Forest Stewardship Plan

Prepared for the Taconic Lake Association

In The

Town of Grafton

County of Rensselaer

State of New York

By

New England
Forestry Consultants, Inc.
www.cforesters.com

Forest Stewardship Plan

This is a forest management plan developed under current Federal and State forest stewardship guidelines.

Date Prepared:	August 23-25, 2017
Plan Time Frame:	2017 - 2030
Property Owner(s):	Taconic Lake Association
Address:	1345 Union Street Schenectady, New York 12308
Telephone:	(518) 320-6196
Email:	paulfthomas@yahoo.com
Property Address: (if applicable)	Taconic Lake Road Grafton, New York 12082 Rensselaer County (518) 320-6196
Legal description or directions to site:	From the intersection of Brick Church Road (NY Route 278), NY Route 2 and Tamarac Road (Rensselaer County Route 129) take NY Route 2 headed east towards the town of Grafton. Follow NY Route 2 headed east for 8.75 miles. Then turn right onto Taconic Lake Road. Follow Taconic Lake Road for 2.50 miles, then turn right onto Taconic Lake Drive. Taconic Lake Drive is the primary access point to the Taconic Lake Association property as well as Taconic Lake.
Assessment Roll ID #:	107.-2-9.1
Prepared By:	Nathan Piché
Company:	New England Forestry Consultants, Inc.
Address:	209 Grogan Road Hoosick Falls, New York 12090
Telephone:	(518) 859-2605
Email:	npiche@cforesters.com
Approvals:	

Landowner: _____ **Date:** _____

Preparer: _____ **Date:** _____

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General Information

Landowner Assessment

Description of resources and level of interest from the landowner:	Landowner is very committed to long-term forestland management, wildlife habitat creation, and recreational opportunities.
Landowner's goals for the property:	• Improve the health and quality of the forest. • Maintain, protect and diversify significant wildlife habitat. • Protect water resources • Maintain trails and woods roads for recreational purposes.
Goal comments:	**Water Protection:** New York's Best Management Practices (BMP's) will be followed, and will be vital in protecting water quality. Special care must be taken during any entry to protect the water quality. The forester will ensure compliance with New York's BMP's. **Soil Protection:** Special considerations must be taken during any entry to protect the soil integrity. New York BMP's will be followed and will be vital in protecting soil properties. The forester will monitor BMP compliance on active timber sales. A winter harvest when soils are frozen or summer harvest when soils are dry would minimize compaction where applicable. The integrity of the soil properties of the tract will be least impacted if these recommendations are followed.

General Property Information

Total land area:	298.70 Acres
Total number of stands/mgmt units:	For forest management purposes, the 298.70 acres have been divided into three management compartments. Compartments are divided based on access. Within these three compartments there are seven different forest stands. Forest stands are small management units of forestland that are sufficiently uniform in composition, age, arrangement and condition as to be distinguishable from adjacent areas.
Region/subsection or ecosystem type:	NYS DEC Region 4 (Capital Region/Northern Catskills)

General property description:	The Taconic Lake Association property, 298.70 acres south of Taconic Lake Road and surrounding Taconic Lake, is a forested extent of land on the Rensselaer Plateau in Rensselaer County, NY. The northern most end of the property has been delineated as compartment 1. Compartment 1, 102.50 acres, lies between Taconic Lake Way and Taconic Lake Road and has two forest stands. A stand of eastern hemlock runs through the center of this area and surrounding it is a stand of northern hardwoods dominated by red maple, yellow birch and American beech. The eastern most end of the property has been delineated as compartment 2. Compartment 2, 95.79 acres, lies between Taconic Lake Way and the eastern most boundary of the property. This area is dominated by a northern hardwood stand with sugar maple, red maple and white ash being the most common trees found. The southwestern corner and western edge of compartment 2 also features a stand of eastern hemlock. The last compartment on the property, compartment 3, is found on the western most end of the property between Taconic Lake Way and the western most boundary of the property. Compartment 3, 100.41 acres, is dominated by an eastern hemlock stand that runs through the middle of the area. In the southwestern most corner of this area there is a small swamp where black spruce is the most common species found. In the northeastern most corner of this area is a stand of northern hardwoods dominated by red maple, sugar maple and yellow birch. Property boundary lines around the entire property were blazed and painted in red approximately 20 years ago. In the time since this was done the markings have become weathered and difficult to locate. Therefore, all the property boundary lines were repainted in red paint in the summer of 2017. For more information of how the boundary lines are marked, please see the section of the stewardship plan entitled “Property Boundary Lines.”
Description of surrounding properties:	Surrounding properties are a mixture of residential housing and forestland.

Soils information:

Compartment 1
Stand A Dominant Soil Series
BuC – Buckland very stony loam, sloping

Stand B Dominant Soil Series
BuC – Buckland very stony loam, sloping

Compartment 2
Stand C Dominant Soil Series
BuC – Buckland very stony loam, sloping

Stand D Dominant Soil Series
BrA – Brayton very stony silt loam, nearly level

Compartment 3
Stand E Dominant Soil Series
BuC – Buckland very stony loam, sloping

Stand F Dominant Soil Series
BuC – Buckland very stony loam, sloping

Stand G Dominant Soil Series
LoA – Loxley and Beseman mucks, 0 to 1 percent slopes

