Wildlife Habitat Assessment for Site of Proposed Sheffield Gardens

Project Location:

Route 17K
Town of Montgomery
Orange County, NY

S/B/L
29-1-5.1, 5.2, 5.3, 5.4, and 5.5

Prepared By:

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July 6, 2023

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Introduction

As part of SEQRA requirements, Ecological Analysis, LLC (EA) completed a wildlife habitat assessment on the Project site of the proposed Sheffield Gardens development. The subject five-parcel site is a forested property, approximately 53± acres in size, and is located within the Town of Montgomery in northern Orange County, New York (Figure 1). This combined property consists of five abutting parcels located within the middle watershed of the Wallkill River. At its highest elevation, along the flat ridge in the center of the property, it is approximately 450 feet above sea level (ASL), and at its lowest elevation, in the wetlands formed in the southeast corner, it is approximately 388 feet ASL. Areas of upland forest cover the central and northern portions of the site, while wetlands are present in the eastern and the southwestern portions. Two streams exit these wetlands, which form part of two small, localized sub-watersheds of the Wallkill River. These streams are state-designated, unregulated (Standard C - Class C) waterbodies (Regulation Nos. 855.5-146 and 855.5-148). The largest area of wetland is a portion of a state mapped wetland (NYSDEC Freshwater Wetland WD-29). All NYSDEC wetlands are bordered by a NYSDEC regulated 500-foot state checkzone[1] as depicted for wetland WD-29 on the "NYSDEC Wetlands and Streams" figure in Appendix B.

EA's field work for this assessment focused on identifying any habitat on the site that might support regionally common and uncommon species of wildlife, including those that are listed as either "endangered", "threatened" or "species of special concern" by the New York State Department of Conservation (NYSDEC) or the Federal Government's United States Fish and Wildlife Service (USFWS). In addition, during the conduct of the field work, EA recorded incidental observations of both any wildlife observed and the dominant forms of upland and wetland vegetation present across the property.

As with many areas of New York State, this property had been cleared of its forest cover within the historic past, and, as recently as 1957, USGS topological maps were still showing this site as remaining largely unforested and undeveloped. The entire forested upland portion of the property has therefore reforested since that time with pioneering and mature trees that may range up to 60+ years of age.

Both state and federal wildlife agency websites were queried for the purpose of obtaining their listing of any protected species that might be locally present and for assessing the proposed Project's potential for impacts on those protected wildlife resources over which their agency has jurisdiction.

The NYSDEC and the NYS Natural Heritage Program (NHP) presently refer all inquiries regarding their jurisdiction over natural resources to the publicly accessible websites that they maintain to provide such information. These two NYSDEC websites include their online Environmental Assessment Form (EAF) Mapper website[2] and the Environmental Resource Mapper (ERM) website[3] that are used to identify protected resources that might exist in the vicinity of development Projects. The primary information that the NYSDEC websites use for identifying the known locations of populations of wildlife species is

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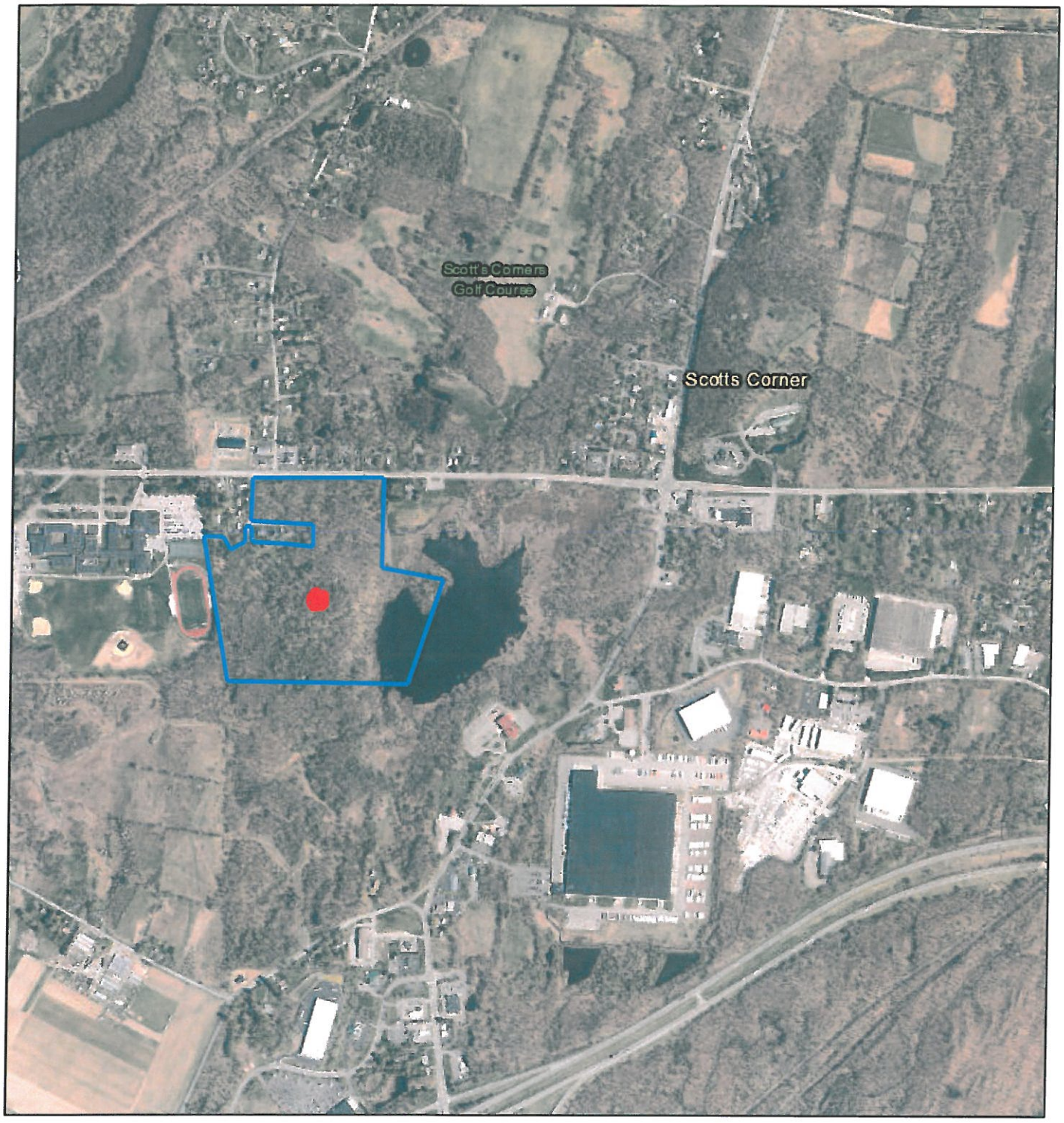
[1] The "checkzone" is an area around a mapped NYSDEC wetland within which the actual wetland may occur. A Project that may encroach into this area should have the actual wetland boundary determined on site. A validated field delineation aids in avoiding impacts in NYSDEC wetlands or their regulated 100-foot buffer zones.

[2] https://gisservices.dec.ny.gov/eafmapper/

[3] https://gisservices.dec.ny.gov/gis/erm/

Figure 1 - Property location.



June 30, 2023

1:18,056

0 0.1 0.2 0.4 mi

0 0.17 0.35 0.7 km

Project Site

New York State, Maxar, Esri, HERE, Garmin, iPC

Author: NYSDEC Hudson Valley Natural Resource Mapper
Not a legal document

their database of current and historic NHP records. The information presented in these websites provides either the potential for impacts to protected wildlife or wildlife habitat at a site, or, if there are no relevant records of protected species on or near the site, the websites will provide a determination that the State has "no known records of rare or state-listed animals or plants, significant natural communities, or other significant habitats, on or in the immediate vicinity of your site."

The website for generating NYS NHP Environmental Assessment Forms (EAF)[4] was accessed on 22 March, 2023, to obtain the current status of protected (endangered, or threatened, or rare species of special concern) plant and animal species known in the vicinity of the Project site, if any. Only one such species was identified by this process. The EAF generated for this site stated that the Project site is potentially within the range of influence of nesting bald eagles. As a follow-through query, a jurisdictional request was made to NYSDEC Region 3. That query was responded to on May 1, 2023, stating that the property location is ≥0.77 miles from the nearest known, active or inactive, bald eagle nest and therefore, based on that distance being greater than the distance of concern for nesting bald eagles (0.5 miles), the Project is "not likely to impact bald eagles and no further review by the NYSDEC is necessary." The NYSDEC EAF form for this site identifies no other protected wildlife species on or in the vicinity of the Project site.

A third NYSDEC website, for the Herp Atlas Project[5], was referenced to generate a list of common or protected species of reptiles and amphibians (herptiles) that might be present on or near the Project site. This website shows the generalized locations of known populations of herptiles by highlighting each United States Geological Service (USGS) 7.5 minute-quadrangle (Quad) map within which the NYSDEC has documented information that a particular herptile species has or had been present. This Project site is located within the Walden Quad.

Similar to the state's process, the USFWS presently refers all inquiries regarding their jurisdiction over natural resources to their website for Information for Planning and Consultation (IPaC).[6] Their website was queried on 28 June, 2023 to obtain the current status of USFWS protected resources. The primary information that IPaC uses to generate a list of potentially impacted species is the "known or expected range" of each species. Because ranges may be fractured, species can move, and site conditions can change, the species that appear on an IPaC list may not be definitively present on or near any one Project area. To more directly assess the potential presence of, or any potential effects to, an IPaC listed species, the use of site-specific and Project-specific information should be utilized.

