

*Threatened and Endangered Species
Habitat Suitability Assessment Report*

River Ridge Townhouses Site
Wolcott Avenue
City of Beacon, New York

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Prepared by:

Michael Nowicki
Ecological Solutions, LLC
1248 Southford Road
Southbury, CT 06488
(203) 910-4716

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1.0 INTRODUCTION

Ecological Solutions, LLC completed a threatened and endangered species habitat suitability assessment on the River Ridge Townhouse Site containing three parcels totaling 2.98 acres located on Wolcott Avenue in the City of Beacon, Dutchess County, New York. The project consists of an 18 unit residential attached townhouse project to be subdivided into individual townhouse lots, with access from Wolcott Avenue. Project includes internal pedestrian path to Beekman Street for residents to walk to train, and proposed public pocket park along Beekman Street.

The US Fish and Wildlife Service (USFWS) lists the Indiana bat (*Myotis sodalis*), Northern long-eared bat (*Myotis septentrionalis*), and dwarf wedgemussel (*Alasmidonta heterodon*) as potentially located on or in the vicinity of the site. Correspondence from the New York State Department of Environmental Conservation (NYSDEC) Natural Heritage Program dated August 18, 2017 indicated that the Atlantic sturgeon (*Acipenser oxyrinchus*) and short-nose sturgeon (*Acipenser brevirostrum*) may be potentially located nearby in the Hudson River. This assessment was completed to determine if suitable habitat exists on the site for the listed species and potential impacts to suitable habitat and recommends measures to mitigate the impacts that can not be avoided or minimized.

Habitat was observed on the site on August 16, 2017 is listed in Table 1.

TABLE 1
COVER TYPES IDENTIFIED ON THE SITE

1	Urban Vacant Lot
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Urban vacant lot: an open site in a developed, urban area that has been cleared either for construction or following the demolition of a building. Vegetation may be sparse, with large areas of exposed soil, and often with rubble or other debris. Characteristic trees are often naturalized nonnative species such as Norway maple (*Acer platanoides*), white mulberry (*Morus alba*), and tree of heaven (*Ailanthus altissima*), a species native to northern China and introduced as an ornamental. Tree of heaven is fast growing and tolerant of the harsh urban environment; it can dominate a vacant lot and form dense stands.

This site project area also contains approximately 27 trees (Norway maple, catalpa, cottonwood, black locust, honey locust, black walnut, willow, slippery elm, silver maple) in the 12-18 inch dbh range, some of which are in serious decline.

2.0 HABITAT SUITABILITY ASSESSMENT/CONCLUSIONS

2.1 Indiana bat

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

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

Conclusion - This is a small site in an urban setting with approximately 27 trees located in the proposed project area all in the 12-18 inch dbh range and located randomly around the site perimeter and in the open waste area of the site.

This proposed townhouse project will require the removal of the 27 trees. The construction will include such activities as tree cutting and grubbing and earth moving. These activities will result in effects including: loss of the 27 trees, generation of dust and noise, potential for changes to surface water quality, and increased lighting on the site.

The site owner proposes to avoid, minimize, and mitigate for these effects by:

- Implementing tree clearing for site construction during timeframes when bats are not resident on the site October 1 – to March 31 for site construction;
- Planting 55 new trees across the site;
- Site lighting on the site will use City of Beacon Planning Board approved light fixtures that have tops that direct light down to minimize light pollution and not interfere with potential bat foraging activities and;
- Implementing soil conservation and dust control best management practices, such as watering dry disturbed soil areas to keep dust down, and using staked, recessed silt fence and anti tracking pads to prevent erosion and sedimentation in surface waters on the site.

These measures will result in avoiding potential adverse effects to Indiana bats.

2.2 Northern long-eared bat

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

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

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

Conclusion - The northern long eared bat requires/occupies practically the same habitat niche as the Indiana bat. The mitigation measures specified for the Indiana bat will be sufficient mitigation for potential impacts to the Northern long eared bat.

2.3 Dwarf wedge mussel

The dwarf wedge mussel is a small freshwater mussel that rarely exceeds 1.5 inches (38 mm) in length. It is brown or yellowish-brown in color. Adult mussels are filter-feeders, feeding on algae and other small suspended particles. They spend most of their time buried almost completely in the bottom of streams and rivers. Typical habitat for this mussel includes running waters of all sizes, from small brooks to large rivers. Bottom substrates include silt, sand and gravel, which may be distributed in relatively small patches behind larger cobbles and boulders. The river velocity is usually slow to moderate. Dwarf wedge mussels appear to select or are at least tolerant of relatively low levels of calcium in the water.

Conclusion - There is no potential habitat for this species on the site since no tributaries are located there. No mitigation is required.

2.4 Atlantic and Shortnose sturgeon

Atlantic sturgeon are found in the Atlantic Ocean and its coastal estuaries. This species is anadromous - meaning that it spends most of its life in the ocean but moves into freshwater rivers to spawn during the spring/summer months. Juveniles spend several years in the river before migrating to the saline waters of the Atlantic Ocean where they eventually mature and complete the life cycle. This species lives for up to 60 years. Females reach reproductive maturity at about 15-20 years old, spawning every 2-5 years. Males generally reach maturity at about 12 years and spawn every 1-2 years.

Shortnose sturgeon live primarily in estuaries and large coastal rivers from New Brunswick, Canada to Florida, rarely venturing into the ocean. Semianadromous, they migrate up the Hudson River from their mid- and lower-Hudson overwintering areas to spawn in freshwater during April. This species lives to be about 30-40 years old. Females in northern waters reach reproductive maturity at age 7-13 and may spawn only every three to five years, while males reach maturity at age 5-10 years and may spawn every other year.

Conclusion - There is no potential habitat for either species on the site since no tributaries are located there and the site does not border the Hudson River. No mitigation is required.

3.0 PHOTOGRAPHS

Center of the site.



General site habitat.



1.0 Location Map