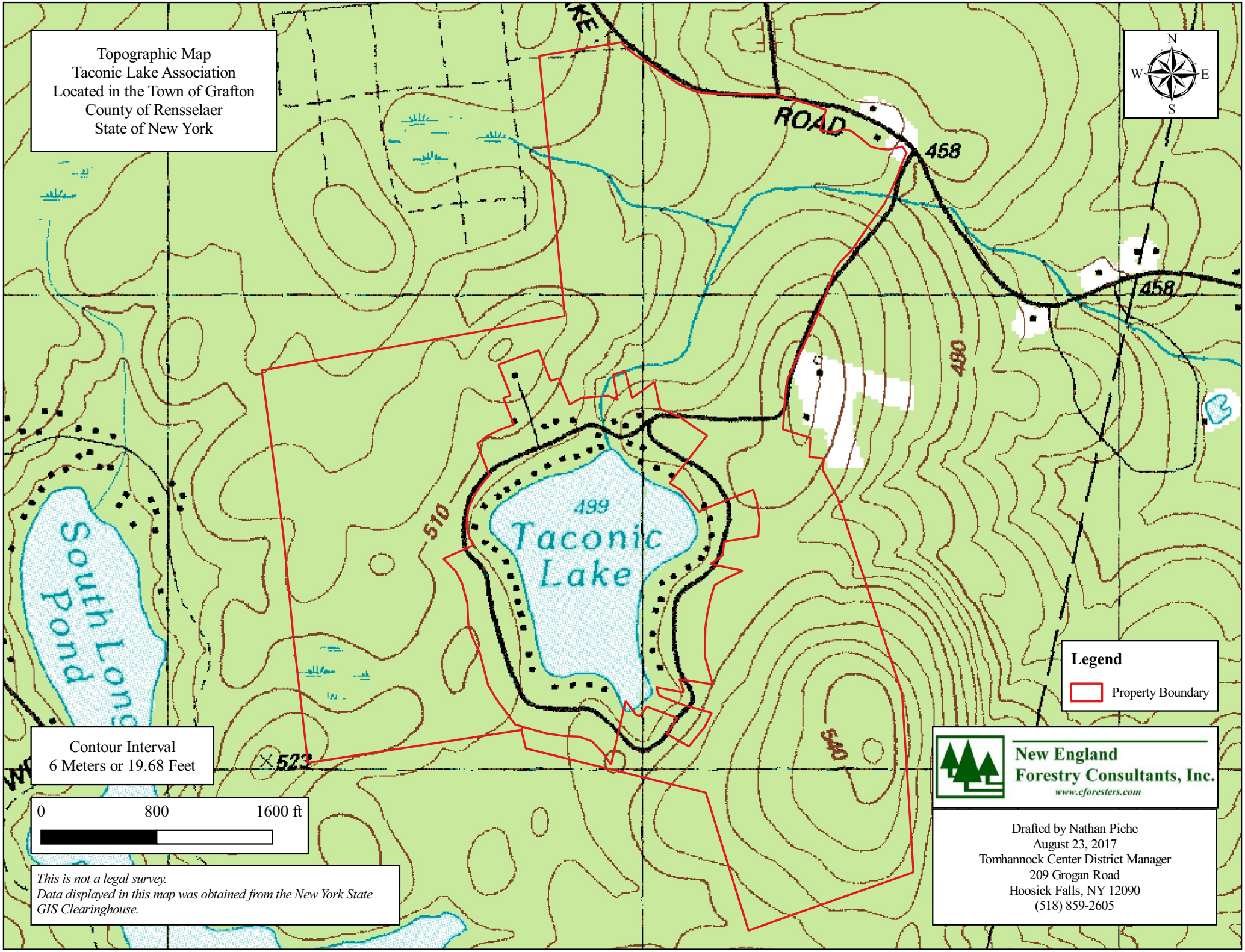
The forestland soils on the Taconic Lake Association property were deposited after the glaciers receded approximately 10,000 years ago. These glaciers tilled and gouged out the land and left behind these soils and stones. As a result, these soils are generally known as glacial till. These soils have an average site index of 57 for hardwoods and 71 for eastern white pine. This indicates that on average these soils are capable of growing a hardwood tree to 57 feet tall and/or an eastern white pine tree 71-feet-tall in 50 years. These soils are capable of growing and producing as much as 129 cubic feet of fiber per acre per year in eastern white pine and as much as 29 cubic feet of fiber per acre per year in northern hardwoods such as sugar maple. These are nutrient rich soils that make for a productive stand of timber. However, the soils are very stony and course textured making for areas that are very well drained and others that are very poorly drained. Therefore, any forest management activities on this property would be best to complete during the dry summer months or during the frozen winter months. Overall, erosion potential is moderate and erosion control measures are needed during and after silvicultural treatments. Furthermore, any management activities that take place on this tract of land will use caution in regards to current soil conditions when operating in order to not severely damage soil structure and composition.

Management access: Management access for compartment 1 is off of Taconic Lake Road. There is a small log landing area adjacent to this county road that was used the last time this area was harvested.
Management access for compartment 2 is off of Taconic Lake Drive. There is a log landing area that is about an acre in size adjacent to this dirt road that was used the last time this area was harvested.
There is no clear access for compartment 3. The ideal access point for this area would be adjacent to Taconic Lake Way. Any forest management activities that take place in this area in the future would need to create this access point.

Presence of threatened and endangered species: No state or federally threatened or endangered species are known to occupy the Taconic Lake Association property. This determination was made through data obtained from the New York States Environmental Resource Mapper. Any discovery of state or federally threatened or endangered plant or animal species will result in an amendment to this plan, and a change in management activities if applicable.
Although there is no state or federally threatened or endangered species know to be located on the property, there are several significant natural communities. The Hemlock-Northern Hardwood Forest is a significant natural community that is found in Compartment 1-Stand B, Compartment 2-Stand D and Compartment 3-Stand E. The Beech-Maple Mesic Forest is another significant natural community that is found in Compartment 1-Stand A, Compartment 2-Stand C and Compartment 3-Stand F. The last significant natural community found on the property is the Spruce-Fir Swamp which can be found in Compartment 3-Stand G.
These areas are considered significant natural communities because they serve as habitat for a wide range of plants and animals, both rare and common. Natural communities in good condition provide great ecological value. Therefore, it is important that forest management activities on the property preserve and enhance these significant natural communities. Forest management activities such as thinning, crop tree release and timber stand improvement can enhance these communities by improving and diversifying wildlife habitat as well as increasing the growth potential of the most dominant trees.

