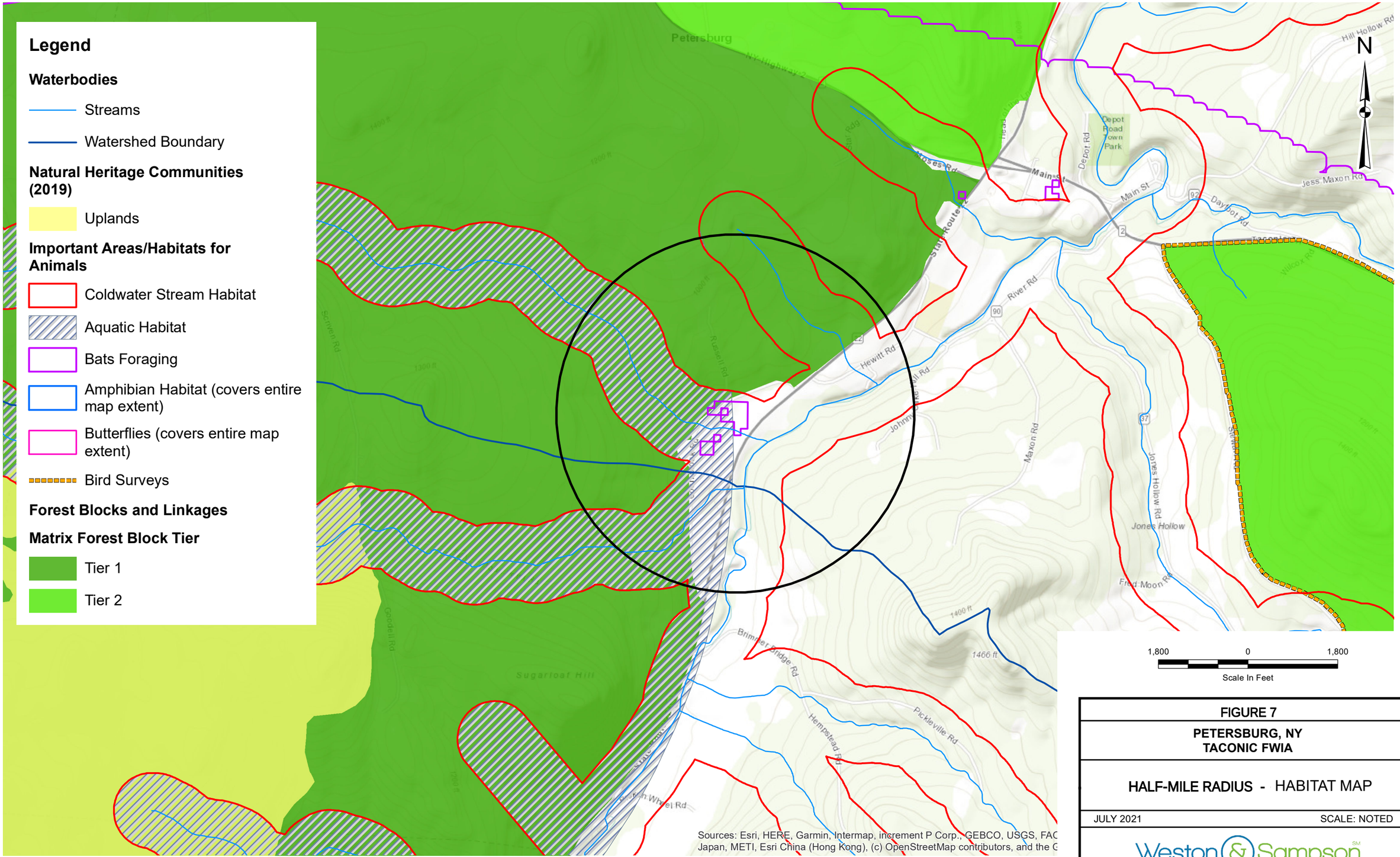


FIGURE 7

PETERSBURG, NY
TACONIC FWIA

HALF-MILE RADIUS - HABITAT MAP

JULY 2021 SCALE: NOTED

Weston & Sampson

Path: \\wse03.local\WSE\Projects\NY\Taconic\FWIA and GH\HEA\FWIA\GIS\FWIA Map - Half Mile Habitat.mxd User: Martens.Cassis Saved: 7/1/2021 1:33:42 PM Opened: 7/1/2021 1:34:20 PM

Legend

Two-Mile Radius

Waterbodies

Streams

Lakes

Natural Heritage Communities (2019)

Uplands

Important Areas/Habitats for Animals

Coldwater Stream Habitat

Aquatic Habitat

Bats Foraging

Amphibian Habitat (covers entire map extent)

Butterflies (covers entire map extent)

