

WATERSHED FORESTRY PLAN

FOR THE PROPERTY OF

TURKEY MOUNTAIN NATURE PRESERVE

YORKTOWN HEIGHTS, NEW YORK

DECEMBER 18, 2011

PREPARED BY:

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LANDOWNER SPECIFICS

PROPERTY OWNER

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PROPERTY LOCATION

Turkey Mountain Nature Preserve
Locke Lane (off Route 118)
Yorktown Heights, NY 10549

Tax Map Numbers – Town of Yorktown:

1. TM# 48.17-1-1 (125.15 acres)
2. TM# 48.17.1-2 (23.55 Acres)
3. TM# 48.18-1-1 (1.47 Acres)
4. TM# 59.06-1-1 (0.69 Acres)

PROPERTY SIZE & ZONING

150.86 Acres total Town Parkland.

Residential Zone –R1-200 (1-acre) Town of Yorktown

LANDOWNER GOALS & OBJECTIVES

1. Optimize the health and biodiversity of the forest to enhance the enjoyment and usability of this park by the public.
2. To manage the land for conservation of natural resources, passive use recreation and public education.
3. To preserve and protect the native forest, wildlife, water resources, and cultural and historic features within this park.

(A more detailed description as written by the Town is included within the Appendix)

As chief officer for this property, I have reviewed this management plan with my forester and I understand the contents and agree that it reflects the Town of Yorktown's goals and intentions for the management of this property.

PROPERTY NARRATIVE

Located within the Town of Yorktown near the north central portion of Westchester County, NY, Turkey Mountain Nature Preserve is owned by the Town and is under the jurisdiction of the Yorktown Parks and Recreation Department and maintained as a passive use public park with an emphasis on conservation. The park also has a relationship with the Yorktown Land Trust which is a volunteer organization that promotes conservation and land preservation within the Town of Yorktown. They assist in some maintenance operations and serve as an advocate of the park. The park is readily accessible from Locke Lane which is accessed from NYS Route 118. Turkey Mountain has a long history of ownership and uses prior to its present use as a public park when it was acquired by the Town in 1969.

The general area is residential zoned with some nearby homes but the park itself is surrounded by much open space and undeveloped lands, including a large piece of NYCDEP land immediately west of the park. There are just a few area residences located within sight of Turkey Mountain Nature Preserve. The Sanctuary Country Club is a large, seemingly vacant piece of open space immediately to the south of the park. Turkey Mountain Nature Preserve is within the Croton watershed and water from this property drains into the New Croton Reservoir. The subject property is located entirely within the NY City watershed.

The site terrain ranges from level to steep forested slopes with many rock outcroppings and impressive rock formations. The elevation ranges from a highpoint of 831 feet at the top of Turkey Mountain at the western central border of the property to a low point of approximately 304 feet at the southeastern most tip of the property within State wetland. The geological aspects within this large town park are quite remarkable. Large, steep, windswept gneiss rock formations are located all along the western slopes and the top of Turkey Mountain, providing alpine like conditions due to the very shallow soils and harsh growing conditions. This ecosystem is a unique aspect of the park and very accessible to

the hiker. Not many public parks within the County offer these formations along with the distant sights of the Hudson Highlands, New York City and many bodies of water. The park has an unpaved parking lot off Locke Lane allowing the visitor to access six marked trails that traverse most of the property, with the exception of the lower eastern portion near the wetlands and the steep central portion. There are several structures on the property including a bird blind, a series of benches used as an outdoor classroom and few remnants of past structures.

Almost all of the land is undeveloped and covered by native forest and State and local regulated wetland systems. Upland hardwoods dominate within the high terrain, including mixed oaks, sugar maple, tulip and ash, along with pockets of eastern hemlock. The lower terrain located in the eastern sections are covered by lowland tree species including red maple, elm and tulip, eventually yielding to wetland along the eastern border. This allows and supports diverse habitats for wildlife and serves as a significant wildlife corridor in the Town. This open space of publicly held lands for public use is a valuable asset for a rapidly developing suburb of New York City.

It additionally serves as open space buffers to the few residential homes surrounding it, which also positively affects their property values in the area. No doubt Town residents benefit from all these open space values offered here.

Over browsing by deer are seriously impacting the regeneration of native trees and plants within the park but quite surprisingly, invasive plant species, while present in some locations are not a serious issue at this time. In any event, the regeneration of the natural forest within this ecosystem of the park is a primary concern for the future.

FOREST TYPES

The forested areas on this subject parcel were inspected and measurements were taken at numerous points, which included tree identification, tree *DBH*, site evaluation, regeneration patterns and stand density (*basal area*). The forest is divided into forest *stands* based on this data, ecological conditions and field observations. *Italicized* words are defined in the Definitions Section within the appendix.

The forest types will include wetland areas as they are all covered by red maple dominated forest. The Town has opted to not consider significant timber operations as part of this plan as it will impact the present aesthetic and recreational park uses. Therefore this plan will not include significant timber harvesting practices at this time. The one exception is the possible production of firewood from culling non native trees and salvaging storm damaged trees.

Stand 1

90-Acres – Mixed Oaks (red, black, chestnut and white - 40%), black birch (37%), sugar maple (7%), hickory (7%) – *Sawtimber*.

100 sq. ft. *BA/Acre* (basal area per acre) – MINIMAL REGENERATION (some mixed hardwoods) TO NONE

Site Class II

This section of upland hardwoods is the largest forest stand type and comprises most of the

upland areas of the property from approximate elevation 500 to approximately 750 west of the blue trail. The sawtimber sized red, black and white oaks dominate along with black birch and some sugar maple. Tulip is found in the lower areas of this stand as it approaches the more moist sites. As elevation rises and the soils become shallower, the oaks are most dominant and diameter is reduced due to the harsh growing conditions. There are several rocky rises east of the steeper slopes that give way to chestnut and red oaks which are more suited to the conditions. Deer are abundant and have significantly reduced most natural forest regeneration. Very few tree seedlings are found on the forest floor. Unlike most other forest lands in this area however, invasive species such as Japanese barberry, bittersweet, privet and multiflora rose are mostly absent. This will help in attempts to nurture some native tree regeneration. The October 2011 snowstorm has damaged many of the trees in this park. There are a number of large broken limbs snagged up in a number of tree canopies. This is especially significant where they hang over existing trails, which is creating a safety hazard to hikers. These limbs will need to be addressed as soon as possible.

Future management considerations should include controlling deer, improving regeneration with possible fencing and some selected *shelterwood cuts* in selected areas with mature seed producing trees to serve as a seed source, and making sure invasive species are kept away. Trees and limbs removed for any reason can be utilized as firewood or in some cases, timber products. The Town may wish to sell salvaged wood as a revenue source or to set up a special trust fund to support the park from the firewood sales to residents.

Stand 2

10 -Acres– Mixed oaks (white 40%, red 33%, chestnut 15%), hickory 2%, black cherry 2% – *large poles*
95 sq.ft., BA/Acre, LITTLE REGENERATION, blueberry understory
Site class II

This alpine like stand is at the upper portion of Turkey Mountain and its growth is very limited by the shallow, rocky soils and harsh weather conditions that occasionally impact it. The understory has some minor hardwood seedlings and much lowbush blueberry, typical of the peaks in this area of the State. This area is prime hiking destination and the aesthetics and alpine conditions are most desirable. Management considerations should include maintaining safe trails, protecting native vegetation (keep invasive plants out) and maintaining aesthetic views by reducing some tree growth with selective pruning and few removals as trees grow into viewing locations.

Stand 3

45 Acres – Red maple (36%), Tulip (18%), mixed oaks (18%), black birch (12%), and elm (6%)
110 sq. ft. BA/acre – *sawtimber* - MINOR REGENERATION - maples .
Site Class II

This is the second largest forest type and includes a wetland system (approximately 18 acres) traversing the lower elevations along the eastern sections of the property. This is the section where some small pockets of invasive plants (Japanese barberry, bittersweet), especially near the roadways bordering the property are located. This lowland forest receives much runoff from the steep slopes to the west and supports tree and plant species favoring moist conditions.

Management considerations are to eradicate the invasive plants as soon as possible, maintain trails and eliminate hazardous trees and snagged limbs, promote forest regeneration with hunting and fencing options and securing property borders with posting and better maintenance operations to eliminate some minor dumping that is ongoing.

Stand 4

6 Acres – Hemlock (60%), black birch (20%), white oak (10%), American beech (9%) – Sawtimber

100 sq.ft. BA/Acre – VERY LITTLE REGENERATION – some beech, sugar maple, no hemlock

Site Class II

Located along the southwest of the parcel this forest type is a struggling hemlock forest type that has been stressed by insects, deer browsing, and periodic droughts. The native hemlock stands throughout this region have been declining over the past several decades and this stand would be the most desirable to restore and conserve on the property. In order to do this the deer must be kept out of some of the more desirable regeneration spots where mature hemlocks can still produce seed. Deer exclusion fencing can be erected in several areas within this stand to start the recovery process. While hemlock desires a cool, shady location, some overly dominate hardwoods should be felled to promote some increased sunlight and improve growing conditions for the most promising hemlock species that exhibit better foliage and healthy main stems. It may be desirable to consider using systemic insecticides to control scale and adelgid on some select trees for regeneration sources.

Stand 5

10 acres – Red maple (60 %), black birch (20%), elm (10%), mixed oaks (5%) – sawtimber

100 sq. ft.BA/Acre – MINOR REGENERATION –few maples

Site Class II

This is a 10 acre Red maple wetland that divides stand 2 in the southern section of the park as it is a small sliver of lowland receiving drainage from east and west slopes, and flowing south to open water off site. This is a Town regulated wetland and management considerations are to maintain its wetland functions, do not allow invasive plants to establish and keep public access to a minimum.