Cultural importance: There are many stone walls found throughout this property. These stone walls may hold a cultural importance and can be considered historically significant. They should be preserved during management activities.

Map information: Several GIS maps are included in this plan.
Items with an asterisk are shown on the map:
* North arrow
* Scale bar
* Legend
* Compartments
* Forest Stand boundaries
* Ownership
* Town, County & State in which the parcel is located
* Name & address of draftsperson
* Date prepared/revised
* Topographic map
* Soils map


Topographic Map
Taconic Lake Association
Located in the Town of Grafton
County of Rensselaer
State of New York
N
W
E
S
ROAD
458
458
490
510
499
Taconic
Lake
South Long
Pond
523
Legend
Property Boundary
Contour Interval
6 Meters or 19.68 Feet
0
800
1600 ft
This is not a legal survey.
Data displayed in this map was obtained from the New York State
GIS Clearinghouse.
New England
Forestry Consultants, Inc.
www.cforesters.com
Drafted by Nathan Piche
August 23, 2017
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209 Grogan Road
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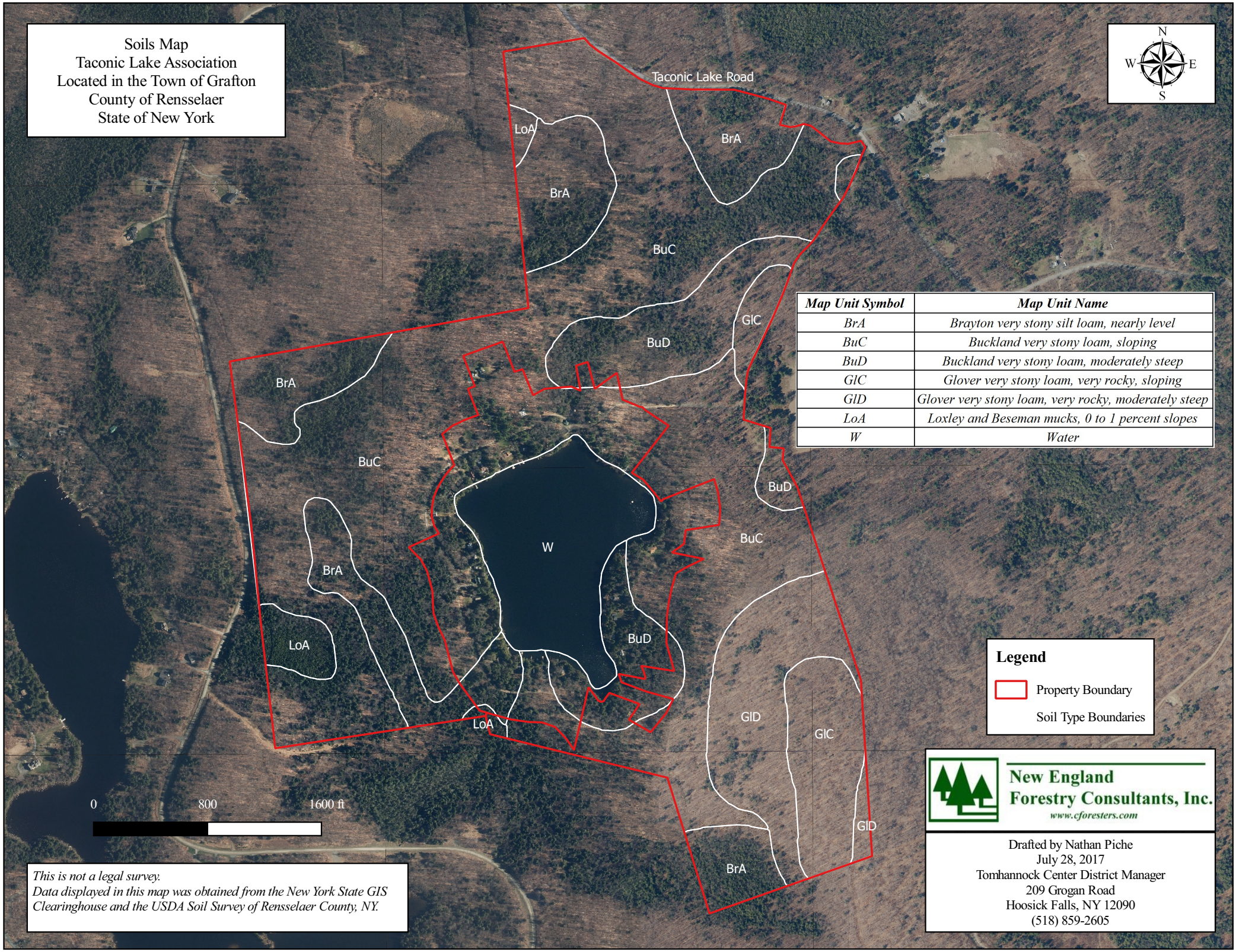

Map Unit Symbol	*Map Unit Name*
BrA	*Brayton very stony silt loam, nearly level*
BuC	*Buckland very stony loam, sloping*
BuD	*Buckland very stony loam, moderately steep*
GlC	*Glover very stony loam, very rocky, sloping*
GlD	*Glover very stony loam, very rocky, moderately steep*
LoA	*Loxley and Beseman mucks, 0 to 1 percent slopes*
W	*Water*

This is not a legal survey.
Data displayed in this map was obtained from the New York State GIS Clearinghouse and the USDA Soil Survey of Rensselaer County, NY.