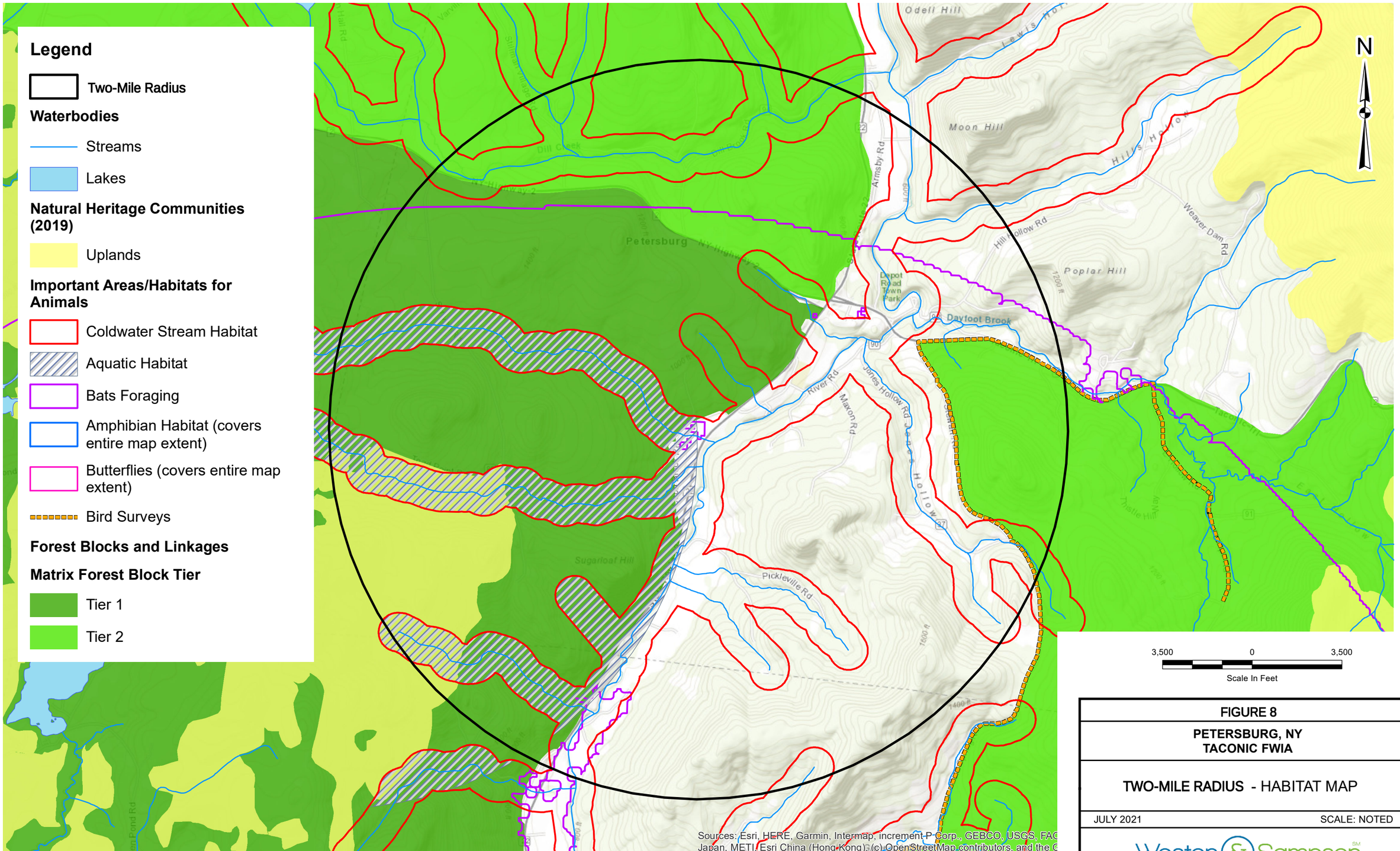
Bird Surveys

Forest Blocks and Linkages

Matrix Forest Block Tier

Tier 1

Tier 2



N

3,500 0 3,500

Scale In Feet

FIGURE 8

PETERSBURG, NY
TACONIC FWIA

TWO-MILE RADIUS - HABITAT MAP

JULY 2021 SCALE: NOTED

Weston & Sampson SM

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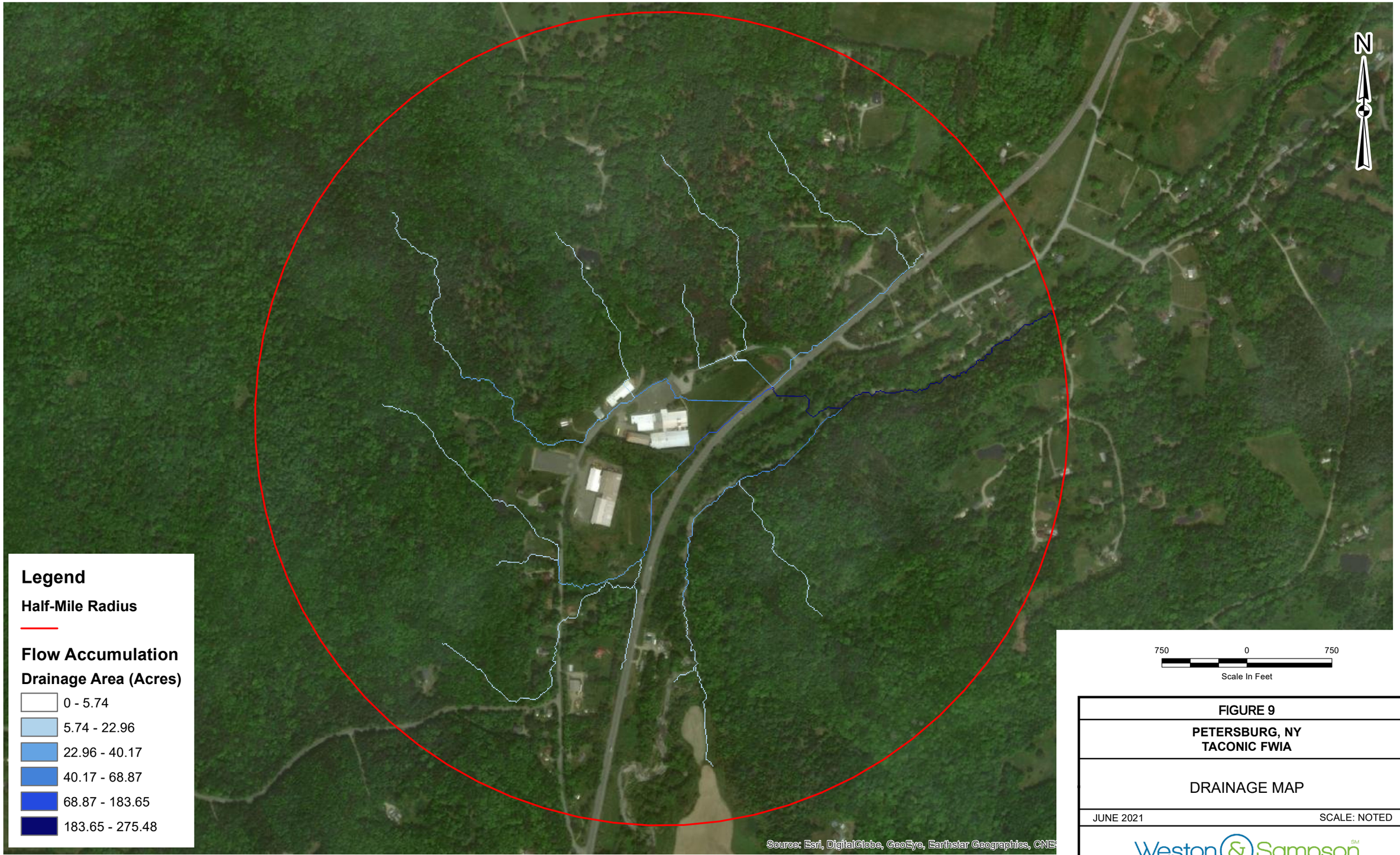

750 0 750

Scale In Feet

FIGURE 9

PETERSBURG, NY
TACONIC FWIA

DRAINAGE MAP

JUNE 2021 SCALE: NOTED

Weston & Sampson

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APPENDIX A

Project Documentation

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NYS Breeding Bird Atlas

Block 6273D

2000-2005

ATLAS 2000

Navigation Tools

- Perform Another Search
- Show All Records
- Sort by Field Card Order
- Sort by Taxonomic Order
- View 1985 Data

Block 6273D Summary

Total Species:	55
Possible:	8
Probable:	26
Confirmed:	21

Click on column heading to sort by that category.

List of Species Breeding in Atlas Block 6273D

Common Name	Scientific Name	Behavior Code	Date	NY Legal Status
Ruffed Grouse	*Bonasa umbellus*	FL	8/8/2004	Game Species
Turkey Vulture	*Cathartes aura*	X1	6/8/2003	Protected
Red-shouldered Hawk	*Buteo lineatus*	X1	7/20/2005	Protected-Special Concern
Red-tailed Hawk	*Buteo jamaicensis*	T2	8/8/2004	Protected
Rock Pigeon	*Columba livia*	N2	8/8/2004	Unprotected
Mourning Dove	*Zenaida macroura*	FL	8/8/2004	Protected
Ruby-throated Hummingbird	*Archilochus colubris*	T2	7/4/2004	Protected
Belted Kingfisher	*Megaceryle alcyon*	N2	7/4/2004	Protected
Yellow-bellied Sapsucker	*Sphyrapicus varius*	NY	7/13/2005	Protected
Downy Woodpecker	*Picoides pubescens*	X1	7/20/2005	Protected
Northern Flicker	*Colaptes auratus*	FL	8/8/2004	Protected