FOREST RESOURCE WORK SCHEDULE

While agro-forest products are encouraged in WAC forest management plans, the present use as a designated passive use public park and very shallow and steep soils will limit such opportunities. Additionally, the Town of Yorktown likely does not have the resources to enter into an aggressive forest product generating program by itself but may wish to investigate the potential opportunities to enter in agreements with local farmers, organic farmers or BOCES to grow some products such as mushrooms, ginseng, wild blueberries, and wild honey from commercial honeybee hives. Stand 1 would be the most promising for all these products should the Town be interested and Cooperative Extension is a good resource for more information.

2012 – 2013 – Properly post the park boundaries. Identify and secure plans to begin invasive plant controls within the park, especially noting areas within stand 3. Identify and remove hanging limbs from trees all along trails that present a safety hazard to users. Add wood chip mulch (which can be obtained from the highway Dept.) to steep trails and to cover exposed tree roots for protection and to reduce tripping hazards. Develop plans to establish regeneration plots within all stands (consider the use of deer exclusion fencing). Discuss the possibility of establishing a limited deer hunting program. Begin a native hemlock forest restoration plan involving tree regeneration, removing heavily competing hardwoods, and deer exclusion fencing. Consider using cut trees for a public, revenue generating, firewood program. Monitor neighbors and protect from encroachments. Re-blaze the colored trails. See Aesthetics & Recreation section and map for additional considerations, which include establishing a new trail. Monitor funding opportunities. Apply for WAC funding opportunities in February and July.

2014 -2015 - Continue invasive controls. Inspect trails and repair erosion issues where necessary as well as monitor posted signs. Add more enclosure fences in stands 1 and 4. Consider a shelterwood cut if deer can be omitted from selected areas within stand 1 with fencing. Monitor hemlock stand and release desirable hemlocks from competing hardwoods. Apply for WAC funding opportunities in February and July.

2016- 2017 – Continue invasive controls. Maintain boundaries, trails, and regeneration operations. Monitor hemlocks and treat for adelgid and scale where possible, especially on new tree seedlings. Apply for WAC funding in February and July.

2017 -2018 – Update the Forest Management Plan. Continue invasive controls. Add enclosure fences and inspect and repair others as necessary. Inspect trails; maintain erosion controls and property signs. Re-mark the colored trails. Consider another shelterwood cut in a new area of stand 1. Monitor progress of hemlocks. Apply for WAC funding opportunities in February and July.

2018-2019 - Continue invasive controls. Re-inspect all enclosure fences, repair as necessary and continue to improve regeneration activities. Inspect trails and re-post entire property. Monitor hemlocks. Apply for funding opportunities.

2020 - 2021 – Continue invasive species controls, erecting deer enclosure fencing and inspect trails and posted signs. Re-mark the colored trails. Monitor hemlocks. Apply for funding opportunities.

2021 -2022 – Depending upon deer exclusion success, thinning new stands to reduce density and to promote better growth should be considered. Continue with invasive controls and exclusion fencing maintenance practices. Continue monitoring hemlocks.

2023 -2024 – Update the Forest Management Plan. Continue deer exclusion fencing maintenance; monitor posted signs and invasive controls. Apply for WAC funding.

SOIL AND WATER CONSERVATION

The Westchester County Soil Survey and the US Conservation Service has identified ten soil types on this property. They range from dry rocky outcrop to wetland muck. A complete list of these soils, their location maps, and general information are provided in the appendix.

The following soil type found on this property is considered hydric in nature, which means that is considered to be soils associated with wetlands due to wetness created by high organic content, impervious subsurface, drainage patterns, topography, and groundwater:

Ce – Carlisle Muck. Found in low topographic depressions within glacial tills, this is considered a common hydric wetland soil type found in many wetlands in this area of New York State.

Sh – Sun Loam.

LeB – Leicester loam, 2-8% slopes

The hydric soils indicated above provide favorable wetland conditions that will likely result in regulated wetland in that general area. These soils are prone to severe erosion and instability. Many development and high use activities are severely limited to these qualities. It is best to avoid these areas with any significant improvements, development or site disturbances.

The following soil types are not considered wetland soils and vary in degree of dryness, water table depth and slope. The complete list is enclosed with the soil maps in the appendix:

CrC – Charlton- Chatfield complex, rolling and very rocky. Found on hilltops, this soil type is very well drained and usually found above bedrock. This soil was formed from glacial till originating from granite, schist, and gneiss rock. The water table is usually greater than 6 feet in depth. These soils have limited development potential.

CsD – Chatfield-Hollis-Rock Outcrop complex, rolling, very rocky. These are very deep, well-drained soils found on hilltops. They can be excessively drained and are not suitable for agricultural purposes. Oaks are commonly found dominating the forest on this soil.

CtC – Chatfield-Hollis-Rock Outcrop complex, hilly. However the soil map indicated wetland conditions in a small portion of this soil type within the northeast corner of the property. This may be due to limited drainage from underlying bedrock or seeps.

CuD – Chatfield Hollis- Rock Outcrop complex, hilly.

HrF – Hollis-Rock outcrop complex, very steep. This is the rugged steep rocky ridges in the southern section of the parcel.

PnC – Paxton fine sandy loam, 8 – 15% slopes. A transition soil type usually near wetlands but not hydric.

PnD – Paxton fine sandy loam, 15 – 25% slopes.

RIPARIAN / WETLANDS

Turkey Mountain Nature Preserve is a significant natural resource where diverse woodlands and steep, rocky slopes provide an undisturbed watershed to two wetland systems at the lowlands in the southern and northeastern sections of the park. This watershed filters and slows runoff from the slopes into these wetlands designated as 'A' and 'B'.

Wetland 'A' is located in the northeast corner of the park and is part of State Wetland A-26. One of the most important environmental functions of Turkey Mountain Nature Preserve is its buffering and water quality relationship to State Wetland A-26 which is partially located onsite and flows north and east off site into a much larger system. The approximately 18 acres of wetland 'A' and buffer on this property is regulated by the New York State Department of Environmental Conservation, US Army Corps of Engineers and the Town of Yorktown. The wetland is determined by hydrological soil types, dominance of hydric vegetation, stream and seep corridors, and topography.

Wetland 'B' is a long narrow forested wetland (Stand 5) within a lowland between the steep high slopes to the west and smaller rocky slopes to the east. It is approximately 19 acres of wetland and buffer and located west of the red trail. This wetland flows southerly off site into open water on the parcel immediately to the south of the property line. Both wetlands on this site have seasonal streams associated with them and flow depends upon the season.

All of the park is within the NY City Watershed and eventually drains into the New Croton Reservoir system. Any significant disturbances such as roadways, crossings, development and soil disturbances on this site as well as from neighboring parcels will likely require wetland permits from the mentioned regulatory agencies and possibly NY City Department of Environmental Protection as well.

There is a small vernal pond near the parking area within Stand 3 (approximately 1-acre with buffer). Vernal ponds are valuable breeding sites for amphibians as they do not support fish that would feed on their young. Such sites should be protected and not allowed to have their buffers or drainage patterns disturbed. Most wetland ordinances regulate them as wetlands.

Wetlands are environmentally important areas where water is naturally filtered, groundwater is recharged, stormwater and pollution is mitigated, nutrients are recycled, wildlife is abundant and utilizes wetlands for breeding and habitat, protects watersheds, ponds, lakes and streams, and provides aesthetic and recreational resources. Most communities in this region actively protect this natural resource through local ordinances. The Town of Yorktown has a wetland ordinance, which self-regulates this wetland.

It is best to avoid any disturbances within these wetlands and their 100-foot buffer zones as outlined on the enclosed site map provided in this document. These areas should be managed for aesthetics, passive recreation, wildlife resources, and forest diversity. Existing trails in these areas are acceptable and should be regularly inspected and maintained to avoid erosion and sediment problems.

With the sensitive nature that this wetland system contains and with the large amount of

upland forest surrounding it, it is best to not disturb the riparian forested sites with any future timber activities, horseback trails and ATV use as these activities disturb soils, add to erosion and pollution that negatively affects the functions of the wetlands, and disrupt wildlife. Any vehicle or animal access through these sites should be on higher ground and simple stream and water crossings utilized (such as culverts) when crossing a wet area is unavoidable. Fortunately the current management policies of this park prevent most of these challenges. The riparian areas are best conserved and protected by allowing them to function as undisturbed wetland systems and manage the surrounding upland forest with this in mind. By disturbing the surrounding forest the wetland is also affected by increased runoff, sedimentation, pollution, higher water temperatures, loss of wildlife habitat and loss of water quality. The best way to manage the riparian areas is to “conserve, respect, and protect”. The biggest challenges will come from possible trail over use and from route 118, where runoff and dumping activities can create challenges for the wetland. Good stewardship, vigilance and public education will make a difference.

The functions of the wetland system on this preserve are:

1. Tributaries to the New Croton Reservoir.
2. Groundwater recharge.
3. Wildlife habitat (food, shelter, breeding).
4. Stormwater mitigation.
5. Flood control.
6. Pollution mitigation.
7. Nutrient recycling.
8. Buffer to neighbors.
9. Economic benefits (increases real estate value) to adjacent property owners in Yorktown.
10. Recreational activities.
11. Aesthetic (open space).