The IPaC report for this Project site indicated that there are no species-specific critical habitats located at the site but that there is the *potential* for the presence of one protected species of turtle (the federally threatened bog turtle), two protected species of bats (the federally and state endangered species: Indiana bat and northern long-eared bat[7]), and one protected species of plant (the federally threatened small whorled pogonia), if suitable habitat is available on the site for those species. The one cited turtle species, the bog turtle, would only be present if there were appropriate wetlands that the species requires to conduct its seasonal activities (i.e. seep-fed, mucky soil wetlands with predominately ground

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[4] https://www.dec.ny.gov/permits/90201.html

[5] https://www.dec.ny.gov/animals/7140.html

[6] https://ipac.ecosphere.fws.gov

[7] On November 29, 2022, the United States Fish and Wildlife Service (USFWS) published a ruling[7] reclassifying Northern Long-eared Bat from "Threatened" to "Endangered" status under the federal Endangered Species Act. This federal rule became effective March 31, 2023. The change to "Endangered" status for this species in New York took place at the same time as the Federal reclassification.

story vegetation and very limited or no shrub or tree canopies), characteristics not found within the site wetlands. The two cited bat species would only have potential to be present during the months from April-October when they are not sequestered within their winter hibernacula (caves). The one cited plant species would only be present if there were appropriate forest habitat on the site. The NYSDEC EAF form for this site, which accesses the NYSDEC NHP database of known and historic occurrences of plants and animals across the state, does not list either the Indiana bat, the northern long-eared bat, or the small whorled pogonia for this Project location, a conclusion with which EA concurs.

The online Federal remote mapping resources of the United States Fish and Wildlife agency (USFWS) National Wetland Inventory (NWI)[8], depicts only a wetland on the easternmost portion of the property. NWI wetlands are identified on the NWI map by coded Cowardin classifications.[9] The NWI mapped wetland feature for this property is identified as a Cowardin coded PEM1Ed wetland with an included area of PFO1C wetland. "PEM1Ed" indicates areas of palustrine emergent vegetation (PEM) characterized by persistent vegetation (1) in areas that would be expected to exhibit seasonally flooded or saturated soils (E) that, historically, had been ditched and partly drained (d). Presently, standing open water has inundated extensive portions of this PEM1Ed NWI feature, as shown on Figure 1.

In addition to that NWI mapped wetland area, EA identified two other areas of palustrine forested wetlands in the southwestern portion of the property[10]. that would have a Cowardin classification of "PFO1C". "PFO1C" indicates areas of palustrine forest (PFO) of broad-leaved deciduous vegetation (1) in areas that are seasonally flooded (C). Two of the seasonally flooded pools within these latter forested wetland areas were observed with breeding wood frogs, a vernal pool species.

The site features five large-scale habitats[11] that were observed and evaluated for their potential as wildlife habitat, these are:

1. Upland - Oak-maple hardwood forest;
2. Wetland – Palustrine forest;
3. Wetland – Emergent vegetation meadow;
4. Wetland - Eutrophic pond;
5. Wetland - Vernal pool.

This diversity of habitats and the present undeveloped state of the property, as well as its location abutting other undeveloped properties, would act to support a variety of avian, terrestrial, and aquatic wildlife species that might be present.

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[8] The wetland information displayed on the USFWS NWI mapping website shows wetland type and extent using a biological definition of wetlands. There is no attempt on their website to define the actual limits of proprietary jurisdiction of any Federal, state, or local government, or to establish the geographical scope of the regulatory programs of government agencies. The FWS does not maintain, and is not responsible for the accuracy or completeness of the base cartographic information depicted on NWI maps. Please note that the NWI data being shown may be out of date. As of June, 2023, the USFWS is currently working to update their NWI data set, therefore recommends to verify NWI website maps with site visits to determine the actual extent of wetlands on a site.

[9] Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

[10] ACOE Wetlands Delineation Map WL-1, Engineering & Surveying Properties.

[11] Adapted from: Edinger, G. J., D. J. Evans, S. Gebauer, T. G. Howard, D. M. Hunt, and A. M. Olivero (editors). 2014. Ecological Communities of New York State. Second Edition. A revised and expanded edition of Carol Reschke's Ecological Communities of New York State. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.

Appendix A of this report presents three NYSDEC ERM sourced maps for this site and its environs. This map figure shows the location of the site in relation to forests, state wetlands, streams, and all state-mapped biodiversity resources (plants, wildlife, and Significant Natural Communities) in its vicinity. Onsite, current, investigations are typically requested by NYS in order to supplement or update the information presented by the state's EAF and ERM mapper services. At this Project site, EA's onsite investigations to comply with this caveat occurred on five dates: November 20-21, 2021; February 14, 2023; April 2, 2023; and April 21, 2023.

Vegetation and Soils

EA identified 76 taxa of plants within the uplands and the wetlands on the property. A list of these plants is attached as Appendix B of this report.

The United States Department of Agriculture (USDA) online web soil survey from the Natural Resources Conservation Service (NRCS)[12] shows that the mapped soil units on these parcels includes both a non-hydric (upland) soil, and several potentially hydric soils. The one upland soil, Pittsfield gravelly loam, is present across all of the higher elevations on the property. The three potentially hydric soils identified on the property include: Canandaigua silt loams, Erie gravely silt loams, and Udorthents (areas of disturbed urban soils). These soils are located across the flooded eastern portion of the site and near the residential developments and the high school athletic fields in the western and northwestern portions of the site.

Oak-maple hardwood forest uplands

The upland areas of the property consist of mature second-growth forest (Appendix F – PHOTO 1) which covers approximately 48 acres of this 53-acre site. Of the 48 acres of forest, approximately 14.5 acres are classified by the NYSDEC as areas of core forest[13], as shown on the figure "NYSDEC Forest Quality" (Appendix B). Patches of core forest may have value for species of songbirds that avoid nesting near residential or commercial developments. The dominant trees throughout most of this largely forested site are pin oak, red oak, red maple, ash, and American beech. Under the fully closed forest canopy provided by these trees, the understory was noted to be densely vegetated with privet, a shade tolerant and invasive non-native genus of shrubs. Privet forms clonal colonies that can rapidly outcompete native shrubs and other undergrowth species of herbaceous plants that are found in lowlight environments such as forest interiors. Privet also produces and spreads by seeds, which are consumed and spread by wildlife, including berry-eating birds such as thrushes. Either form of propagation may result in the development of dense, monotypic thickets of privet, such as were observed on extensive portions of this property. The shrub layer did include other areas where Japanese barberry, multiflora rose, Allegheny blackberry, and bush honeysuckles were dominant. Japanese honeysuckle was also observed, infrequently, throughout both the forested and shrubby areas of the site. The seasonal herbaceous layer of vegetation was largely characterized by the presence of the invasive non-native herb, garlic mustard. Areas of copse forming trees, including

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[12] Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at the following link: http://websoilsurvey.sc.egov.usda.gov/. Accessed March 24, 2023.

[13] Core forests, as defined by the NYSDEC, are interior forest areas surrounded by at least a 100-meter wide buffer of edge forest habitat.

sumacs, tree-of-heaven, and black locust, are present along the northern and western forest edges of the property.

Palustrine forested wetlands

The forested wetlands (Appendix F – PHOTO 2) were dominated by stands of pin oak and red maple in areas of either sparsely or densely undergrowth. Where the understory was significantly vegetated, the predominant forms of shrubby undergrowth were silky dogwood, multiflora rose, and winterberry.

Emergent vegetation wetland

This habitat is present as a broad area of emergent vegetation (Appendix F – PHOTO 3) that surrounds the open water portion of NYSDEC Wetland WD-29 to the east of the Project site. The dominant plant present is the common reed, phragmites. Broadleaf cattails are also present along shoreline areas that are more deeply inundated. Wrinkleleaf goldenrod, wood reed grass, and halberd-leaf tearthumb characterize the vegetation within the dryer portions of the wetland edge.

Eutrophic pond

The open water portion of NYSDEC Wetland WD-29 (Appendix F – PHOTO 4) is a very shallow area of reverted, previously ditched and drained marshland that is flooded in most years. Presently this area includes an expanded area of shallow, open water that forms a nutrient-rich, eutrophic pond. This area is shown as open upland fields on USGS maps as recently as 1957, and is shown with only limited areas of open water by GOOGLE EARTH imagery as recently as 2006.

Vernal pool

The several small forested wetland areas mapped in the southwestern portion of the Project site (Appendix F – PHOTO 5) include two areas that had extended periods of flooding and that were observed to be utilized by wood frogs, a vernal pool dependent species, for breeding during spring of 2023. Vegetation around these pools included red maple, elms, sycamore, silky dogwood, and multiflora rose.

Wildlife Use of the Site

Few animal species were observed present on the property during the course of the mid-day fieldwork that was primarily directed towards the categorization of wildlife habitats. These few observations of wildlife were limited to the incidental spotting of common synanthropes (suburban-adaptable species) such as woodchuck, gray squirrel, eastern chipmunk, white-tailed deer, American robin, wild turkey, American crow, and blue jay.