Eastern Wood-Pewee	*Contopus virens*	T2	7/13/2005	Protected
Least Flycatcher	*Empidonax minimus*	T2	7/13/2005	Protected
Eastern Phoebe	*Sayornis phoebe*	FL	8/8/2004	Protected
Great Crested Flycatcher	*Myiarchus crinitus*	X1	6/8/2003	Protected
Eastern Kingbird	*Tyrannus tyrannus*	FL	8/8/2004	Protected
Blue-headed Vireo	*Vireo solitarius*	X1	7/13/2005	Protected
Warbling Vireo	*Vireo gilvus*	S2	7/4/2004	Protected
Red-eyed Vireo	*Vireo olivaceus*	FY	7/20/2005	Protected
Blue Jay	*Cyanocitta cristata*	FL	6/8/2003	Protected
American Crow	*Corvus brachyrhynchos*	T2	8/8/2004	Game Species
Tree Swallow	*Tachycineta bicolor*	FL	7/4/2004	Protected
Bank Swallow	*Riparia riparia*	FL	7/4/2004	Protected
Barn Swallow	*Hirundo rustica*	FY	7/4/2004	Protected
Black-capped Chickadee	*Poecile atricapillus*	T2	6/8/2003	Protected
Tufted Titmouse	*Baeolophus bicolor*	S2	7/20/2005	Protected
White-breasted Nuthatch	*Sitta carolinensis*	T2	8/8/2004	Protected
Winter Wren	*Troglodytes troglodytes*	S2	7/4/2004	Protected
Eastern Bluebird	*Sialia sialis*	P2	7/20/2005	Protected
Veery	*Catharus fuscescens*	T2	7/13/2005	Protected
American Robin	*Turdus migratorius*	NE	7/13/2005	Protected
Gray Catbird	*Dumetella carolinensis*	FY	7/4/2004	Protected
European Starling	*Sturnus vulgaris*	FL	6/8/2003	Unprotected
Cedar Waxwing	*Bombycilla cedrorum*	X1	7/20/2005	Protected
Yellow Warbler	*Dendroica petechia*	D2	7/20/2005	Protected
Chestnut-sided Warbler	*Dendroica pensylvanica*	T2	7/4/2004	Protected
Yellow-rumped Warbler	*Dendroica coronata*	S2	7/13/2005	Protected
Black-throated Green Warbler	*Dendroica virens*	FY	7/13/2005	Protected
American Redstart	*Setophaga ruticilla*	FY	7/13/2005	Protected

Ovenbird	*Seiurus aurocapilla*	D2	7/13/2005	Protected
Common Yellowthroat	*Geothlypis trichas*	S2	7/4/2004	Protected
Chipping Sparrow	*Spizella passerina*	FY	8/8/2004	Protected
Song Sparrow	*Melospiza melodia*	FY	7/20/2005	Protected
White-throated Sparrow	*Zonotrichia albicollis*	X1	7/4/2004	Protected
Dark-eyed Junco	*Junco hyemalis*	D2	7/13/2005	Protected
Scarlet Tanager	*Piranga olivacea*	T2	7/4/2004	Protected
Northern Cardinal	*Cardinalis cardinalis*	X1	6/8/2003	Protected
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	FY	7/20/2005	Protected
Indigo Bunting	*Passerina cyanea*	T2	7/4/2004	Protected
Red-winged Blackbird	*Agelaius phoeniceus*	D2	6/8/2003	Protected
Common Grackle	*Quiscalus quiscula*	FL	8/8/2004	Protected
Baltimore Oriole	*Icterus galbula*	T2	7/4/2004	Protected
House Finch	*Carpodacus mexicanus*	T2	8/8/2004	Protected
American Goldfinch	*Spinus tristis*	S2	7/4/2004	Protected
House Sparrow	*Passer domesticus*	FY	7/4/2004	Unprotected

Current Date: 6/14/2021

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NYS Breeding Bird Atlas

Block 6373C

2000-2005

ATLAS 2000

Navigation Tools

- Perform Another Search
- Show All Records
- Sort by Field Card Order
- Sort by Taxonomic Order
- View 1985 Data

Block 6373C Summary

Total Species:	57
Possible:	18
Probable:	37
Confirmed:	2

Click on column heading to sort by that category.

List of Species Breeding in Atlas Block 6373C

Common Name	Scientific Name	Behavior Code	Date	NY Legal Status
Rock Pigeon	*Columba livia*	X1	6/26/2002	Unprotected
Mourning Dove	*Zenaida macroura*	P2	6/26/2002	Protected
Black-billed Cuckoo	*Coccyzus erythropthalmus*	X1	6/17/2004	Protected
Red-bellied Woodpecker	*Melanerpes carolinus*	X1	6/13/2001	Protected
Downy Woodpecker	*Picoides pubescens*	X1	6/17/2004	Protected
Northern Flicker	*Colaptes auratus*	X1	6/16/2002	Protected
Eastern Wood-Pewee	*Contopus virens*	S2	6/26/2002	Protected
Least Flycatcher	*Empidonax minimus*	S2	6/26/2002	Protected
Eastern Phoebe	*Sayornis phoebe*	T2	6/26/2002	Protected
Great Crested Flycatcher	*Myiarchus crinitus*	X1	6/13/2001	Protected
Eastern Kingbird	*Tyrannus tyrannus*	T2	6/26/2002	Protected