The management goals for this riparian wetland system should be:

1. To maintain it as undisturbed as possible.
2. Keep invasive plant and animal species from establishing and remove existing invasive species. Some phragmites has established in wetland A and should be controlled.
3. Improve wildlife habitat by removing invasive plants, correcting possible future erosion problems on trails, adding nesting boxes and improve forest and plant regeneration.
4. Maintain the small vernal pond and protect from disturbances off the parking lot.
5. Maintain posted signs along the property line, especially off Route 118.
6. Add information about the wetlands on the kiosk for the visiting public.
7. Enforce the no dog policy as the public is allowing dogs to enter the park and their feces is detrimental to water quality as well as unleashed dogs can disrupt wildlife and be at risk by some species.

See possible funding opportunities for wetlands in the section on FUNDING SOURCES.

ACCESS SYSTEMS (Forest Roads)

There are no forest roads within this parcel and there is no need to develop any. Six existing forest trails predominantly access much of the property sections, which allow for maintenance operations. They are simply identified as Blue, Yellow and White, Red, Green and Laurel on the trail guide and as markers on trees along the trails. The trails are maintained and in good shape at this time. However, it is advisable to “rest” some locations along the trails due to the severity of the slopes and possible overuse in some steeper locations. This could be just relocating a portion of a particular trail to a more desirable spot. At this point there is no urgency to perform this action at this time. There is a more detailed discussion on establishing a new trail in the section on Aesthetics and Recreation.

The park is accessed from a gravel parking lot off Locke Lane, which is itself accessed off Route 118, also known as Saw Mill River Road. Locke Lane and the parking lot need some attention with paving and pot holes. Additionally runoff along Locke Lane is causing some erosion and sedimentation issues and should be addressed by the Town. A recent visit during a cold spell revealed a significant icing problem at the intersection of Locke Lane and Route 118, which is creating a driving hazard as a vehicle traverses down the hill to Route 118. Re-paving and stormwater mitigation measures along the length of this steep road are overdue.

A general map is provided to identify the major access points for this property as well as identifying the trails. Pedestrian trails on steeper slopes have some exposed tree roots that should be mulched to reduce tripping hazards and protect root systems.

Any areas on the existing and future trails that get disturbed from future maintenance practices or recreational activities should be regraded and spot seeded for proper erosion controls. These areas should be sown with the following mixture:

Creeping red fescue or tall fescue @ .25 lb. /1000sq. ft.

Redtop or perennial ryegrass @ .25 lb/1000sq. ft.

Use 2 lb. of rough bluegrass per acre in shady /wet areas.

The seed should be lightly raked in the bare soil and mulched with 3 bales of hay spread out per 1000 sq. feet.

WILDLIFE HABITAT

Turkey Mountain Nature Preserve is a large sized parcel (in relation to the surrounding parcels) of public open space surrounded by mostly undeveloped lands and residential areas. Given the source of forest, wetland, extensive rocky outcrops, and seclusion of the site, this property is a potential haven for many animal species found in this part of the County. The wildlife lists enclosed in the appendix is a partial list of potential species that can found on this property. A review by the Natural Heritage Program has indicated that the endangered plant species, *Salvia lyrata* (Lyreleaf sage) *may* be on this site. Oddly, the Natural Resource Conservation Service considers this species to be invasive (see appendix). Activities proposed in this plan should not affect this plant’s native habitat. There are a number of posted signs at the park entrance stating that rattlesnakes may be present yet the search did not reveal this as fact. More research may be required on this matter as the adjoining property to the west of this park has some known species of concern.

There is no significant water to maintain fish species on this property but the water resource does feed fish producing streams and ponds to the north of the site and a pond to the south. No doubt the clean, cool waters leaving this property contribute to these populations downstream, which could include trout.

Along with the wetland significance, the wildlife habitat on this open space is considerable for the residential zone that it is in. As Yorktown becomes further developed, this area will become even more valuable as a wildlife habitat resource and refuge. Fragmentation is a relatively new word that is used to describe large open space lands that is subdivided into smaller lots and then developed, fragmenting the natural resources such as forests and wetlands, which usually has a negative impact on wildlife by disrupting their habitat and range. This property has the size and habitat that will help mitigate fragmentation. However, there is one very significant negative impact from the wildlife here and that is the damage the white tailed deer herd is causing on the forest ecosystems on this property as well as most parcels in this area. A number of deer were observed during the field investigation for this plan. A secondary impact can come from invasive plant species that will disrupt natural succession and habitat if they are allowed to flourish. This is further addressed in the other sections of this plan. A final impact can come from development pressures from the adjoining neighbors as they develop their landscapes and possibly encroach on park property. It remains to be seen what will eventually develop on the Sanctuary Country Club along the south border of the park, which seems to be vacant at this time and borders most of the southern property line of the park.

The results of the forest data collected during the field investigation revealed that very little regeneration of native trees and plants is occurring. There is minimal regeneration of oaks, maples and little of anything else. The loss of tree and plant seedlings will negatively affect the long term health of the forest and biodiversity. If this is not reversed the forest will become a less diverse natural resource. The lack of significant regeneration will allow invasive plants to better establish and as the forest weakens it will increase insect and disease problems, it will become less economically viable with the loss of quality timber trees such as oaks, maples and ash. A weakened forest will reduce wildlife habitat and diversity, reduce water quality by loss of filtration and stormwater functions, and become less aesthetic. Natural forest regeneration is the key to a healthy forest, which in turn equates to a diverse wildlife area.

The Town may wish to consider hunting as an option for controlling deer as a viable management tool to improve forest habitat and regeneration. Other options are to exclude deer from various areas within the forest stands with fencing to allow tree seedlings and plants to germinate and establish. It is an effective and non-lethal method of controlling deer impacts. Fifty-foot square, 8-foot high, deer exclusion fencing can be erected in less dense forested areas throughout the forest sections over time. These sites will allow trees and plants to establish. Every 10 years they can be relocated to other areas of the forest to establish new regeneration colonies. This in turn will support many species of insects, birds, mammals and amphibians. The fenced in areas must be maintained by eliminating any invasive plants and for breaches in the fence. These exclusion areas can be larger in size if time and funding permits. Funding may be available through WAC or other agencies. They should be located around significant mature trees such as oaks, hemlocks and maples that will provide a good seed source.

There are several small open areas on the red trail and opposite the bird blind. They should be maintained as open fields for *edge effect* by mowing them once every two years by maintaining a diverse herbaceous and shrub field for food and cover.

The following are additional measures for wildlife habitat improvements:

1. Protect the wetland from disturbances, pollution, and severe runoff.
2. Keep large dead trees standing (where they will not be a human hazard) for *den trees*.
3. Place nesting boxes where appropriate (see enclosed specifications). The open fields are perfect bluebird sites.
4. Pile down tree branches and limbs into *brush piles* for wildlife cover.
5. Keep the remote rocky outcroppings free of shade trees to create sunning areas for snakes.
6. Do not disturb low areas in the forest where water ponds in the spring. These vernal pools are important amphibian breeding locations.
7. Do not disturb stonewalls as they are important cover areas for small mammals.
8. Maintain *edge effect* along all roadways and trails and open fields.
9. Unusable logs can be left on the forest floor for insects and nutrients that will benefit wildlife and the soils.
10. Remember that a diversity of trees, plants and environments will create a diversity of wildlife.
11. Maintain the integrity of the wetland buffer areas, as they provide shelter and upland conditions for many species of wildlife.
12. Avoid human impacts within wetlands and sensitive forest floor zones. Use simple bridges or culverts to traverse wetlands and to allow water flow.
13. Discourage and destroy exotic and invasive plants such as multiflora rose, black locust, Japanese barberry and bittersweet vines. They destroy natural habitat and reduce forest vigor.
14. The deer exclusion fencing will promote new trees and plants that will provide additional wildlife habitat.
15. Maintain shade over seasonal streams and allow for occasional dead tree snags to remain for wildlife.
16. Allow many fallen trees to remain on the forest floor for animals and insect habitat and diversity.
17. Invite local naturalists to provide programs to better utilize the “classroom” and bird blind.
18. Periodically check with the New York State Department of Environmental Conservation (NYSDEC) – Bureau of Fish and Wildlife at (845) 256-3000 to determine if any rare, threatened or endangered species (protected in NYS) have been identified in your vicinity and manage accordingly.
19. Check with the Natural Heritage Program on the property to the west of the park to determine if significant species are present and if there are some possibilities that they may actually be habituating the park.

See FUNDING SOURCES for possible cost share programs to assist in wildlife habitat improvements.

AESTHETICS & RECREATION

This is a passive use park that is open to the public to enjoy as a natural resource. It offers opportunities for hiking, cross-country skiing, wildlife observation, and jogging. There are some beautiful views from the high rocky hill tops at various locations along the top of

Turkey Mountain. This property is very secluded and buffered from neighbors, but offers distant views of the Catskills, the Hudson River and New York City. Some of the slopes are quite steep and the trails accessing these areas can be challenging to some visitors.

The trails are well marked for the most part but the Red Trail and Laurel Trail colors are very similar and can be confusing to a casual visitor. It would be advisable to change the Laurel Trail to a more contrasting color. The Blue Trail actually exits the property twice and this should be noted to the visitor with better signage alerting the hiker to note this. Additionally, the exposed rocky peaks are painted with blue arrows to identify the trail. While this may be helpful to a hiker, it is unnecessary graffiti and should be removed with a non abrasive chemical. The existing trail markers or standardized metal posts would be a better alternative. A new trail (Black) should be considered to access the central portion of the park to allow for more recreational opportunities. Please refer to the map for more details.