The site provides typical forest-floor microhabitats for sustaining populations of detritivore invertebrates, earthworms, mollusks, and insects inhabiting dead and decaying downed wood and non-woody plant debris within the uplands and wetlands. These invertebrate populations provide a base for food chains originating on this site. Other insect populations that inhabit the foliage of living plants would be gleaned by many species of birds and mammals that might be present on the property. The established upland and wetland forests include species of trees, bushes, and forbs that can provide seasonal forage in the

form of nuts and acorns, berries, other fruits, leafy vegetation, and winter browse in the form of twigs and buds.

A list of both common and uncommon regional mammalian wildlife species which might be present on or in the vicinity of this site is provided in Appendix D.

A list of both common and uncommon regional herpetofauna species which might be present on the property based on the species distribution records provided in the NYSDEC Herp Atlas, and in consideration of the habitats present on the site, is provided in Appendix D.

Table 1 provide a list of the songbird and waterfowl species that were observed on site during this investigation. Additional resident or transient migrant bird species which require closed canopy woodland habitat are likely to also use this site, either for nesting or as a stopover during their seasonal migrations. In addition to the observed songbird and waterfowl species in Table 1, several owls and other raptors would be expected to hunt or nest on the property.

Table 1:
Birds Observed on the Sheffield Gardens Property

Common Name	Scientific Name
Spotted sandpiper	*Actitis macularius*
Red-winged blackbird	*Agelaius phoeniceus*
Mallard	*Anas platyrhynchos*
Canada goose	*Branta canadensis*
Northern cardinal	*Cardinalis cardinalis*
American goldfinch	*Carduelis tristis*
House finch	*Carpodacus mexicanus*
Purple finch	Carpodacus purpureus
Hermit thrush	*Catharus guttatus*
Eastern wood peewee	*Contopus virens*
American crow	*Corvus brachyrhynchos*
Blue jay	*Cyanocitta cristata*
Mute swan	*Cygnus olor*
Black-throated blue warbler	*Dendroica caerulescens*
Yellow warbler	*Dendroica petechia*
Gray catbird	*Dumetella carolinensis*
Common yellowthroat	*Geothlypis trichas*
Wood thrush	*Hylocichla mustelina*
Baltimore oriole	*Icterus galbula*
Red-bellied woodpecker	*Melanerpes carolinus*
Wild turkey	*Meleagris gallopavo*
Song sparrow	*Melospiza melodia*
Brown-headed cowbird	*Molothrus ater*
Great crested flycatcher	*Myiarchus crinitus*

Table 1: Birds Observed on the Sheffield Gardens Property	
Common Name	**Scientific Name**
Black-capped chickadee	*Parus atricapillus*
Tufted titmouse	*Parus bicolor*
House sparrow	*Passer domesticus*
Rose-breasted grosbeak	*Pheucticus ludovicianus*
American woodcock	*Philohela minor*
Downy woodpecker	*Picoides pubescens*
Hairy woodpecker	*Picoides villosus*
Eastern towhee	*Pipilo erythrophthaslmus*
Scarlet tanager	*Piranga olivacea*
Blue-gray gnatcatcher	*Polioptila caerulea*
Eastern phoebe	*Sayornis phoebe*
American woodcock	*Scolopax minor*
Ovenbird	*Seiurus aurocapillus*
White-breasted nuthatch	*Sitta carolinensis*
Tree swallow	*Tachycineata bicolor*
Carolina wren	*Thryothorus ludovicianus*
Brown thrasher	*Toxostoma rufum*
House wren	*Troglodytes aedon*
American robin	*Turdus migratorius*
Yellow-throated vireo	*Vireo flavifrons*
Red-eyed vireo	*Vireo olivaceus*
Mourning dove	*Zenaida macroura*
White-throated sparrow	*Zonotrichia albicollis*

The NYSDEC conducts periodic surveys of breeding birds within survey blocks located throughout the state. Appendix E presents a list of breeding birds records during the most recent NYSDEC breeding bird survey (2000-2005) for the general area of the Project site (Survey Block 5659A). Of the 95 species of birds on this list, none are species that are afforded either NYS or federal protection as endangered or threatened species, and only three are listed by NYS as species of special concern. These three species are all hawks: Cooper's hawk, sharp-shinned hawk, and red-shouldered hawk. While these species were recorded for the larger, 6,000-acre, census area that encompasses BBA Block 5659A, they had not been specifically located at the 53 acres of the Project site by the BBA survey.

Of the remaining 92 bird species on the BBA list for this survey Block, ten are game species (wood duck, mallard, Canada goose, northern bobwhite, American crow, hooded merganser, wild turkey, ring-necked pheasant, Virginia rail, and American woodcock), and three are unprotected, exotic introduced species (rock pigeon, house sparrow, European starling). All of the other 79 species of birds on this list are afforded protected status, primarily as songbirds.

Potential for Use by NYSDEC designated "Species of Special Concern"

The site was examined for potential use by a number of threatened or endangered species which are given statutory protection by Section 182.2g of 6 NYCRR Part 182. Based strictly on the characteristics of the property, including the existence of both upland and wetland areas, habitat potential was analyzed for the following species that are New York State "species of special concern" as listed by 6 NYCRR Part 182:

- Marbled salamander
- Spotted turtle
- Eastern box turtle
- Wood turtle
- Eastern hognose snake.

For these species, their range and habitat requirements may be met in part within portions of the proposed Project site. Each of these species and their general habitat requirements are listed below in Table 2.

Table 2:
General Habitat Requirements for NYSDEC Designated "Species of Special Concern" Potentially Present at the Sheffield Gardens property

Common Name	Scientific Name	Habitat requirements met on the Project property
Marbled salamander	*Ambystoma opacum*	Vernal pools and upland forest
Spotted turtle	*Clemmys gutatta*	Open waters and meadow wetlands
Eastern box turtle	*Terrapene carolina*	Forested uplands and wetlands
Wood turtle	*Glyptemys insculpta*	Forested uplands and wetlands
Eastern hognose snake	*Heterodon platyrhinos*	Forested areas with stone walls

Marbled salamander

There are areas of this property that provide the vernal pools and adjacent upland forest association that this species inhabits. This species is listed by New York State as a "species of special concern."

This is primarily a terrestrial species, which might utilize the vernal pools and adjacent forested areas of the property during appropriate seasons of any year. Marble salamander egg laying and nesting occurs in the fall season, in unflooded locations around semi-permanent pools. Larvae develop within the waters of re-flooded pools through the spring, when they transform into jueniles and move into upland forested areas where they inhabit underground burrows throughout their juvenile and adult stages. On this property, these salamanders would potentially utilize any of the vernal pool areas, along with the

adjacent forested uplands. No individuals of this salamander species were observed by EA on the property.

Spotted Turtle

There are areas of this and abutting properties that provide the open water and adjacent meadow associations that this species inhabits. This species is listed by New York State as a "species of special concern."

This is primarily an aquatic turtle which might be present within any of the flooded or shoreline areas around NYSDEC Wetland WD-29. On this property, these turtles would potentially utilize any of these open water areas on, or extending off of, the parcel, along with the adjacent meadows of emergent vegetation. They have also been noted to travel overland through forested areas in order to enter into vernal pools. The major threats to this species include road mortalities, illegal collection for the pet trade, and natural predation in areas where predators such as raccoons and foxes are present. No individuals of this turtle species were observed by EA on the property.

Eastern Box Turtle and Wood Turtle

There are densely wooded areas of the property that may be used by the eastern box turtle and by the wood turtle, which have similar habitat requirements. These two species are listed by New York State as "species of special concern."

These are both primarily terrestrial turtles, although they may relocate to areas of stream beds or shallow ponds during the hotter months of summer. The major threats to terrestrial turtles appear to be pesticide poisoning, collection as pets, and natural predation in areas where predators such as raccoons and foxes are present.

On this property, these turtles would potentially utilize any of the wooded areas on the parcel, along with the wetland corridors. No individuals of either of these turtle species were observed by EA on the property.

Eastern Hognose Snake

This species is listed by NYSDEC as being a "species of special concern," although it is also sometimes described as being locally common. It is a highly secretive species that could be expected to utilize habitat within the few stone walls and other wooded areas of the site for cover and feeding. Since this species is also adaptable to new fields, pastures, and suburban areas, the proposed development of the property should not result in a significant adverse impact to the hognose snake, if present. No hognose snakes were observed by EA on the property.

Potential Impacts to "Species of Special Concern"

Following the habitat assessment, the disturbances typically associated with the construction and occupation of any residential development were reviewed to determine what if any impact any proposed dwellings, roadways, and site plan features might have on the local populations of these species.

Marbled salamanders, if present on this site, would potentially maintain a population as long as there remained appropriate areas of seasonally flooded pools, in order to allow the species to complete its breeding cycle, and sufficient forested upland surrounding these pools for juveniles and adults to occupy.

The spotted turtle would be present at most times within the larger, protected, wetland areas in the eastern portion of the site. Individuals would likely be susceptible to mortality associated with the construction or occupation of developed properties if they were crossing the interior portions of the property in order to reach the vernal pools and wetlands on the opposite side of the site.

The eastern box turtle and the wood turtle both make extensive overland movements for foraging and may use any of the upland portions of these properties. While construction at any time on a percentage of the site may temporarily alter some patterns of movement, there will be areas of undisturbed land for turtle foraging. The temporary disturbance of portions of the site at any time could potentially impact individuals in the development area, but is unlikely to impact the population as a whole. Long term impacts are not expected unless the future residents of these dwellings capture and collect individuals.

The hognose snake is known to be adaptable to new suburban areas. Thus, the proposed development should not result in a significant adverse impact to any local hognose snake population.