Warbling Vireo	*Vireo gilvus*	S2	6/26/2002	Protected
Red-eyed Vireo	*Vireo olivaceus*	S2	6/26/2002	Protected
Blue Jay	*Cyanocitta cristata*	S2	6/26/2002	Protected
American Crow	*Corvus brachyrhynchos*	S2	6/26/2002	Game Species
Common Raven	*Corvus corax*	X1	6/13/2001	Protected
Tree Swallow	*Tachycineta bicolor*	X1	6/13/2001	Protected
Barn Swallow	*Hirundo rustica*	P2	6/26/2002	Protected
Black-capped Chickadee	*Poecile atricapillus*	S2	6/26/2002	Protected
Tufted Titmouse	*Baeolophus bicolor*	X1	6/13/2001	Protected
Brown Creeper	*Certhia americana*	X1	6/26/2002	Protected
House Wren	*Troglodytes aedon*	S2	6/26/2002	Protected
Eastern Bluebird	*Sialia sialis*	T2	6/16/2002	Protected
Veery	*Catharus fuscescens*	S2	6/26/2002	Protected
Hermit Thrush	*Catharus guttatus*	X1	6/17/2004	Protected
Wood Thrush	*Hylocichla mustelina*	X1	6/13/2001	Protected
American Robin	*Turdus migratorius*	FL	6/26/2002	Protected
Gray Catbird	*Dumetella carolinensis*	S2	6/26/2002	Protected
European Starling	*Sturnus vulgaris*	FL	6/26/2002	Unprotected
Cedar Waxwing	*Bombycilla cedrorum*	S2	6/26/2002	Protected
Blue-winged Warbler	*Vermivora pinus*	X1	6/13/2001	Protected
Yellow Warbler	*Dendroica petechia*	S2	6/26/2002	Protected
Chestnut-sided Warbler	*Dendroica pensylvanica*	T2	6/26/2002	Protected
Magnolia Warbler	*Dendroica magnolia*	X1	6/17/2004	Protected
Black-throated Green Warbler	*Dendroica virens*	X1	6/13/2001	Protected
Blackburnian Warbler	*Dendroica fusca*	S2	6/26/2002	Protected
Prairie Warbler	*Dendroica discolor*	S2	6/26/2002	Protected
Black-and-white Warbler	*Mniotilta varia*	X1	6/18/2001	Protected
American Redstart	*Setophaga ruticilla*	S2	6/26/2002	Protected

Ovenbird	*Seiurus aurocapilla*	S2	6/26/2002	Protected
Common Yellowthroat	*Geothlypis trichas*	S2	6/26/2002	Protected
Chipping Sparrow	*Spizella passerina*	S2	6/26/2002	Protected
Field Sparrow	*Spizella pusilla*	X1	6/17/2004	Protected
Song Sparrow	*Melospiza melodia*	S2	6/26/2002	Protected
Scarlet Tanager	*Piranga olivacea*	X1	6/13/2001	Protected
Northern Cardinal	*Cardinalis cardinalis*	P2	6/17/2004	Protected
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	S2	6/26/2002	Protected
Indigo Bunting	*Passerina cyanea*	T2	6/26/2002	Protected
Bobolink	*Dolichonyx oryzivorus*	S2	6/26/2002	Protected
Red-winged Blackbird	*Agelaius phoeniceus*	P2	6/26/2002	Protected
Common Grackle	*Quiscalus quiscula*	P2	6/17/2004	Protected
Brown-headed Cowbird	*Molothrus ater*	S2	6/26/2002	Protected
Baltimore Oriole	*Icterus galbula*	S2	6/26/2002	Protected
Purple Finch	*Carpodacus purpureus*	S2	6/26/2002	Protected
House Finch	*Carpodacus mexicanus*	P2	6/26/2002	Protected
American Goldfinch	*Spinus tristis*	P2	6/26/2002	Protected
House Sparrow	*Passer domesticus*	P2	6/26/2002	Unprotected

Current Date: 6/14/2021

IPaC **U.S. Fish & Wildlife Service**

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.

Location

Rensselaer County, New York

Local office

New York Ecological Services Field Office

(607) 753-9334
(607) 753-9699

3817 Luker Road
Cortland, NY 13045-9385

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. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

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

Mammals

NAME	STATUS
Northern Long-eared Bat Myotis septentrionalis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	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 Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider 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.

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

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE"

INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Black-billed Cuckoo Coccyzus erythropthalmus — Breeds May 15 to Oct 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9399

Bobolink Dolichonyx oryzivorus — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Canada Warbler Cardellina canadensis — Breeds May 20 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Wood Thrush Hylocichla mustelina — Breeds May 10 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