While the hilltops are well accessed as well as the lower elevations near the parking lot, the central portion of the park is not. A new trail should be considered to be located off the red trail near the bird blind and paralleling the blue trail along elevation 600. A suggested location map is included.

The trails can be used to access much of the park for hiking, skiing, jogging and maintenance activities. Remember that tree roots are very important and avoid trail locations that will severely impact exposed roots. Avoid steep areas and “soft” areas (wetlands) where soil erosion can occur. Make sure trails are well marked and property lines are properly posted. The existing boardwalks across wetland areas greatly improve access and recreational opportunities in otherwise inaccessible sites. However there is a lack of benches for visitors to rest or take in a view along the trail system. Consideration should be given to start a program to install benches through a memorial fund to generate revenue to purchase benches. Such memorial programs are highly successful and will add to the overall visitor experience.

The parking lot with various signs of all shapes and colors could use a facelift. As one enters the parking area we are welcomed with a number of park signs and posted signs with no uniform presentation or design. We don't know what to read first, so we miss a lot. The park should have one formal entrance sign and the kiosk should be designed to explain everything else such as information on hours, trails, history, wildlife and the rest. While there are a number of ‘No Dogs’ signs, few people obey them and this park appears to be a favorite spot to allow their pets to roam free. This is a problem for wildlife, water quality and people who don't want to be bothered by rambling pets or dog waste. Additionally, if rattlesnakes are present as posted, then this is a definite hazard to pets and people as well. The rule should be enforced.

It would be a good idea to design and place several interpretive signs along the trails and especially at the top of Turkey Mountain, explaining the history and the geology of the area. It is too good a spot to pass on.

The North County Trailway is just a few hundred feet from the park entrance east of route 118 and can be a good green space connector for the park. The Town should consider partnering with the County and develop a bike/pedestrian exit and entrance way off the trailway to the park and provide a bike rack in the parking lot. A pedestrian crossing can be placed across Route 118.

Recent storms have left a number of hanging tree limbs which pose a danger to hikers and are unsightly. They should be safely removed as soon as possible. Felled trees should be properly cut to reduce hanging limbs and branches. Cut all limbs low to the ground to reduce fire hazards and negative visual impacts.

The 'Classroom' and 'Bird Blind' seem to be a bit neglected and are in need of some minor repairs. They could be a good resource for students to use as an outdoor education tool for BOCES and or local school groups as well as for use by day camps. There are many local naturalists that would be interested in doing some programs here.

Make sure the property boundaries are posted and regularly inspected. Keep a forest logbook or diaries to note wildlife patterns, changes in environmental or weather conditions, and keep track of your activities. Perhaps a visitor log in the kiosk will add to the information. This will aid you and your consultants with future management decisions.

Regularly inspect the entrance road for erosion issues with clogged drains or icing challenges. Check for encroachments and possible contaminants entering the property from drainage channels and neighbor maintenance activities. Maintain a healthy forest along all your borders in order to have good screening and privacy. This may be a factor if the Sanctuary Country Club is developed along the south border.

FOREST HEALTH & FIRE PROTECTION

At this time there is little evidence of major fire risks. However, fire risks can exist during dry periods. Be aware of weather patterns such as drought or hot, windy, dry periods that may increase fire hazards especially along trails traversing the shallow, dry slopes. Debris from felled trees should be in contact with the forest floor to maintain high moisture levels and reduce fire hazards. Check with the local NYSDEC Forest Ranger for more information.

There are two serious tree afflictions observed during the stand evaluations. The first is nectria canker, a fungal disease that affects black birch trees. Unfortunately this is very common in this area and there is not much we can do other than remove affected trees. The second tree health issue is a combination of insect vectors affecting the native eastern hemlock stands. Hemlock woolly adelgid and scale are killing off many hemlock stands in the northeast and it is occurring here as well. More details on these challenges are included in the appendix.

As discussed in prior sections, the deer population is a major problem with the natural forest regeneration in this entire section of Westchester County. Deer repellants can be effective, but this is costly over time and is labor intensive. Deer exclusion fencing, as previously discussed, is the best option for this property along with selected hunting opportunities.

Promote more tree and shrub diversity by removing any invasive plants, black locust and poor quality red maples and black birch, and allowing natural regeneration of other trees to occur. Supplemental plantings can be made with seedlings purchased from the NYSDEC Nursery (see enclosed brochure). There are additional references enclosed for your information.

Maintaining a diverse, well-managed forest increases the odds for a healthy forest. The combination of various species of trees, plants and wildlife all interrelate and make conditions unfavorable for a pathogen to take hold and cause extensive damage. Monitor the forest simply by walking through it and observing conditions. Consult with Cooperative Extension, NYSDEC Foresters and local arborists for information on current insect and disease concerns that may affect your forest. Make sure future forestry operations follow best management practices, avoid damaging uncut trees and keep their root systems intact. Avoid damage or injury to trees and their root systems. Do not disturb very steep slopes and avoid vehicle access in areas over 15 % slopes. Safeguard the soil and reduce erosion problems. Minimize stress to the trees and this will avoid predisposing them to future insect and disease attacks. Prevention is always the best route to avoiding future problems. Posting this information in the kiosk will be helpful.

PLAN HIGHLIGHTS

1. The local deer herd is significantly affecting forest regeneration and diversity. Hunting programs and exclosure fencing should be implemented.
2. The wetlands and vernal pond is a significant resource. Maintaining a healthy, diverse wetland forest and eradicating invasive species is the top management priority.
3. Add exclosure fencing in areas with mature oaks and hemlocks to get the best opportunity for regeneration.
4. Consider utilizing cut trees and limbs for firewood and possible revenue opportunities.
5. Maintain the two small open meadows along the trails to offer more wildlife habitat and for aesthetics.
6. Add more benches for the visiting public and use it as revenue generator.
7. Add mulch on steep trails and over exposed tree roots to reduce tripping hazards and protect tree roots.
8. Consider renovating the parking lot with improved signage and added features such as a bike rack and recycling receptacle.
9. Connect a pedestrian access to the North County Trailway to access the park.
10. Add interpretative signs along selected areas on the trails.
11. Add a new trail in the central portion of the park.
12. Funding from WAC is generally available for applications submitted by February 15 and July 15 of each year. Apply for invasive plant controls and fencing as much as possible.

ASSISTANCE AND FUNDING SOURCES

FREE TECHNICAL ASSISTANCE

WESTCHESTER COUNTY:

CORNELL COOPERATIVE EXTENSION

126 Legion Drive

Valhalla, NY 10595

285-4624

Information on conservation, horticulture, insects and diseases.

WESTCHESTER COUNTY SOIL & WATER CONSERVATION DISTRICT

148 Martine Ave

White Plains, New York 10608

(914) 995-4422

Information on conservation, ponds and wetlands, seedling programs, soil conservation and possible funding sources.

NEW YORK STATE:

NYSDEC

21 South Putt Corners Road

New Paltz, NY

(845) 256-3000

Information on forestry, wood product marketing, fish & wildlife, forest fire protection, hunting, seedling program, and enforcement.

OTHER:

QUALITY DEER MANAGEMENT ASSOCIATION (www.hvqdma.com)

A web site with much information on deer management

PHONE NUMBERS:

NY Forest Owners Association – (800) 836 – 3566

Region 3 Forest Practice Board – (845) 256-3000 (ask for Forestry Bureau)

Empire State Forest Products Association – (518) 463-1297

USDA Forest Service (603) 868-7616

Watershed Agricultural Council – 962-6355

FUNDING PROGRAMS:

The following programs may be available and can be incorporated into this Forestry Plan. Funding is not guaranteed and is subject to budgetary processes. Any possible funding must be applied for and granted *prior* to implementing any activities discussed within this plan.

I. USDA FARM BILL

Wildlife Habitat Incentives Program (WHIP) – Technical assistance and cost-share programs for wildlife habitat improvements.

Forest Stewardship Incentive Program (SIP) – Forestry operations including thinning, trails, and stand improvements.

Wetland Reserve Program (WRP) – Wetland restoration and improvement cost-sharing opportunities.

II. WATERSHED FORESTRY PROGRAM

Every February and July funding opportunities can be available to Watershed Forest Management plan owners for various forestry practices including erosion controls, planting, invasive controls and fencing. Deadlines are February 15 and July 15 of each year.

CONTACT: Watershed Agricultural Council
33195 State Highway 10
Walton, New York 13856
(607) 865-7790

III. FLEP (Forest Land Enhancement Program) – A NYSDEC forestry program that can offer cost sharing for Forest Stewardship, Forest Stand Improvements, Fish & Wildlife, and Forest Health & Protection.

CONTACT: www.dec.state.ny.us for details or contact:
NYSDEC Forester, Barbara Lucas- Wilson at
(845) 831-8780 x 309.

DEFINITIONS OF TERMS

Basal Area (BA) - Is the measurement of the cross-sectional area of a tree trunk in square feet at 4 ½' from the ground (breast height). It is a measure of stand density.

Brush Piles – A number of cut tree limbs and debris piled into dense mounds three to four feet high to promote wildlife shelters.

DBH – Tree diameter at breast height (4.5 feet from the ground) measured in inches.

Den Tree – A tree suitable for wildlife nesting. Usually a large dead tree with open cavities to allow animal access for nesting purposes.

Forest Edge Effect– The area where an open field meets the forest creating layers of plants, shrubs and trees that is highly desirable for wildlife.

Forest Stand – An area of forest similar in tree species, sizes and condition that differs it from other forest areas.

Hydric – Pertaining to wet conditions, especially in soils where conditions are favorable for wetland plants to dominate.