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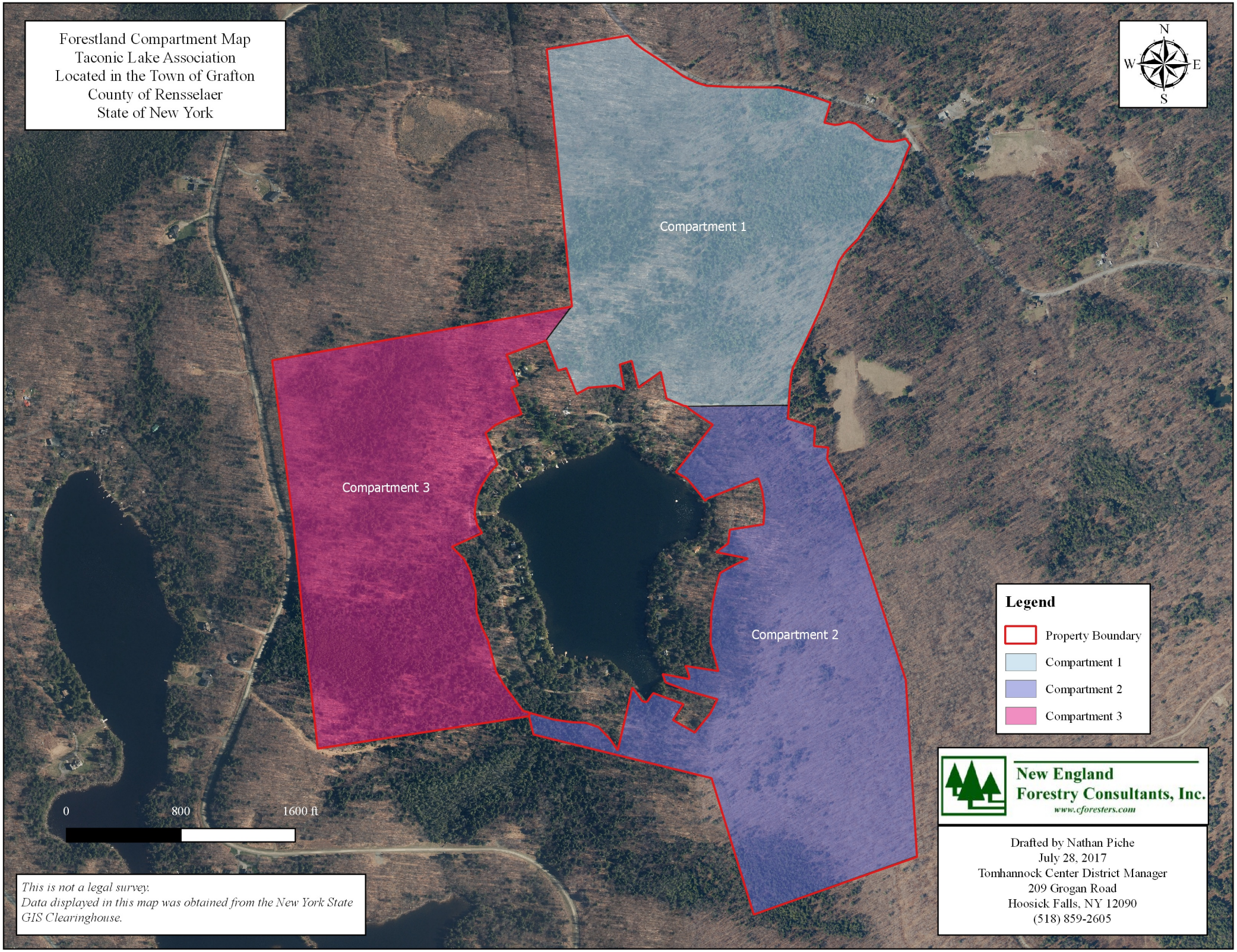
Forestland Compartment Map
Taconic Lake Association
Located in the Town of Grafton
County of Rensselaer
State of New York
N
W
E
S
Compartment 1
Compartment 2
Compartment 3
Legend
Property Boundary
Compartment 1
Compartment 2
Compartment 3
0
800
1600 ft
New England
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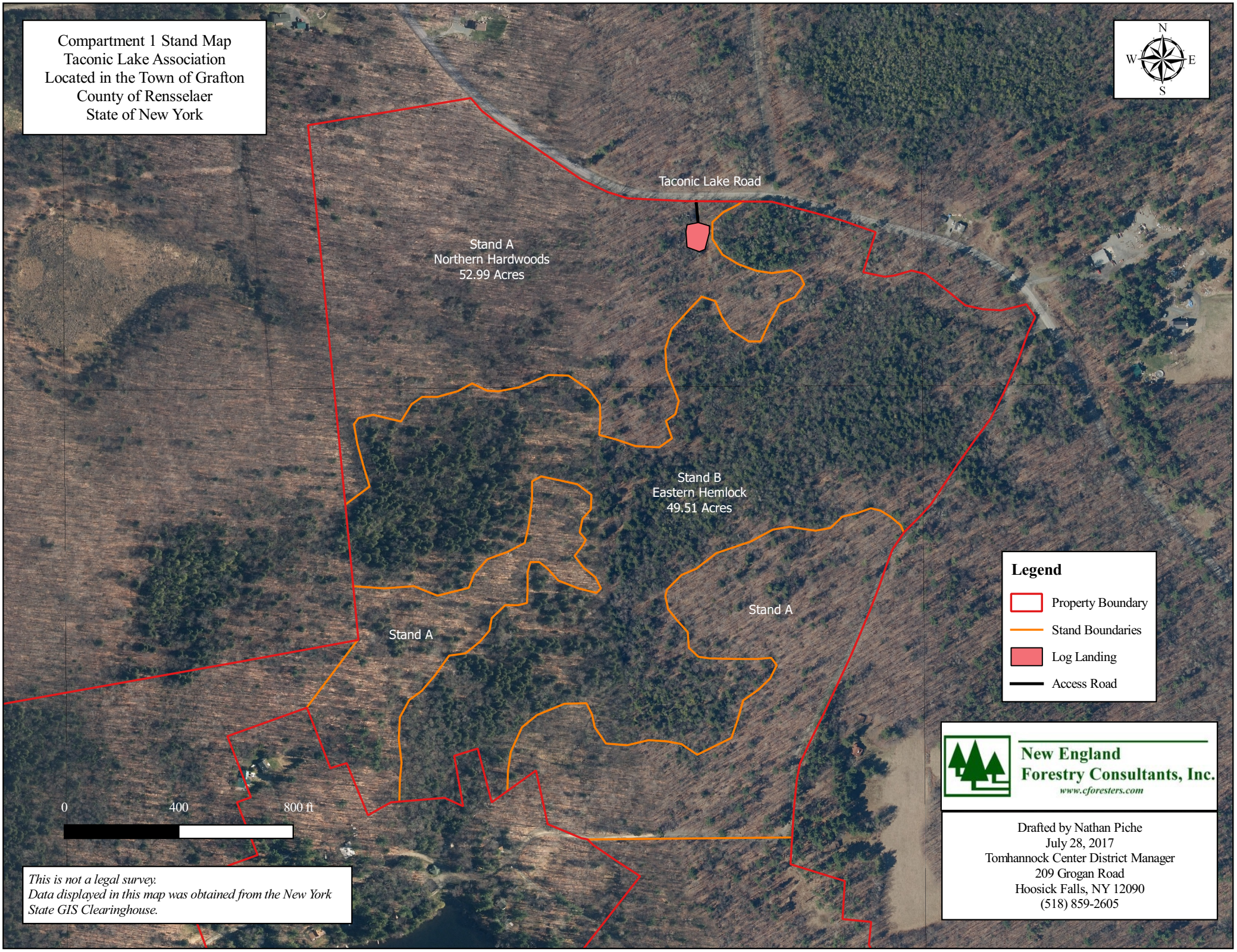
Compartment 1


