

6.0 ECOLOGY

Field investigations for the presence of wetlands were done by Mary Jaehnig of Pfizer-Jaehnig Environmental Consulting in December 2011 and Spring 2013. Her investigations show there are no regulated wetlands on the rezoning area. Her determination was verified by the Town's wetlands consultant Bruce Barber on July 10, 2013.

Existing Conditions - Flora and Fauna

The 23.61 acres of the proposed re-zoning area are located within an historically residential area on the north side of Old Crompond Road. Historic aerial photos (Figures 6-1 through 6-6) show that portions of the subject area were used for agricultural purposes as well as low density residential. The northern and eastern parts of the site were sparsely vegetated as recently as 1968.

The subject parcels are located in a moderately developed part of Yorktown, just west of the Taconic Parkway and south of the Bear Mountain Parkway Extension. Recent development on Stoney Street to the north and the Crompond Crossings development to the west have isolated these parcels from other large open space parcels to the west and north. This combined with the Taconic Parkway to the east, Bear Mountain Parkway to the north and west, and heavily traveled Route 202 to the south, limit these properties in terms of ecological value as part of a larger wildlife corridor. The Hunter Brook, which flows from northeast to southwest in the area (although not on the subject properties), does provide a narrow nearby corridor for wildlife movement. The proposed Costco development, which will affect similar vegetative cover and habitat features, is located directly to the east of the site. See attached location map (Figure 1-1) and aerial photos (Figures 6-1 to 6-6) for the site context.

The Town's Biodiversity Conservation Study, completed by Stearns and Wheler in 2010 does not identify the subject parcels as being of particular ecological sensitivity, or representing a significant potential wildlife corridor. The plan does show the Hunter Brook

corridor generally as a potential corridor, but with limitations due to the amount of development and traffic in the immediate area.

In April of 2015 a biologist from Tim Miller Associates conducted a natural resources inventory of the parcels to evaluate the quality of wildlife habitat potential and plant species diversity. Table 6-1 lists those plant species that were observed during the two site walks. Table 6-2 lists those animal species that were observed or would be most likely to utilize the property.

Table 6-1	
Trees and Shrubs - Observed Species (Northern Hardwood Successional Forest)	
Common name (Scientific name)	
Trees	
American beech (<i>Fagus grandifolia</i>)	Slippery elm (<i>Ulmus rubra</i>)
Black cherry (<i>Prunus serotina</i>)	Shagbark hickory (<i>Carya ovata</i>)
Black locust (<i>Robinia pseudoacacia</i>)	Sugar maple (<i>Acer saccharum</i>)
Hemlock (<i>Tsuga canadensis</i>)	Sweet (black) birch (<i>Betula lenta</i>)
Pignut hickory (<i>Carya glabra</i>)	White ash (<i>Fraxinus americana</i>)
Red maple (<i>Acer rubrum</i>)	White oak (<i>Quercus alba</i>)
Red oak (<i>Quercus rubra</i>)	
Shrubs, Vines and Herbaceous Species	
Garlic mustard (<i>Alliaria petiolata</i>)	Pennsylvania sedge (<i>Carex pennsylvanica</i>)
Pachysandra (<i>Pachysandra terminalis</i>)	Spotted wintergreen (<i>Chimaphila maculata</i>)
Christmas fern (<i>Polystichum acrostichoides</i>)	Japanese barberry (<i>Berberis thunbergii</i>)