Landing– Open level area for timber harvesters to store cut logs to be transferred off site.

Large Poles – Trees with a DBH between 9 and 11 inches.

Poles – Trees with a DBH between 5 and 9 inches.

Sawtimber – Trees with a DBH greater than 12 inches. Small sawtimber is between 12 and 16 inches, Medium is between 16 and 20 inches, and Large is considered greater than 20 inches.

Shelterwood Cut – It is a method to remove most trees in a given area and leave a few desirable mature tree species to re-seed and regenerate the forest.

Site Class – The quality of a forest site to produce and grow trees. Expressed in three levels I through III, with I designated as best.

Stands - A forest stand is a large grouping of trees in similar diameter sizes (i.e. saplings, poles, sawtimber) and species composition.

Understory – The layer of small trees, shrubs and plants growing under the dominant forest canopy.

Vernal Pond – A seasonal ponding of water within a forest that dries up in summer.

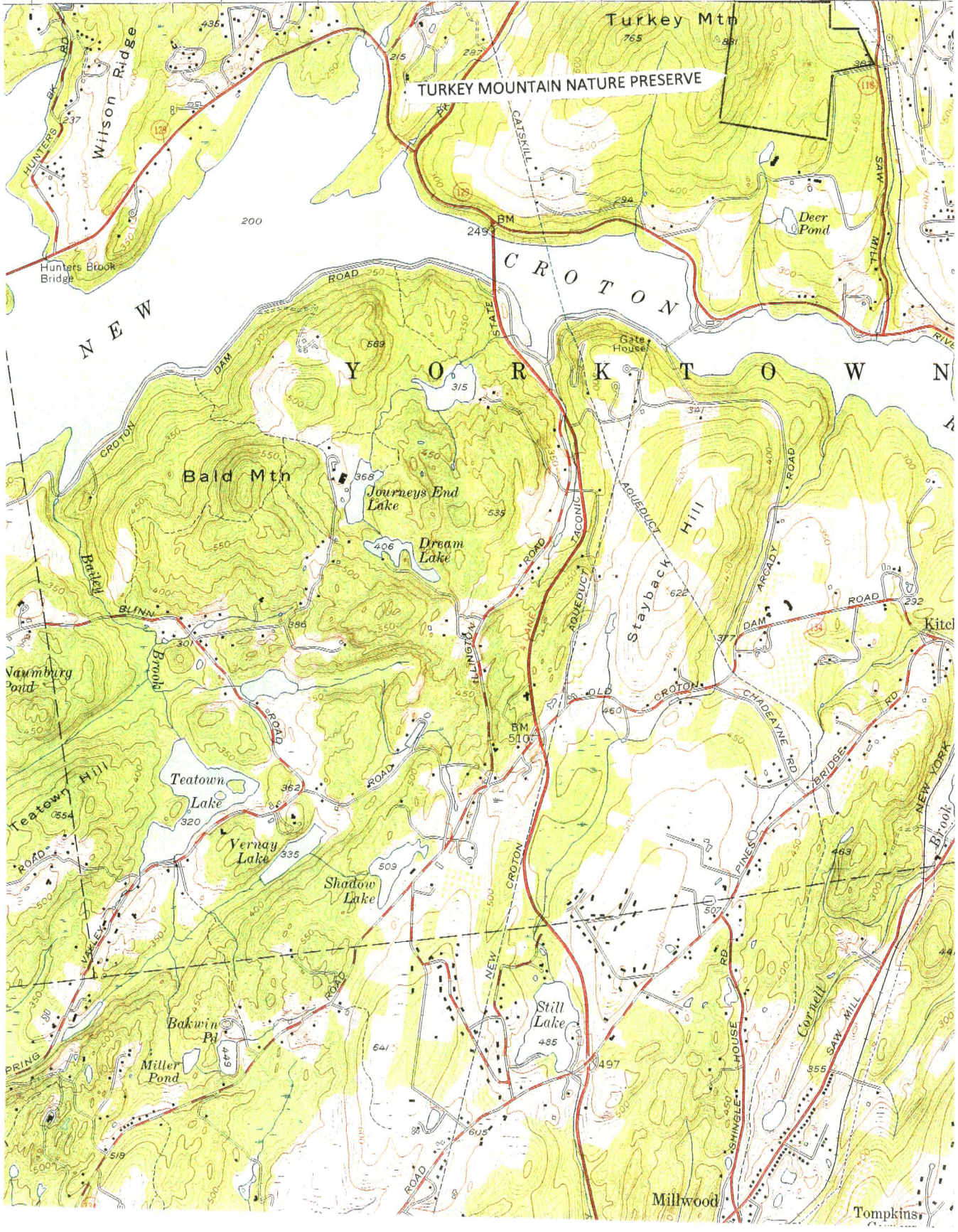
Wetland Buffer Zone – A 100-foot wide strip of land along the outer edge of wetland area. It is usually regulated by local and possibly State wetland laws.

Wolf Tree – A large, widespread tree within a forest that has little timber value but good aesthetic and wildlife value.

50'

(MOHEGAN LAKE)

4 1/2 30"



Millwood

Tompkins

TURKEY MOUNTAIN PARK: EXISTING TRAIL MAP

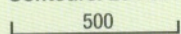
MEASURED TRAILS

	White	0.7
	Blue	1.4
	Yellow	0.3
	Red	0.5
	Green	0.2
	Laurel	0.1

LEGEND

	Stream
	Marsh
	Parking Area
	500 Altitude In Feet
	Utility ROW

MAP SCALE

Contours: 20 Feet

 500
 FOOT

N.Y.C.
DEP LAND

SANCTUARY
COUNTRY CLUB



Map copyright © Yorktown Land Trust.

Source: Yorktown Walk Book. Used with permission.