Conclusions

With construction of the proposed development, the abundance of native wildlife within the Project site will ultimately be reduced as a result of the replacement of existing wildlife habitat with buildings and impervious surface areas. Construction activities at the site may temporarily alter some patterns of wildlife movement. While temporary disturbances associated with site development could potentially directly impact individuals in the development area, the activities are unlikely to impact populations as a whole provided that existing adjacent wildlife habitat remains undeveloped to serve as refugia for many species. There would be a long-term displacement of most of the wildlife species on the property that would be associated with human activities around the residential properties. Wildlife corridors will remain that extend south and east of this property, serving to connect this site to those currently undeveloped offsite tracts of both upland and wetland habitat. These will allow for the relatively free movement at present of most wildlife species through or off of the site. Therefore, it is our professional opinion that none of the wildlife species identified within this report should be adversely affected by the proposed plan to develop the property.

Appendices:

- APPENDIX A – Federal and state wildlife agency consultations

- APPENDIX B – NYSDEC Hudson Valley Natural Resource Maps
  - NYSDEC Identified Biodiversity Layers
  - NYSDEC Identified Forest Quality Layers
  - NYSDEC Identified Wetlands and Streams

- APPENDIX C – List of vegetation observed on the Sheffield Gardens site

- APPENDIX D – Lists of terrestrial wildlife species that are common or uncommon in northern Orange County
  - Mammals that were observed, or may be present on the Sheffield Gardens site
  - Reptiles that were observed, or may be present on the Sheffield Gardens site
  - Amphibians that were observed, or may be present on the Sheffield Gardens site

- APPENDIX E – 2000-2005 Breeding Bird Atlas: Block 5659A

- APPENDIX F – Site photographs, 2021-2023
  - Upland Oak-maple hardwood forest
  - Palustrine wetland forest
  - Emergent vegetation wetland meadow
  - Eutrophic pond wetland
  - Vernal pool wetland

Appendix A

Federal and state wildlife agency consultations

bfriedmann@4ecological.com

From: Masi, Lisa M (DEC) <lisa.masi@dec.ny.gov>
Sent: Monday, May 1, 2023 5:04 PM
To: bfriedmann@4ecological.com
Subject: RE: Sheffield Gardens - request for bald eagle info

Hello Bruce,
The project is located .77 miles from the closest known eagle nest.

Based on the location of the project, which is over 0.5 miles from the closest Bald Eagle nest, this project is not likely to impact Bald Eagles. No further review is necessary but please note that new eagle nests are established each breeding season. The breeding season runs from January 1st to September 30th. We recommend checking back with the Department for new nests each year.

Lisa

Lisa Masi
Senior Wildlife Biologist, Division of Fish and Wildlife
Pronouns: She/Her/Hers

New York State Department of Environmental Conservation
21 South Putt Corners Road, New Paltz, NY 12561
P: (845) 256-2257 | F: (845) 255-4659 | lisa.masi@dec.ny.gov

www.dec.ny.gov |

From: bfriedmann@4ecological.com <bfriedmann@4ecological.com>
Sent: Thursday, March 23, 2023 2:52 PM
To: Masi, Lisa M (DEC) <lisa.masi@dec.ny.gov>
Subject: Sheffield Gardens - request for bald eagle info

RE: Sheffield Gardens – a proposed residential development
Town of Montgomery, Orange County
Tax Parcels: Section 29, Block 1, Lots 5.1, 5.2, 5.3, 5.4, and 5.5

Lisa –

We are preparing SEQRA documents for this proposed project. The DEC EAF generated for the project cites bald eagle as being of concern.

Would you please provide us with whatever specific information you can release to us so that we may appropriately inform the client, and the Town as lead agency, of the appropriate measures to adopt in order to protect the resource.

A site location figure is attached.

Let me know if there is any additional information that you might require at this time.

THX

Sincerely,
Bruce R. Friedmann
Senior Environmental Scientist

Ecological Analysis

Wetlands, Ecology, Planning, Stormwater
Project Management, Permitting, Aquaculture Consulting

633 Route 211 East, Suite 4, Middletown, N.Y. 10941
845.495.0123 voice 866.688.0836 fax
url: **WWW.4ecological.com**
email: bfriedmann@4ecological.com

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

Orange County, New York

Local office

New York Ecological Services Field Office

(607) 753-9334
(607) 753-9699
fw5es_nyfo@fws.gov

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
Indiana Bat Myotis sodalis Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat Myotis septentrionalis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Endangered

Reptiles

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

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Small Whorled Pogonia Isotria medeoloides No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1890	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.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

Additional information can be found using the following links:

- Eagle Managment https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

There are bald and/or golden eagles in your project area.

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.