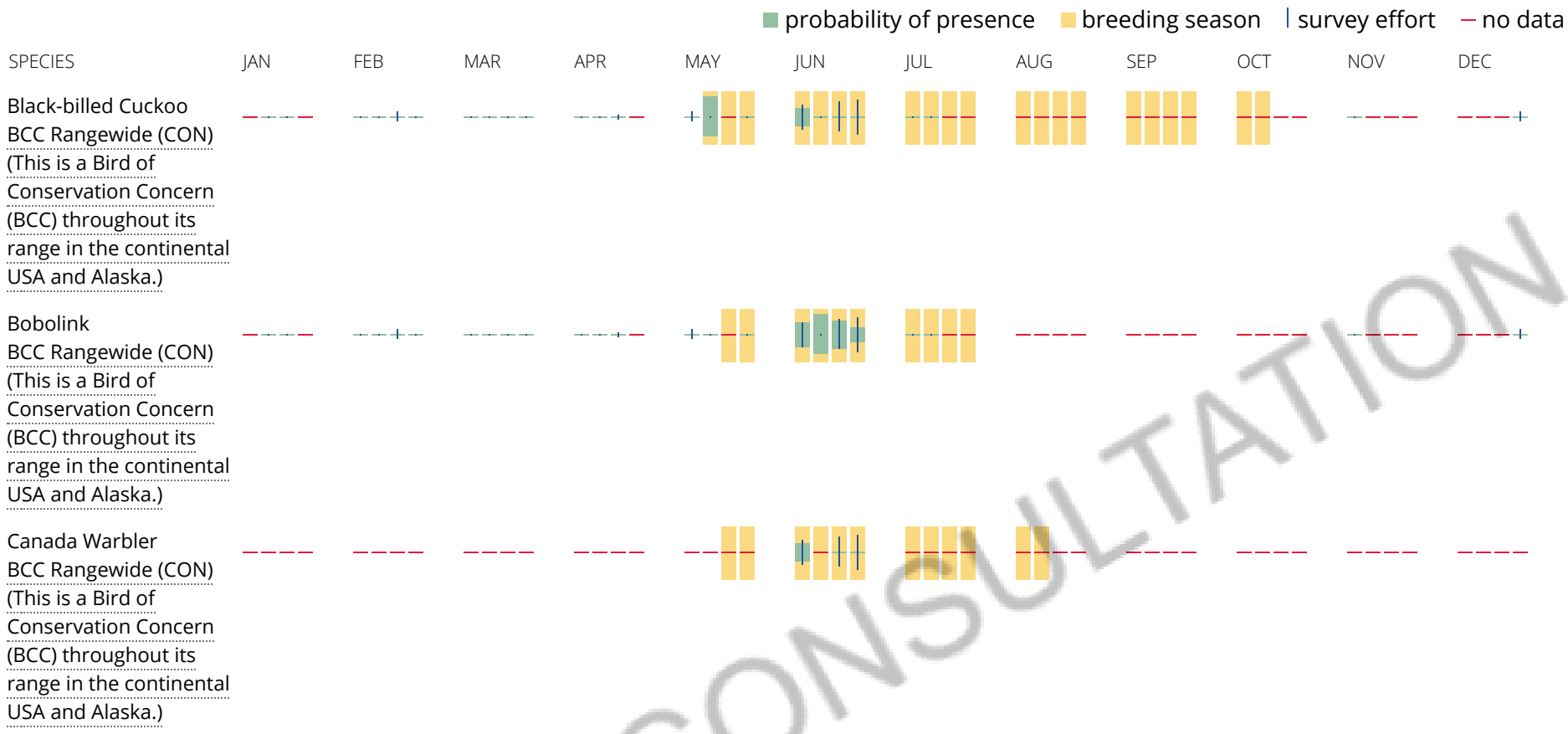
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

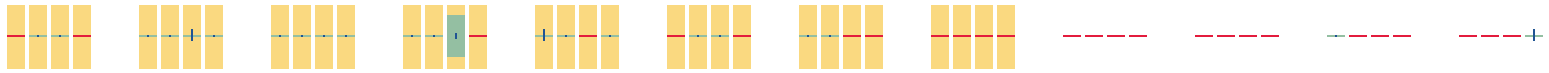
No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

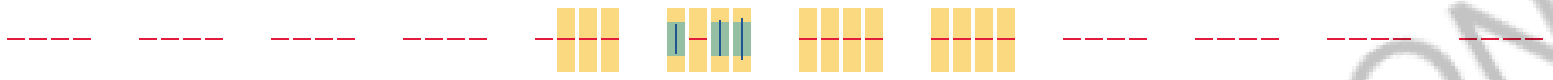
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Golden Eagle Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)



Wood Thrush BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



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. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures 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) and other species that may warrant special attention in your project location.

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 and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology 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. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

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 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 on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

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

THERE ARE NO REFUGE LANDS 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.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER FORESTED/SHRUB WETLAND

- PFO4C
- PFO1C

FRESHWATER POND

- PUBH

RIVERINE

- R2UBH
- R5UBH

R3UBH

A full description for each wetland code can be found at the National Wetlands Inventory website

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 tuberficid 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.

IPaC **U.S. Fish & Wildlife Service**

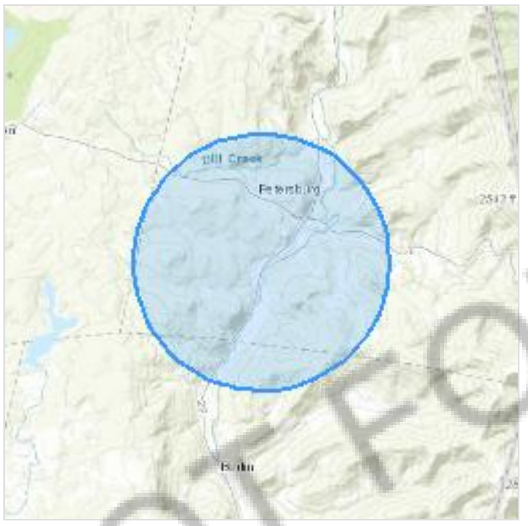
IPaC resource list

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.

Location

Rensselaer County, New York



Local office

New York Ecological Services Field Office

(607) 753-9334
(607) 753-9699

3817 Luker Road
Cortland, NY 13045-9385

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. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

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

Mammals

NAME	STATUS
Northern Long-eared Bat Myotis septentrionalis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	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 Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider 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.