FOREST STANDS

MEASURED TRAILS	
White	0.7
Blue	1.4
Yellow	0.3
Red	0.5
Green	0.2
Laurel	0.1

LEGEND	
	Stream
	Marsh
	Parking Area
	500 Altitude In Feet Utility ROW

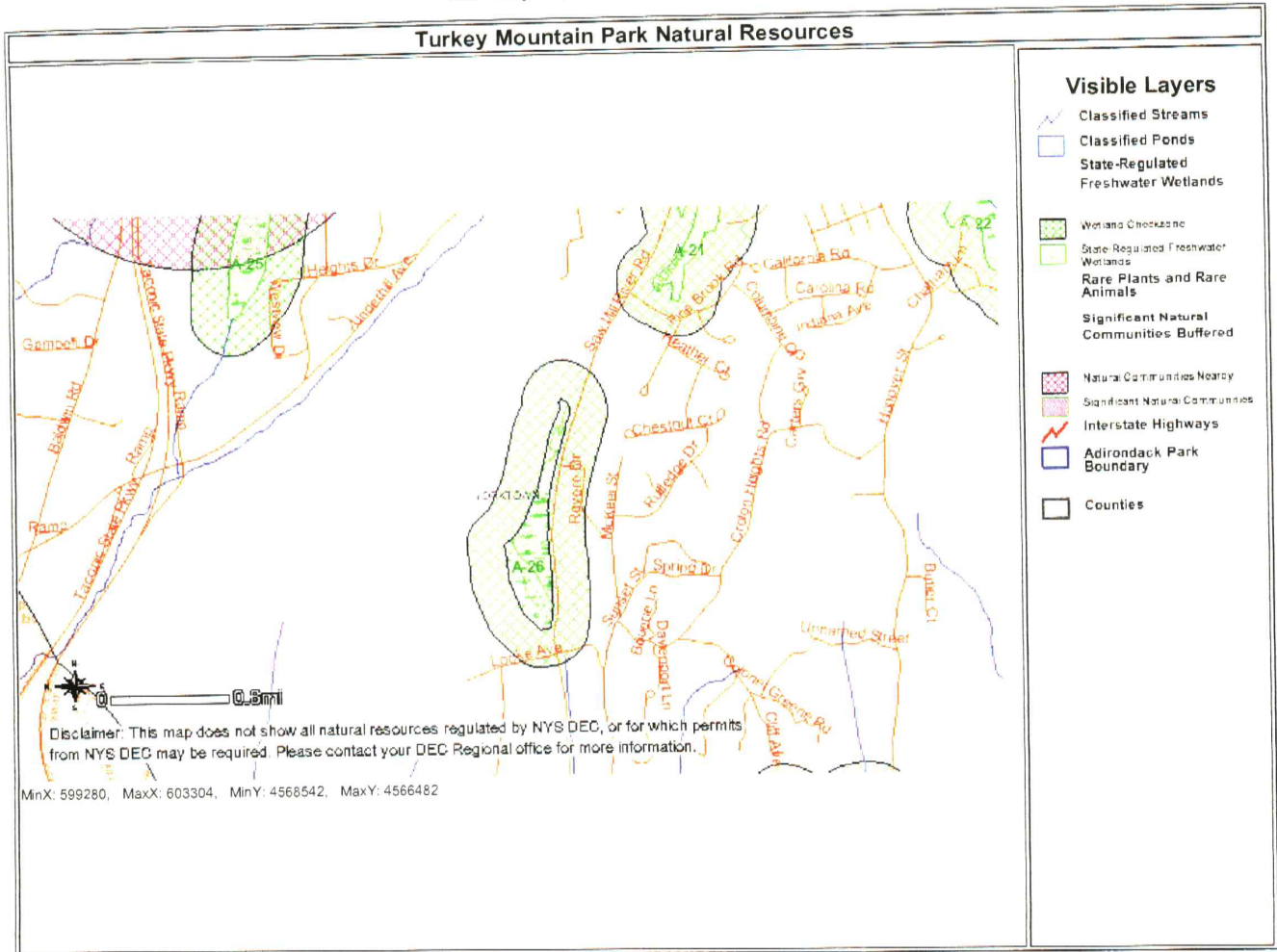
MAP SCALE	
Contours: 20 Feet	
	500
FOOT	

N.Y.C. DEP LAND



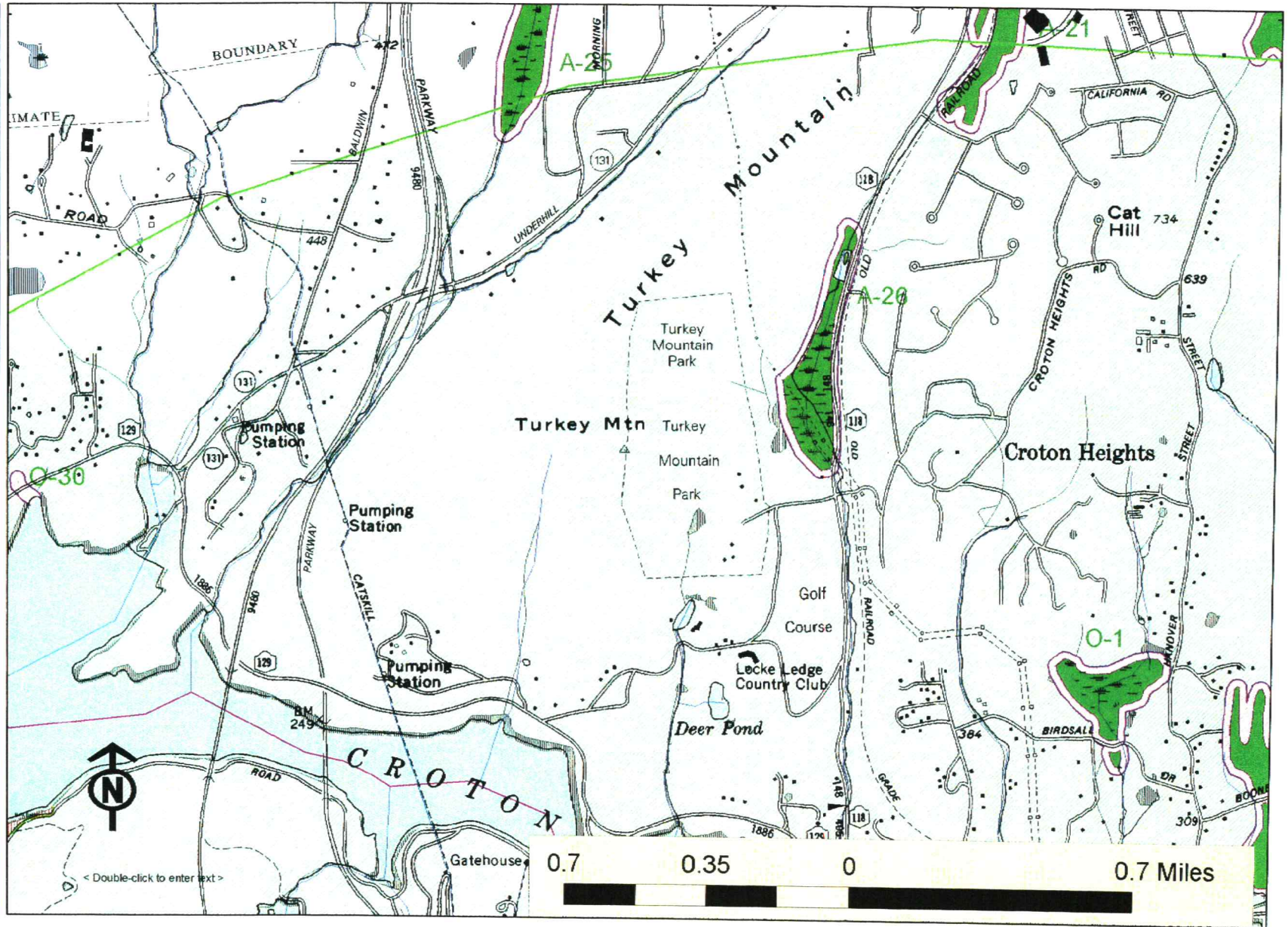
Basemap copyright © Yorktown Land Trust.
 Source: Yorktown Walk Book. Used with permission.

Please set your printer orientation to "Landscape".

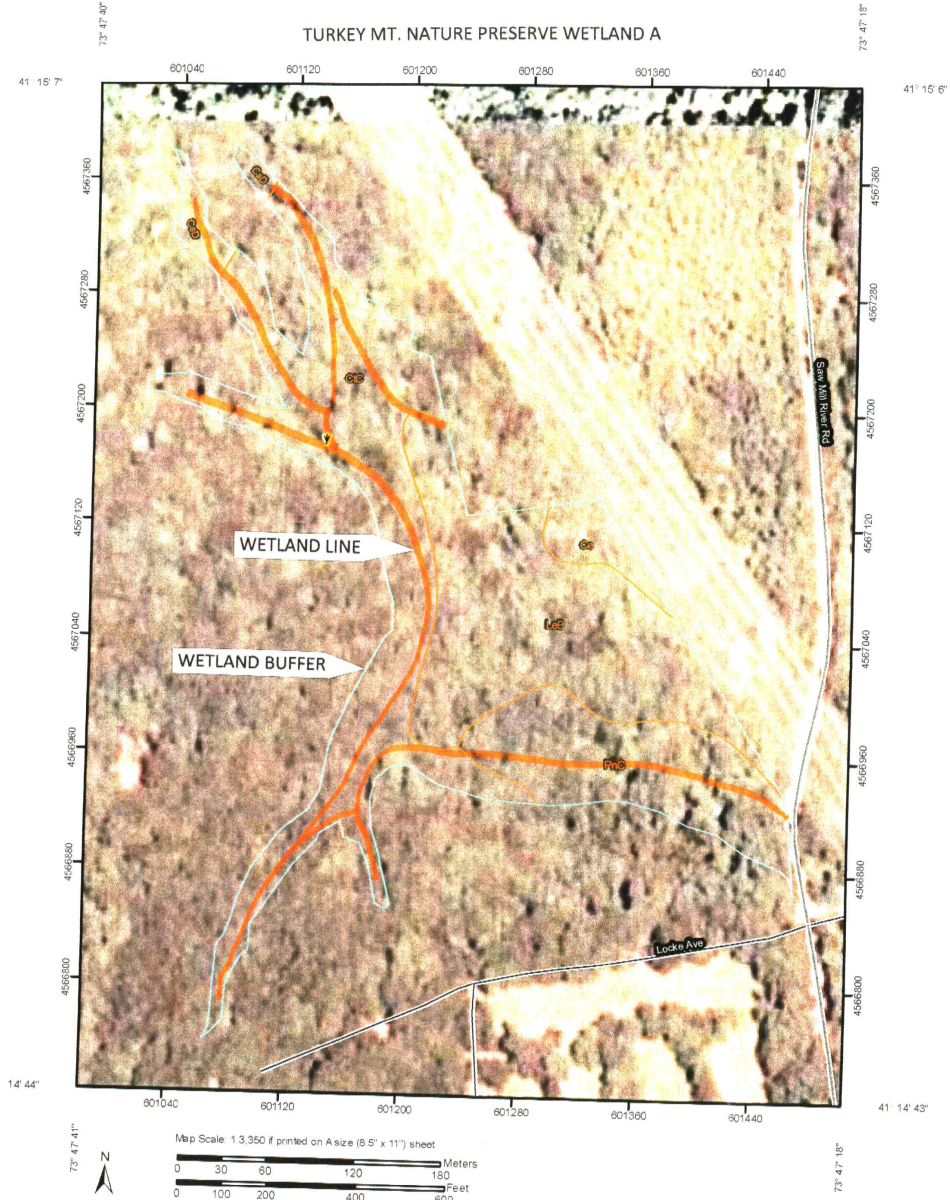


Disclaimer: This map was prepared by the New York State Department of Environmental Conservation using the most current data available. It is deemed accurate but is not guaranteed. NYS DEC is not responsible for any inaccuracies in the data and does not necessarily endorse any interpretations or products derived from the data.