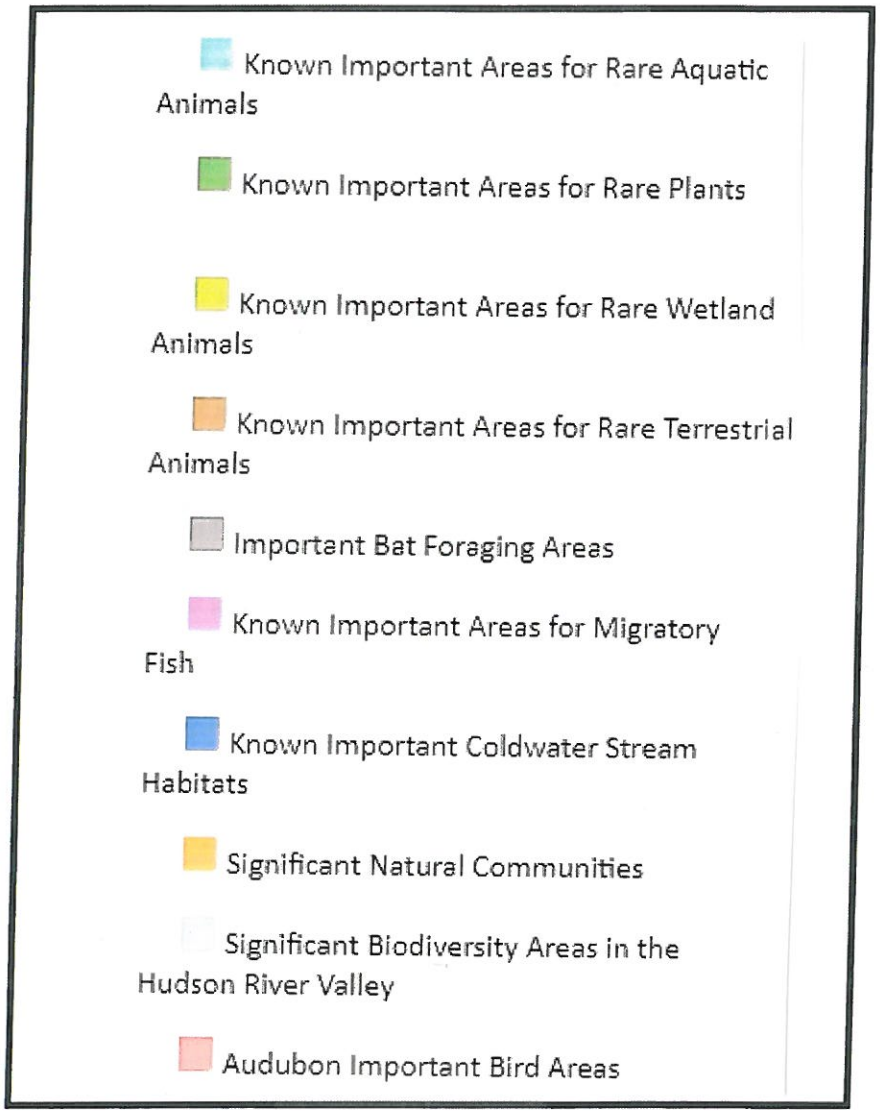
NAME	BREEDING SEASON

Appendix B

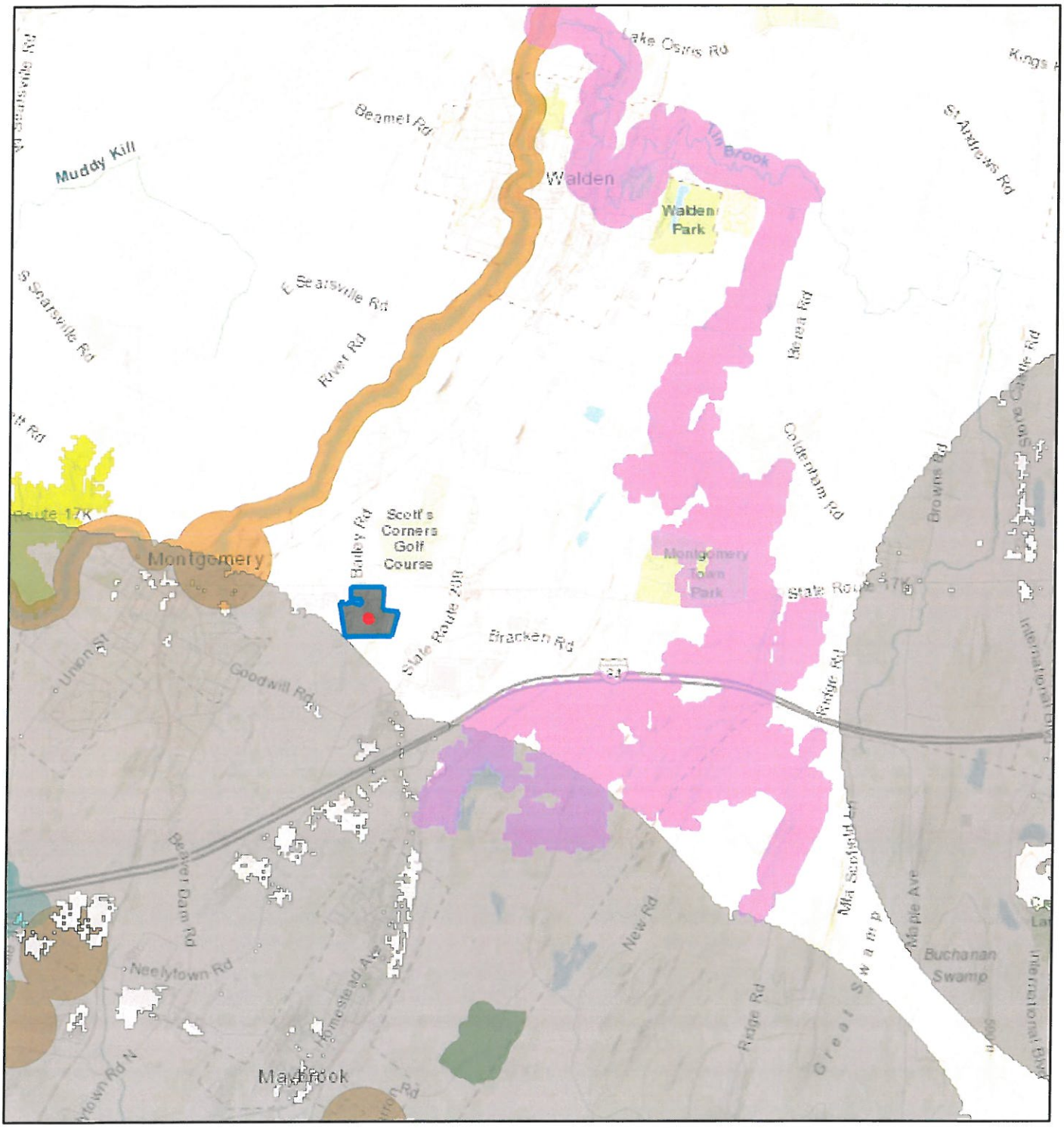
NYSDEC Hudson Valley Natural Resource Maps

- NYSDEC Identified Biodiversity Layers
- NYSDEC Identified Forest Layers
- NYSDEC Identified Wetlands and Streams

Layers and Legend for NYSDEC Environmental Resources Maps



NYSDEC Identified Biodiversity Layers



March 22, 2023

1:72,224

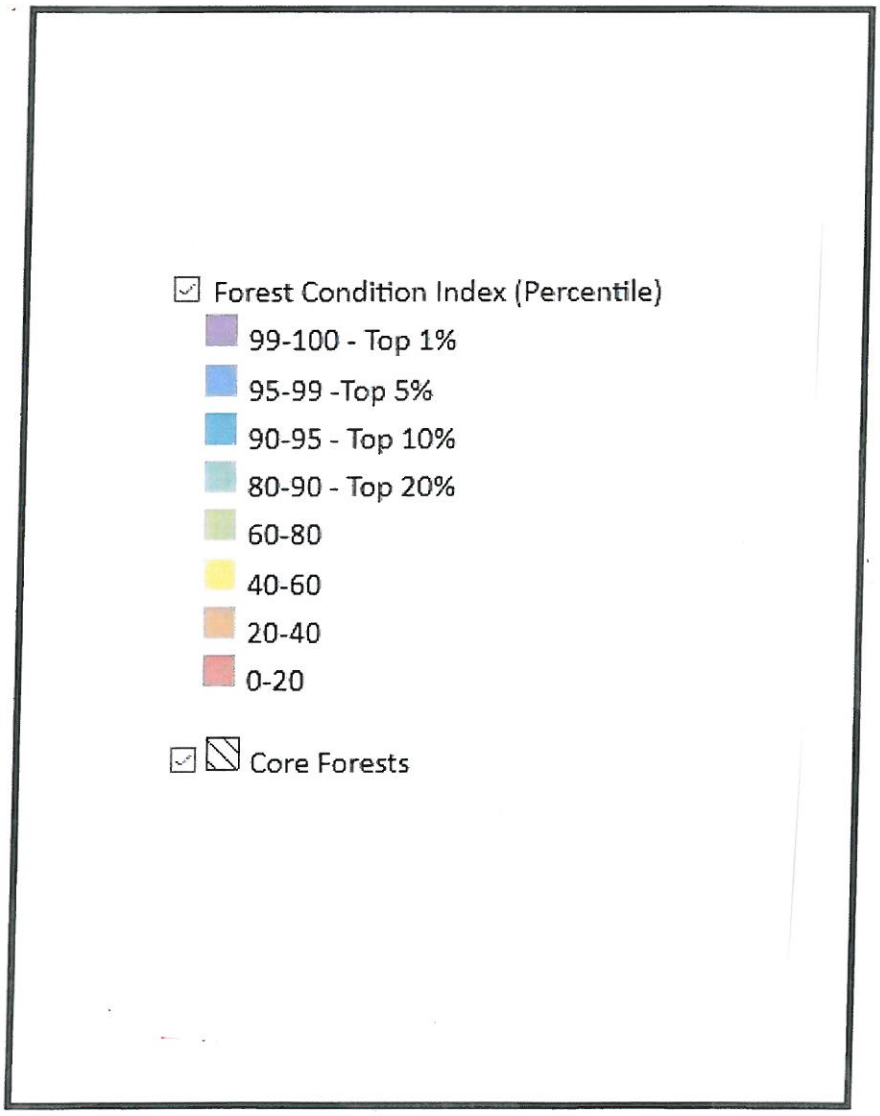
0 0.45 0.9 1.8 mi

0 0.75 1.5 3 km

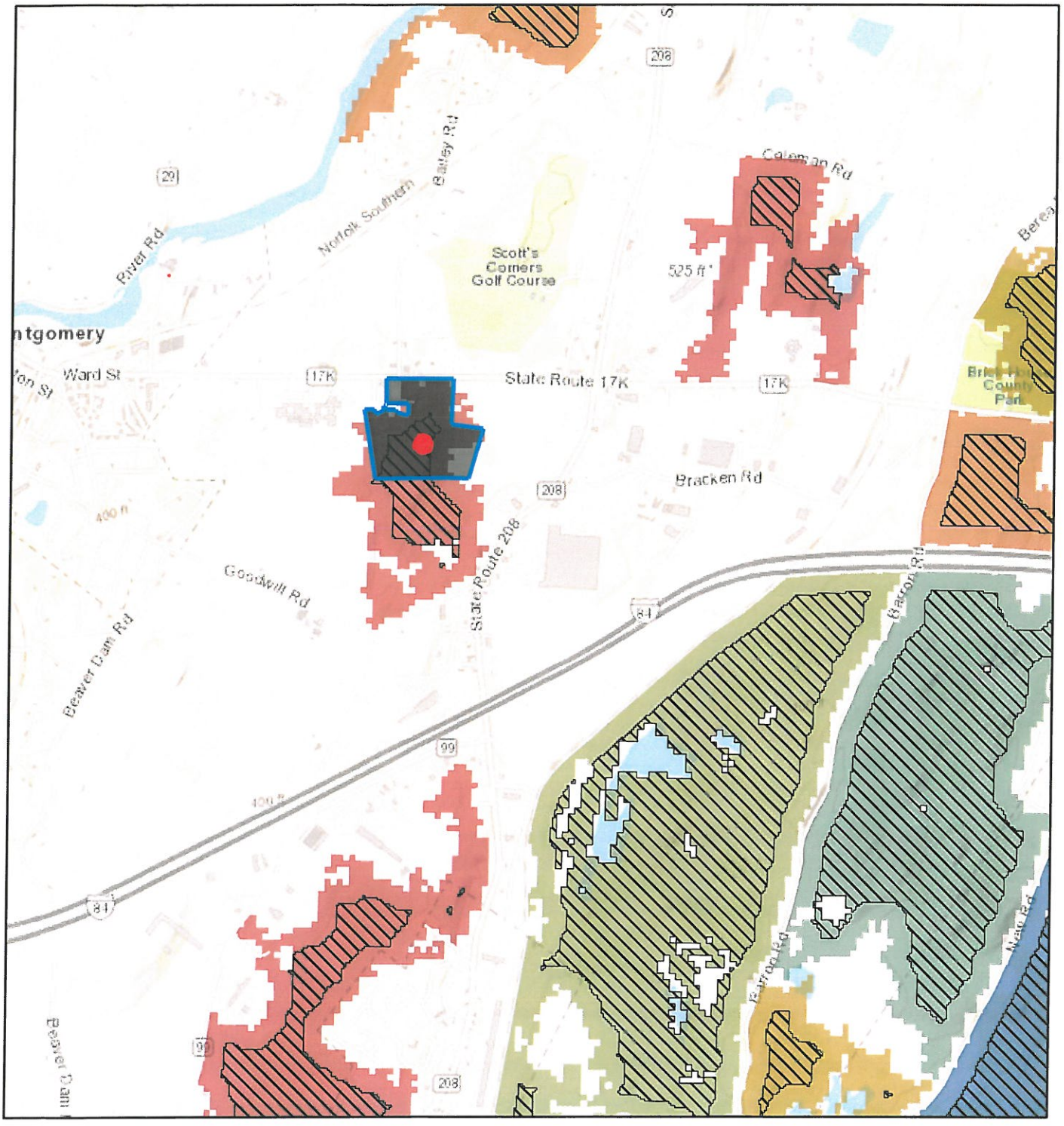
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Author: NYSDEC Hudson Valley Natural Resource Mapper
Not a legal document