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

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE"

INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Black-billed Cuckoo Coccyzus erythropthalmus
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9399
Breeds May 15 to Oct 10

Bobolink Dolichonyx oryzivorus
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
Breeds May 20 to Jul 31

Canada Warbler Cardellina canadensis
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
Breeds May 20 to Aug 10

Golden Eagle Aquila chrysaetos
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680
Breeds Jan 1 to Aug 31

Wood Thrush Hylocichla mustelina
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

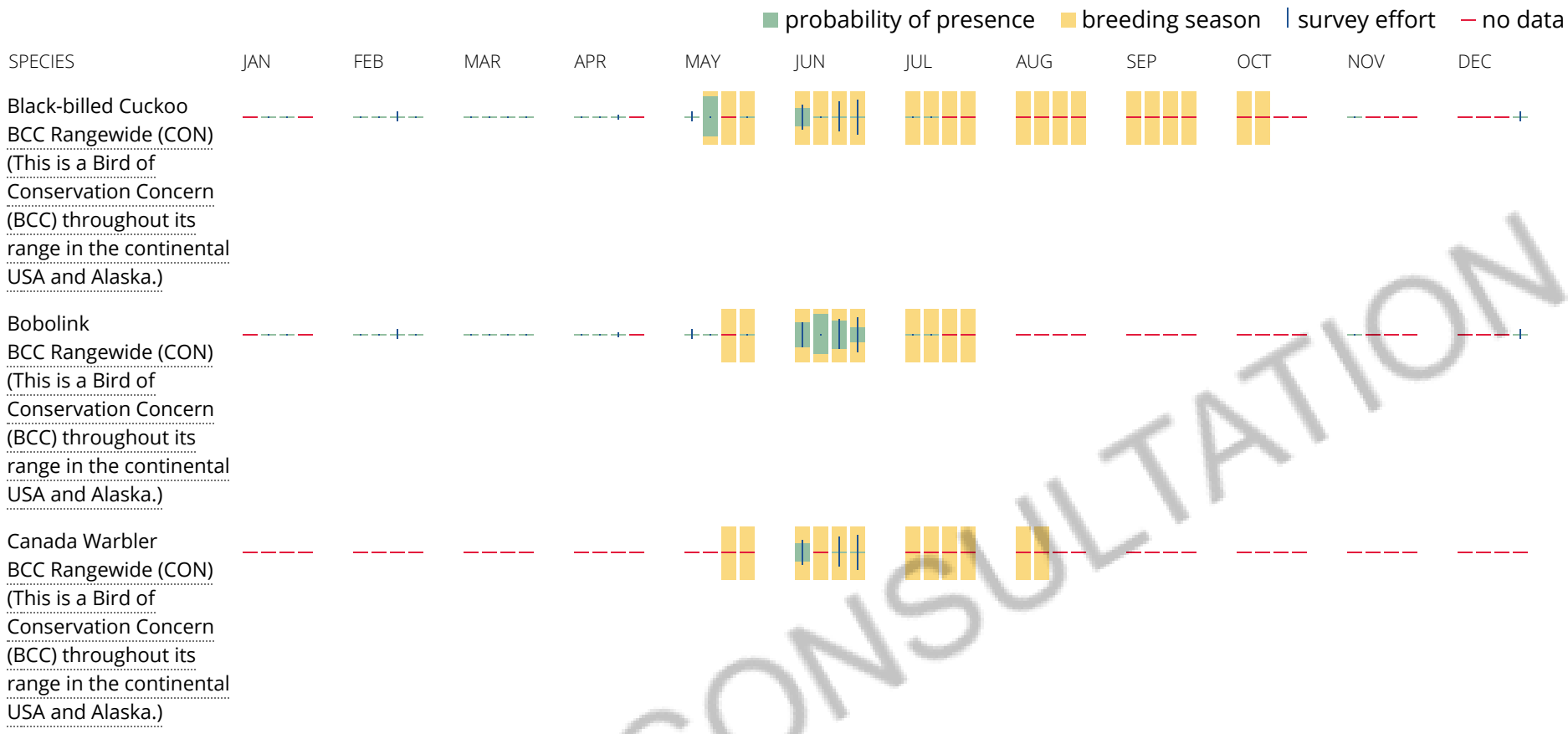
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

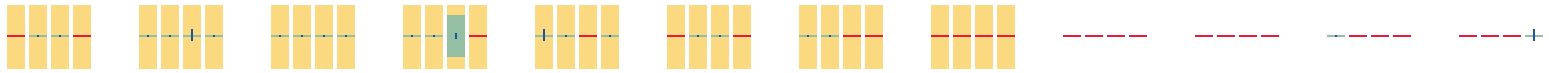
No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

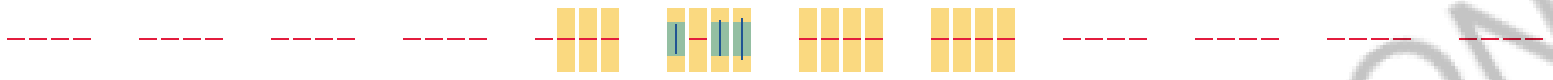
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Golden Eagle Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)



Wood Thrush BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



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. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures 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) and other species that may warrant special attention in your project location.