TURKEY MOUNTAIN




TURKEY MT. NATURE PRESERVE WETLAND A



Soil Map—Westchester County, New York
(Wetland A Turkey Mountain Park)

MAP LEGEND






















Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Units

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot
-  Spoil Area
-  Stony Spot

-  Very Stony Spot
-  Wet Spot
-  Other


Special Line Features

-  Gully
-  Short Steep Slope
-  Other

Political Features

-  Cities

Water Features

-  Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

MAP INFORMATION

Map Scale: 1:3,350 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: UTM Zone 18N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Westchester County, New York
Survey Area Data: Version 6, Mar 10, 2011

Date(s) aerial images were photographed: 7/31/2006

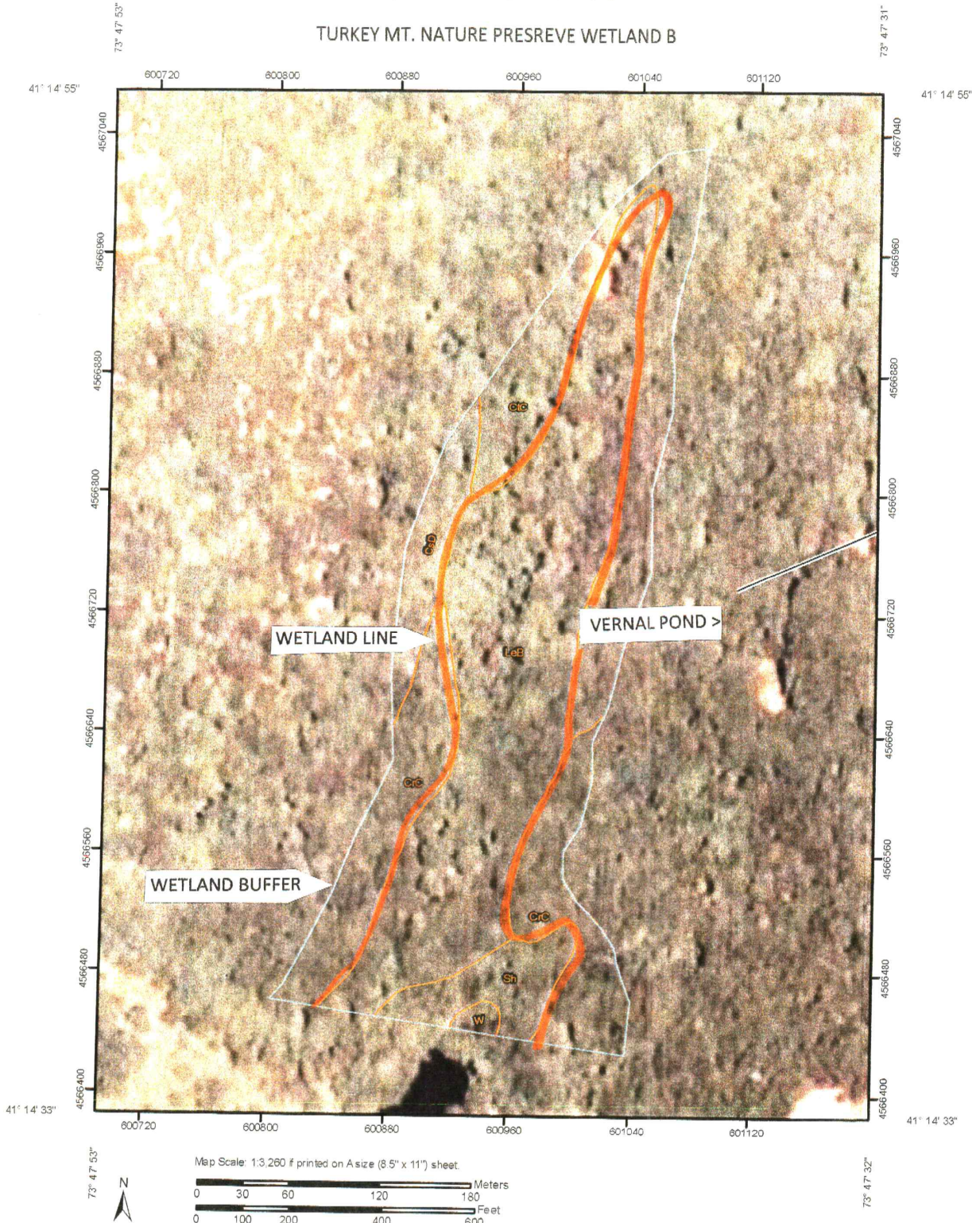
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Westchester County, New York (NY119)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ce	Carlisle muck	0.6	3.5%
CsD	Chatfield-Charlton complex, hilly, very rocky	0.5	2.6%
CtC	Chatfield-Hollis-Rock outcrop complex, rolling	7.5	41.8%
LeB	Leicester loam, 2 to 8 percent slopes, very stony	6.0	33.2%
PnC	Paxton fine sandy loam, 8 to 15 percent slopes	3.4	18.9%
Totals for Area of Interest		18.1	100.0%

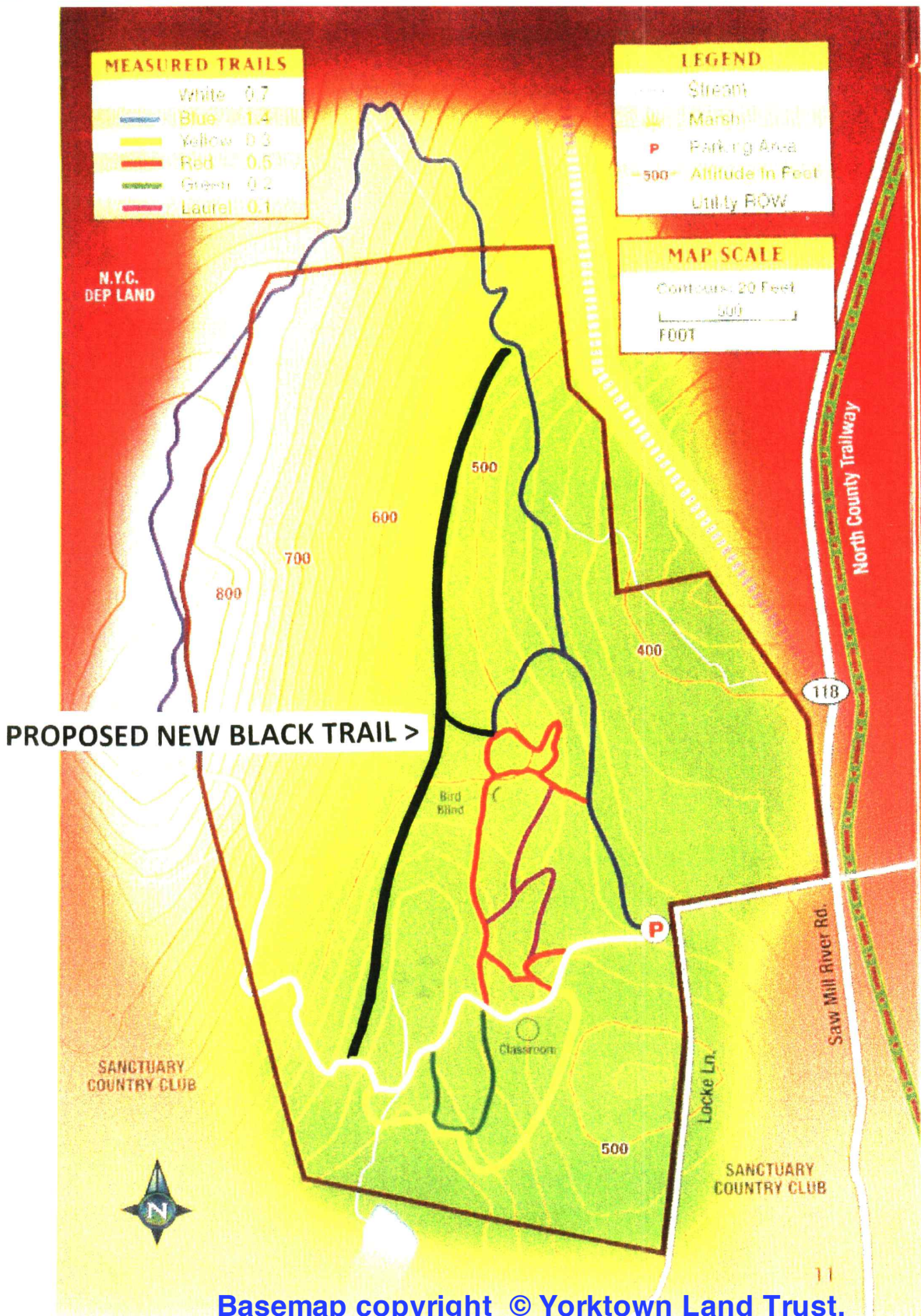
Soil Map—Westchester County, New York
(Wetland B - Turkey Mountain Park)

TURKEY MT. NATURE PRESERVE WETLAND B



Map Unit Legend

Westchester County, New York (NY119)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CrC	Charlton-Chatfield complex, rolling, very rocky	4.1	20.8%
CsD	Chatfield-Charlton complex, hilly, very rocky	1.1	5.6%
CtC	Chatfield-Hollis-Rock outcrop complex, rolling	4.3	21.7%
LeB	Leicester loam, 2 to 8 percent slopes, very stony	9.1	45.6%
Sh	Sun loam	1.1	5.7%
W	Water	0.1	0.6%
Totals for Area of Interest		19.9	100.0%



Basemap copyright © Yorktown Land Trust.
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Watershed Agricultural Council: Information and Applications

Click on the following for more information about programs offered by the Watershed Agricultural Council:

1. [Overview of Watershed Agricultural Council Cost-Share Programs for Landowners](#)
2. [Application for Best Management Program](#)
3. [Application for Management Assistance Program and Cost Share Rates](#)

For more information visit <http://www.nycwatershed.org/>

Additional Useful Links and Information

Click on the following for more information:

- [Dealing with the invasive Japanese Barberry](#)
- [Nectria Canker](#)
- [Lyreleaf Sage](#)
- [Bluebird Nest Boxes](#)
- [Turkey Mountain Plant List and Habitat Info](#)
- [Deer Management](#)

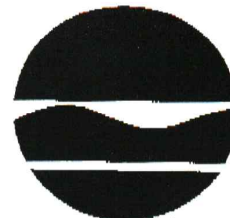
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish, Wildlife & Marine Resources

625 Broadway, 5th Floor, Albany, New York 12233-4757

Phone: (518) 402-8935 • Fax: (518) 402-8925

Website: www.dec.ny.gov



Joe Martens
Commissioner

December 14, 2011

Ted Kozlowski
Certified Forester
136 Big Elm Road
Brewster, NY 10509

Dear Mr. Kozlowski:

In response to your recent request, we have reviewed the New York Natural Heritage Program database, with respect to an Environmental Assessment for the proposed Watershed Forest Management Plan for 150-Acres – Turkey Mountain Park, Locke Lane and Rte 118, area as indicated on the map you provided, located in Yorktown Heights, Westchester County.