Table 6-2 Observed and Expected Wildlife List			
Common Name	Scientific Name	Common Name	Scientific Name
Mammals		Birds	
white tailed deer *	<i>Odocoileus virginianus</i>	wild turkey	<i>Meleagris gallopavo</i>
Eastern chipmunk *	<i>Tamias striatus</i>	wood thrush	<i>Hylocichla mustelina</i>
raccoon *	<i>Procyon lotor</i>	pileated woodpecker	<i>Dryocopus pileatus</i>
gray squirrel *	<i>Sciurus carolinensis</i>	hairy woodpecker*	<i>Picoides villosus</i>
red fox	<i>Vulpes vulpes</i>	Yellow-shafted (northern) flicker	<i>Colaptes auratus</i>
opossum	<i>Didelphis virginiana</i>	downy woodpecker	<i>Picoides pubescens</i>
striped skunk	<i>Mephitis mephitis</i>	Red-bellied woodpecker	<i>Melanerpes carolinus</i>
white-footed mouse	<i>Peromyscus leucopus</i>	Eastern bluebird*	<i>Sialis sialis</i>
deer mouse	<i>Peromyscus maniculatus</i>	red-tailed hawk	<i>Buteo jamaicensis</i>
house mouse	<i>Mus musculus</i>	American robin *	<i>Turdus migratorius</i>
meadow vole	<i>Microtus pennsylvanicus</i>	gray catbird*	<i>Dumetella carolinensis</i>
woodchuck*	<i>Marmota monax</i>	northern mockingbird*	<i>Mimus polyglottos</i>
short-tailed shrew	<i>Blarina brevicauda</i>	flycatchers	<i>Empidonax sp.</i>
common shrew	<i>Sorex cinereus</i>	eastern phoebe	<i>Sayornis phoebe</i>
star-nosed mole	<i>Codylura cristata</i>	American redstart	<i>Setophaga ruticella</i>
Eastern mole	<i>Scalopus aquaticus</i>	red-eyed vireo	<i>Vireo olivaceus</i>
little brown bat	<i>Myotis lucifugus</i>	American crow *	<i>Corvus brachyrhynchos</i>
		blue jay*	<i>Cyanocitta cristata</i>
		scarlet tanager	<i>Piranga olivaceae</i>
Reptiles		American goldfinch	<i>Carduelis tristis</i>
garter snake	<i>Thamnophis sirtalis</i>	northern cardinal *	<i>Cardinalis cardinalis</i>
Eastern racer	<i>Coluber constrictor</i>	chipping sparrow*	<i>Spizella passerina</i>
brown snake	<i>Storeria dekayi</i>	eastern towhee	<i>Pipilo erythrophthalmus</i>
		slate-colored junco*	<i>Junco hyemalis</i>
Amphibians		mourning dove	<i>Zenaida macroura</i>
red-backed salamander	<i>Plethodon cinereus</i>	black-capped chickadee *	<i>Poecile atricapilla</i>
American toad	<i>Bufo americanus</i>	White-breasted nuthatch *	<i>Sitta carolinensis</i>
		turkey vulture *	<i>Cathartes aura</i>
		house wren	<i>Troglodytes aedon</i>
		house finch	<i>Carpodacus mexicanus</i>
		Purple finch	<i>Carpodacus purpureus</i>
		Northern (Baltimore) oriole	<i>Icterus galbula</i>
		tufted titmouse	<i>Parus bicolor</i>
		warbler	<i>Dendroica spp.</i>
		eastern wood-pewee	<i>Contopus virens</i>
		common yellowthroat	<i>Geothlypis trichas</i>
		ovenbird	<i>Seiurus aurocapillus</i>
		rose-breasted grosbeak	<i>Pheucticus ludovicianus</i>
		brown thrasher	<i>Toxostoma rufum</i>
		Brown-headed cowbird	<i>Molothrus ater</i>

* observed individuals or indicators.

Note: this list represents many species that could potentially inhabit this site. It is not, however, an exhaustive list.

Field survey dates: April 13 and April 24, 2015

Prepared by: Tim Miller Associates, Inc., 2015

The Mandalay site is entirely upland, although the Hunter Brook corridor is near the site to the north and west, and a small isolated wetland exists to the east. At present, there are approximately 16.7 acres of woodlands, 5.9 acres of lawn and landscaped areas, and 1.0 acre of impervious surfaces (pavement and buildings) on the property. Most of the managed landscape areas are located closest to Old Crompond Road in the southwest portion of the site. A small area of managed landscape is also present in the southeast corner.

The wooded areas of the site are made up of three different tree communities, although significant overlap of species does exist. The vegetative communities are best defined as successional hardwoods, but the dominant species in these three different parts of the site vary.

On the eastern part of the site (Area 1 on Figure 6-7, Photos 1 and 2), the dominant tree species are sugar maple (*Acer saccharum*) and black locust (*Robinia pseudoacacia*). Black birch (*Betula lenta*) and white ash (*Fraxinus americana*) are occasional species. Other individual trees include red maple (*Acer rubrum*), slippery elm (*Ulmus rubra*), black cherry (*Prunus serotina*) and shagbark hickory (*Carya ovata*). Due to heavy deer browse, there is almost no understory or groundcover in this area. Garlic mustard (*Alliaria petiolata*), pachysandra (*Pachysandra terminalis*) and japanese barberry (*Berberis thunbergii*) were the common groundcovers and shrubs observed during site walks in April of 2015. Each of these species are introduced non-natives that are not preferred by deer. Also observed were Christmas fern (*Polystichum acrostichoides*) and Pennsylvania sedge (*Carex pennsylvanica*).