Layers and Legend for NYSDEC Environmental Resources Maps



NYSDEC Forest Quality Layers



March 22, 2023

1:36,112

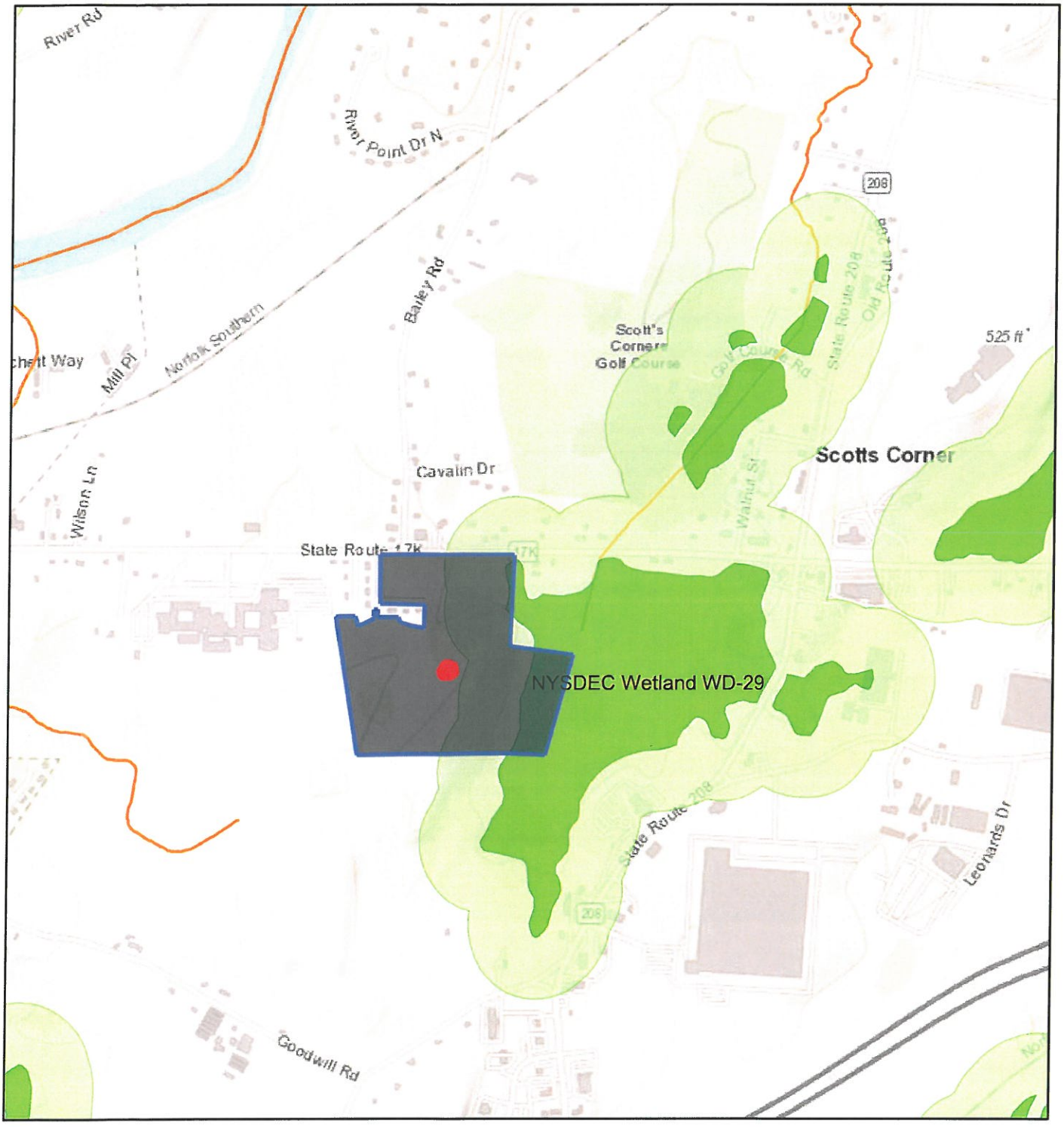
0 0.23 0.45 0.9 mi

0 0.35 0.7 1.4 km

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Author: NYSDEC Hudson Valley Natural Resource Mapper
Not a legal document

NYSDEC Wetlands and Streams



March 22, 2023

1:18,056

0 0.1 0.2 0.4 mi

0 0.17 0.35 0.7 km

- State Regulated Freshwater Wetland
- State Regulated 500' Wetland Checkzone
- Streams

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Author: NYSDEC Hudson Valley Natural Resource Mapper
Not a legal document

Appendix C

List of vegetation observed on the Sheffield Gardens site

List of vegetation observed on the Sheffield Gardens site	
COMMON NAME *	**SCIENTIFIC NAME ***
Norway maple	*Acer platanoides*
Red maple	*Acer rubrum*
Sugar maple	*Acer saccharum*
Tree-of-Heaven	*Ailanthus altissima*
Water plantain	*Alisma triviale*
Field garlic	*Allium vineale*
Common milkweed	*Asclepias syriaca*
Japanese barberry	*Berberis thunbergii*
Yellow birch	*Betula alleghaniensis*
Sweet birch	*Betula lenta*
Gray birch	*Betula populifolia*
Sedge species	*Carex* spp.
American hornbeam	*Carpinus caroliniana*
Pignut hickory	*Carya glabra*
Shagbark hickory	*Carya ovata*
Spotted knapweed	*Centaurea stoebe*
Drooping woodreed	*Cinna latifolia*
Silky dogwood	*Cornus amomum*
Gray dogwood	*Cornus racemosa*
Flatsedge species	*Cyperus* spp.
Queen Anne's lace	*Daucus carota*
Crested woodfern	*Dryopteris cristata*
Dogtooth violet	*Erythronium americanum*
Flat-top goldenrod	*Euthamia graminifolia*
American beech	*Fagus grandifolia*
White ash	*Fraxinus americana*
Green ash	*Fraxinus pennsylvanica*
Northern bedstraw	*Galium boreale*
White avens	*Geum canadense*
Honey locust	*Gleditsia triacanthos*
Common winterberry	*Ilex verticillata*
Soft rush	*Juncus effusus*
Eastern red cedar	*Juniperus virginiana*
Privet species	*Ligustrum* spp.
European privet	*Ligustrum vulgare*

List of vegetation observed on the Sheffield Gardens site	
COMMON NAME *	**SCIENTIFIC NAME ***
Japanese honeysuckle	*Lonicera japonica*
Bush honeysuckle species	*Lonicera spp.*
Moneywort loosestrife	*Lysimachia nummularia*
Crabapple	*Malus spp.*
Sensitive fern	*Onoclea sensibilis*
Eastern hop hornbeam	*Ostrya virginiana*
Beardtongue species	*Penstemon* spp.
Eastern white pine	*Pinus strobus*
Sycamore	*Platanus occidentalis*
Halberdleaf tearthumb	*Polygonum arifolium*
Arrowleaf tearthumb	*Polygonum sagittatum*
Eastern cottonwood	*Populus deltoides*
Big tooth aspen	*Populus grandidentata*
Common cinquefoil	*Potentilla simplex*
Black cherry	*Prunus serotina*
White oak	*Quercus alba*
Pin oak	*Quercus palustris*
Red oak	*Quercus rubra*
Black oak	*Quercus velutina*
Staghorn sumac	*Rhus typhina*
Black locust	*Robinia pseudoacacia*
Multiflora rose	*Rosa multiflora*
Swamp rose	*Rosa palustris*
Allegheny blackberry	*Rubus allegheniensis*
American red raspberry	*Rubus idaeus*
Bramble species	*Rubus* spp.
Black willow	*Salix nigra*
Canada goldenrod	*Solidago canadensis*
Wrinkleleaf goldenrod	*Solidago rugosa*
Elmleaf goldenrod	*Solidago ulmifolia*
Common chickweed	*Stellaria media*
Smooth white oldfield aster	*Symphyotrichum racemosum*
Tall meadow rue	*Thalictrum dasycarpum*
Eastern poison ivy	*Toxicodendron radicans*
Forked bluecurls	*Trichostema dichotomum*
Broadleaf cattail	*Typha latifolia*

List of vegetation observed on the Sheffield Gardens site	
COMMON NAME *	**SCIENTIFIC NAME ***
American elm	*Ulmus americana*
Orange mullein	*Verbascum phlomoides*
Common gypsyweed	*Veronica officinalis*
Nannyberry	*Viburnum lentago*
Grape species	*Vitis* spp.

This list represents species that were observed during site visits on November 20-21, 2021; February 14, 2023; April 2, 2023; and April 21, 2023, It is not, however, represented to be an exhaustive list of all plants that would be present on this site.