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 and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology 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. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

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 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 on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

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

THERE ARE NO REFUGE LANDS 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.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

- PEM1Eb
- PEM1E
- PEM1Eh

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1C
- PFO4E
- PFO1Eb
- PFO4C

PFO1E
PSS1Eh
PFO1/SS1C
PSS1/EM1C
PSS1E
PFO1/4C
PSS1/EM1E
PSS1A
PSS1C

FRESHWATER POND

PUBH
PUBHx
PUBHh
PUBF

RIVERINE

R2UBH
R3UBH
R5UBH
R4SBC
R4SBA
R4SBCx

A full description for each wetland code can be found at the National Wetlands Inventory website

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 tuberficid 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.

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

January 21, 2021

Rachelle Ann McKnight
Weston & Sampson
1 Winners Circle
Albany, NY 12205

Re: Fish and Wildlife Impact Analysis (Part 1) - Taconic Plastics
County: Rensselaer Town/City: Petersburg

Dear Rachelle Ann McKnight:

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 at or within 0.5 mile of the project site.

Within 3.75 miles of the project site is a documented winter hibernaculum of **Northern long-eared bat** (*Myotis septentrionalis*, state and federally listed as Threatened). The bats may travel five miles or more from documented locations. The main impact of concern for bats is the removal of potential roost trees. For information about any permit considerations for your project, please contact the Permits staff at the NYSDEC Region 4 Office, Division of Environmental Permits, at dep.r4@dec.ny.gov.

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 Permits staff at the NYSDEC Region 4 Office as described above.

Sincerely,

Heidi Krahling
Environmental Review Specialist
New York Natural Heritage Program

1402

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

July 14, 2021

Rachelle Ann McKnight
Weston & Sampson
1 Winners Circle Suite 130
Albany, NY 12205

Re: Fish and Wildlife Impact Analysis (Part 1) - Taconic Plastics - Petersburgh, NY
County: Rensselaer Town/City: Petersburgh

Dear Rachelle Ann McKnight:

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

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities that our database indicates occur in the vicinity of the project site.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our database. We cannot provide a definitive statement as to 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.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and 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 4 Office, Division of Environmental Permits, at dep.r4@dec.ny.gov.

Sincerely,

Heidi Krahling
Environmental Review Specialist
New York Natural Heritage Program

564

The following state-listed animal has been documented in the vicinity of the project site.

The following list includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed.

For information about any permit considerations for your project, please contact the Permits staff at the NYSDEC Region 4 Office at dep.r4@dec.ny.gov, 518-357-2449.

The following species has been documented within 3.75 miles of the project site. Individual animals may travel 5 miles from documented locations. The main impact of concern is the cutting or removal of potential roost trees.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*FEDERAL LISTING*	
Mammals				
Northern Long-eared Bat *Hibernaculum*	*Myotis septentrionalis*	Threatened	Threatened	14162

This report only includes records from the NY Natural Heritage database.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the listed animals in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, and from NYSDEC at www.dec.ny.gov/animals/7494.html.

The following rare plants, rare animals, and significant natural communities have been documented within two miles of the project site.

We recommend that potential impacts of the proposed project on these species or communities be addressed as part of any environmental assessment or review conducted as part of the planning, permitting and approval process, such as reviews conducted under SEQR. Field surveys of the project site may be necessary to determine the status of a species at the site, particularly for sites that are currently undeveloped and may still contain suitable habitat. Final requirements of the project to avoid, minimize, or mitigate potential impacts are determined by the lead permitting agency or the government body approving the project.

The following natural communities are considered significant from a statewide perspective by the NY Natural Heritage Program. Each community is either an example of a community type that is rare in the state, or a high-quality example of a more common community type. By meeting specific, documented criteria, the NY Natural Heritage Program considers these community occurrences to have high ecological and conservation value. They have been documented within one mile west of the project site.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*HERITAGE CONSERVATION STATUS*
Upland/Terrestrial Communities			
Beech-Maple Mesic Forest			High Quality Occurrence of Uncommon Community Type
Central Rensselaer Plateau Forest: This is a large forest with excellent species diversity, moderate maturity recovering well from historical logging and in a moderately large and intact recovering forested landscape.			8043
Hemlock-Northern Hardwood Forest			High Quality Occurrence of Uncommon Community Type
Central Rensselaer Plateau Forest: A very large community with excellent species diversity, moderately mature and recovering well from historical logging and in a large, very intact recovering forested landscape but intersected by numerous roads and gradually expanding development.			8562

The following animal, while not listed by New York State as Endangered or Threatened, is rare in New York and is of conservation concern. It has been documented within two miles west of the project site.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*HERITAGE CONSERVATION STATUS*
Dragonflies and Damselflies			
Southern Pygmy Clubtail	*Lanthus vernalis*	Unlisted	Critically Imperiled in NYS
Taconic Lake Road stream, 2006-06-27: The habitat is a high gradient headwater stream.			14401

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. 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.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the rare animals and plants in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, from NatureServe Explorer at www.natureserve.org/explorer, and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).

Information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, distribution, conservation, and management, is available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org. For descriptions of all community types, go to www.dec.ny.gov/animals/97703.html for Ecological Communities of New York State.

Northern Rensselaer County Fishing Waters

NYS Department of Health Fish Advisories & Publicly Accessible Waters