We have no 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 absence of data does not necessarily mean that rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities and other significant habitats maintained in the Natural Heritage Data bases. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Sincerely,


Jean Pietrusiak, Information Services
NYS Department Environmental Conservation

Enc.
cc: Region 3

#1263

TURKEY MOUNTAIN

Page 1 of 1

From: Michael Pogue <mxpogue@gw.dec.state.ny.us>

To: TKOZLOW <TKOZLOW@AOL.COM>

Subject: TURKEY MOUNTAIN

Date: Tue, Dec 13, 2011 12:02 pm

Attachments: TURKEY_MOUNTAIN.jpg (9301K)

See attached map. See crosshatched area is a historical record for *Salvia lyrata*. No other t/e detected. You may want to research the plant species. The area is so broad that it is not likely to occur on the site.

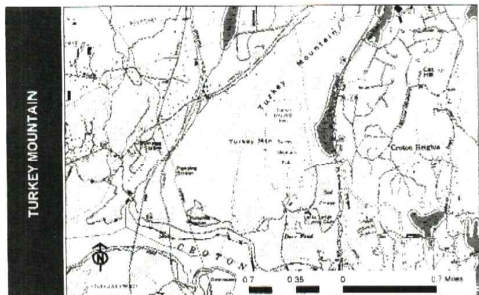
Michael Pogue
Senior Forester
NYS DEC
Div. of Lands and Forests
21 South Putt Corners Road
New Paltz, NY 12561

email: mxpogue@gw.dec.state.ny.us

Telephone 845-256-3075

Fax 845-255-1701

1 Attached Images



(Turkey Mountain Park Soils Map)



Map Scale: 1:6,670 if printed on A size (8.5" x 11") sheet.



Map Unit Legend

Westchester County, New York (NY119)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ce	Carlisle muck	0.4	0.3%
CrC	Charlton-Chatfield complex, rolling, very rocky	8.3	5.8%
CsD	Chatfield-Charlton complex, hilly, very rocky	22.0	15.4%
CtC	Chatfield-Hollis-Rock outcrop complex, rolling	45.1	31.5%
CuD	Chatfield-Hollis-Rock outcrop complex, hilly	36.5	25.5%
HrF	Hollis-Rock outcrop complex, very steep	8.3	5.8%
LeB	Leicester loam, 2 to 8 percent slopes, very stony	15.0	10.5%
PnC	Paxton fine sandy loam, 8 to 15 percent slopes	5.6	3.9%
PnD	Paxton fine sandy loam, 15 to 25 percent slopes	1.0	0.7%
Sh	Sun loam	0.9	0.6%
W	Water	0.0	0.0%
Totals for Area of Interest		143.1	100.0%

Paths and Trails

Paths and Trails— Summary by Map Unit — Westchester County, New York (NY119)						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
Ce	Carlisle muck	Not rated	Carlisle (80%)		0.4	0.3%
CrC	Charlton-Chatfield complex, rolling, very rocky	Not limited	Charlton (50%)		8.3	5.8%
			Chatfield (30%)			
CsD	Chatfield-Charlton complex, hilly, very rocky	Very limited	Chatfield (45%)	Slope (1.00)	22.0	15.4%
			Charlton (35%)	Slope (1.00)		
CtC	Chatfield-Hollis-Rock outcrop complex, rolling	Not limited	Chatfield (30%)		45.1	31.5%
			Hollis (30%)			
CuD	Chatfield-Hollis-Rock outcrop complex, hilly	Very limited	Chatfield (30%)	Slope (1.00)	36.5	25.5%
			Hollis (30%)	Slope (1.00)		
HrF	Hollis-Rock outcrop complex, very steep	Very limited	Hollis (60%)	Slope (1.00)	8.3	5.8%
LeB	Leicester loam, 2 to 8 percent slopes, very stony	Very limited	Leicester, somewhat poorly drained (50%)	Depth to saturated zone (1.00)	15.0	10.5%
				Large stones content (0.53)		
			Leicester, poorly drained (25%)	Depth to saturated zone (1.00)		
				Large stones content (0.53)		
PnC	Paxton fine sandy loam, 8 to 15 percent slopes	Not limited	Paxton (85%)		5.6	3.9%
PnD	Paxton fine sandy loam, 15 to 25 percent slopes	Somewhat limited	Paxton (85%)	Slope (0.50)	1.0	0.7%
Sh	Sun loam	Very limited	Sun (85%)	Depth to saturated zone (1.00)	0.9	0.6%
				Ponding (1.00)		
W	Water	Not rated	Water (100%)		0.0	0.0%
Totals for Area of Interest					143.1	100.0%

Paths and Trails— Summary by Rating Value		
Rating	Acres in AOI	Percent of AOI
Very limited	82.7	57.8%
Not limited	59.0	41.2%
Somewhat limited	1.0	0.7%

Paths and Trails— Summary by Rating Value		
Rating	Acres in AOI	Percent of AOI
Null or Not Rated	0.4	0.3%
Totals for Area of Interest	143.1	100.0%

Description

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling.

The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Rating Options

Aggregation Method: Dominant Condition

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Dominant Condition" first groups like attribute values for the components in a map unit. For each group, percent composition is set to the sum of the percent composition of all components participating in that group. These groups now represent "conditions" rather than components. The attribute value associated with the group with the highest cumulative percent composition is returned. If more than one group shares the highest cumulative percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher group value should be returned in the case of a percent composition tie.

The result returned by this aggregation method represents the dominant condition throughout the map unit only when no tie has occurred.

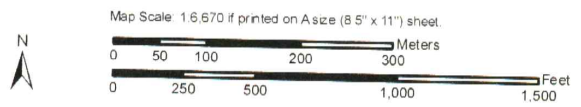
Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Higher

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

Erosion Hazard (Road, Trail)—Westchester County, New York
 (Turkey Mountain Park Trail Erosion Hazard Map)



Erosion Hazard (Road, Trail)

Erosion Hazard (Road, Trail)— Summary by Map Unit — Westchester County, New York (NY119)						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
Ce	Carlisle muck	Slight	Carlisle (80%)		0.4	0.3%
CrC	Charlton-Chatfield complex, rolling, very rocky	Severe	Charlton (50%)	Slope/erodibility (0.95)	8.3	5.8%
			Chatfield (30%)	Slope/erodibility (0.95)		
CsD	Chatfield-Charlton complex, hilly, very rocky	Severe	Chatfield (45%)	Slope/erodibility (0.95)	22.0	15.4%
			Charlton (35%)	Slope/erodibility (0.95)		
CtC	Chatfield-Hollis-Rock outcrop complex, rolling	Severe	Chatfield (30%)	Slope/erodibility (0.95)	45.1	31.5%
			Hollis (30%)	Slope/erodibility (0.95)		
CuD	Chatfield-Hollis-Rock outcrop complex, hilly	Severe	Chatfield (30%)	Slope/erodibility (0.95)	36.5	25.5%
			Hollis (30%)	Slope/erodibility (0.95)		
HrF	Hollis-Rock outcrop complex, very steep	Severe	Hollis (60%)	Slope/erodibility (0.95)	8.3	5.8%
LeB	Leicester loam, 2 to 8 percent slopes, very stony	Moderate	Leicester, somewhat poorly drained (50%)	Slope/erodibility (0.50)	15.0	10.5%
			Leicester, poorly drained (25%)	Slope/erodibility (0.50)		
PnC	Paxton fine sandy loam, 8 to 15 percent slopes	Moderate	Paxton (85%)	Slope/erodibility (0.50)	5.6	3.9%
PnD	Paxton fine sandy loam, 15 to 25 percent slopes	Severe	Paxton (85%)	Slope/erodibility (0.95)	1.0	0.7%
Sh	Sun loam	Slight	Sun (85%)		0.9	0.6%
W	Water	Not rated	Water (100%)		0.0	0.0%
Totals for Area of Interest					143.1	100.0%

Erosion Hazard (Road, Trail)— Summary by Rating Value		
Rating	Acres in AOI	Percent of AOI
Severe	121.2	84.7%
Moderate	20.6	14.4%
Slight	1.3	0.9%
Null or Not Rated	0.0	0.0%
Totals for Area of Interest	143.1	100.0%

Description

The ratings in this interpretation indicate the hazard of soil loss from unsurfaced roads and trails. The ratings are based on soil erosion factor K, slope, and content of rock fragments.

The ratings are both verbal and numerical. The hazard is described as "slight," "moderate," or "severe." A rating of "slight" indicates that little or no erosion is likely; "moderate" indicates that some erosion is likely, that the roads or trails may require occasional maintenance, and that simple erosion-control measures are needed; and "severe" indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified aspect of forestland management (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Rating Options

Aggregation Method: Dominant Condition

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Dominant Condition" first groups like attribute values for the components in a map unit. For each group, percent composition is set to the sum of the percent composition of all components participating in that group. These groups now represent "conditions" rather than components. The attribute value associated with the group with the highest cumulative percent composition is returned. If more than one group shares the highest cumulative percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher group value should be returned in the case of a percent composition tie.

The result returned by this aggregation method represents the dominant condition throughout the map unit only when no tie has occurred.

Component Percent Cutoff: None Specified

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Tie-break Rule: Higher

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.