*Scientific and common names of plants taken from USDA PLANTS online database: https://plants.sc.egov.usda.gov/home

Appendix D

Lists of non-avian wildlife species that are common or uncommon in northern Orange County

Mammals that were observed, or may be present on the Sheffield Gardens site	
COMMON NAME	**SCIENTIFIC NAME**
Northern short-tailed shrew	*Blarina brevicauda*
Coyote	*Canis latrans*
Beaver	*Castor canadensis*
Southern red-backed vole	*Clethrionomys gapperi*
Star-nosed mole	*Condylura cristata*
Least shrew	*Cryptotis parva*
Virginia opossum	*Didelphis virginiana*
Big brown bat	*Eptesicus fuscus*
Porcupine	*Erithizon dorsatum*
Southern flying squirrel	*Glaucomys volans*
Silver-haired bat	*Lasionycteris noctivagans*
Eastern red bat	*Lasiurus borealis*
Hoary bat	*Lasiurus cinereus*
Varying hare	*Lepus americanus*
Bobcat	*Lynx rufus*
Woodchuck *	*Marmota monax*
Striped skunk	*Mephitis mephitis*
Meadow vole	*Microtus pennsylvanicus*
House mouse	*Mus musculus*
Ermine	*Mustela erminea*
Long-tailed weasel	*Mustela frenata*
Mink	*Mustela vison*
Small-footed bat	*Myotis leibii*
Little brown bat	*Myotis lucifugus*
Northern long-eared bat	*Myotis septentrionalis*
Indiana bat	*Myotis sodalis*
White-tailed deer *	*Odocoileus virginianus*
Muskrat *	*Ondatra zibethicus*
Hairy-tailed mole	*Parascalops breweri*
White-footed mouse	*Peromyscus leucopus*
Deer mouse	*Peromyscus maniculatus*
Eastern pipistrelle	*Pipistrellus subflavus*
Raccoon	*Procyon lotor*
Norway rat	*Rattus norvegicus*
Black rat	*Rattus rattus*
Eastern mole	*Scalopus aquaticus*
Gray squirrel *	*Sciurus carolinensis*

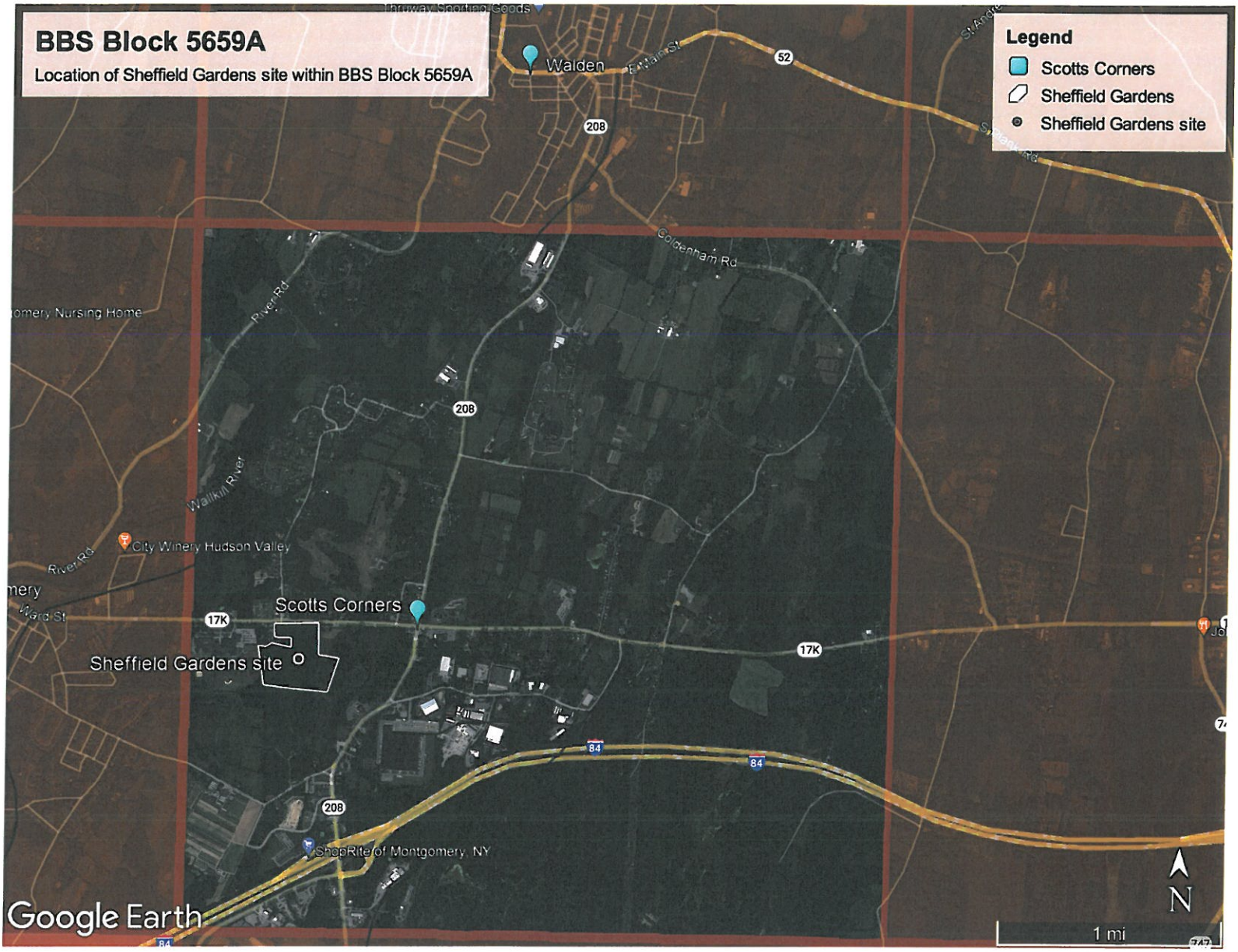
Mammals that were observed, or may be present on the Sheffield Gardens site	
COMMON NAME	**SCIENTIFIC NAME**
Masked shrew	*Sorex cinereus*
Smoky shrew	*Sorex fumeus*
Water shrew	*Sorex palustris*
Eastern cottontail	*Sylvilagus floridanus*
Southern bog lemming	*Synaptomys cooperi*
Eastern chipmunk *	*Tamias striatus*
Red squirrel	*Tamiasciurus hudsonicus*
Gray fox	*Urocyon cinereoargenteus*
Black bear	*Ursus americanus*
Red fox	*Vulpes vulpes*
Meadow jumping mouse	*Zapus hudsonius*
Adapted from: Reid, Fiona. 2006. Peterson Field Guide to Mammals of North America. * - observed on site.	

Amphibians that were observed, or may be present on the Sheffield Gardens site	
COMMON NAME	**SCIENTIFIC NAME**
Jefferson salamander	*Ambystoma jeffersonianum*
Blue-spotted salamander	*Ambystoma laterale*
Spotted salamander	*Ambystoma maculatum*
Marbled salamander	*Ambystoma opacum*
Eastern American toad *	*Anaxyrus americanus*
Northern dusky salamander	*Desmognathus fuscus*
Northern two-lined salamander	*Eurycea bislineata*
Gray treefrog	*Hyla versicolor*
American bullfrog *	*Lithobates catesbeiana*
Northern green frog *	*Lithobates clamitans*
Pickerel frog	*Lithobates palustris*
Northern leopard frog *	*Lithobates pipiens*
Wood frog *	*Lithobates sylvatica*
Red-spotted newt	*Notophthalmus viridescens*
Northern red-backed salamander *	*Plethodon cinereus*
Northern slimy salamander	*Plethodon glutinosus*
Northern spring peeper	*Pseudacris crucifer*
Northern red salamander	*Pseudotriton ruber*
Source: NYSDEC Herp Atlas. https://www.dec.ny.gov/animals/7140.html * - observed on site.	

Reptiles that were observed, or may be present on the Sheffield Gardens site	
COMMON NAME	**SCIENTIFIC NAME**
Northern copperhead	*Agkistrodon contortrix*
Common snapping turtle	*Chelydra serpentina*
Painted turtle	*Chrysemys picta*
Spotted turtle	*Clemmys gutatta*
Northern black racer	*Coluber constrictor*
Northern ringneck snake	*Diadophis punctatus*
Black rat snake	*Elaphe obsoleta*
Wood turtle	*Glyptemys insculpta*
Eastern hognose snake	*Heterodon platyrhinos*
Eastern milk snake	*Lampropeltis triangulum*
Smooth green snake	*Liochlorophis vernalis*
Northern water snake *	*Nerodia sipedon*
Common musk turtle	*Sternotherus odoratus*
Northern brown snake	*Storeria dekayi*
Eastern box turtle	*Terrapene carolina*
Eastern ribbon snake	*Thamnophis sauritus*
Common garter snake *	*Thamnophis sirtalis*
Source: NYSDEC Herp Atlas. https://www.dec.ny.gov/animals/7140.html * - observed on site.	

Appendix E

2000-2005 Breeding Bird Atlas
Block 5659A


BBS Block 5659A
Location of Sheffield Gardens site within BBS Block 5659A
Legend
Scotts Corners
Sheffield Gardens
Sheffield Gardens site
Walden
52
208
Goldenham Rd
River Rd
Wallkill River
City Winery Hudson Valley
Scotts Corners
17K
Sheffield Gardens site
84
ShopRite of Montgomery, NY
N
1 mi
Google Earth

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NYS Breeding Bird Atlas

Block 5659A

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 5659A Summary

Total Species:	95
Possible:	7
Probable:	18
Confirmed:	70

Click on column heading to sort by that category.