Compartment 1 Stand Map
Taconic Lake Association
Located in the Town of Grafton
County of Rensselaer
State of New York
N
W
E
S
Taconic Lake Road
Stand A
Northern Hardwoods
52.99 Acres
Stand B
Eastern Hemlock
49.51 Acres
Stand A
Stand A
Legend
Property Boundary
Stand Boundaries
Log Landing
Access Road
0
400
800 ft
This is not a legal survey.
Data displayed in this map was obtained from the New York State GIS Clearinghouse.
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Existing Conditions for Compartment 1 – Stand A

Land area:	52.99 Acres
Land use history:	This area was harvested in 2003. This harvest removed quality sugar maple, red maple and white ash individuals. A portion of the lower quality individuals that were designated for harvest were girdled which has resulted in dead standing trees. This has created additional wildlife habitat.
Forest Type:	
- Existing	Northern Hardwoods
- Potential	Northern Hardwoods
Successional trend:	This stand is an uneven aged stand dominated by red maple (56% of total BA) followed by yellow birch (14% of total BA), American beech (7% of total BA), black cherry (7% of total BA), eastern white pine (6% of total BA), sugar maple (5% of total BA), white ash (1% of total BA), eastern hemlock (1% of total BA), quaking aspen (1% of total BA), paper birch (1% of total BA) and northern red oak (1% of total BA). The successional trend is for the stand to remain dominated by northern hardwood species in the future.
Forest health:	The most significant forest health issue in this stand is the presence of beech bark disease on much of the American beech throughout the stand. The disease results when the beech scale insect (*Cyptocuoccus fagisuga*) punctures the bark of the tree to feed, which creates a wound where the nectria fungus (*Neonectra faginata*) can enter the tree. Once the nectria fungus is within the tree the fungus causes cankers to form, ultimately resulting in the mortality of the tree. To compound the issue, American beech sprouts prolifically from cut stumps and from roots. Furthermore, American beech is very shade tolerant, meaning it grows well in high shade conditions such as the forest floor. Therefore, as American beech individuals succumb to disease they sprout new stems from their roots and continue the cycle of growth and disease. For long term forest management, the difficulty in this stand is to establish desirable regeneration such as red maple, yellow birch and sugar maple among an understory dominated by disease prone American beech sprouts.
Site quality:	Site index is 57 for sugar maple.
Inventory Data:	Date of Inventory: July 20, 2017 Type of Sample: 20 BAF prism points Number of Sample Points: 21

Approximate age:	70 Years	**Size class:**	Small Sawlogs (11.5 - 17.5")
Trees per acre:	183	**Mean Stand Diameter:**	12 in.
Basal Area (BA):	134	**Acceptable BA:**	69
Site Class:	II (Good)	**Timber Quality:**	Poor

Size Class Distribution	
Size Class	***BA/Acre (sq.ft.)***
Sapling (1" - 5.5")	1
Poles (5.5" - 11.5")	42
Small Sawlogs (11.5" - 17.5")	69
Medium Sawlogs (17.5" - 23.5")	18
Large Sawlogs (23.5" +)	5
Total	***134***

Stocking: According to stocking guidelines in the *Silvicultural Guide for Northern Hardwoods in the Northeast* published by the United States Department of Agriculture this stand is currently overstocked. The understory has a moderate density of advance regeneration which is primarily comprised of American beech seedlings and saplings.