The majority of the trees in this area range from six to fourteen inches in diameter, and the woodland is moderately dense with these young trees. The leaf litter is deep. Rock walls are present throughout the property and are expected to support a number of small reptile, amphibian and mammal species. There are enough standing dead trees with cavities to support cavity nesting birds and mammal species such as striped skunks (*Mephitis mephitis*), chipmunks (*Tamias striatus*) and eastern gray squirrels (*Sciurus carolinensis*).

Area 2 is at a higher elevation and is made up of stonier upland soils and ledge outcroppings (Photos 3 and 4). In this area the dominant species of trees change to red maple, beech (*Fagus grandifolia*) and red oak (*Quercus rubra*). Occasional hemlock (*Tsuga canadensis*) and white oak (*Quercus alba*) were also observed. Understory and groundcover were very sparse. Hemlock is dominant in the northeast portion of the site. Area 2 is also represented on the higher areas above the Hunter Brook corridor along the western edge of the site.

Area 3 represents a drop in elevation to a topographic draw, with the site ultimately draining to the north, toward the Bear Mountain extension and the Hunter Brook (Photos 5 and 6). Dominant species in this section of the site include sugar maple, pignut hickory (*Carya glabra*) and occasional young hemlocks and black birch. Thin areas of maple saplings make up the understory, with very few shrubs present. Spotted wintergreen (*Chimaphila maculata*) was observed as an occasional groundcover, but only in small patches.

The Hunter Brook corridor (Area 4) is located off the site to the north and west (Photos 7 and 8). The brook in this area is entirely a stream channel, with no fringing wetlands along the riparian corridor. No wetlands or floodplain area associated with the brook extend onto the subject properties. A portion of the northwest corner does drain directly to the brook, which is contained entirely within the State right of way for the Bear Mountain extension. In order to adequately provide protection of the Hunter Brook corridor, future development proposals which include the disturbance of the areas closest to the brook must include consideration of water quality and temperature in preparation of site specific Stormwater Management Plans as part of the mitigation for the site changes.

As noted above, the vegetative communities on the parcels subject to rezoning are connected to adjoining areas which contain similar habitat off of the property to the north, via the narrow Hunter Brook corridor. Previous development has essentially isolated this part of the woodland from adjoining open spaces, and it presents limited opportunities for food and cover for all but some urban-tolerant wildlife species. Unsurprisingly, given the developed nature of the site and surrounding area, no sensitive wildlife habitat was observed to occur on the site. Figure 6-8 illustrates there are no NYS DEC wetlands on the site.

Potential Impacts & Mitigation

The rezoning of this area of Yorktown would allow for an increase in development density, with several possible uses ranging from retail commercial use along Old Crompond Road and multi-family residential on the northern parts of the property. The commercial uses in the C-2R zone would represent the most significant changes to the site, including an increase in impervious surfaces and more intense human presence. However, the majority of the proposed C-2R zone is located in the area of the existing residences, where the lowest tree density and existing site disturbance has historically occurred.

The remainder of the site is proposed for R-3, which allows medium density multi-family development. This use would require a significant amount of tree clearing and removal if fully built out, but as described above the forest here is of low value considering the relatively young age of the tree community and the sparse cover available for wildlife. A comprehensive landscape plan, using native trees and shrubs and strategies for the deterrence of deer browsing could offset the vegetative impacts. Because the site does not appear to be heavily used by sensitive wildlife, changes in this regard are expected to be negligible. Many of the wildlife species that are likely to use the site currently or that were observed will be adaptable to most new conditions if areas of open space and thoughtful landscape design are utilized.

The proposed Concept Plan would result in retention of approximately 4.1 acres of woodland and 10.6 acres of lawn and landscaped areas. Combined these areas would cover 62 percent of the project site in Open Space. Impervious coverage would increase to approximately 8.9 acres or 38 percent of the site.

Pollutant Loading & Thermal Loading to Hunter Brook

The Hunter Brook is designated as Class C(TS). According to NYS DEC the best usage of Class C waters is fishing. These waters shall be suitable for fish, shellfish and wildlife propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes. The (TS) means that it has the potential to support a trout fishery and possibly trout spawning.

Any project that requires an Article 15 permit for activity near a Class C(TS) stream, must provide assurances that the discharge will not impact the water temperature or dissolved oxygen content of the Hunter Brook.

The envisioned stormwater management infrastructure will provide for the detention and attenuation of stormwater such that pollutants and thermal loading will be minimized or avoided prior to any discharge to the Hunter Brook.