List of Species Breeding in Atlas Block 5659A

Common Name	Scientific Name	Behavior Code	Date	NY Legal Status
Cooper's Hawk	*Accipiter cooperii*	S2	7/14/2002	Protected-Special Concern
Sharp-shinned Hawk	*Accipiter striatus*	S2	4/19/2003	Protected-Special Concern
Spotted Sandpiper	*Actitis macularius*	X1	5/18/2001	Protected
Red-winged Blackbird	*Agelaius phoeniceus*	NE	6/2/2003	Protected
Wood Duck	*Aix sponsa*	P2	4/2/2003	Game Species
Mallard	*Anas platyrhynchos*	FL	8/3/2001	Game Species
Ruby-throated Hummingbird	*Archilochus colubris*	P2	6/8/2002	Protected
Great Blue Heron	*Ardea herodias*	X1	5/18/2001	Protected
Tufted Titmouse	*Baeolophus bicolor*	FY	6/15/2001	Protected
Cedar Waxwing	*Bombycilla cedrorum*	FL	8/15/2001	Protected
Canada Goose	*Branta canadensis*	NE	4/19/2001	Game Species
Great Horned Owl	*Bubo virginianus*	NE	2/14/2003	Protected
Red-tailed Hawk	*Buteo jamaicensis*	NY	5/14/2002	Protected
Red-shouldered Hawk	*Buteo lineatus*	X1	3/27/2004	Protected-Special Concern
Broad-winged Hawk	*Buteo platypterus*	T2	5/21/2001	Protected
Green Heron	*Butorides virescens*	X1	6/4/2001	Protected

Northern Cardinal	*Cardinalis cardinalis*	FY	7/8/2001	Protected
House Finch	*Carpodacus mexicanus*	NY	6/15/2001	Protected
Turkey Vulture	*Cathartes aura*	X1	5/19/2002	Protected
Veery	*Catharus fuscescens*	FY	7/7/2001	Protected
Brown Creeper	*Certhia americana*	FY	8/5/2000	Protected
Chimney Swift	*Chaetura pelagica*	NY	6/23/2002	Protected
Killdeer	*Charadrius vociferus*	FL	6/15/2002	Protected
Northern Flicker	*Colaptes auratus*	NY	5/29/2002	Protected
Northern Bobwhite	*Colinus virginianus*	FL	7/15/2004	Game Species
Rock Pigeon	*Columba livia*	NE	4/7/2002	Unprotected
Eastern Wood-Pewee	*Contopus virens*	FY	7/24/2002	Protected
Black Vulture	*Coragyps atratus*	X1	4/26/2003	Protected
American Crow	*Corvus brachyrhynchos*	NY	5/20/2001	Game Species
Blue Jay	*Cyanocitta cristata*	NE	5/21/2001	Protected
Mute Swan	*Cygnus olor*	B2	4/26/2001	Protected
Prairie Warbler	*Dendroica discolor*	FY	7/24/2002	Protected
Chestnut-sided Warbler	*Dendroica pensylvanica*	FY	7/8/2001	Protected
Yellow Warbler	*Dendroica petechia*	FY	7/3/2001	Protected
Bobolink	*Dolichonyx oryzivorus*	FY	7/23/2002	Protected
Pileated Woodpecker	*Dryocopus pileatus*	NY	6/4/2001	Protected
Gray Catbird	*Dumetella carolinensis*	NE	6/5/2001	Protected
Least Flycatcher	*Empidonax minimus*	T2	6/8/2001	Protected
Willow Flycatcher	*Empidonax traillii*	T2	6/12/2002	Protected
American Kestrel	*Falco sparverius*	D2	4/8/2002	Protected
Common Yellowthroat	*Geothlypis trichas*	FY	8/5/2000	Protected
Worm-eating Warbler	*Helmitheros vermivorum*	FY	8/5/2000	Protected
Barn Swallow	*Hirundo rustica*	NY	6/23/2002	Protected
Wood Thrush	*Hylocichla mustelina*	FY	7/4/2005	Protected
Baltimore Oriole	*Icterus galbula*	NY	7/3/2001	Protected
Orchard Oriole	*Icterus spurius*	B2	6/8/2001	Protected
Hooded Merganser	*Lophodytes cucullatus*	P2	5/6/2002	Game Species
Belted Kingfisher	*Megaceryle alcyon*	FY	8/3/2001	Protected
Red-bellied Woodpecker	*Melanerpes carolinus*	NY	6/4/2001	Protected
Wild Turkey	*Meleagris gallopavo*	FL	8/6/2002	Game Species

Swamp Sparrow	*Melospiza georgiana*	T2	5/21/2001	Protected
Song Sparrow	*Melospiza melodia*	FY	5/29/2001	Protected
Northern Mockingbird	*Mimus polyglottos*	FL	8/30/2001	Protected
Black-and-white Warbler	*Mniotilta varia*	FY	7/3/2001	Protected
Brown-headed Cowbird	*Molothrus ater*	FY	7/31/2000	Protected
Great Crested Flycatcher	*Myiarchus crinitus*	FL	7/16/2001	Protected
House Sparrow	*Passer domesticus*	NY	5/18/2001	Unprotected
Indigo Bunting	*Passerina cyanea*	FL	7/24/2002	Protected
Ring-necked Pheasant	*Phasianus colchicus*	FL	6/24/2001	Game Species
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	FY	6/5/2001	Protected
Downy Woodpecker	*Picoides pubescens*	NY	5/29/2001	Protected
Hairy Woodpecker	*Picoides villosus*	NY	6/7/2002	Protected
Eastern Towhee	*Pipilo erythrophthalmus*	FY	7/3/2001	Protected
Scarlet Tanager	*Piranga olivacea*	FY	7/31/2000	Protected
Black-capped Chickadee	*Poecile atricapillus*	FY	6/24/2001	Protected
Blue-gray Gnatcatcher	*Polioptila caerulea*	FY	7/31/2000	Protected
Common Grackle	*Quiscalus quiscula*	FY	5/18/2001	Protected
Virginia Rail	*Rallus limicola*	S2	6/2/2003	Game Species
Eastern Phoebe	*Sayornis phoebe*	NY	5/27/2002	Protected
American Woodcock	*Scolopax minor*	S2	4/4/2002	Game Species
Ovenbird	*Seiurus aurocapilla*	DD	6/7/2002	Protected
Louisiana Waterthrush	*Seiurus motacilla*	S2	5/19/2002	Protected
Northern Waterthrush	*Seiurus noveboracensis*	T2	5/19/2002	Protected
American Redstart	*Setophaga ruticilla*	FY	7/3/2001	Protected
Eastern Bluebird	*Sialia sialis*	NY	6/7/2001	Protected
White-breasted Nuthatch	*Sitta carolinensis*	FY	6/26/2001	Protected
American Goldfinch	*Spinus tristis*	FY	9/12/2001	Protected
Chipping Sparrow	*Spizella passerina*	FY	6/22/2001	Protected
Field Sparrow	*Spizella pusilla*	FL	7/20/2001	Protected
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	X1	5/18/2001	Protected
Barred Owl	*Strix varia*	T2	3/9/2004	Protected
Eastern Meadowlark	*Sturnella magna*	FY	8/6/2001	Protected
European Starling	*Sturnus vulgaris*	NY	5/18/2001	Unprotected
Tree Swallow	*Tachycineta bicolor*	NY	6/22/2001	Protected

Carolina Wren	*Thryothorus ludovicianus*	FL	7/4/2005	Protected
Brown Thrasher	*Toxostoma rufum*	FL	7/27/2002	Protected
House Wren	*Troglodytes aedon*	NY	7/7/2001	Protected
American Robin	*Turdus migratorius*	NE	6/5/2001	Protected
Eastern Kingbird	*Tyrannus tyrannus*	NE	6/24/2001	Protected
Blue-winged Warbler	*Vermivora pinus*	FY	6/15/2001	Protected
Yellow-throated Vireo	*Vireo flavifrons*	FY	6/15/2001	Protected
Warbling Vireo	*Vireo gilvus*	FY	6/26/2001	Protected
White-eyed Vireo	*Vireo griseus*	D2	7/5/2004	Protected
Red-eyed Vireo	*Vireo olivaceus*	FY	8/5/2000	Protected
Mourning Dove	*Zenaida macroura*	NE	4/9/2001	Protected

Current Date: 6/26/2023

Breeding Bird Atlas Behavior Code Key		
Behavior Code	**Description**	**Behavior Category**
X1	Species seen in possible nesting habitat or singing male(s) present in breeding season.	Possible
S2	Singing male present on more than one date in the same place.	Probable
P2	Pair observed in suitable habitat in breeding season.	Probable
T2	Bird (or pair) apparently holding teritory.	Probable
D2	Courtship and display, agitated behavior. Includes copulation, well developed brood patch, or cloacal protuberance.	Probable
N2	Visiting probable nest site.	Probable
B2	Nest building or excavation of a nest hole.	Probable
DD	Distraction display or injury-feigning.	Confirmed
UN	Used nest found.	Confirmed
FE	Female with egg in the oviduct.	Confirmed
FL	Recently fledged young.	Confirmed
ON	Adults(s) entering or leaving nest site indicating occupied nest.	Confirmed
FS	Adult carrying fecal sac.	Confirmed
FY	Adult(s) with food for young or feeding young.	Confirmed
NE	Nest and eggs, bird on nest or egg, or eggshells beneath nest.	Confirmed
NY	Nest with young.	Confirmed

Appendix F

Site photographs, 2021-2023

PHOTO 1 – Upland oak-maple hardwood forest

PHOTO 2 – Palustrine forest wetland

PHOTO 3 – Emergent vegetation wetland meadow

PHOTO 4 – Eutrophic pond wetland

PHOTO 5 – Vernal pool wetland