Compartment 1 - Stand A Volume & Value Summary Table				
Species	***Board ft./Acre (Int'l 1/4")***	***Cords/Acre***	***Total Value/Acre ($)***	***Total Stand Value ($)***
Red maple	1432	11	397.13	21044.02
Yellow birch	206	2	68.42	3625.62
American beech	0	1	9.70	514.00
Black cherry	666	1	209.24	11087.63
Eastern white pine	724	1	73.64	3902.18
Sugar maple	197	1	54.22	2873.33
White ash	117	0	28.31	1500.25
Eastern hemlock	96	0	4.46	236.52
Quaking aspen	69	0	4.66	246.75
Paper birch	45	0	4.66	247.17
Northern red oak	53	0	19.49	1032.51
Total	***3605***	***18***	***873.94***	***46309.99***

*Dollar values given in this table are for all trees present within the stand that are 5 inches in diameter or larger. These values are given for informational purposes and are not intended to be the estimated proceeds of a timber sale.

Habitat and wildlife use:	Although American beech suffers from disease in this stand, it does produce an abundance of nuts. These nuts create important foraging opportunities for a variety of wildlife species.
Recreational opportunities:	There are several cross-country skiing trails that run through this stand. These trails create excellent opportunities to recreate within the stand.
Potential for timber production:	Only 51 % of the current stocking is considered Acceptable Growing Stock. This means that only 51 % of the current growing stock has the potential to produce a sawlog of at least eight feet long and 10 inches in diameter at the small end now or in the future. The other 49 % of the stand is mostly comprised of diseased American beech or poorly formed red maple. Therefore, this stand has a relatively low potential for high quality timber production at this time. However, the stand shows good potential for producing low quality timber which can be used for firewood, mulch and paper products.
Potential for other uses:	None noted.
Water quality issues:	There is a stream that flows from east to west and passes through the western most side of this stand. This stream has a New York State Stream Classification of C(T). Therefore, a NYS DEC permit is required to cross this stream during forest management activities. Furthermore, no forest management activities should take place within 50 feet of this stream in order to protect the water quality of this stream.
Important natural features:	This stand is part of the Beech-Maple Mesic Forest.

Photo 1.0. Photo of the typical stocking levels within stand A.

Photo 1.1. This is a photo of an American beech with beech bark disease. Notice that the bark is rough and cracking. This is caused by the fungus. Healthy American beech will look the opposite of this and will feature very smooth gray colored bark.

Management Plans for Compartment 1 – Stand A

Landowner's objectives for this stand:	Improve stand quality and growth rate.

Silvicultural Prescription

Recommended silvicultural system:	Uneven-aged management, favoring Red Maple. The desired cutting cycle is 20 years.
Details of the silvicultural prescription:	When harvesting timber, from a forest management perspective, there are two primary objectives; to provide more growing space to residual trees, thereby increasing their growth rates and to regenerate a new cohort of trees to replace financially and biologically mature trees. This stand was harvested within the last 10 years and that operation achieved neither of those objectives. The stand is overstocked, meaning that there are more than optimal trees per acre growing throughout the area. Overstocking results in slow tree growth. Also, half of the stands stocking is comprised of poor quality individuals such as diseased American beech or poorly formed red maple. In an effort to remove low quality individuals while creating gaps in the forest canopy to let sunlight to the forest floor in order to stimulate the establishment of desirable regeneration, such as sugar maple, red maple and yellow birch, a single tree selection harvest is recommended. This harvest would aim to remove 40 $ft.^2$/acre (approximately 51 trees per acre) of diseased American beech and poorly formed red maple. In this type of harvest, size class is not a determining factor of whether a tree should be harvested or not. Trees are selected based on their quality and potential to produce high quality timber in the future. Poor quality trees with little to no prospects for the future would be the individuals removed. The residual stand would be comprised of 94 $ft.^2$/acre (approximately 132 trees per acre). This density would be made up of quality red maple, yellow birch, black cherry and sugar maple individuals. By completing this harvest much of the stands' unacceptable growing stock would be removed and canopy gaps would be created where regeneration could become established. It is also recommended that the stumps of all the American beech trees harvested be sprayed with an herbicide to prevent them from sprouting. Without taking any action to prevent sprouting the stand would only regenerate disease prone American beech.

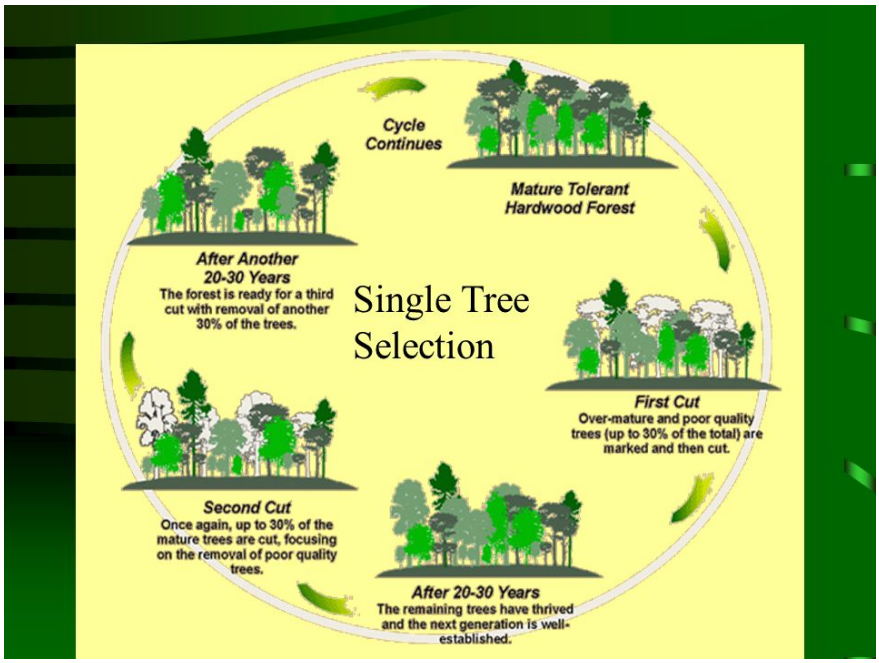

Figure 1.0. Diagram depicting the long-term management of a forest using the single tree selection system. This system creates an uneven aged stand of trees. This means that there are age classes of trees 20 years or more, older than other age classes of trees.

Figure 1.1. Diagram depicting an aerial view of a forest after it has been harvested using the single tree selection system.

Planned Activities

2030: Single Tree Selection

Estimated Gross Revenue of Single Tree Selection: $ 10,000.00

Estimated Cost of American beech stump herbicide treatment: $ 6,250.00

Existing Conditions for Compartment 1 – Stand B

Land area:	49.51 Acres
Land use history:	This area was harvested in 2003. This harvest removed quality eastern hemlock, red maple and white ash individuals. A portion of the lower quality individuals that were designated for harvest were girdled which has resulted in dead standing trees. This has created additional wildlife habitat.
Forest Type:	
- Existing	Eastern hemlock/mixed hardwoods
- Potential	Eastern hemlock/mixed hardwoods
Successional trend:	This stand is an even aged stand dominated by eastern hemlock (40% of total BA) followed by yellow birch (19% of total BA), red maple (13% of total BA), white ash (10% of total BA), sugar maple (7% of total BA), American beech (7% of total BA), black cherry (1% of total BA), sweet birch (1% of total BA), red spruce (1% of total BA) and quaking aspen (1% of total BA). The soils in the stand are similar to those found within stand A. However, the topography changes in this stand and the land is much more low lying. As a result, the area is quite wet which creates excellent conditions for the growth of eastern hemlock. Therefore, the successional trend favors the dominance of eastern hemlock within this stand in the future.
Forest health:	Beech bark disease is also present within this stand. However, the disease is less of an issue in this stand because American beech makes up a small percentage of the stands total stocking. No other major forest health issues were noted during the inventory of this stand.
Site quality:	Site index is 71 for eastern white pine.
Inventory Data:	Date of Inventory: July 20, 2017 Type of Sample: 20 BAF prism points Number of Sample Points: 13

Approximate age:	80 Years	**Size class:**	Poles (5.5 - 11.5")
Trees per acre:	196	**Mean Stand Diameter:**	11 in.
Basal Area (BA):	135	**Acceptable BA:**	85
Site Class:	I (Excellent)	**Timber Quality:**	Good

Size Class Distribution	
Size Class	***BA/Acre (sq.ft.)***
Sapling (1" - 5.5")	0
Poles (5.5" - 11.5")	49
Small Sawlogs (11.5" - 17.5")	62
Medium Sawlogs (17.5" - 23.5")	25
Large Sawlogs (23.5" +)	0
Total	***135***

Stocking: According to the stocking guidelines in *Managing Eastern Hemlock* published by the United States Department of Agriculture this stand is adequately stocked. Pole, small sawlog and medium sawlog sized eastern hemlocks occupy dominant and co-dominant canopy positions. Pole sized northern hardwoods such as yellow birch and red maple are found in intermediate and overtopped canopy positions. In the understory, there is a low density of advance regeneration because the stand is quite dense, making the establishment of regeneration difficult.

Compartment 1 - Stand B Volume & Value Summary Table				
Species	***Board ft./Acre (Int'l 1/4")***	***Cords/Acre***	***Total Value/Acre ($)***	***Total Stand Value ($)***
Eastern hemlock	3255	6	152.86	7568.30
Yellow birch	299	3	100.05	4953.71
Red maple	160	2	56.65	2804.74
White ash	206	2	63.82	3159.93
Sugar maple	292	1	79.76	3949.12
American beech	0	1	13.50	668.39
Black cherry	81	1	30.55	1512.68
Sweet birch	0	0	2.50	123.78
Red spruce	0	0	1.50	74.27
Quaking aspen	132	0	7.91	391.70
Total	***4424***	***18***	***509.12***	***25206.59***

*Dollar values given in this table are for all trees present within the stand that are 5 inches in diameter or larger. These values are given for informational purposes and are not intended to be the estimated proceeds of a timber sale.

Habitat and wildlife use:	The overstory of this stand is dominated by eastern hemlock which creates excellent deer wintering habitat as well as habitat for a variety of other wildlife species that utilize coniferous forest stands.
Recreational opportunities:	There are several cross-country skiing trails that run through this stand. These trails create excellent opportunities to recreate within the stand.
Potential for timber production:	Early settlers in the northeast used eastern hemlock extensively for dimensional lumber. It remained a prized timber species until the depression era when western forest products largely replaced it in the wood product market. However, it is still used to a small extent for framing, sheathing, roofing and subflooring. The primary market for eastern hemlock locally is in pulpwood, as it is used to produce cardboard. Majority of this stand is made up of Acceptable Growing Stock (AGS) (63% of the total BA is considered AGS). Also, 78% of the eastern hemlock within the stand is considered AGS. Therefore, much of the stands growing stock has the potential to produce quality sawtimber in the future.
Potential for other uses:	None noted.
Water quality issues:	There is a stream that flows from northeast to southwest and passes through the center of this stand. This stand has a New York State Stream Classification of C(T). Therefore, a NYS DEC permit is required to cross this stream during forest management activities. Furthermore, no forest management activities should take place within 50 feet of this stream in order to protect the water quality of this stream.
Important natural features:	This stand is part of the Hemlock-Northern Hardwood Forest.

Photo 1.2. Photo of the typical stocking levels within stand B. Notice that the understory has nearly no regeneration. This is because the stand is very dense making the establishment of a new cohort of trees difficult. Also notice that much of the eastern hemlock is tall and straight. These are desirable traits.

Management Plans for Compartment 1 – Stand B

Landowner's objectives for this stand:	Improve the growth rate of the stand. Regenerate a new cohort of eastern hemlock.

Silvicultural Prescription

Recommended silvicultural system:	Even-aged management, favoring Eastern Hemlock. The desired rotation age is 100 years.
Details of the silvicultural prescription:	This area was harvested within the last 10 years. This harvest was detrimental to the quality of stand A, however, in this stand the harvest may have had some positive impacts. It removed individuals throughout the stand, essentially thinning it, which has helped the residual trees expand their crowns and increase their growth rates. The stand also has a fair amount of quality timber so although the last thinning likely removed quality timber, there is still an adequately stocked, good quality stand remaining. In an effort to create more growing space for the best quality stems, remove a portion of the financially and biologically mature individuals (with eastern hemlock this occurs when the trees reach 16 to 18 inches in diameter) while creating conditions conducive to establishing eastern hemlock regeneration, a shelterwood harvest is recommended. The shelterwood harvest is a method that uses two or three harvests over the course to 20 to 30 years as a way to gradually open the stand and stimulate natural reproduction of shade tolerant species. Eastern hemlock is a shade tolerant species, making the shelterwood method an excellent way to naturally regenerate it. The harvest method is called shelterwood because it removes trees, allowing sunlight to penetrate to the forest floor, stimulating the establishment of regeneration while there are trees left remaining in the overstory to shelter the regeneration from sun scalding, snow, ice and wind. When harvesting this stand, not more than a third of the total basal area should be removed at any one time, openings in the canopy should not be larger than one-half the height of main canopy trees and only co-dominant, intermediate and overtopped/suppressed canopy position trees should be removed. It’s imperative these guidelines are followed when harvesting in this stand. If the stand was excessively cut, the residual stocking would have reduced growth, increased mortality and windthrow would likely become an issue. It is also important that the best quality, dominant trees are left well distributed over the area. This is because these are the individuals most likely to produce the most amount of seed and they are the strongest trees and will be able to withstand the initial shock of the harvest. This

harvest would remove 25 ft.^{2}/acre (approximately 38 trees per acre) and would leave 110 ft.^{2}/acre (approximately 158 trees per acre). By completing this harvest, the conditions would be established to regenerate a new cohort of eastern hemlock. Lastly, it would not be feasible to complete this harvest across the entire stand, as there are areas that are excessively wet. Harvesting in wet areas would likely cause more harm than good by creating deep ruts and compacting the soils. Therefore, this harvest would only apply to 30 acres of the stand with the remaining acreage being taken up by buffer strips around the stream that runs through this stand.

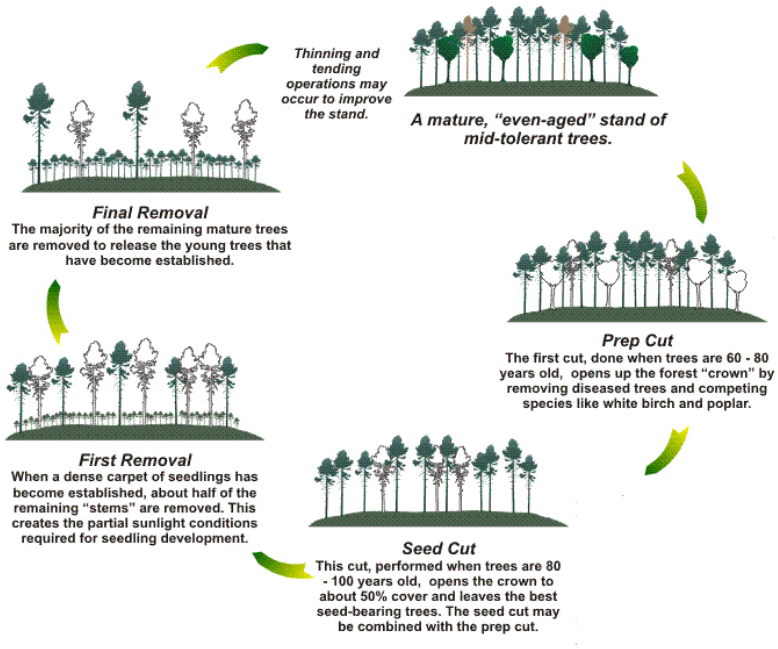

Figure 1.2. Diagram depicting the cycle created through the shelterwood method of harvesting. This method creates an even aged stand of trees, meaning that all the trees present on the site are within 20 years of age of each other. The last harvest in this stand acted as the "Prep Cut." It must be noted that the "Final Removal" is not necessarily required. It is very common to meet regeneration goals and then leave the mature trees standing. This is known as a deferred shelterwood and creates a two-aged stand where one age class is the young regeneration while the other age class is the older mature trees.

Planned Activities

2030: Shelterwood Harvest

Estimated Gross Revenue of Shelterwood Harvest: $ 3,000.00